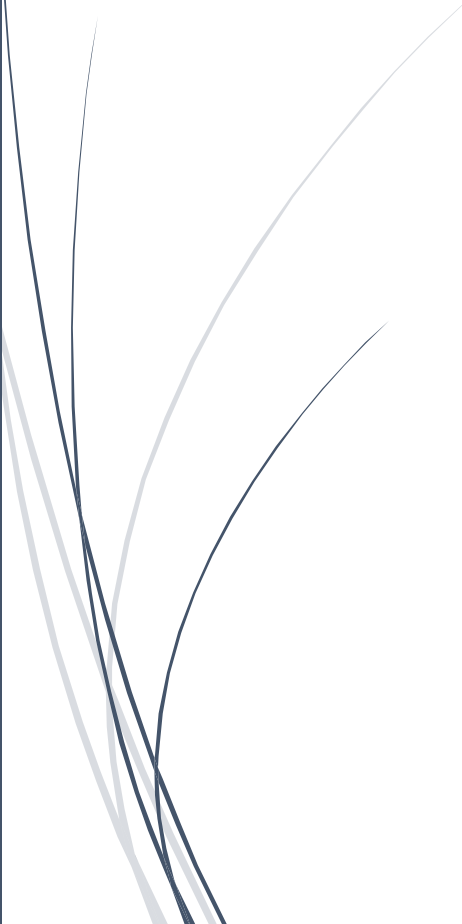


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# Let's start co-creating in the food industry!

A research into the critical determinants of participation in co-creation in the food industry

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## Preface

In front of you lies my thesis about co-creation in the food industry. The thesis is written as part of the specialization Marketing of the study Business Administration. I performed this investigation from January 2020 till June 2020.

First of all, I would like to thank my thesis coach, Raphaël Smals, for his feedback and tips that helped me finish my thesis. Additionally, I would like to thank Nanne Migchels for being a helpful second examiner as he gave extra feedback on my survey questions. Furthermore, I would like to thank all the respondents who took the time to fill in the survey and helped me to get the data I needed to finish my thesis. Subsequently, I would like to thank my boyfriend, Remco van Dijke, for his patient, feedback and support during this period. Last but not least, I would like to thank my family and friends for their interest and support.

I hope you enjoy reading,

Willemijn Bader

Nijmegen, 14-06-2020

## Abstract

The purpose of this paper is to investigate which antecedents lead to contribution in Customer Participation Behaviour (CPB) and Customer Citizenship Behaviour (CCB) in the Dutch food industry with the moderating factor of online brand communities. An investigation is necessary as co-creation has many advantages for the company, and companies in the food industry make little use of co-creation. An online survey resulted in 192 valid responses. Results showed that people who consider electronic Word-of-Mouth (e-WOM) as more relevant to them, are more likely to participate in co-creation in comparison to people who consider e-WOM less relevant to them. Besides, high food-involved people are, without the moderating effect of brand community, more likely to participate in co-creation compared to low food-involved people. Moreover, for some degrees of involvement of food brand community and a certain degree of food involvement / e-WOM relevance, it is more likely that people participate in co-creation. Based on the findings, it is recommended that companies stimulate people to write a review about the co-creation platform. Besides, it is recommended to reach high food-involved people, as they are more likely to participate in co-creation in the food industry compared to low food-involved people.

**Keywords:** Online co-creation, Customer citizenship behaviour, Customer participation behaviour, Customer value co-creation behaviour, Food industry, Brand community, Category involvement, Perceived ease-of-use, Electronic Word-of-Mouth

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## 1. Introduction

Within the Food and Beverage (F&B) industry, companies often do not request the opinion and ideas of customers, which led to failing products (Janssen, 2011). The introduction of New Coke, produced by Coca-Cola, is a famous example. Coca-Cola tried to incorporate the taste of Pepsi Cola into its coke. However, this was not what the customers were looking for. Thus, this product failed, and the sales of Coca-Cola decreased (Bastedo & Davis, 1993). Twenty years later, Lays handled this better. They asked their customers which new flavour of crisps they wanted to see on the market. More than 675.000 suggestions were made by customers (Pepsico, 2012). Lays was successful in involving customers in the improvement of their product. This is called co-creation. Co-creation is defined as: “The process by which mutual value is expanded together, where the value to participating individuals is a function of their experiences, both their engagement experience on the platform and productive and meaningful human experiences that result” (Ramaswamy 2011, p 195).

Despite Lays' success, companies in the F&B industry still make little or no use of co-creation (Janssen, 2011). This is regrettable as co-creation has several advantages for the company. First, co-creation is a ‘win more – win more situation’ as the emphasis within co-creation is on continuous improvement, communication, and learning. Moreover, it can lead to effectively and rapidly matching emerging and latent customers’ needs, and it is good for the relationship with the customers (Filieri, 2013). Besides, it seemed that consumers are sensitive for the experience which goes along with co-creation (Füller, Hutter & Faullant, 2011). When the experience is giving a good feeling to the customer, it has a positive impact on future participation. This confirms that co-creation within the F&B industry can be useful for both the customer and the firm (Ramaswamy, 2009). Other industries make good use of the interaction with the consumer, but successful examples in the food industry are rare (Janssen, 2011). Because the advantages for the company are undoubtedly present, it is striking that the F&B industry does not participate in this in large numbers.

However, what drives the customer to participate in co-creation? This is important to know, as when companies know this, they can modify their co-creation platform to the wishes of the customers. This could lead to more co-creation, which eventually might lead to the benefits mentioned above. Frasset-Deltoro, Alarcón-del-Amo & Lorenzo-Romero (2019) showed that co-creation is guided by the perceived ease-of-use of the co-creation platform, the electronic Word-of-Mouth (e-WOM) and the category involvement of the customers. Those are the antecedents of customer participation behaviour (CPB) and customer citizenship behaviour (CCB). Those are two distinct behaviour types within voluntary co-creation (Groth, 2005; Yi & Gong, 2013). CPB is expected behaviour which needs to be fulfilled when one is co-creating (like completing the questions), in contrast, CCB provides extra value for firms (like giving feedback and suggestions) (Groth, 2005). Recent studies showed that it is not clear if CPB and CCB are one or two constructs. Frasset-Deltoro et al. (2019), Bettencourt (1997), Groth (2005) and Wu, Huang, Tsai and Lin (2017) used the constructs separated while Shamim, Ghazali and Albinsson (2016) concluded that it is one construct. The present study is focusing on two constructs as

the method of Frasset-Deltoro et al. (2019) is taken into account. This research will contribute to new insights into this discussion.

Frasquet-Deltoro et al. (2019) focused on the fashion industry, which may not be generalizable to other industries. They suggested examining if their antecedents also apply to other industries. For that reason, this research is going to focus on the F&B industry. Moreover, Thrassou (2016) argued that co-creation could be interesting in the F&B industry for both scholars and practitioners. This has not yet been investigated. Within the food industry, both food and beverage are included.

Co-creation can occur both online and offline. Thanks to the enhanced internet and social media, companies can communicate easily with consumers and create value together with them (Prahalad & Ramaswamy, 2004), which leads to more online co-creation (Wu et al., 2017). This could be a reason that the interest in co-creation is increasing (Hong-Youl, John & Chung, 2016; Ortiz, Chih & Teng, 2017). Therefore, this research is focusing on online co-creation. Besides, the literature states that effective co-creation requires a so-called engagement platform (Ramaswamy & Gouillart, 2010) which enables actors to share their resources and adapt their process together (Frow Nenonen, Payne & Storbacka, 2015). It is most common that the online co-creation platform is owned by the company (Frow et al., 2015). Therefore, this research is focusing on those platforms. The company requests on this platform for ideas for improvement. The present investigation will use 'platform' instead of 'engagement platform' as this is more common in contemporary research (Zahra & Nambisan, 2011).

Many forms of co-creation exist in which a customer can participate. These forms are co-producer, co-distributor, co-promotor, co-manufacturer, co-consumer, experience creator, co-innovator, co-ideator, co-evaluator, co-designer, and co-tester (Agrawal & Rahman, 2015). This research is going to focus on the customer as a co-ideator. This implicates that the customers are going to brainstorm about innovative ideas to run a new business (Agrawal & Rahman, 2015). The literature states that few products which are invented by companies have business potential (Agrawal & Rahman, 2015; Janssen, 2011), the ideas of co-ideators might lead to more success.

The products which are on the F&B market, are all part of a brand. Some of those brands have an online community, which could be owned or earned media (Lovett & Staelin 2016). The Facebook page 'Starbucksfanblog' is an example of an earned community (StarbucksFanBlogs, n.d.), whereas Traditional Medicinals owns the community platform (Traditional Medicinals, n.d.). Both groups give the opportunity where people can talk with each other and share ideas, pictures, and comments (StarbucksFanBlogs, n.d.; (Traditional Medicinals, n.d.). This is the aspect where it differs from a co-creation platform, where people can only drop ideas (e.g. my Starbucks idea, Starbucks, n.d.). Within a community, it is not always possible to share your ideas with the company. Within this research, both earned and owned brand communities are taken into account. Literature states that the customer-brand relationship is essential for co-creation behaviour as it provides many benefits for the brand like product innovation, a more user-centered brand image and reaffirmation of the organization's values (Ind, Trevail, & Fuller, 2012; Hatch & Schultz, 2010; Miller, France & Merrilees, 2015). Therefore, this

research is taking into account brand community as a moderator. Brand community is not an antecedent for co-creation as it is not an absolute requirement for co-creation (Miller et al., 2015). Taking into consideration the above information, the research question of this investigation will be:

*Which antecedents lead to contribution in CPB and CCB in the Dutch food industry with the moderating factor of online brand communities?*

The F&B industry can benefit from the results of this research as this research will show them where they need to put the focus on to collect as much as possible people who will participate in co-creation. Besides, the data that will emerge from this research can advise companies whether it is useful to set up a community if they are looking for people who will co-create.

The remainder of this paper proceeds as follows. In the second chapter, the theoretical background of co-creation is described. It gives an overview of the antecedents (food involvement, perceived ease-of-use and e-WOM) and dependent variables (CPB and CCB). The third chapter describes the operationalization of the constructs and the procedure of the data collection, including survey questions and research ethics. In the fourth chapter, the results of the survey are presented. The last chapter gives an answer on the research question, evaluates the hypotheses, derives limitations, and gives suggestions for further research.



## 2. Literature review

### 2.1 Online co-creation

Co-creation can be performed both on- and offline (Karahasanović et al., 2009). As the technology is developing, online co-creation is becoming more upcoming. This research is focusing on online co-creation, where the company is owning the co-creation platform. Customers can use those platforms to suggest their ideas for improvements of a current product or ideas for new products.

#### Online customer value co-creation activities

Online co-creation consists of several customer behaviours: Customer Participation Behaviour (CPB), Customer Citizenship Behaviour (CCB), information sharing and prosocial behaviour (Wu et al., 2017). CCB and CPB are most researched because they affect the customer and the firm, whereas the other behaviours only affect other customers. Information sharing and prosocial behaviour are not necessary for this research as this report is going to focus on the relationship between the customers and the company, not the relationship between customers (Frasquet-Deltoro et al., 2019). For that reason, CPB and CCB are further described in the following paragraphs. CCB is more researched than CPB and has, therefore already been assigned different dimensions by various researchers. Bettencourt (1997) suggested three dimensions for this construct: loyalty, cooperation, and participation. Groth (2005) assigned other dimensions: recommendation, feedback and helping others. In addition, Yi and Gong (2013) suggested dimensions for both CPB and CCB. The dimensions they assigned to CPB are information seeking, information sharing, responsible behaviour and personal interaction. The dimensions of CCB are feedback, advocacy, helping and tolerance (Yi & Gong, 2013). Their dimensions are similar to the other dimensions, but Yi and Gong (2013) talk about tolerance, while others do not mention this. Besides, no other researchers suggested dimensions for CPB.

Parallel to the discussion about the dimensions, it appeared that also a discussion about the aggregation or the division of CPB and CCB takes place in the academic field. Bove, Pervan, Beatty and Shiu (2009) see the two constructs as two different constructs. Moreover, they do not separate them into dimensions. Conversely, Wu et al. (2017) gave dimensions to the constructs but also added other constructs of online co-creation customer behaviour: information sharing and prosocial behaviour. By way of contrast, Shamim et al. (2016) invented that CPB and CCB are one construct: Customer value co-creation behaviour (CVCCB). According to them, CVCCB 'is the actual involvement of customers in value co-creation' (Shamim et al., 2016, p. 142). The recent studies indicate that it is not yet clear whether CPB and CCB belong to one construct or whether they are two separate constructs as the studies use them different.

The present research is going to use the two constructs as separate constructs, by taking the dimensions of Yi and Gong (2013) into account. This is done because the research of Frasquet-Deltoro et al. (2019) also used those dimensions, and they meet the definition of the constructs the most (Groth, 2005) (see following paragraphs). Moreover, the addition of 'tolerance' is unique in the dimensions of

Yi and Gong (2013). The other researchers do not take the role of tolerance into account (Bettencourt, 1997; Groth, 2005), while tolerance is essential for CCB. A part of the definition of CCB states: “help the service organization overall (Groth, 2005, p11.)”. This implicates that it is important that people have the best for the company. When the company decide that the idea of ‘person x’ does not fit with the company’s values, ‘person x’ would accept that when he/she would have tolerance as he/she wants the best for the company. Therefore, tolerance is of importance. Table 1 shows the different dimensions of CPB and CCB (Yi & Gong, 2013).

*Table 1. Dimensions of Customer participation behaviour and Customer citizenship behaviour (Yi & Gong, 2013)*

Customer participation behaviour	Customer citizenship behaviour
Information seeking	Feedback
Information sharing	Advocacy
Responsible behaviour	Helping
Personal interaction	Tolerance

### Customer Participation Behaviour

Customer Participation Behaviour (CPB) is defined as: “expected and required behaviours necessary for the successful production and/or delivery of the service” (Groth, 2005, p11). An example of CPB is completing all the questions among personal information within an online co-creation (Frasquet-Deltoro et al., 2019). CPB is necessary for the co-creation contest (Yi & Gong, 2013). In consideration of the mentioned dimensions, Wu et al. (2017) classified CPB as “for-self” behaviour. This name was linked to this construct as participation in co-creation is good for both the customer-self as for the firm, according to Wu et al. (2017) this definition was appropriate.

Yi and Gong (2013) performed further research into CPB and discovered that this construct consists of four dimensions: information seeking, information sharing, responsible behaviour, and personal interaction. These dimensions clearly explain what the construct entails. **Information seeking** is important for customers since it could lead to less uncertainty, and it helps to understand their co-creation abilities. (Kelley, Donnelly, & Skinner, 1990; Morrison 1993). **Sharing information** between customers and employees is necessary for successful co-creation (Lengnick-Hall, 1996). If this is not happening, employees are unable to start to innovate as they do not have the essential information. This will result in a poor quality of co-creation. **Customer’s responsible behaviour** refers to the way that customers notice that they have duties and responsibilities as they are partial employees in the value co-creation (Bettencourt, 1997). Customers must be cooperative. Besides, they need to accept the directions that they get from the employees (Bettencourt, 1997). The last dimension of CPB is **personal interaction**. This refers to the relationship between the customers and the employees. The interaction

exhibits courtesy, friendliness, and respect (Kelley et al., 1990; Ennew & Binks, 1999). Within some platforms, it is possible to have contact with others, while others do not have this option.

### Customer Citizenship behaviour

Customer Citizenship Behaviour (CCB) is defined as “voluntary and discretionary behaviours that are not required for the successful production and/or delivery of the service, but that, in the aggregate, help the service organization overall” (Groth, 2005, p11.). An example of CCB would be providing feedback to the firm and give suggestions for the improvement of products/services (Frasquet-Deltoro et al., 2019). Wu et al. (2017) classified CCB as ‘for others’ behaviour. This name was linked to this construct as it benefits other customers and the firm. CCB means that the customers ‘go the extra mile’ for the firm and help employees or fellow customers (Yi & Gong, 2008). Subsequently, Bove et al. (2009) stated that CCB has extraordinary value for the performance of the organization.

Yi & Gong (2013) discovered four dimensions for CCB: feedback, advocacy, helping, and tolerance. **Feedback** is about receiving tips for improvement. If a company is receiving feedback, the company can improve the product/service (Groth, Mertens & Murphy, 2004). The customer had an experience with the product or service and is an expert to look to the product/service from a customer perspective. **Advocacy** refers to recommending the firm to others. If customers talk positively about the firm, this will increase the firm’s reputation (Groth, 2004). Advocacy is a voluntary option for customers. The third dimension is **helping**. This refers to the activity of customers who help other customers of assisting in a co-creation process. Customers recognize difficulties in the process and are capable of helping others with those difficulties as they experienced it before (Rosenbaum & Massiah, 2007). **Tolerance** is the last dimension of CCB. This refers to the willingness of a customer to be patient when the result of the co-creation does not meet the expectations of the customer (Lengnick-hall, 1996). Tolerance of customers is important as it is not always feasible to satisfy the needs of all customers completely.

## 2.2 Antecedents of CPB and CCB

Frasquet-Deltoro et al. (2019) used three antecedents of CPB and CCB for their investigation: fashion involvement, perceived ease-of-use, and e-WOM quality. The antecedents were inferred from the research of Payne, Storbacka, Frow & Knox (2009). They invented that co-creation consists of four components: encounters, customer processes, supplier processes, and additional sources of brand knowledge (Frasquet-Deltoro et al., 2019). Encounters are defined as ‘processes where both parties are interacting and mutually co-creating experiences’ (Payne et al., 2009, p. 383). Frasquet-Deltoro et al. (2019) operationalized this as CPB and CCB. In addition, category involvement is representing customer processes by making the co-creation emotionally appealing (Frasquet-Deltoro et al., 2019). Subsequently, perceived ease-of-use of the online co-creation platform represents the supplier value-creating process as this supports the co-creation experience by making the experience efficient for the customer. Lastly, e-WOM is one of the additional sources of brand knowledge. Payne et al. (2009)

emphasized the importance of customer-to-customer for consumer research. For that reason, e-WOM belongs to the antecedents of CPB and CCB. Theories are, in general, about co-creation and not about CPB and CCB. However, this research is focusing on the two constructs. Therefore, the former theory about co-creation will be used to derive hypotheses on the two constructs.

### Category involvement

The first antecedent of CPB and CCB is category involvement. As this research is focusing on the food industry, this antecedent will be mentioned as 'food involvement'. Zaichkowsky (1994) argued that involvement is a motivational variable which is describing the degree to which an activity is personally relevant to an individual (Frasquet-Deltoro et al., 2019). The involvement is consistent over time, and the individual gets intrinsically motivated as one is thinking about the product and using it (Higie & Feick, 1989; Richins, Bloch & McQuarrie, 1992, Miller et al., 2015). Bell and Marshall (2003) added the following definition for food involvement: "The level of importance of food in a person's life" (p. 236). In addition, O'Cass (2004) stated that people who have high levels of category involvement, consider the category as a meaningful part of their life. According to Bloch (1981), are these people more knowledgeable, and are they the opinion leaders in the category. Subsequently, it can be assumed that the level of food involvement can vary across individuals (Bell & Marshall, 2003). Roughly speaking, there are two types of people: low food-involved individuals and high food-involved individuals. High food-involved individuals are people who are seeking for sensation and have the desire to experience new food. Besides, they get a feeling of pleasure and sensation about food (Bell & Marshall, 2003). Thus, these people believe that food is more important than just food to eat. That is why the high food-involved individuals may be more inclined towards new food experiences (i.e. more neophilic, the opposite of neophobic) (Bell & Marshall, 2003). High involved people pay, for example, more attention to the sensory characteristics of foods and believe that those need to be proper (i.e., be sensory appealing or provide pleasure). If food involvement were associated with dietary healthfulness, high food-involved people would care about their health or weight (Eertmans, Victoir, Vansant & van den Bergh, 2005). Moreover, people who are high food-involved can better distinguish between what is healthy and what is not (e.g. a higher energy intake from fruit and vegetables and a lower from fat and snacks) (Marshall & Bell, 2004). On the other hand, low food-involvement individuals are less concerned with the abovementioned characteristics and have less intention of trying out new food (Bell & Marshall, 2003).

Food involvement can be confused with the variable 'variety-seeking'. However, Van Trijp, Hoyer and Inman, (1996) showed a correlation of .50 between food involvement and variety-seeking. This indicates that a correlation exists but that it is not highly correlated. Moreover, their research also showed that variety-seeking is more likely to occur when product involvement is lower (Van Trijp et al., 1996). Nevertheless, this correlation will be taken into account in the present study by adding variety-

seeking as a control variable. This variable will not be an independent variable in this research since this is not the focus of this research and because Frasquet-Deltoro et al. (2019) did also not use this as an independent variable.

Category involvement seems an important factor for people to co-create. Ind et al. (2012) stated that customers participate in co-creation as they feel fulfilment at that moment. Besides, when a customer is involved in the category, they see personal relevance to co-create (Bloch, 1981). According to Payne et al. (2009), customers who share values with certain companies are more willing to co-create. On top of that, high food-involved people, pay more attention to the category, have an increased perception of the importance of the category, and behave differently to those who are not involved (Zaichkowsky, 1986). For that reason, it can be assumed that high food-involved individuals are more intended to participate in co-creation than low food-involved individuals. It is relevant to know if this is true, as companies know on who to focus when they are searching for participants to co-create.

The above theories are about co-creation, not directly about CPB and CCB. Therefore, two hypotheses are produced, based on the dimensions of CPB/ CCB (Yi & Gong, 2013). Firstly, it can be expected that someone who is high food-involved will look up information about co-creation more quickly because he/she sees personal relevance to co-create (Bloch, 1981). They have the desire to experience new food (Bell & Marshall, 2003). In addition, the chances are also high that he/she will share information because of the enthusiasm. Furthermore, it can be expected that high food-involved people have responsible behaviour as they care about the company and the products. The same can be expected for the friendliness of the people. Based on this, the following hypothesis is synthesized:

*H1: People who are higher food-involved are more likely to exhibit higher levels of CPB compared to people who are less food-involved*

The same reasoning has been done for CCB. It can be assumed that high food-involved people provide feedback to the company in question. The high food-involved people see the category as a meaningful part of their life (O'Cass, 2004) and want to experience new food (Bell & Marshall, 2003). When they give feedback, the company can improve its products, which lead to an improvement of a product. Besides, high food-involved people are likely to recommend the firm to others (advocacy). Those people are enthusiastic about the firm and its products and, therefore, are likely to recommend it. Furthermore, high food-involved people may be likely to help other customers in the co-creation process as they have an increased perception of the importance of food involvement (Zaichkowsky, 1986). Lastly, it can be expected that high food-involved people have tolerance as it is important for them to have new experiences about food (Bell & Marshall, 2003). Someone else may have had a better idea which lead to that experience. Based on this information, the following hypothesis is synthesized:

*H2: People who are higher food-involved are more likely to exhibit higher levels of CCB compared to people who are less food-involved*

## Perceived ease-of-use

The second antecedent of CPB and CCB is perceived ease-of-use. This is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). In this research, the system refers to the co-creation platform. The name of this construct is derived from ‘ease’: freedom from difficulty or great effort. “Effort is a finite resource that a person may allocate to the various activities for which he/she is responsible” (Davis, 1989, p.320; Radner & Rothschild, 1975).

Due to the growth of the internet, people are more and more capable of dealing with the internet. However, co-creation could occur at websites which are difficult to understand and thus to use. It is interesting to see the level of skills that people have acquired with regard to the use of the internet. When this is known, companies know how much effort is necessary to make their website understandable for its users. The ease-of-use of a co-creation platform could be measured with the perceived ease-of-use of the internet, since a co-creation platform is part of the internet. It is not a platform which is different from other websites. For example, buttons, interface and menus are similar.

People perceive a higher ease-of-use when they search for information on the internet, or they participate in online shopping (Frasquet-Deltoro et al., 2019). They perceive ease-of-use of the internet as they are familiar with those websites. Groth (2005) stated that it is necessary to train customers on how they should complete the co-creation task, as many of them are unfamiliar with virtual co-creation. However, this does not mean that each customer needs to be educated. By way of contrast, Murillo, Kang, & Yoon (2016) found that perceived ease-of-use of the internet has a positive effect on online prosocial behaviour. This is part of co-creation (Wu et al., 2017). Besides, the study of Phang, Kankanhalli & Sabherwal (2009) revealed that participation in online communities increased due to the perceived system usability and in particular, the perceived ease-of-use of the platform. The combination of perceived expertise of the customer and their self-efficacy related to the co-creation will affect the intention to co-create (Bendapudi & Leone, 2003; Xie, Bagozzi & Troye, 2008). The expertise of the participant with the internet is thus of importance to complete the online co-creation.

In online co-creation, people need to participate through an online platform. For some people, this could be a challenge. Older adults are motivated to participate in co-creation. However, they must understand the new technologies. Otherwise, it is not possible to co-create (Karahasanović et al., 2009). That is why the perceived ease-of-use of the internet is of importance. This antecedent derives from the Technology Acceptance Model (TAM) (Davis, 1989). The TAM (see Appendix 1, figure 1) describes the way how users are going to accept and use technology. In this case, the technology is: using a website/platform to co-create. The TAM operates as follows: ‘perceived ease-of-use’ and ‘perceived usefulness’ are the two antecedents of ‘attitude toward using the technology’. Subsequently, this leads to the ‘intention to use the technology’, which eventually leads to ‘the actual use of the technology’ (Davis, 1989). Ease-of-use is supported by Bandura’s research (1982) about self-efficacy (Davis, 1989). He defines self-efficacy as: “judgements of how well one can execute courses of action required to deal with prospective situations” (Bandura, 1982, p. 122). The research of Bandura (1982) showed that

perceived ease-of-use is an important determinant for the behaviour of the customers. The perception of the users of the co-creation platform is important as it can increase the number of people who are going to co-create (Phang et al., 2009). For the enterprises, this is important as the chance to collect useful ideas is bigger when more people are co-creating and, thus, it is important that they perceive the platform as easy to use. The other factors of TAM are not in line with the scope and the interest of this research and are therefore not used as independent variables.

The hypotheses about perceived ease-of-use are also based on the dimensions of Yi and Gong (2013) of CPB/CCB. Firstly, it can be expected that people who perceive the co-creation platform as easy to use are more likely to participate in CPB as it is easier to do this when they understand the platform. In addition, it is almost impossible to have sufficient personal interaction with employees when the customers do not understand the website and thus do not perceive it as easy to use. Creating personal interaction is easier when the platform is perceived as easy to use. Based on the above information, the following hypothesis is synthesized:

*H3: People who perceive the co-creation platform as easy to use, are more likely to exhibit higher levels of CPB compared to people who perceive the co-creation platform as less easy to use.*

The same reasoning has been done for CCB. When the platform is perceived as easy to use, it costs less effort to give feedback to the company in question as people understand the platform (Phang et al., 2009). Furthermore, when the platform is perceived as easy to use, it is more likely that people recommend the co-creation platform to others. Besides, when the platform is perceived as easy to use, it is likely that people will help others with co-creation as they understand the platform and can explain things. Based on this information, the following hypothesis is synthesized:

*H4: People who perceive the co-creation platform as easy to use, are more likely to exhibit higher levels of CCB compared to people who perceive the co-creation platform as less easy to use.*

### Electronic Word-of-Mouth

It is essential that people perceive the co-creation platform as easy to use. However, before they actually can use the platform, they need to know that it exists. People can get acquainted with a co-creation platform by electronic Word-of-Mouth (e-WOM). E-WOM is defined as “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the internet” (Hennig-Thurau, Walsh & Walsh, 2003, p.39). As this research is focusing on the co-creation platform and the intention to co-create, e-WOM will also be about the platform. E-WOM means that the receiver perceives the message as not commercial intent (Anderson, 1998; Harrison-Walker, 2001), which makes the message more credible than commercial advertisements (Herr, Kardes & Kim, 1991). Consumers who ask for the opinion of others on the internet are more likely to act on the information (Tsao & Hsieh, 2015).

The accessibility-diagnostics model implies that if the information is clear and relevant to the consumer, the input is seen as more diagnostic and has, therefore, a higher chance of being adopted (Feldman & Lynch, 1988; Herr et al., 1991; Tsao & Hsieh, 2015). This implicates that if the content of the review is considered as more complete, precise and relevant, it presents greater perceptual diagnosticity (Tsao & Hsieh, 2015). Moreover, studies showed that researchers are interested in the persuasiveness of an argument to those who receive it (Tsao & Hsieh, 2015). Those studies concluded that arguments of higher quality tend to strengthen the usefulness of the information (Cheung, Luo, Sia & Chen, 2009; Fang, 2014). Besides, greater detail of the comments, makes the review more useful (Jiménez & Mendoza, 2013). It is hereby important that the e-WOM is accurate, objective, complete, reliable, and useful (Park, Lee & Han, 2007).

The strength of the influence of e-WOM on CPB and CCB is related to the quality of the posted message. E-WOM is described as the relevance and usefulness of e-WOM based on the information content, the strength and accuracy of the argument (Awad and Ragowsky, 2008). In addition, See-To and Ho (2014) confirmed that e-WOM affects customer co-creation directly. This implicates that reading e-WOM affects the amount of co-creation. This is happening as the individual has the feeling that he/she is getting social support from others and this is contributing to the image you have of a company, which affect the willingness to co-create (Frasquet-Deltoro et al., 2019; Chiu, Huang, Cheng & Sun, 2015; Zhu, Sun & Chang, 2016). Besides, the Social Exchange Theory has a connection with e-WOM. This theory argues that people would like to have relationships with others because they think this relationship leads to rewards (Blau, 1964). Following this theory, it means that people would participate in co-creation as this will lead to a mutual benefit. When people receive quality e-WOM, they feel that they need to co-create because that will benefit the others. It is interesting to investigate this as when the hypotheses are confirmed; companies know they need to stimulate e-WOM as this has a positive effect on the amount of co-creation.

Firstly, it was assumed that e-WOM was one construct, as Frasquet-Deltoro et al. (2019) also used this as one construct. However, the factor analysis of present research showed two factors instead of one (see Chapter 3). This methodologic finding was taken into account, which resulted in two constructs: the importance of quality e-WOM and e-WOM relevance. The construct importance of quality e-WOM consists of the fact that people think it is important that an online review should contain strong arguments, accurate arguments and that it should be correct. Those factors could be linked to the results of Park et al. (2007), who concluded that the e-WOM should be accurate, objective, complete, reliable and useful. Besides, it could also be linked to the fact that arguments with higher quality tend to strengthen the usefulness of the information (Cheung et al., 2009).

The hypotheses about importance of quality e-WOM are also based on the dimensions of CPB/CCB (Yi and Gong, 2013). Firstly, it can be expected that people who consider the quality of e-WOM as important are likely to share information with the employees. Those people care about strong and accurate arguments in reviews. Therefore, their arguments will be like that, which will lead to useful



information (Cheung et al., 2009). Besides, people who consider the quality of e-WOM as important are likely to seek quality reviews on the internet as they consider the opinion of others as important on condition that it is well-argued. Based on the above information, the following hypothesis is synthesized:

*H5: People who consider the quality of electronic Word-of-Mouth as more important to them, are more likely to exhibit higher levels of CPB compared to people who consider the quality of electronic Word-of-Mouth as less important to them.*

The same is expected for the relationship between the importance of quality e-WOM and CCB. It can be expected that people who consider the quality of e-WOM as important, give useful feedback to the company. Their feedback and arguments are likely to be accurate, correct and strong. Besides, it is also likely that they recommend others via an online review which is high quality. Those people care about high quality reviews. This recommendation will, therefore, also be based on accurate and strong arguments. Based on the above information, the following hypothesis is synthesized:

*H6: People who consider the quality of electronic Word-of-Mouth as more important to them, are more likely to exhibit higher levels of CCB compared to people who consider the quality of electronic Word-of-Mouth as less important to them.*

Besides, the construct e-WOM relevance consists of the fact that people consider e-WOM, in general, as helpful, relevant and needed. This is in line with the accessibility-diagnostics model, which implies if the information should be clear, relevant and diagnostic. When it complies with these conditions, it has a higher chance of being adopted (Feldman & Lynch, 1988; Herr et al., 1991; Tsao & Hsieh, 2015). It can be expected that people who consider e-WOM as relevant are likely to seek information in reviews as they consider e-WOM as relevant. Besides, it can be expected that people who consider e-WOM as relevant are likely to share information in a review as they know how much it matters that a review is relevant. Based on this information, the following hypothesis is synthesized:

*H7: People who consider electronic Word-of-Mouth as more relevant to them are more likely to exhibit higher levels of CPB compared to people who consider electronic Word-of-Mouth as less relevant to them.*

The same is expected for the relationship between e-WOM relevance and CCB. It can be expected that people who consider e-WOM as relevant are likely to help others via reviews. It is possible that those people write reviews about how to solve problems during the co-creation process as they know how relevant reviews could be. Besides, it is expected that people who consider e-WOM as relevant will recommend the firm/co-creation platform to others via reviews. In both cases mentioned, it may be that the people write the reviews as they consider them, in general, as relevant. They know how important relevant reviews are. By writing a review, it could be that they write a relevant review for somebody else. Based on above information, the following hypothesis is synthesized:

*H8: People who consider electronic Word-of-Mouth as more relevant to them are more likely to exhibit higher levels of CCB compared to people who consider electronic Word-of-Mouth as less relevant to them.*

### 2.3 Moderating effect of brand community

The antecedents, food involvement, perceived ease-of-use, the importance of quality e-WOM and e-WOM relevance are expected as necessary reasons for people to participate in CPB/CCB in the F&B industry. However, it is expected that the relationship between food involvement and CPB/CCB is influenced by brand communities. A brand community is a “specialized, non-geographically bound community, based on a structured set of social relations among admirers of a brand” (Muniz & O’Guinn, 2001, p.412). A community is different from a co-creation platform. In an online community, it is, among other things, possible to share pictures and to discuss subjects. A co-creation platform is a platform where people can just post ideas.

The members of a community have a ‘we’ feeling for a specific brand and feel a big connection with the brand. They know that the brand is not the most important thing in their lives, but neither is it trivial (Muñiz and O’Guinn, 2001). Such communities provide many benefits for the brand, including product innovation (Hatch & Schultz, 2010). Because people have a special feeling for the brand, they are inclined to brainstorm about new ideas. Those communities are identified by a feeling of belonging to the group, the shared rituals and traditions and the sense of moral responsibility to the group (Muñiz & O’Guinn, 2001). Because of those properties, brand communities give people more opportunities to co-create (O’Hern & Rindfleish, 2017). Besides, brand communities are “fertile ground” for customer brand co-creation (O’Hern & Rindfleish, 2010, p34). Elliott and Wattanusuwan (1998) argued that brands have an important role in fulfilling the psychological and social needs of consumers by expressing who a person is and what group the person aligns oneself with. Consumers join brand communities to identify themselves with brands, so their social needs of being identified as the appropriate self-identity are met (Laroche, Habibi, Richard & Sankaranarayanan, 2012). In addition, Miller et al. (2015) argued that brand communities could affect co-creation behaviour, but they are not an absolute requirement for co-creation. It is possible that customers co-create without being a member of a brand community. However, it is expected that brand communities do moderate the relationship between food involvement and CPB/CCB. The reason for this is because Miller et al. (2015) argued that brand community is a moderator of the relationship between category involvement and brand co-creation. If people are part of a community, they are inclined to improve the brand. Therefore, people who are food-involved and belong to a food brand community are probably more likely to co-create in the food industry compared to people who are food-involved but are not part of a food community. Therefore, brand community is not an antecedent but a moderator in this model.

There is a ranking in terms of the extent to which people are active in the food brand community. It is expected that the more someone is involved in the brand community, the more likely it is that this will positively influence the relationship between food involvement and CPB/CCB. Active membership is the highest-ranking someone can achieve. An active member is someone who is contributing to the community (participating in discussions, posting questions, posting pictures etcetera). The fact that

people have not heard of a food brand community is the lowest ranking someone can get. It was already expected that brand community is a moderator for the relationship between food involvement and co-creation (Miller et al., 2015). However, the effect of the extent someone is involved in a food brand community on the relationship between food involvement and co-creation has not been examined yet. For that reason, the following hypotheses were formulated:

*H9: The stronger an individual is involved in a food brand community, the more positively this affects the relationship between food involvement and CPB*

*H10: The stronger an individual is involved in a food brand community, the more positively this affects the relationship between food involvement and CCB*

In contrary, it is not expected that the relationship between perceived ease-of-use and CPB/CCB is moderated by brand community. No literature has been found in this area. However, using logical reasoning, hypotheses can be formulated. It seems reasonable that brand community does not affect the relationship between perceived ease-of-use and CPB/CCB as the antecedent is specifically about the perceived ease-of-use of the co-creation platform. This probably is not perceived as easier when people are members of a community. Nevertheless, it is interesting to investigate if a relationship between those constructs exist because when this is the case, further research can be done in this field. Therefore, the following hypotheses were formulated:

*H11: Stronger involvement in food brand community does not affect the relationship between perceived ease-of-use and CPB*

*H12: Stronger involvement in food brand community does not affect the relationship between perceived ease-of-use and CCB*

Lastly, it is not expected that brand community will have a moderating effect between the two constructs of e-WOM and CPB/CCB. No literature has been found in this area. However, using logical reasoning, hypotheses can be formulated. It seems reasonable that brand community does not affect the relation between the importance of quality e-WOM with CPB/CCB and between e-WOM relevance with CPB/CCB. Someone who is involved in a brand community does not consider e-WOM suddenly as more important to him/her. The same applies to e-WOM relevance. Therefore, no moderating effect is expected in this field. Nevertheless, it is interesting to investigate if a relationship between those constructs exist because when this is the case, further research can be done in this field. Therefore, the following hypotheses were formulated:

*H13: Stronger involvement in food brand community does not affect the relationship between importance of quality E-WOM and CPB*

*H14: Stronger involvement in food brand community does not affect the relationship between importance of quality E-WOM and CCB.*

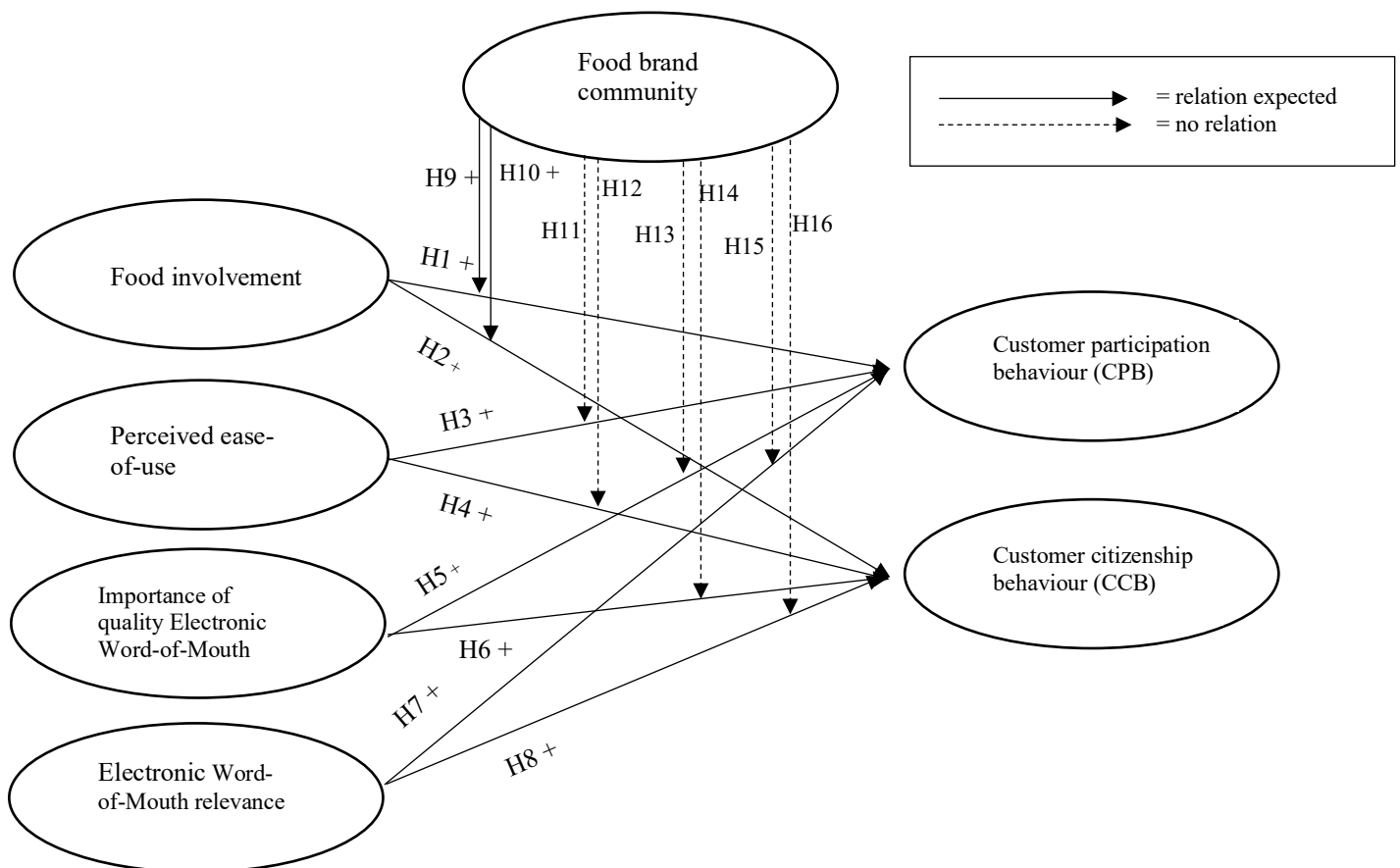
*H15: Stronger involvement in food brand community does not affect the relationship between E-WOM relevance and CPB*

*H16: Stronger involvement in food brand community does not affect the relationship between E-WOM relevance and CCB.*

## 2.4. The conceptual model

The theoretical basis has been established by explaining the dependent variables, their antecedents and the moderator. The expected relationships between the constructs are visualized in Figure 1. The model displays the effects of food involvement, perceived ease-of-use, the importance of quality e-WOM and e-WOM relevance on CPB and CCB. In addition, the model also depicts the direct effect between food involvement and CPB and CCB, moderated by the degree of involvement within a brand community. The model argues that for CPB and CCB, the customer must have a feeling of food involvement, must perceive the platform for co-creating as easy to use, need to consider the quality of e-WOM as important to them and need to consider e-WOM as relevant. Furthermore, it is expected that food brand communities stimulate the customer brand co-creation by moderate the relationship between food involvement and CPB and CCB. This moderator is not an antecedent per se, but it nonetheless influences the impact of food involvement.

Figure 1. Conceptual model



### 3. Methodology

#### 3.1 Data collection

To provide an answer to the research question and to examine the hypotheses, a questionnaire is produced (Appendix 2). The software program Qualtrics have been used to develop this questionnaire. In total, 225 respondents participated in the online survey. After the elimination of the missing values, 192 respondents remained. The survey was completed in April 2020.

To make sure that the questions were understandable for the respondents who are not familiar with the subject, someone who was not involved with the topic, read the questions and provided feedback to make the questions more understandable. This way, it was ensured that the professional jargon was comprehensible. Besides, the survey was in Dutch as it was taken for granted that the average Dutch person would not understand the academic terms of this subject in the English language. Subsequently, a pre-test was conducted among an expert group: fellow students and alumni of the Radboud University. This group has been approached because they are academically educated. Therefore, it was expected that they are likely to see improvements for the survey. The group indicated some areas of improvement. This was mainly about clarifying sentences and propositions of definitions. There were no suggestions for improvement of the content of the questions. Therefore, the questions which were in the pre-test were kept the same in the final survey. But before the final survey could be distributed, a number of factors were considered: the number of missing variables in the descriptives table, whether the respondents had filled in a lot of 'not applicable' and whether people had filled in the reversed questions correctly. The respondents of the pre-test (N=24) met the above criteria. This resulted in the fact that the content of the pre-test was allowed as a final survey. Hence, the respondents who filled in the pre-test (N=24), were also included in the final survey. Appendix 3 illustrates the analysis of the pre-test. Within the appendix, both the elaboration of the analysis and the figures are shown.

The final survey was distributed among all kinds of persons. It was not necessarily targeted to people who had participated in co-creation before, like Frasset-Deltoro et al. (2019) did. For this reason, the questionnaire was distributed in different places. Due to the coronavirus (COVID-19), it was not possible to distribute the questionnaire face-to-face. Therefore, the final survey was, amongst others, spread with the aid of social media. A hyperlink to the questionnaire was available in the online message. It was also requested to the people to forward this survey to others. The starting addresses of this procedure were people who differed widely concerning gender, age and education. This way, the chance to collect as many different types of people as possible was the largest. The likelihood of reliable results was highest this way. Moreover, the online message was also posted on social media sites where high food-involved people are present (Facebook groups about food). Because of this, the probability of reaching high food-involved people was the highest. It was necessary to reach those people as, if this is not the case, the hypotheses concerning high food-involvement might not be answered with reliable results. Besides, to collect more participants, a Quick Response (QR) code was used. With the aid of a

QR code on small notes, people could easily fill in the questionnaire on their mobile phones. Due to COVID-19, the QR code was not handed out face-to-face, to take account of government regulations (RIVM, 2020). Instead, the QR code was spread using the available pinboards (the supermarket and the common room of my residence).

The goal was to reach 180 respondents. This goal was set as Hair Jr., Black, Babin and Anderson (2014) stated that a general rule is to have a minimum of at least five times as many observations as the number of variables to be analyzed. This amount is needed to perform a factor analysis. As the questionnaire contains 36 questions, the total amount of 180 respondents was the goal. In the end, 225 respondents filled in the survey. Appendix 4 illustrates the frequency tables of the questions which were asked to the respondents. Those tables represent the original variables, which implies they still contain missing variables. Afterwards, a filter was used to track the missing variables within the data. Due elimination of all missing variables, 192 respondents remained in the data. Besides, a Missing Value Analysis (MVA) was carried out with the total sample (N=225). The MVA indicated that the missing data is not considered problematic. The MVA showed missing percentages which are below the threshold (10%). The highest value was .4 for the first question of perceived ease-of-use. In addition, Little MCAR test showed a value of .084, which is above the alpha level of .05. This indicates that the missing data patterns do not differ from the expected patterns for MCAR (Missing Completely At Random). Moreover, the t-test shows that there are almost no combinations that score a *t-value* above 1.96. Based on these findings, it can be concluded that the missing values are MCAR (Hair et al., 2014). This implicates that the missing values do not create a bias in the analyses of this research.

### 3.2 Research ethics

During the collection of questionnaires, ethics were taken into account. First of all, participation was entirely voluntarily. People could choose between clicking on the link leading to the survey or scan the QR code. Besides, anonymity was a requirement of the survey. Moreover, having personal data, such as name and place of residence, was irrelevant to the results of this study. For that reason, those data were not asked in the survey. Besides, the responses were only used to give an answer to the research question of this report. At the beginning of the survey, it is described that the respondents have the opportunity to ask about the results of the survey. To do so, they can email the author's email address, which was enclosed. In addition, the text describes what the results of the research can mean for society and science. Participants were always allowed to stop the survey if they felt uncomfortable. Concerning secondary data, the APA guidelines were taken into account (Smith, 2003).

### 3.3 Population

Present research took into account everybody who volunteered to participate. This is different compared to Frasquet-Deltoro et al. (2019), as they sent the questionnaire to people who were connected to two specific online panels in their country. The questionnaire was only distributed among Dutch participants, as this research is focusing on the Dutch population. After the elimination of the missing values, 192 valid responses remained. The data consisted of 55 male and 137 female respondents. The average age of the respondents was 35 years old. In addition, slightly more highly educated people had completed the survey (Bachelor, 46,4% and Master+, 33,3%). Moreover, 7,8% of the people admitted that they participated in co-creation in the food industry before, while 35,9% of the people say that they are interested. The rest would not be interested in participating in co-creation within the food industry.

### 3.4. Constructs and measurements

The different constructs have been developed with the aid of existing literature. The constructs have been operationalized, taking into account previous operationalizations. The following paragraphs will describe how the constructs were developed. A factor analysis among the variables was carried out to research if all those variables of previous investigations were also applicable for the present research. This was exploratory and an ideal starting point for other multiple regression analysis (Field, 2018; Hair et al., 2014).

To ensure content validity, the scales of the independent and dependent variables were derived from scales of prior studies. The construct ‘brand community’ is self-invented because the literature did not provide what was needed for this research. Table 3 (page 31) provides an overview of the indicators which belong to each dimension. The questions concerning the dependent and independent variables were measured with the aid of a five-point Likert scale (1= totally not agree; 2= not agree; 3 neither disagree nor agree; 4= agree; 5= totally agree). The interaction variable was measured with the aid of four multiple-choice questions. These questions were asked with the aid of routing in the survey. An overview of the descriptives of the variables is provided in Table 4 (page 33).

#### Customer Participation Behaviour

Customer Participation Behaviour (CPB) was operationalized with the aid of the four dimensions of Yi & Gong (2013): *information seeking*, *information sharing*, *responsible behaviour* and *personal interaction*. The dimensions are investigated by asking questions about what kind of behaviour one would expect to exhibit when one would co-create. Information seeking was measured with the following question: “*I would ask other people for information (on the platform or in my personal circle) about the product when I co-create*”. In addition, information sharing was measured with the following question: “*I would give the company information about my proposals for a better/new product*”. Subsequently, responsible behaviour was measured with the following question: “*I would answer any*

questions the company would ask me via the platform “. Lastly, personal interaction was measured with the following question: *“I would be nice to the person who may be virtually present during online co-creation”*. To investigate CPB, is it important to know how participants would deal with the dimensions mentioned above. If they score high on each dimension, that means their CPB is also high.

### Customer Citizenship Behaviour

Customer Citizenship Behaviour (CCB) was operationalized with the aid of the four dimensions of Yi & Gong (2013): *“feedback, advocacy, helping and tolerance”*. The dimensions are investigated by asking questions about what kind of behaviour one would expect to exhibit when one would co-create. Feedback was measured the following question: *“If I would have a good idea for an improvement of a product or an entirely new product, I would let the concerning company know”*. In addition, advocacy was measured with the following question: *“I would recommend products or companies to others”*. Subsequently, helping was measured with the following question: *“When people have a question about a certain product in the food industry, I would be happy to help them if I could.”*. Lastly, tolerance was measured with the following question: *“If the product/service I came up with through co-creation has not turned out as I expected, I would be willing to accept it”*. To investigate CCB, is it important to know how participants would deal with the dimensions mentioned above. If they score high on each dimension, that means their CCP is also high.

CPB and CCB are used as two separate constructs; however, in the questionnaire were the concerning questions aggregated. This was done to ensure that respondents would not indicate it as two separate constructs. Afterwards, a factor analysis was carried out (Appendix 5). This was a component factor analysis because a theory is known in advance about the possible correlation of the variables (Hair et al., 2014). This applies to every factor analysis in this chapter. Firstly, two separate factor analyses were executed: one with the variables of CPB and one with the variables of CCB (Appendix 5, page 89 and 90). This was done because the theory claims that it is possible that they are two different constructs (e.g. Wu et al., 2017). After checking if Bartlett’s value was significant, and if KMO value was above .50, the factor analysis could be carried out further (Field, 2018). This check was done in every factor analysis in this chapter. The rule of thumb for Cronbach Alpha is that the value should be above or around .60 (Hair et al., 2014). The higher this value, the more reliable the construct is with associated variables. In the factor analyses, the Cronbach’s Alpha of CCB was not sufficient (.497), while the Cronbach’s Alpha of CPB was sufficient (.593).

Therefore, the variables of CCB and CPB were aggregated to perform one factor analysis (Appendix 5, page 92) . During the factor analysis of the aggregated construct, two variables have been eliminated (*“I would be nice to the person who may be virtually present during online co-creation”* & *“If the product/service I came up with through co-creation has not turned out as I expected, I would be willing to accept it”*).



This led to a Cronbach's Alpha of .676. The aggregation was possible as both constructs belong to co-creation (Wu et al., 2017). By performing one factor analysis, questions about CCB could be retained. Since the Cronbach's Alpha of the total construct scored .676, while the original construct of CCB scored an Alpha of .497 and CPB of .593, it is decided to measure the original constructs as one. It is especially striking, that the last question is eliminated because this question measured the dimension 'tolerance'. Chapter 2 described the importance and uniqueness of tolerance in the dimensions of Yi and Gong (2013). Nevertheless, the factor analysis eliminated this question as it did not load on the same component as the rest. Apparently, this dimension is not as important as first thought in CCB. It seemed that the measurements of CCB of Yi and Gong (2013) are not supported by this factor analysis as they motivated that tolerance is a dimension of CCB. Groth (2005) used all other dimensions of CCB but did not use tolerance as a dimension. Therefore, present research measures CCB in agreement with his measurements. Next to 'tolerance' is also 'personal interaction' eliminated. As this was a cross-loading variable, it was necessary to eliminate this variable.

After the eliminations, one component retained, which resulted in the new construct: Customer value co-creation behaviour (CVCCB). The name of this construct is derived from the research of Shamim et al. (2016). The Cronbach's Alpha of this construct is .676. This is more reliable than a measurement with the constructs separated. Thus, this implicates that from now on, just one dependent variable is attending in this research. The aggregation of the two constructs is in line with the method of Shamim et al. (2016). They conducted a factor analysis between CPB and CCB and also concluded that it was one construct. Therefore, the finding in this research is considered as no methodological issue. Their research is comparable to present research as the same questions were asked in the survey. Question 20 is similar with their question P1, question 21 with P6, question 22 with P7, question 23 with P12, question 24 with C1, question 25 with C2, question 26 with C8 and question 27 with C12 (see Appendix 2 and Shamim et al., 2016, p. 149). Present research rejects the method of Frasquet-Deltoro et al. (2019) and supports the method of Shamim et al. (2016). Consequently, from now on, there will be referred to CVCCB as the dependent variable instead of CPB and CCB. CVCCB is distributed in the way that 6 was the lowest probability of participation in CVCCB, while a score of 30 gave the highest probability of participation in CVCCB. In this research, the respondents that had the lowest probability of participation in CVCCB had a score of 13. In contrast, the respondents that had the highest probability of participation in CVCCB scored 30 (Table 4).

## Food involvement

Based on the distinction between high food-involved people and low food-involved people (Bell & Marshall, 2003), food involvement has been operationalized. Bell and Marshall (2003) took into account the lifecycle of food in terms of distribution, preparation, and consumption. For this research, not every part of their operationalization, is relevant for this research. That is why some elements of the operationalizations of Bell and Marshall (2003) have not been used in the questionnaire (e.g. "I enjoy

cooking for others and myself”). For present research, it is important to know if people think about food, if they talk about food and if they consider decisions about food as an important decision of the day (Bell & Marshall, 2003). Therefore, the following questions are exported from the research of Bell and Marshall (2003): *“Talking about food/drinks is something I like to do”, “During the day, I do not think a lot of food/drinks”, “Compared to other decisions on the day, the decision what I am going to eat/drink is important”*. On top of that, the literature confirms that high food-involved people have the desire to experience new food (Bell & Marshall, 2003). The following question measures this: *“I would like to try a new type of food/drink”*. In addition, four questions about senses were taken into account as former research suggested that high food-involved people take more value to sensory characteristics of the food (Eertmans et al., 2005). Not all senses were taken into account as ‘hearing’ has nothing to do with food involvement. The other senses (smelling, tasting, feeling, and look) are of importance for food involvement and are therefore included in the questionnaire. Those questions are subjective to make sure people express their own opinion. The questions are: *“I think it's important that food/drink... a) smells good, b) tastes good, c) looks attractive, d) feels good”*. A component factory analysis of those variables was carried out (Appendix 5, page 84) as this method of factor analysis is most appropriate when prior knowledge suggests that specific and error variance represent a relatively small proportion of the total variance (Hair et al., 2014). This is the case for those variables as prior research already made a connection between the different sensory characteristics (Eertmans et al., 2005), which suggests that not a lot of variance will be present. This factory analysis had a Cronbach’s Alpha of .669, which confirms that the correlation between the variables is sufficient.

Subsequently, these questions were merged and divided by the number of options the respondents could choose from. In this way, it was possible to add this variable to the other questions measuring construct food involvement. Before conducting the total factor analysis, the reversed items were transformed into positive items. In this way, all items reflect the same scores. A component factor analysis was carried out with all the above-mentioned variables (Appendix 5, page 85). This factory analysis had a Cronbach’s Alpha of .596, which confirms that the correlation between the variables is sufficient. Subsequently, the variables were merged into one construct that measures Food Involvement. The construct is distributed in the way that 5 was the lowest degree of food involvement, while a score of 25 gave the highest degree of food involvement. In this research, the respondents that had the lowest degree of food involvement had a score of 11, while the respondents that had the highest degree of food involvement scored 25 (Table 4).

#### Perceived ease-of-use

In the present questionnaire, it does not matter if the participant already participated in co-creation or not. The operationalization of this construct is therefore different than the one of Frasquet-Deltoro et al. (2019), who focused on the perceived ease-of-use of a co-creation platform. The questions of this questionnaire refer to the prior experience of the respondents with the internet instead of co-

creation platforms, as respondents might not have experience with co-creation platforms yet. If the questions would be specific about co-creation platforms, people might not be able to answer the questions, which could lead to many missing values. Based on the answers, it can be deduced if people consider the internet as easy to use. The result can be translated into the use of an online platform of co-creation.

An important aspect to know for this construct is if people are skillful in the use of systems (Calisir & Calisir, 2004). To measure this, the following questions were asked: *“In general I manage to get the internet to do what I want it to do”* and *“In general I find the internet easy to use”*. Subsequently, it is important if people think that the internet is an easy to use means (Frasquet-Deltoro et al., 2019; Teo, Lim & Lai, 1999). The following question is asked to measure this: *“It is not easy for me to become proficient in using the internet.”*. Lastly, it is important if people find ease to use an important factor when they are doing online activities (Frasquet-Deltoro et al., 2019; Teo et al., 1999). The following question measured this: *“It is not important to me that the internet is user-friendly”*. Subsequently, a component factor analysis was carried out with all the above-mentioned variables (Appendix 5, page 86). The third question did not load on the same component as the rest of the questions did and was therefore eliminated. Removing this question was not problematic, as the other questions are still measuring the construct. Subsequently, a component factor analysis was carried out with the other three questions. This analysis consisted of one component. This factor analysis had a Cronbach’s Alpha of .739, which confirms that the correlation between the variables is sufficient. Subsequently, the three variables were merged into one construct that measures perceived ease-of-use. The construct is distributed in the way that 3 was the lowest degree of perceived ease-of-use while a score of 15 gave the highest degree of perceived ease-of-use. In this research, the respondents that had the lowest degree of perceived ease-of-use had a score of 7, while the respondents that had the highest degree of perceived ease-of-use scored 15 (Table 4).

### Electronic Word-of-Mouth

Electronic Word-of-Mouth (e-WOM) can be both positive as negative (Hennig-Thurau et al., 2003). With this in mind, the operationalization of this construct was made. This construct is about the e-WOM of the co-creation platform. In the end, that is true; however, respondents might not have participated with co-creation. Therefore, the questions are about e-WOM in general. For this construct, it was necessary to investigate if online reviews about platforms are helpful, relevant, and needed for the participant who is going to co-create (Awad & Ragowsky, 2008). Therefore, the following three questions were asked in the questionnaire: *“In general I find reviews useful when I want to buy/do something”*, *“In general, reviews are relevant to me”* and *“In general, reviews give me information that I am looking for”*. The questions of the questionnaire for this construct refer to e-WOM in general instead of e-WOM about the co-creation platform, as respondents might not have experience with co-creation platforms yet. Besides, the questionnaire considered the description of quality e-WOM: the

relevance and usefulness of e-WOM based on the information content, the strength, and accuracy of the argument (Awad & Ragowsky, 2008). Therefore, also questions regarding those three characteristics were taken into account. Those questions are: “*When I read a review, I find it important that the content is correct*”, “*When I read a review, I think it's important that the review has strong arguments*” and “*When I read a review, I don't think it's important that the arguments are accurate*”. After the data collection, a component factor analysis was carried out with all the above-mentioned variables (Appendix 5, page 87). One cross-loading was found (*When I read a review, I think it's important that the review has strong arguments*) and was therefore eliminated.

Subsequently, a new factor analysis was executed, which resulted in values that were appropriate to work with. However, not all the variables loaded on the same component. As illustrated in Appendix 5, three variables loaded high on component 1 and two variables loaded high on component 2. Therefore, two constructs were introduced: the importance of quality e-WOM and e-WOM relevance. Subsequently, two factor analyses were carried out with the original variables for the new constructs (Appendix 5, page 88 and 89). The cross-loaded variable loaded, before elimination, higher on component 2. Besides, it belonged, initially, to the variables about the correctness of the review and the accurateness of the argument. Therefore, this variable was taken into account with those variables (component 2). In the end, E-WOM relevance had a Cronbach's Alpha of .796 and importance of quality E-WOM of .519. The last one is not seen as sufficient; however, considering the theory, it is of importance to examine the relationship. For that reason, those variables were not eliminated. The factor analysis thus resulted in a separation of the original construct e-WOM.

The crucial difference between the two constructs is that one is about what people think is important in reviews (Importance of quality e-WOM) and the other is about what they actually think about the reviews which are on the internet (e-WOM relevance). Importance of quality e-WOM is about whether people consider the content of a review to be important. It is about the strength, accuracy, and correctness of the arguments. E-WOM relevance, on the other hand, is about whether people regularly read relevant reviews on the internet. It is about whether they find those reviews, in general, helpful, relevant, and needed. Thus, importance of quality is about what people think is important in a review and e-WOM relevance is about what people actually regularly find on the internet. Importance of quality e-WOM could be linked to the results of Park et al. (2007) who concluded that the e-WOM should be accurate, objective, complete, reliable, and useful. In addition, the construct e-WOM relevance consists of the fact that people consider e-WOM as helpful, relevant, and needed. This is in line with the accessibility-diagnostics model, which implies that the information should be clear and relevant (Feldman & Lynch, 1988; Herr et al., 1991; Tsao & Hsieh, 2015). Besides, this construct confirms the setting which Frassetto-Deltoro et al. (2019) used. E-WOM relevance and Importance of quality e-WOM are both distributed in the way that 3 was the lowest degree of e-WOM relevance and importance of quality e-WOM while a score of 15 gave the highest degree of it. In this research, the respondents who had the lowest degree of importance of quality e-WOM had a score of 7, while the ones with the highest

degree scored 15. Besides, for e-WOM relevance applies that the respondents who had the lowest degree scored 6, while the ones with the highest degree scored 15 (Table 4).

### Brand community

As the relationship between brand community and the constructs of this research is not investigated before, the basic relation first needs to be examined. Therefore, a scale is not expected for this variable. Several self-invented questions were asked to the respondents to figure out what their experience is with brand community. This research is focusing on brand communities in the food industry. As not everybody is familiar with brand community, a description of this concept is given in the text above the questions.

The first question concerning brand community was: *“Have you ever heard of this kind of community?”*. People could choose between ‘Yes’ and ‘No’. The second question about this topic was: *“Are you a member of one (or more) community(s) of (a) food or beverage brand(s)?”*. Respondents could choose between the following options: ‘yes’, ‘no, but I would love to do to this’ and ‘no, and I do not have interest in this’. Subsequently, the next question followed: *“On which platform(s) are you a member of this community?”*. This was an open-ended question. Lastly, for this research, it is important if people consider themselves as active members. They are active if they regularly participate in discussions in the community, post pictures, ask questions, etcetera. Therefore, the following question was asked: *“Do you consider yourself an active member of the community? (You are active if you regularly participate in discussions, post photos, ask questions, et cetera.)”*. Participants could fill in ‘yes’, ‘no, but I would love to do to this’ and ‘no, and I do not have interest in this’. The choice for those answer options was made as it is possible that people are not a member yet of the community but, after reading this, they would like to. There is only one option possible if people consider themselves as active as there is no distinction among active members (in this research). Within the questions of this construct, routing has been processed. For example, if people have never heard of a brand community, they do not get any other questions about it.

To use this variable as a useful interaction variable, six categories were made (Table 2, page 30). The number of respondents in this table are after elimination of the missing variables (N=192). With the aid of the ranking, a difference can be developed in the degree of active membership in a food brand community. The ranking someone gets is about the involvement of him/her at the moment he/she filled in the survey. It is not possible to predict the future behaviour of people. Therefore, the focus is on current involvement. If someone scores 0, it means he/she has not heard of brand community. It is not possible for that person to be involved. Someone who scored 1, heard of a brand community but decided to not become a member. This person is more involved compared to the prior category as people who heard of brand community might have conversations about brand community. They have an opinion about this. People who have not heard of a brand community have not had these opportunities and are therefore less involved. In addition, people who scored 2 are potential member. They are more involved

in brand community than the prior category as he/she has the interest to become a member. The people from the former category did not have this interest. Subsequently, people who scored 3 are a member but not want to be active. They are more involved in brand community compared to the prior category as people who are member already decided to become a member. The people from the former category have not made this decision yet. Next, people who scored 4 are a potential active member. People who are potential active indicate indirectly that they feel involved with the brand community and that they want to become more active. This is more involved than people who indicate that they do not want to become an active member. Lastly, people who scored 5 are active member. People consider themselves as active, participate in the brand community by talking in discussions, posting pictures et cetera. This is the highest involvement of all categories.

The hypotheses concerning brand community are about ‘stronger involvement’. Using the ranking, those hypotheses can be answered. Table 2 indicates that more people are lower in the ranking of their membership in food brand community. This implicates they are less active in the community.

*Table. 2. Categories membership food brand community*

Ranking	Name of ranking	Number of respondents
5	Active membership	6
4	Potential active membership	2
3	Member, but not want to be active	9
2	Potential membership	19
1	Heard of food brand community but not want to be member	94
0	Not heard of food brand community	62

The creation of those categories was possible with the aid of the questions in the survey. Subsequently, dummies were made out of those categories. These dummies were then multiplied by the independent constructs to be able to use them as an interaction variable. With the help of these categories, it can be stated during the regression how much impact it has when one has a certain grade of involvement on the degree of co-creation. Like H7 and H8 stated, it is expected that the relationship between food involvement and CPB/CCB is stronger for people who are more involved in a food brand community than for those who are not. Stronger involved are thus people who score higher in Table 2. With the answers of the respondents, an analysis can be produced if the involvement of brand community can moderate the relationship between food involvement and CPB/CCB.

Table 3. Explanation dimensions

Dimensions	Indicators	Question in survey	References
CPB	Information seeking	I would ask other people for information (on the platform or in my own personal circle) about the product when I co-create	Yi & Gong (2013)
	Information sharing	I would give the company information about my proposals for a better/new product	
	Responsible behaviour	I would answer any questions the company would ask me via the platform	
	Personal interaction	I would be nice to the person who may be virtually present during online co-creation	
CCB	Feedback	If I have a good idea for an improvement of a product, or an entirely new product, I would let the concerning company know	Yi & Gong (2013)
	Advocacy	I would recommend products or companies to others	
	Helping	When people have a question about a certain product in the food industry, I would be happy to help them if I could.	
	Tolerance	If the product/service I came up with through co-creation has not turned out as I expected, I would be willing to accept it	
Food involvement	Thinking about food/drinks	During the day, I do not think a lot of food/drinks	Bell & Marshall (2003)
	Talking about food/drinks	Talking about food/drinks is something I like to do	
	Importance of decision about food/drinks	Compared to other decisions on the day, the decision what I am going to eat/drink is important	
	Try new food/drinks	I would like to try a new type of food/drink	n/a*
	Sensory characteristics	I think it's important that food/drink... a) smells good, b) tastes good, c) looks attractive, d) feels good	
Perceived ease-of-use	Skillful in using internet	In general, I manage to get the internet to do what I want it to do In general, I find the internet easy to use	Calisir & Calisir (2004)
	Importance of ease-of-use	It is not important to me that the internet is user-friendly	Frasquet-Deltoro et al. (2019); Teo et al. (1999)
	Internet is use of means	It is not easy for me to become proficient in using the internet	
Electronic Word-of-Mouth relevance	Review is helpful	In general, I find reviews useful when I want to buy/do something	Frasquet-Deltoro et al. (2019); Awad & Ragowsky, 2008
	Review is relevant	In general, reviews are relevant to me	
	Review is needed	In general, reviews give me information where I am looking for	
Importance of quality Electronic Word-of-Mouth	Accuracy of the arguments	When I read a review, I don't think it's important that the arguments are accurate	n/a*
	<i>Strength of the arguments</i>	When I read a review, I think it's important that the review has strong arguments	
	<i>Correctness of the review</i>	When I read a review, I find it important that the content is correct	
Brand Community	<i>Heard of food/drinks community</i>	Have you ever heard of this kind of community?	n/a*
	<i>Being member of a food/drink's community</i>	Are you a member of one (or more) community(s) of (a) food or beverage brand(s)?	
	<i>Being active member of a food/drink's community</i>	Do you consider yourself an active member of the community? (You are active if you regularly participate in discussions, post photos, ask questions, et cetera.)	
	<i>What kind of community</i>	On which platform(s) are you a member of this community?	

\* n/a = not applicable



## Control variables

The control variables of this research are gender, age, highest obtained education, former participation of co-creation, and variety seeking. Including the control variables ensure that the relationships are examined, taking into account the influences of the control variables. 'Variety seeking' is a control variable but is measured after the questions concerning food involvement as this variable is testing if a correlation exists between variety seeking and food involvement. This is different from the other control variables, which are all measured at the end of the survey. To measure variety seeking, a five-point Likert scale is used with the question: *"I am loyal to brands in the food industry (in other words: you almost always use the same brand for a certain type of food/drink)"*. Afterwards, three categories out of the five were made, as some categories had not enough respondents to use as a category. The new categories are: (totally) not agree, neutral, (totally) agree. To measure the former participation of co-creation of the participants, the following question was asked: *"Have you ever participated in co-creation in the food industry (food and drink)?"*. The respondents could choose three options: 'yes', no, but I would like this', 'no, and I do not have interest in this'. To measure gender, the question was asked: *"What is your gender?"* The respondents could choose four options: 'male', 'women', 'different', 'I do not want to say it'. The last one is later indicated as a missing value. Subsequently, the age is measured with the question: *"What is your age?"* The respondents could answer this question by filling in their age. They also got the possibility not to tell their age. When this was the case, they were supposed to fill in '-'. This answer is also indicated as a missing value. Lastly, the highest obtained education was asked in the survey. The question was: *"What is your highest obtained education?"*. Possibilities for the respondents to fill in were: 'primary school', 'secondary school', 'MBO', 'HBO', 'WO Bachelor', 'WO Master', 'PHD', 'Different namely' and 'I do not want to say that'. MBO up to and including WO Master are the Dutch names and levels for (academic) education. The participants are all Dutch and are thus familiar with these titles. Afterwards, some categories were merged to create more acceptance and reliability. Primary school and secondary school were merged into Primary education. MBO stayed the same as this category is not logical to merge with another educational level as the difference is too big. Subsequently, HBO and WO Bachelor have been merged into Bachelor. Lastly, WO Master and PHD have been merged into Master+. Four respondents filled in 'different, namely'. Those answers were interpreted and merged to the appropriate category (for example: 'HBO not finished yet' means probably that the highest obtained education is secondary school). Afterwards, dummies were created for the control variables: highest obtained education, former participation in co-creation, and variety seeking as they were not metrically scaled.



## Descriptives

Table 4. Descriptives

	N	Minimum	Maximum	Mean	Std. Deviation
<b>Dependent variable</b>					
<i>Co-creation</i> (13= lowest probability of co-creation, 30= highest probability of co-creation)	192	13.00	30.00	22.56	3.12
<b>Independent variables</b>					
<i>Food involvement</i> (11= lowest food-involved, 25= highest food-involved)	192	11.00	25.00	19.84	2.82
<i>Perceived ease-of-use</i> (7= lowest perceived ease-of-use with internet, 15= highest perceived ease-of-use with internet)	192	7.00	15.00	13.11	1.91
<i>Importance of quality E-WOM</i> (7= lowest importance of quality e-WOM, 15 = highest importance of quality e-WOM)	192	7.00	15.00	12.51	1.63
<i>E-WOM relevance</i> (6= lowest importance of e-WOM relevance, 15 = highest importance of e-WOM relevance)	192	6.00	15.00	11.41	1.88
<b>Moderating variable</b>					
<i>Brand Community Dummy – not heard of a brand community</i> (0= other category, 1= not heard of)	192	.00	1.00	.32	.47
<i>Brand Community Dummy – heard of but not want to be member</i> (0 = other category, 1= heard of but not want to be member)	192	.00	1.00	.49	.50
<i>Brand Community Dummy – potential member</i> (0= other category, 1= potential member)	192	.00	1.00	.10	.30
<i>Brand Community Dummy – Member but not want to be active</i> (0= other category, 1= Member but do not want to be active)	192	.00	1.00	.05	.21
<i>Brand Community Dummy – potential active member</i> (0= other category, 1= Potential active member)	192	.00	1.00	.01	.10
<i>Brand Community Dummy – active member</i> (0= other category, 1= active member)	192	.00	1.00	.03	.17
<b>Interaction variable- Food involvement</b>					
<i>Food involvement &amp; ‘not heard of’</i> (0= other category and certain food involvement, 23= not heard of and highest food involvement within brand community category)	192	.00	23.00	6.02	8.86
<i>Food involvement &amp; ‘heard of but not want to be member’</i> (0 = other category and certain food involvement, 25= heard of but not want to be member and highest food involvement within brand community category)	192	.00	25.00	9.78	10.20
<i>Food involvement &amp; ‘potential member’</i> (0= other category and certain food involvement, 25= potential member and highest food involvement within brand community category)	192	.00	25.00	2.14	6.49
<i>Food involvement &amp; ‘member but not want to be active’</i> (0= other category and certain food involvement, 25= Member but do not want to be active and highest food involvement within brand community category)	192	.00	25.00	.99	4.51
<i>Food involvement &amp; ‘potential active member’</i> (0= other category and certain food involvement, 24= Potential active member and highest food involvement within brand community category)	192	.00	24.00	.23	2.30
<i>Food involvement &amp; ‘active member’</i> (0= other category and certain food involvement, 25=active member and highest food involvement within brand community category)	192	.00	25.00	.69	3.90
<b>Interaction variable – Perceived ease-of-use</b>					
<i>Perceived ease-of-use &amp; ‘not heard of’</i> (0= other category and certain perceived ease-of-use; 15= not heard of and highest perceived ease-of-use within brand community category)	192	.00	15.00	4.02	5.95
<i>Perceived ease-of-use &amp; ‘heard of but not want to be member’</i> (0 = other category and certain perceived ease-of-use, 15= heard of but not want to be member and highest perceived ease-of-use within brand community category)	192	.00	15.00	6.53	6.81
<i>Perceived ease-of-use&amp; ‘potential member’</i> (0= other category and certain perceived ease-of-use, 15= potential member and highest perceived ease-of- use within brand community category)	192	.00	15.00	1.34	4.10
<i>Perceived ease-of-use&amp; ‘member but not want to be active’</i> (0= other category and certain perceived ease-of-use, 15= Member but do not want to be active and highest perceived ease-of-use within brand community category)	192	.00	15.00	.63	2.84
<i>Perceived ease-of-use&amp; ‘potential active member’</i> (0= other category and certain perceived ease-of-use; 15= Potential active member and highest perceived ease-of-use within brand community category)	192	.00	15.00	.16	1.53
<i>Perceived ease-of-use&amp; ‘active member’</i> (0= other category and certain perceived ease-of-use; 15=active member and highest perceived ease-of-use within brand community category)	192	.00	15.00	.44	2.45

**Interaction variable – importance of quality E-WOM**

<i>Importance of quality E-WOM &amp; 'not heard of'</i> (0= other category and certain importance of quality e-WOM, 15= not heard of and highest importance of quality e-WOM within brand community category)	192	.00	15.00	3.93	5.78
<i>Importance of quality E-WOM &amp; 'heard of but not want to be member'</i> (0 = other category and certain importance of quality e-WOM, 15= heard of but not want to be member and highest Importance of quality e-WOM within brand community category)	192	.00	15.00	6.20	6.43
<i>E-WOM Quality &amp; 'potential member'</i> (0= other category and certain importance of quality e-WOM,15= potential member and highest importance of quality e-WOM within brand community category)	192	.00	15.00	1.27	3.90
<i>E-WOM Quality &amp; 'member but not want to be active'</i> (0= other category and certain importance of quality e-WOM, 15= Member but do not want to be active and highest importance of quality e-WOM within brand community category)	192	.00	15.00	.58	2.66
<i>E-WOM Quality &amp; 'potential active member'</i> (0= other category and certain importance of quality e-WOM, 15= Potential active member and highest importance of quality e-WOM within brand community category)	192	.00	15.00	1.4	1.38
<i>E-WOM Quality &amp; 'active member'</i> (0= other category and certain importance of quality e-WOM, 15=active member and highest importance of quality e-WOM within brand community category)	192	.00	15.00	.40	2.22

**Interaction variable – E-WOM relevance**

<i>E-WOM relevance &amp; 'not heard of'</i> (0= other category and certain e-WOM relevance, 15= not heard of and highest e-WOM relevance within brand community category)	192	.00	15.00	3.66	5.42
<i>E-WOM relevance &amp; 'heard of but not want to be member'</i> (0 = other category and certain e-WOM relevance, 15= heard of but not want to be member and highest e-WOM relevance within brand community category)	192	.00	15.00	5.56	5.85
<i>E-WOM relevance &amp; 'potential member'</i> (0= other category and certain e-WOM relevance, 15= potential member and highest e-WOM relevance within brand community category)	192	.00	15.00	1.19	3.62
<i>E-WOM relevance &amp; 'member but not want to be active'</i> (0= other category and certain e-WOM relevance, 13= Member but do not want to be active and highest e-WOM relevance within brand community category)	192	.00	13.00	.51	2.34
<i>E-WOM relevance &amp; 'potential active member'</i> (0= other category and certain e-WOM relevance, 15= Potential active member and highest e-WOM relevance within brand community category)	192	.00	15.00	.14	1.34
<i>E-WOM relevance &amp; 'active member'</i> (0= other category and certain e-WOM relevance, 12=active member and highest e-WOM relevance within brand community category)	192	.00	12.00	.36	2.01

**Control variables**

<i>Experience co-creation Dummy – Yes</i> (0= no experience, 1= experience)	192	.00	1.00	.08	.27
<i>Experience co-creation Dummy – No, but interested</i> (0= no, not interested; 1=no, but interested)	192	.00	1.00	.40	.48
<i>Experience co-creation Dummy – No, and not interested</i> (0= No, but interested, 1= No, not interested)	192	.00	1.00	.56	.50
<i>Variety seeking Dummy –Not agree</i> (0= other 1= not agree)	192	.00	1.00	.28	.45
<i>Variety seeking Dummy – Neutral</i> (0= other, 1= neutral)	192	.00	1.00	.18	.39
<i>Variety seeking Dummy – Agree</i> (0= other, 1= agree)	192	.00	1.00	.54	.50
<i>Education Dummy - Primary school</i> (0= other educational level, 1= primary school)	192	.00	1.00	.09	.28
<i>Education Dummy - Practical school</i> (0= other educational level, 1= practical school)	192	.00	1.00	.11	.32
<i>Education Dummy – Bachelor</i> (0= other educational level, 1= Bachelor)	192	.00	1.00	.46	.50
<i>Education Dummy – Master+</i> (0= other educational level, 1= Master+)	192	.00	1.00	.33	.47
<i>Gender</i> (0= male, 1= women)	192	.00	1.00	.71	.45
<i>Age</i> (16= youngest, 68=oldest)	192	16.00	68.00	35.64	15.46

## 4. Results

### 4.1 Adaption of the research question and hypotheses

In chapter 3, it was concluded that CPB and CCB should be merged into the construct CVCCB. This implicates that one dependent variable will be present in this research instead of two. Therefore, the following research question will be used from now on:

*Which antecedents lead to contribution in CVCCB in the Dutch food industry with the moderating factor of online brand communities?*

The aggregation of CPB and CCB into CVCCB also affects the formulation of the hypotheses. Therefore, the following hypotheses are used in this research from now on:

*H1: People who are higher food-involved are more likely to exhibit higher levels of CVCCB compared to people who are less food- involved.*

*H2: People who perceive the co-creation platform as easy to use, are more likely to exhibit higher levels of CVCCB compared to people who perceive the co-creation platform as less easy to use.*

*H3: People who consider the quality of electronic Word-of-Mouth as more important to them, are more likely to exhibit higher levels of CVCCB compared to people who consider the quality of electronic Word-of-Mouth as less important to them*

*H4: People who consider electronic Word-of-Mouth as more relevant to them are more likely to exhibit higher levels of CVCCB compared to people who consider electronic Word-of-Mouth as less relevant to them.*

*H5: The stronger an individual is involved in a food brand community, the more positively this affects the relationship between food involvement and CVCCB.*

*H6: Stronger involvement in food brand community does not affect the relationship between perceived ease-of-use and CVCCB.*

*H7: Stronger involvement in food brand community does not affect the relationship between importance of quality E-WOM and CVCCB.*

*H8: Stronger involvement in food brand community does not affect the relationship between E-WOM relevance and CVCCB.*

### 4.2 Assumptions for multiple regression analysis

Before a multiple regression could be carried out, several assumptions of the dataset needed to be checked. First of all, the skewness and kurtosis were examined. In the case of large samples, it is advised to evaluate the absolute values of the skewness and the kurtosis instead of the z-values (Field, 2018). Moreover, Field (2018) recommended not to use significance tests at all if the sample is large. Tubbing (2015) argued that a large sample is a sample of 200 respondents (N of this research = 192 valid respondents). This research is, therefore, characterized as a research with a large sample. Although Field (2018) advised not to worry about normality in case of a large sample, it is always good to do a check. Therefore, the absolute values of the skewness were investigated first. The closer the absolute

value is to zero, the more likely it is that the data is normally distributed (Field, 2018). Taking this criterion into account, perceived ease-of-use and brand community are least normally distributed (Table 5). For perceived ease-of-use, this makes sense, as it could be expected that people have a high perceived ease-of-use as nowadays people are familiar with the internet. People have more positive values, which leads to a right-skewed distribution. Besides, for the skewness of brand community, it also makes sense as there consists a big difference in the degree that people are an active member and have not heard of a brand community. Fewer people indicate to be a (active) member. Therefore, the normal distribution of this variable is left-skewed. Skewness could be solved by a transformation. However, a transformation makes the data less reliable. It is not wise to transform the mentioned variables as their skew distribution is entirely understandable. If the variables will be transformed, the distribution will look different and will lead to less resemblance to reality. This will no longer be in line with what people answered in the survey. Skew variables are not ideal, but transformations are neither. Therefore, the choice has been made to keep the original values and not to transform them with logarithm, square root, or use reciprocal transformation (Field, 2018). Moreover, Field (2018) stated that normality matters less in a large sample and that it makes people correct things that do not be corrected at all.

Afterwards, the kurtosis was examined. The same rule applies: the closer the absolute value is to the zero, the more likely it is that the data is normally distributed (Field, 2018). Brand community is least normally distributed. However, this makes sense as there consists a big difference in the degree that people are an active member and people who have not heard of a brand community. More people consider themselves as non (active) members. Therefore, the distribution of the brand community is heavy tailed (Field, 2018). For the same reasons as the ones for the skewness, none of the constructs needed to be transformed with logarithm, square root, or reciprocal transformation (Field, 2018).

*Table 5. Skewness and Kurtosis*

	Skewness	SE Skewness	Kurtosis	SE Kurtosis
Food involvement	-.702	.175	.530	.349
Perceived ease-of-use	-1.019	.175	.702	.349
Importance of quality E-WOM	-.332	.175	.013	.349
E-WOM relevance	-.498	.175	.222	.349
CVCCB	-.510	.175	.591	.349
Brand Community	1.787	.175	3.887	.349

Subsequently, the assumptions of the regression analysis were researched. Constant variance of the error terms, independence of the error terms, linearity of the phenomenon measured, and normality of the error term distribution are the four assumptions for multiple regression (Hair et al., 2014). The assumptions are about the variate. This is the relation between the independent and dependent variable(s). According to the scatterplots (Appendix 6), every variate meets the assumption of constant

variance of the error terms (homoscedasticity) except the variates 'perceived ease-of-use & CVCCB and 'e-WOM relevance & CVCCB. Those scatterplots indicate a somewhat triangle shaped pattern (Hair et al., 2014). This implicates that the groups in the variates are not equally distributed and seem to be heteroscedastic. To get more reliable results for this assumption, a Levene's test was carried out. The Levene's test showed non-significant scores for the variates of Food involvement ( $p=.481$ ), Perceived ease-of-use ( $p=.729$ ), Importance of quality e-WOM ( $p=.224$ ), e-WOM relevance ( $p=.412$ ) and Brand community ( $p=.278$ ) by a  $p$  of .05. Non-significant scores indicate homoscedasticity. Thus, although the scatterplots indicated heteroscedasticity for two variates, Levene's test indicated that there are no significant differences in the group sizes. The variates are homoscedastic. This implicates that the assumption of constant variance of the error terms is met.

Besides, the scatterplots do not show precise results for the independence of the error terms. Therefore, the Durbin-Watson test was carried out. A value of 2 indicates that the residuals are uncorrelated (Field, 2018), which is necessary to meet the assumption. The Durbin-Watson test showed the following scores for the variates: Food involvement (1.793), Perceived ease-of-use (1.816), Importance of quality e-WOM (1.786), e-WOM relevance (1.780) and Brand Community (1.778). The scores show a slightly positive correlation. However, the rule of thumb is a value less than 1 or greater than 3 is a cause of concern (Field, 2018). Therefore, all variates meet this assumption.

The next assumption, linearity, is visualized in the scatterplots. Those plots showed a linear relationship as it is possible to draw a straight line from the left to right between the residuals. This implicates that the assumption of linearity is accepted.

Normality is the last assumption of multiple regression analysis. The histograms in Appendix 6 visualize this. It indicates a slightly non-normal distribution for all the variables but not so much that it is something to worry about. This implicates that the assumption of normality is accepted. All assumptions are met, which means the multiple regression can be carried out.

### 4.3 Modelling

To carry out the multiple linear regression, a partial stepwise method is used. The first model contains direct relations with the dependent construct. Subsequently, in Model 2 the control variables were added. Afterwards, Models 3a till 3d includes the interacting variables. Next, Model 4a was created with all the interacting variables together, and finally, Model 4b reveals what it means for CVCCB when all variables are combined. This way, the effect of each important variable/interaction can be seen separately from each other. Customer Value Co-creation Behaviour (CVCCB) is the dependent variable in this research. To be better able to interpret what the results mean, CVCCB will be mentioned as 'co-creation'. This makes it more readable and understandable. The hypotheses will be rejected or accepted in Model 4b (page 46) as this is the final model and includes all the variables and variates. Table 10 (page 49) indicates a summary of the results of the hypotheses.

### Model 1

Model 1 (Table 6) indicates the relationship between the independent variables / the dummy variable of Brand Community with CVCCB. This model has an R of .357 and an Adjusted R square of .084. The model shows that people who are higher food-involved are significantly more likely to participate in co-creation in the food industry. This is in line with the theory of Bloch (1981), who stated that customers who are involved in a category, see personal relevance to co-create in that category. This could also be explained by the fact that people who are high food-involved, care about new types of food (Bell & Marshall, 2003) and are therefore enthusiastic to co-create in the food industry. Besides, the model shows that people who consider the quality of e-WOM as more important to them are significantly more likely to participate in co-creation. This is in line with previous research which concluded that greater detail of the comments, makes the review more useful (Jiménez & Mendoza, 2013). The people who scored high in the importance of quality e-WOM, care about accurate, strong, and correct arguments. According to the results, the more important the quality is for people, the more likely it is that they are going to participate.

Besides, the dummy variable of food brand community shows that potential members of a food brand community are significantly more likely to participate in co-creation compared to people who have not heard of a food brand community. This may be due to the fact that potential members might be more interested in food (as they have the desire to become a member of a food brand community) and are, therefore, also more interested in co-creation in the food industry. This result applies also to potential active members of a food brand community. It could be that people who have not heard of a brand community, are not active on the internet and are therefore less likely to participate in co-creation. The B-coefficient is higher for the potential active members than for the potential members in comparison with people who have not heard of a brand community. This implicates that the higher people are involved in a brand community, the more likely they are to participate in co-creation.

### Model 2

Model 2 (Table 6) contains the same variables as Model 1 but also includes the control variables. The model has an R of .440 and an Adjusted R square of .110. The model no longer indicates significant results in the relationship between the independent variables and the dependent variable. This implicates that the control variables may explain the relationship between the independent variables and the dependent variable. To control which variable explained which relation, the analysis has been repeated in a separated setting in which each control variable was separately added to the original variables within Model 1. This led to some interesting facts. It appeared that gender explains the relation between food involvement and co-creation. This implicates that gender is a determining factor in co-creation for people who are food-involved. So regardless of whether you are food-involved or not, gender is more important. In addition, the age and previous experience in co-creation explain how important people consider the quality of e-WOM. This can be explained by the fact that if people have experience in co-

creation, they care less about others' opinion about co-creation as a consequence of their own perceived experiences in co-creation. In regard to age, it means that age is a determining factor in co-creation for people who consider quality e-WOM as important for them. It could be that older people consider the quality of e-WOM as important as they are not so familiar with the internet and need to understand the new technologies when they want to co-create (Karahasanović et al., 2009). Besides, this model indicates that people who have no experience in co-creation and also do not have an interest in it are less likely to participate in co-creation compared to people who have experience in co-creation. This makes sense as they report that they are not interested. Lastly, it appeared that women participate more in co-creation in comparison with men.

Table 6. Regression analysis Model 1 and Model 2

	Coefficients			
	Model 1		Model 2	
	B	Beta	B	Beta
(Constant)	13.716***		14.562***	
Food involvement	.171**	.154	.114	.103
Perceived ease-of-use	.049	.030	.113	.081
Importance of quality E-WOM	.246*	.128	.236	.123.
E-WOM relevance	.115	.069	.007	.047
<b>Brand Community Dummy – not heard of (= ref)</b>				
Brand Community Dummy- heard of but not want to be member	.325	.052	.508	.082
Brand Community – Dummy potential member	1.406*	.135	.711	.068
Brand Community – Dummy member but not want to be active	1.482	.101	.492	.033
Brand Community – Dummy Potential active member	3.903*	.127	3.280	.107
Brand Community –Dummy Active member	.747	.042	.468	.026
<b>Experience Co-creation Dummy – yes (=ref)</b>				
Experience Co-creation Dummy – no, but interested			-.551	-.085
Experience Co-creation Dummy, no, not interested			-1.672**	-.266
<b>Variety seeking Dummy – agree (=ref)</b>				
Variety seeking Dummy – not agree			.207	.030
Variety seeking Dummy – neutral			-.367	.610
<b>Highest obtained education Dummy – primary education</b>				
Highest obtained education Dummy - Practical education			.737	.075
Highest obtained education Dummy – Bachelor			.203	.032
Highest obtained education Dummy – Master+			-.449	-.068
Gender			.857*	.124
Age			.008	.038

\*\*\* = Significant on an alpha level of .01

\*\* = Significant on an alpha level of .05

\* = Significant on an alpha level of .1

### Model 3a

Model 3a (Table 7) indicates an R of .443 and an Adjusted R square of .133. This model contains the same variables as in Model 1 but also includes the interaction between food involvement and the degree

of involvement in a food brand community. The data shows that people who consider quality e-WOM as more important to them, are significantly more likely to participate in co-creation. This relation was also significant in Model 1. This implicates that the direct relationship between the importance of quality e-WOM and co-creation is still positive significant with the addition of the interaction between food involvement and brand community. This makes sense as importance of quality e-WOM does theoretically not have anything in common with food involvement. The theoretical explanation of this finding is discussed in Model 1.

Besides, the data shows that people who consider e-WOM as more relevant to them are more likely to participate in co-creation. This is striking as the relation was not significant in Model 1. The addition of the interaction between food involvement and food brand community led to this significant relation. This positive result of e-WOM relevance on co-creation is line with the accessibility-diagnostics model which implies that if the information is clear and relevant to the consumer, the input is seen as more diagnostic and has, therefore, a greater chance of being adopted (Feldman & Lynch, 1988; Herr et al., 1991; Tsao & Hsieh, 2015). Moreover, people often search for a review with a certain purpose. It may be that they have already intended to participate in co-creation. If the review is still relevant and gives them the information they were looking for, it is likely that they will start co-creating. Besides, the dummy variable of food brand community indicates that members of a food brand community who do not want to be active are significantly more likely to participate in co-creation compared to people who have not heard of a food brand community. This could be because members of a food brand community can be stimulated by other members to participate in co-creation. The fact that they are not active members themselves does not alter the fact that they do not see anything happen in the brand community. People who have not heard of a brand community are not encouraged in this way.

In addition, the moderator in the model shows that people who have a certain level of food involvement and are a member but not want to be active, are significantly less likely to participate in co-creation compared to people who have the same level of food involvement but have not heard of a food brand community. This finding could be explained with the following argument: members of a food brand community who do not want to be active, could be people who do not want to be active on the internet at all. Active means posting pictures, be involved in discussions et cetera. Those people are just lurking information and do not contribute to the purpose of the brand community. This also explains why they do not want to participate in co-creation. Contrary, people who have not heard of a food brand community could be people who like to be active on the internet and thus could be participants of co-creation. They just have not heard of a brand community before. This means that people with a same level of food involvement may differ in their level of co-creation, since they might differ in their level of food brand community involvement.

Contrary to the above result, another moderator shows that people who have a certain level of food involvement and are a potential active member are significantly more likely to participate in co-creation than people who have the same level of food involvement but have not heard of a food brand



community. This is in line with the expectation of Miller et al. (2015), who expected that people who are food-involved and belong to a brand community are likely to participate in co-creation. These people are thus willing to be active on the internet because they want to be an active member of the community. This results in the fact that they are also more likely to participate in co-creation as this is also an active activity on the internet. It could be that people who have not heard of a brand community, might not be active on the internet or they just have not heard of it and are therefore less likely to participate in co-creation.

The results of the interaction show that membership of a food brand community may explain the relationship between food involvement and co-creation as this direct relationship was still significant in Model 1 (Table 6) and is not significant in Model 3a (Table 7), in which the level of involvement of brand community acts as a moderator. This implicates that the addition of this interaction variable explains the relationship between food involvement and co-creation. Therefore, it might be stated that membership of a food brand community is a crucial factor to explain the relationship between food involvement and co-creation.

#### Model 3b

Model 3b (Table 7) indicates an R of .371 and an Adjusted R square of .075. This model contains the same variables as in Model 1 but also includes the interaction of perceived ease-of-use with the degree of involvement of the food-brand community. The data shows a significant relationship between food involvement and co-creation. Thus, higher food-involved people are significantly more likely to participate in co-creation in the food industry. The theoretical explanation of this finding is discussed in Model 1. The addition of the interaction variable with perceived ease-of-use does not affect the significant result of this relationship. This makes sense as theories among food involvement are not related to perceived ease-of-use of the internet.

Besides, the moderator in the model shows that people who have a certain level of perceived ease-of-use and are a potential active member of a food brand community, are significantly more likely to participate in co-creation compared to people who have the same level of perceived ease-of-use and have not heard of a food brand community. The theoretical explanation of the comparison between potential active members and people who have not heard of a brand community is already discussed in Model 1. Thus, this means that people with the same level of perceived ease-of-use may differ in their level of co-creation, since they differ in their level of food brand community involvement.

SPSS 26 did not provide output for the dummy of potential active membership and the moderating relations with the dummy of potential active membership (see 'x' in Table 7 & 9). No reason for this was given. However, a cause could be that the number of potential active members (N=2) is too small to use for this interaction. For some models (1, 2, 3a, 3c, and 3d), SPSS gave output for this variable. Probably the differences in the variables, that are not visualized within the model, are too big to provide relevant comparisons. This implicates that the people who are potential active member differ

widely in their level of perceived ease-of-use, which make a generalizable comparison impossible for SPSS. Probably, for the models where SPSS gave output for this category, their answers were more equal distributed. As SPSS is not giving output, no results can be interpreted. This also applies for the following models where this dummy variable is not visualized. Further research can solve this by approaching a larger group that is already a member of a food brand community.

Table 7. Regression analyses Model 3a and Model 3b

	Coefficients			
	Model 3a		Model 3b	
	B	Beta	B	Beta
(Constant)	14.261***		13.494***	
Food involvement	.090	.081	.185**	.167
Perceived ease-of-use	.029	.018	.026	.016
Importance of quality E-WOM	.267*	.139	.235	.123
E-WOM relevance	.198*	.120	.148	.090
<b>Brand Community Dummy – not heard of (= ref)</b>				
Brand Community Dummy- heard of but not want to be member	-3.550	-.570	.118	.019
Brand Community – Dummy potential member	8.361	.802	4.631	.444
Brand Community – Dummy member but not want to be active	40.335***	2.738	-11.538	-.783
Brand Community – Dummy Potential active member	-50.852	-1.658	x	x
Brand Community –Dummy Active member	1.792	.100	-7.715	-.431
<b>Interaction food involvement &amp; Brand community – not heard of (= ref)</b>				
Interaction food involvement & heard of but not want to be member	.200	.653		
Interaction food involvement & potential member	-.314	-.652		
Interaction food involvement & member but not want to be active	-1.819***	-2.628		
Interaction food involvement & potential active member	2.442*	1.796		
Interaction food involvement & active member	-.035	-.043		
<b>Interaction Perceived ease-of-use (Peu)&amp; Brand community – not heard of (= ref)</b>				
Interaction Peu & heard but not want to be member			.016	.035
Interaction peu & potential member			-.240	-.315
Interaction Peu & member but not want to be active			.977	.889
Interaction Peu & potential active member			.258*	.126
Interaction Peu & active member			.604	.474

\*\*\* = Significant on an alpha level of .01

\*\* = Significant on an alpha level of .05

\* = Significant on an alpha level of .1

x= Missing dummy of potential active membership of brand community

### Model 3c

Model 3c (Table 8) indicates an R of .384 and an Adjusted R square of .080. This model contains the same variables as in Model 1 but also includes the interaction between importance of quality e-WOM and the degree of involvement in a food brand community. The model shows that higher food-

involved people are significantly more likely to participate in co-creation. The theoretical explanation of this finding is discussed in Model 1. The addition of the interaction between importance of quality e-WOM and brand community does not affect the significant result of this relationship. This makes sense as food involvement does theoretically not have anything in common with the importance of quality e-WOM. Besides, the dummy variable of food brand community shows that potential active members of a food brand community, are significantly more likely to participate in co-creation compared to people who have not heard of a food brand community. The theoretical explanation of the comparison between potential active members and people who have not heard of a brand community was already discussed in Model 1.

Model 3c did not show any significant results of the interaction variables. This implicates that the interaction variables explain the original relationship between the importance of quality e-WOM and co-creation but that it has no significant values on its own. However, the interaction variable of potential active member is almost significant with a *p-value* of .103. If the variable was significant, it would mean that people who consider the quality of e-WOM as more important to them and are potential active members are less likely to participate in co-creation compared to people who have not heard of brand community and have the same degree of importance to the quality of e-WOM. This could be explained by the fact that people who have not heard of a food brand community might be people who are interested in co-creation but just have not heard of a brand community. Contrary, potential active members of a food brand community might think that they are becoming active enough on the internet and have no desire to become active elsewhere. Taken in regard that the moderating variable of potential active member was almost significant it needs to be acknowledged that it is important to take the difference in involvement of brand community into account when analyzing the relationship between importance of quality e-WOM and co-creation.

#### Model 3d

Model 3d (Table 8) indicates an R of .419 and an Adjusted R square of .110. This model contains the same variables as in Model 1 but also includes the interaction between e-WOM relevance and the degree of involvement of food brand community. The model shows that higher food-involved people are significantly more likely to participate in co-creation. The theoretical explanation of this relationship is already explained in Model 1. The addition of the interaction variable of e-WOM relevance does not affect the significant result of this relationship. This makes sense as food involvement does theoretically not have anything in common with e-WOM relevance. Besides, the results indicate that people who consider the quality of e-WOM as more important to them, are significantly more likely to participate in co-creation. The theoretical explanation of this relationship is also explained in Model 1. The addition of the interaction variable of e-WOM relevance does not affect the significant result of this relationship. This makes sense as e-WOM relevance and importance of quality e-WOM resulted to be different

constructs in the factor analysis. Therefore, it not likely that the moderator of e-WOM relevance explains the direct relationship between importance of e-WOM quality and co-creation.

Besides, the data shows that people who consider e-WOM as more relevant to them are more likely to participate in co-creation. The theoretical explanation of this finding is discussed in Model 3a. Both the direct relationship between e-WOM relevance and co-creation and the interactions between these two variables turn out to be significant. It is striking that the relationship between e-WOM relevance and co-creation is significant as it is was not significant in Model 1. This implicates that it is important to take involvement in food brand community into account when analyzing the relationship between e-WOM relevance and co-creation.

Four out of five interactions are negatively significant in this model. This implicates that people with a certain level of e-WOM relevance and who have not heard of a brand community (reference category) are more likely to participate in co-creation compared to the other categories of food brand community, except active membership. This could because people who have not heard of a brand community might be interested in co-creation but just have not heard of a brand community yet. The people who belong not in the reference category might have the feeling that they are already (becoming) active enough in the food industry on the internet. This explanation could apply for every category except the people who heard of a brand community but not want to be a member. This may mean that they indicate that they are not interested in online activities concerning food.

Contrary, the dummy variable of brand community shows positive values. It indicates that people who have not heard of a brand community (reference category) are less likely to participate in co-creation compared to the other categories of food brand community, except active membership. This could be explained as these people are more likely to co-create as they once heard or were/are once interested in food in the community.

Lastly, both the dummy and the interaction variable show an interesting fact. For the dummy applies: the higher the 'level of involvement of brand community, the higher the likelihood in participation of co-creation in comparison with people who have not heard of brand community. For the interaction variable applies: the higher the level of involvement of brand community, the lower the likelihood in the participation of co-creation in comparison with people who have not heard of brand community. This indicates that it matters how much someone is involved in the brand community when it comes to their degree of co-creation.

*Table 8. Regression analyses Model 3c and 3d*

	Coefficients			
	Model 3c		Model 3d	
	B	Beta	B	Beta
(Constant)	12.320***		8.991**	
Food involvement	.165*	.149	.168**	.152
Perceived ease-of-use	.058	.036	.040	.024
Importance of quality E-WOM	.334	.174	.285**	.149

E-WOM relevance	.142	.086	.503**	.304
<b>Brand Community Dummy – not heard of (= ref)</b>				
Brand Community Dummy- heard of but not want to be member	.420	.067	5.723**	.919
Brand Community – Dummy potential member	7.647	.733	12.484**	1.197
Brand Community – Dummy member but not want to be active	.347	.024	14.820**	1.006
Brand Community – Dummy Potential active member	35.571*	1.160	30.416**	.992
Brand Community –Dummy Active member	.772	.043	7.494	.419
<b>Interaction importance of quality e-WOM &amp; Brand community – not heard of (= ref)</b>				
Interaction importance of quality e-WOM & heard of but not want to be member	-.011	-.023		
Interaction importance of quality e-WOM & potential member	-.492	-.613		
Interaction importance of quality e-WOM & member but not want to be active	.091	.077		
Interaction importance of quality e-WOM & potential active member	-2.358	-1.045		
Interaction importance of quality e-WOM & active member	-.005	-.004		
<b>Interaction e-WOM relevance &amp; Brand community – not heard of (= ref)</b>				
Interaction e-WOM relevance & heard but not want to be member			-.477*	-.895
Interaction e-WOM relevance & potential member			-.946*	-1.097
Interaction e-WOM relevance & member but not want to be active			-1.209**	-.906
Interaction e-WOM relevance & potential active member			-2.091*	-.897
Interaction e-WOM relevance & active member			-.592	-.382

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\*\*\* = Significant on an alpha level of .01

\*\* = Significant on an alpha level of .05

\* = Significant on an alpha level of .1

#### Model 4a

Model 4a (Table 9) contains the same variables as Model 1 but also includes each interaction between each independent variable and the degree of involvement of food of brand community. Model 4a has an R of .483 and an Adjusted R square of .112. The model shows a direct positive significant relationship between e-WOM relevance and co-creation. This implies that people who consider e-WOM as relevant are more likely to participate in co-creation than people who consider e-WOM as less relevant. The theoretical explanation for this relationship is already mentioned in Model 3a. Besides, the model showed two significant for the moderating results between e-WOM relevance and food brand community. It appeared that people who consider e-WOM as more relevant and heard of a food brand community but not want to be a member, are less likely to participate in co-creation compared to people who have not heard of a brand community and consider e-WOM as equally relevant. The same applies to the moderator of potential active members. This could be explained by the fact that people who heard of a brand community but not want to be a member might indicate that they do not like to be active on the internet. Therefore, it might be that they also do not want to be active in co-creation in the food industry. In addition, it could be that potential active members of a food brand community consider

themselves already as active online and have therefore no time to participate in co-creation. Contrary, people who have not heard of a brand community might be people who would like to be active on the internet but just have not heard of a brand community before.

Besides, two significant results were found in the interaction variable between food involvement and food brand community. It appeared that people who have a certain degree of food involvement and are a member but do not want to be active, are less likely to participate in co-creation compared to people who have the same degree of food involvement and have not heard of a food brand community before. The theoretical explanation for this difference has already been discussed in Model 3a. For people who have a certain degree of food involvement and are a potential active member in a food brand community, the reverse is true. The theoretical explanation for this difference has been discussed in Model 3a.

#### Model 4b

Model 4b (Table 9) contains every variable which is used in the previous models. Hence, this is the final regression model of this research. The hypotheses of this research will be, therefore, rejected or accepted in this paragraph. Firstly, the significant results will be discussed, followed by the non-significant results. Table 10 (page 49) indicates a summary of the results of the hypotheses. The significant values of Model 4b are similar to Model 4a. The same variables are significant in the same directions. Therefore, it needs to be concluded that the addition of the control variables did not explain any of the significant relations in Model 4a. Since the findings are already explained in Model 4a, the theoretical implications will not be derived from Model 4b.

Model 4b has an R of .534 and an Adjusted R square of .125. This is the highest Adjusted R Square of the mentioned models, indicating that all variables together explain co-creation the best. The model indicates that e-WOM relevance has a positive direct significant effect on co-creation. This finding supports Hypothesis 4. People who consider e-WOM as more relevant to them are more likely to participate in co-creation. Moreover, the moderator between e-WOM relevance and food brand community showed negative significant effects. It appeared that people who wish to be an active member of a food brand community and consider e-WOM as relevant to them, are less likely to participate in co-creation compared to people who have not heard of a food brand community and consider e-WOM as equally relevant to them. The same applies to people who heard of a brand community but do not want to be a member. Those findings reject Hypothesis 8 as no relationship was expected.

Another significant interaction is the moderator between food involvement and brand community. However, the direct relationship between this independent variable and the dependent variable is not significant anymore. This implicates that the moderator explains the relationship between food involvement and co-creation. Hypothesis 1 is rejected as a positive direct relationship was expected. Former models, where the interaction between food involvement and brand community was not added, showed positive significant effects between food involvement and co-creation. This means that food involvement is important in the prediction of the level of co-creation. However, as the

interaction between food involvement and food brand community moderates the direct relation, it is important to also take the level of people's involvement in a food brand community into account to predict the level of participation in co-creation. However, the explanation of the moderator only applies to people who are a member but do not want to be active and to potential active members (as those values are significant) in comparison with people who have not heard of a brand community. The results show that people who have a certain degree of food involvement and are a potential active member are more likely to participate in co-creation compared to people who have the same degree of food involvement and have not heard of a brand community. Contrary, people who have a certain degree of food involvement and are a member but do not want to be active, are less likely to participate in co-creation compared to people who have the same degree in food-involved and have not heard of a brand community. Figure 2 (page 50) indicates that of the people who are high food-involved, people who have not heard of a brand community are more likely to participate in co-creation compared to people who are a member but do not want to be active. This is the opposite from Hypothesis 5 as it was expected that the stronger an individual is involved in a food brand community, the more positively this affects the relationship between food involvement and co-creation. By way of contrast, for people who are low food-involved, the graph shows the same as it was expected: people who are more involved in the brand community, are more likely to co-create. Based on the above conclusions, Hypothesis 5 is partly accepted.

Besides, no significant result appeared in the relationship between perceived ease-of-use and co-creation. This implicates that Hypothesis 2 is rejected. Subsequently, no significant result appeared in the relationship between importance of quality e-WOM and co-creation. However, former models (1, 3a, 3d) showed positive significant results between the independent and the dependent variable. This implicates that the moderators in Model 4b explain the relationship. When one wants to measure the importance of e-WOM quality, it seems important to take into account the level of involvement in a brand community to predict the level of participation in co-creation. However, Model 4b does not show significant results in the relationship between the importance of e-WOM quality and co-creation. Based on this, Hypothesis 3 is rejected. Subsequently, no significant effects are found in the interaction between perceived ease-of-use and brand community and between importance of quality e-WOM and brand community. Therefore, Hypotheses 6 and 7 are accepted. Table 10 (page 49) indicates a hierarchical summary of the results of the hypotheses.

*Table 9. Regression Analyses Model 4a and Model 4b*

	Coefficients			
	Model 4a		Model 4b	
	B	Beta	B	Beta
(Constant)	10.974**		12.276**	
Food involvement	.052	.047	-.030	-.027
Perceived ease-of-use	.028	.017	.070	.043
Importance of quality E-WOM	.288	.150	.293	.153

E-WOM relevance	.529***	.319	.463**	.280
<b>Brand Community Dummy – not heard of (= ref)</b>				
Brand Community Dummy- heard of but not want to be member	1.106	.178	.385	.062
Brand Community – Dummy potential member	14.963	1.435	9.512	.912
Brand Community – Dummy member but not want to be active	23.067	1.566	28.412	1.929
Brand Community – Dummy Potential active member	x	x	x	x
Brand Community –Dummy Active member	-.548	-.031	-2.876	-.161
<b>Interaction food involvement &amp; Brand community – not heard of (= ref)</b>				
Interaction food involvement & heard of but not want to be member	.239	-.782	.272	.888
Interaction food involvement & potential member	-.229	-.475	-.067	-.140
Interaction food involvement & member but not want to be active	-2.360***	-3.411	-1.930**	-2.790
Interaction food involvement & potential active member	1.003**	.737	1.055**	.776
Interaction food involvement & active member	.124	.153	.136	.168
<b>Interaction Perceived ease-of-use (Peu)&amp; Brand community – not heard of (= ref)</b>				
Interaction Peu & heard but not want to be member	.011	.024	.015	.033
Interaction peu & potential member	.493	.647	.449	.590
Interaction Peu & member but not want to be active	1.441	1.311	.746	.678
Interaction Peu & potential active member	x	x	x	x
Interaction Peu & active member	2.016	1.581	2.936	2.303
<b>Interaction importance of quality e-WOM &amp; Brand community – not heard of (= ref)</b>				
Interaction importance of quality e-WOM & heard of but not want to be member	.023	.048	-.020	-.041
Interaction importance of quality e-WOM & potential member	-.373	-.465	-.343	-.428
Interaction importance of quality e-WOM & member but not want to be active	-.327	-.278	-.143	-.122
Interaction importance of quality e-WOM & potential active member	x	x	x	x
Interaction importance of quality WOM & active member	-.846	-.602	1.374	-.977
<b>Interaction e-WOM relevance &amp; Brand community – not heard of (= ref)</b>				
Interaction e-WOM relevance & heard but not want to be member	-.516**	-.952	-.450*	-.843
Interaction e-WOM relevance & potential member	-.872	-1.011	-.739	-.857
Interaction e-WOM relevance & member but not want to be active	1.272	.952	.501	.375
Interaction e-WOM relevance & potential active member	-1.453*	-.623	-1.562**	-.670
Interaction e-WOM relevance & active member	-1.617	-1,042	-1.996	-1.286
<b>Control variables</b>				
<b>Experience Co-creation Dummy – yes (=ref)</b>				
Experience Co-creation Dummy – no, but interested			-.191	-.029
Experience Co-creation Dummy, no, not interested			-1.235	-.197
<b>Variety seeking Dummy – agree (=ref)</b>				
Variety seeking Dummy – not agree			.328	.047
Variety seeking Dummy – neutral			-.161	-.020
<b>Highest obtained education Dummy – primary education</b>				
Highest obtained education Dummy - Practical education			1.196	.122
Highest obtained education Dummy – Bachelor			.718	.115
Highest obtained education Dummy+ – Master+			.018	.003



Gender	.715	.104
Age	.006	.028

\*\*\* = Significant on an alpha level of .01

\*\* = Significant on an alpha level of .05

\* = Significant on an alpha level of .1

x= Missing dummy of potential active membership of brand community

Table 10. Summary of the results of the hypotheses

Hypothesis		Result
1.	<i>People who are higher food-involved are more likely to exhibit higher levels of CVCCB compared to people who are less food- involved.</i>	Rejected
2.	<i>People who perceive the co-creation platform as easy to use, are more likely to exhibit higher levels of CVCCB compared to people who perceive the co-creation platform as less easy to use.</i>	Rejected
3.	<i>People who consider the quality of electronic Word-of-Mouth as more important to them, are more likely to exhibit higher levels of CVCCB compared to people who consider the quality of electronic Word-of-Mouth as less important to them</i>	Rejected
4.	<i>People who consider electronic Word-of-Mouth as more relevant to them are more likely to exhibit higher levels of CVCCB compared to people who consider electronic Word-of-Mouth as less relevant to them.</i>	Accepted
5.	<i>The stronger an individual is involved in a food brand community, the more positively this affects the relationship between food involvement and CVCCB.</i>	Partly accepted
6.	<i>Stronger involvement in food brand community does not affect the relationship between perceived ease-of-use and CVCCB.</i>	Accepted
7.	<i>Stronger involvement in food brand community does not affect the relationship between importance of quality E-WOM and CVCCB.</i>	Accepted
8.	<i>Stronger involvement in food brand community does not affect the relationship between E-WOM relevance and CVCCB.</i>	Rejected

#### 4.4 Visualisation of the interaction variable

To visualize the interactions, interactional graphs are used. The formula to make such a graph is as follows:  $Y_i = (b_0 + b_1A_i + b_2B_i + b_3AB_i) + E_i$  (Field, 2018). A visualization is only possible for the significant results of the interaction effects. This research provided two significant results of the interaction effect: food involvement and e-WOM relevance. The final model (Model 4b) was used for this visualization. An explanation of the formula is displayed in Appendix 7.

##### Food involvement

Specific formulas can be made with the aid of the basic formula. To draw a line for the food involvement, it is necessary to calculate the value of co-creation for the persons who score the lowest on food involvement (=11) and for people who score the highest (=25) (Table 4, page 33). The following formulas are created as a result:

For people with low food involvement and 'not heard of brand community'

$$Co-creation = 12,276 + (-0,03 * 11) + (0 * 1) + (0 * (11 * 1)) = 11.964$$

For people with high food involvement and 'not heard of brand community'

$$Co-creation = 12,276 + (-0,03 * 25) + (0 * 1) + (0 * (25 * 1)) = 11.526$$

For people with low food involvement and 'not want to be active'

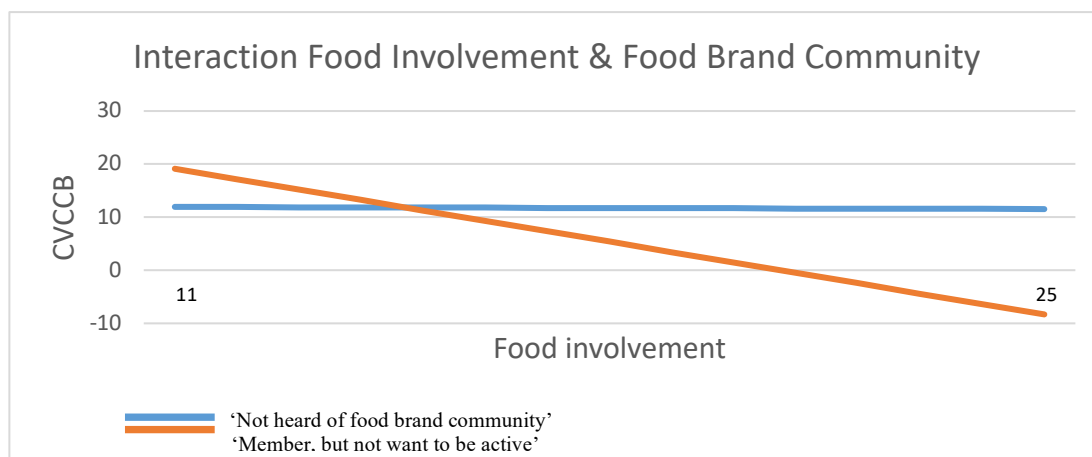
$$Co-creation = 12,276 + (-0,03 * 11) + (28,412 * 1) + (-1,93 * (11 * 1)) = 19.128$$

For people with high food involvement and 'not want to be active'

$$Co-creation = 12,276 + (-0,03 * 25) + (28,412 * 1) + (-1,93 * (25 * 1)) = -8,321$$

As Table 9 (page 47) displays, is the interaction variable of food involvement and ‘potential active member’ also significant. Usually, this variable should also be involved in the creation of the graph. However, SPSS did not have any output for the dummy variable of this degree of involvement, therefore this variable is not taken into account. The group is probably too small for SPSS to give reliable outputs (N=2). Nevertheless, an interactional graph is made with the two other significant interaction variables (Figure 2). The chart shows that people who have not heard of a food brand community are reasonably stable in their likeliness of participation in co-creation, regardless of their food involvement. This is the opposite for members who do not want to be active in the food brand community. It appeared that people who are low food-involved and are a member but not want to be active, have more likeliness to participate in co-creation compared to people who are high food-involved and are a member but not want to be active. Moreover, the graph shows that of the people who are high food-involved, people who have not heard of a brand community have more likeliness to participate in co-creation compared to people who are member but not want to be active.

Figure 2. Interaction Food Involvement & Food Brand Community on co-creation



### E-WOM relevance

The basic formula which at given in the beginning of this part by Field (2018) also applies for e-WOM relevance. The same procedure is needed, as described in Appendix 7. The lowest value people have for e-WOM relevance is 6, and the highest is 15 (Table 4, page 33). Based on this, the following formulas for e-WOM relevance are released:

For people with low e-WOM relevance and ‘not heard of brand community’

$$\text{Co-creation} = 12,276 + (0,463 * 6) + (0 * 1) + (0 * (6 * 1)) = 15.054$$

For people with high e-WOM relevance and ‘not heard of brand community’

$$\text{Co-creation} = 12,276 + (0,463 * 15) + (0 * 1) + (0 * (15 * 1)) = 19.221$$

For people with low e-WOM relevance and ‘heard of but not want to be member’

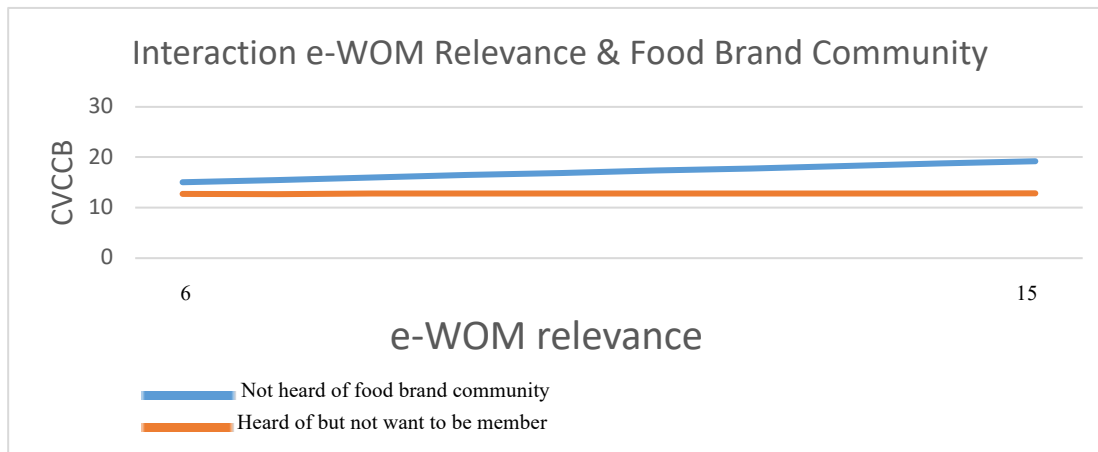
$$\text{Co-creation} = 12,276 + (0,463 * 6) + (0,385 * 1) + (-.450 * (6 * 1)) = 12.739$$

For people with high e-WOM relevance and ‘heard of but not want to be member’

$$\text{Co-creation} = 12,276 + (0,463 * 15) + (0,385 * 1) + (-.450 * (15 * 1)) = 12.856$$

As with Food Involvement, is the interaction variable with ‘potential active membership’ and e-WOM relevance significant. However, as SPSS did not give output, the interaction variable cannot be used for the interactional graph. Therefore, the chart consists of other significant interaction variables (Figure 3). The graph shows that people who have not heard of a food brand community before are more likely to participate in co-creation compared to people who heard of a food brand community but not want to be a member. This applies for every value of e-WOM relevance.

Figure 3. Interaction e-WOM relevance & Food Brand Community on co-creation



#### 4.5 Strength of the predictors

To compare the strength of the results from the multiple regression analysis with each other, the Beta coefficient is needed. It is only allowed to mention results about the significant values. As significant results are also present in the dummy variables, sheaf coefficients were necessary to create (Heise, 1972). Sheaf coefficients were created for the interaction of food involvement and e-WOM relevance. Concerning food involvement, each B-coefficient was multiplied with the corresponding interaction variable and added to the other multiplications. The following formulas are released:

$((.272 * \text{Interaction food involvement and heard of and not want to be member}) + (.067 * \text{Interaction food involvement and potential member}) + (1.930 * \text{Interaction food involvement and member but not want to be active}) + (1.055 * \text{Interaction food involvement and potential active member}) + (.136 * \text{Interaction food involvement and active member}))$ .

The same was performed for e-WOM relevance:  $((-.450 * \text{Interaction E-WOM relevance and heard of but not want to be member}) + (-.739 * \text{Interaction E-WOM relevance. and potential member}) + (.501 * \text{Interaction E-WOM relevance and member but not want to be active}) + (-1.562 * \text{Interaction E-WOM relevance and potential active member}) + (-1.996 * \text{Interaction E-WOM relevance and active member}))$ .

The output is visible in Table 11. The sheaf coefficient visualizes the Beta for the whole construct of the interaction. Thus, this includes the interaction effect of all the degrees of food brand involvement. The rule of thumb for the *B-value* of a sheaf coefficient is that it needs to be 1. Table 11

represents that the interaction variable of food involvement \* brand community is the strongest significant predictor of co-creation as this moderator has the highest Beta. Subsequently, the moderator of e-WOM relevance \* Brand community is the strongest significant predictor of co-creation and lastly, the antecedent e-WOM relevance.

*Table 11. B coefficient and Beta coefficient*

	B	Beta
E-WOM relevance	.529	.463
Sheaf coefficient Food involvement * Brand community	1.000	3.202
Sheaf coefficient e-WOM relevance * Brand community	1.000	1.669

#### 4.6 Strength of the models

To compare the strength of the models, the R square ( $R^2$ ) and the adjusted R Square (adjusted  $R^2$ ) can be scrutinized (Table 12). “The R square is the measure of the proportion of the variance of the dependent variable about its mean that is explained by the independent, or predictor, variables. The coefficient can vary between 0 and 1. The higher the value of  $R^2$ , the greater the explanatory power of the regression equation, and therefore the better the prediction of the dependent variable”. (Hair et al., 2014, p. 152) “The Adjusted R Square is a modified measure of the  $R^2$  that takes into account the number of independent variables included in the regression equation and the sample size” (Hair et al., 2014, p. 152). The adjusted  $R^2$  is more specific (Hair et al., 2014), therefore, this will be considered.

In the comparison between Model 1 and 2, it is visible that the adjusted  $R^2$  increases if control variables were added. In addition, Model 3a to 3d shows in different models the addition of the interactions. It shows that the interaction of brand community with food involvement (Model 3a) has the highest adjusted  $R^2$  compared to the other interactions. Subsequently, Model 3d has the second-highest adjusted  $R^2$ . This is the interaction of brand community with e-WOM relevance. Model 4b indicates the highest adjusted  $R^2$  of every model. This implicates that this model explains .125 of co-creation (12,5%).

*Table 12. R square and Adjusted R square*

Model	R Square	Adjusted R Square
1	.357	.084
2	.440	.110
3a	.443	.133
3b	.371	.075
3c	.384	.080
3d	.419	.110
4a	.483	.112
4b	.534	.125

## 5. Conclusion and Discussion

In this research, the antecedents and a moderator of co-creation were examined. The main aim of this research was to investigate the contribution of the antecedents and moderator on Customer Participation Behaviour (CPB) and Customer Citizenship Behaviour (CCB). In the beginning, this research existed of three antecedents (food involvement, perceived ease-of-use and e-WOM) and two dependent variables (CPB and CCB), which were derived out of former research (Frasquet-Deltoro et al., 2019). Besides, one moderator (brand community), which was derived from an expectation of the research of Miller et al. (2015), was included in the present research. Frasquet-Deltoro et al. (2019) examined their research in the fashion industry. They proposed to investigate whether their findings were generalizable to other industries. Therefore, the same antecedents and dependent variables were initially used to measure the effect of those antecedents on CPB/CCB in the food industry. However, the factor analysis indicated that e-WOM in the present study consists of two constructs: importance of quality e-WOM and e-WOM relevance. Besides, CPB and CCB appeared to be highly correlated and were, therefore, aggregated into CVCCB. Former research also used the constructs together (Shamim et al., 2016). The conclusion of the present research is thus support of their method. To be better able to interpret what the results mean, CVCCB will be mentioned as ‘co-creation’. This makes it more readable and understandable. As a result of the reduced number of dependent variables; the research question and the hypotheses were also revised (see page 35). The research question of this research is:

*Which antecedents lead to contribution in CVCCB in the Dutch food industry with the moderating factor of online brand communities?*

### 5.1 Conclusions of the hypotheses

Based on the research question hypotheses were formulated. The direct relation between each of four antecedents and the probability to participate in co-creation was expected to be positive. Subsequently, it was hypothesized that the relationship between food involvement and co-creation was expected to be moderated by the level of involvement in brand community. The other relations between the antecedents and co-creation were expected not to be affected by involvement in a brand community.

The results of this research did not show significant results in the direct relationship between food involvement and co-creation. Therefore, Hypothesis 1 is rejected. This is based on Model 4b (page 36) as this model contains every variable of this research. The rejection of the hypothesis is not in line with the theory as Bloch (1981) stated that when people are involved in a category, they see personal relevance to co-create. Moreover, the theory states that customers who share values with certain companies are more willing to co-create (Payne et al., 2009). By way of contrast, the direct relationship between food involvement and co-creation was significant in every model except the models which also contained the interaction variable of brand community and food involvement. This implicates that involvement of a food brand community is important for the likelihood to participate in co-creation in

the food industry, but not in combination with a brand community. In that case, the present study confirms the theory mentioned above. Nevertheless, the positive relationship between food involvement and co-creation was moderated by the addition of the interaction between food involvement and brand community in the final model. Therefore, Hypothesis 1 is rejected.

In addition, the results of this research did not show significant effects in the direct relationship between perceived ease-of-use and co-creation. This is not in line with the theory, which stated that perceived ease-of-use of the internet has a positive effect on online prosocial behaviour (Murillo et al., 2016), which is part of co-creation (Wu et al., 2017). Moreover, perceived ease-of-use appeared to be an important determinant for the behaviour of the customers (Bandura, 1982). However, the results of the present research did not show this and therefore is Hypothesis 2 rejected.

Additionally, the results of this research did not show significant results in the direct relationship between importance of quality e-WOM and co-creation. In contrast, the results showed significant results in the direct relationship between e-WOM relevance and co-creation. Those results were not totally unexpected as the importance of quality e-WOM was not an existing construct according to the literature, while e-WOM relevance was. Importance of quality e-WOM was derived from the definition of Awad and Ragowsky (2008). They described their e-WOM Quality as the relevance and usefulness of e-WOM based on the information content, the strength and accuracy of the argument. To measure e-WOM, the present research used the questions whom Frasquet-Deltoro et al. (2019) used to measure e-WOM Quality. Additionally, present research added three more questions, which measured the other aspect of the definition of Awad and Ragowsky (2008). This was performed as the questions Frasquet-Deltoro et al. (2019) used were not about the strength of the arguments, the accuracy of the arguments and the information content. These questions had not been investigated in this way before. It is possible that this is the cause of the non-significant result in the final model. Furthermore, it is also not surprising that the results show a significant direct relationship between e-WOM relevance and co-creation. The theory stated that e-WOM affects customer co-creation directly (See-To & Ho, 2014). Based on the above results and arguments, Hypothesis 3 is rejected, and Hypothesis 4 is accepted.

After examination of the direct relationships, the hypotheses with regard to the interaction variable will be evaluated. The results showed significant results in the moderating element of involvement of food brand community on the relationship between food involvement and co-creation. The direction of this result is not completely in line with Hypothesis 5. Figure 2 (page 50) indicates that of the people who are high food-involved, people who have not heard of a brand community are more likely to participate in co-creation in comparison to people who are member (but do not want to be active). This is the opposite of the hypotheses as it was expected that people who have a certain level of food involvement and are highly involved in a food brand community are more likely to participate in CVCCB in comparison to people who have the same level of food involvement and are less involved in a brand community. Members of a brand community have been considered as more involved, compared to people who have not heard of a brand community, as they once made a choice to become a member.

For low food-involved people, the graph confirms the expectations. Indeed, the graph shows that low food-involved people who are a member of a brand community (but not want to be active) are more likely to co-create in comparison to low food-involved people who have not heard of a brand community. Based on the above conclusions, Hypothesis 5 is partly accepted. The hypothesis applies to low food-involved people, but not to high food-involved people. This is partly in line with the expectation as it was expected that someone who is more involved in the brand community is always more likely to co-create.

Subsequently, the results did not show significant results in the moderating element of involvement of food brand community on the relationship between perceived ease-of-use and co-creation. This is in line with Hypothesis 6. The expectation was that there is no relationship between the involvement of a food brand community and the relationship between perceived ease-of-use and co-creation. This expectation was based on the fact that no literature exists about this moderator and with the aid of logical reasoning. Based on the above information, Hypothesis 6 is accepted.

In addition, the results did not show significant results in the moderating element of involvement of food brand community on the relationship between importance of quality e-WOM and co-creation. This is in line with H7. The expectation was that there is no relationship between involvement of a food brand community and the relationship between importance of quality e-WOM and co-creation. This expectation was based on the fact that no literature exists about this moderator. Based on the above information, Hypothesis 7 is accepted.

Lastly, the results showed significant results in the moderating element of involvement of food brand community on the relationship between e-WOM relevance and co-creation. This is not in line with Hypothesis 8, where no relationship was expected. Nevertheless, the results show that people who have not heard of a food brand community are more likely to participate in co-creation compared to people who heard of food brand community but do not want to be a member (Figure 3, page 51). This applies to both low and high food-involved people. Former theory already confirmed that e-WOM affect co-creation (See-To & Ho, 2014). Nevertheless, based on above information, Hypothesis 8 is rejected.

Based on the above accepted and rejected hypotheses, an answer can be provided to the research question. According to the results of this study, it appeared that e-WOM relevance has a positive effect on the likelihood that people will participate in co-creation. In addition, e-WOM relevance has also an effect on the likelihood that people are going to participate in co-creation with the moderating effect of involvement of a brand community. Lastly, it turned out that for the people who are low food-involved, the moderating effect of brand community is applicable. This implicates that for those people who are low food-involved, being a member of a brand community stimulates their participation in co-creation. This is not the case for the people who are higher food-involved.

### Comparison with Frasquet-Deltoro et al. (2019)

The present research was based on a suggestion in the research of Frasquet-Deltoro et al. (2019). They proposed to investigate whether their findings were generalizable to other industries. This paragraph describes the comparisons between the present research and the research of Frasquet-Deltoro et al. (2019).

The present research was conducted among Dutch citizens, while Frasquet-Deltoro et al. (2019) focused on English and Spanish people. Besides, Frasquet-Deltoro et al. (2019) focused on the fashion industry, while present research is focusing on the food industry. The results of Frasquet-Deltoro et al. (2019) are not entirely generalizable to the food industry in general or to the Netherlands. According to present research, there is no difference between CPB and CCB. This resulted in the dependent variable CVCCB. However, Frasquet-Deltoro et al. (2019) made that difference and used CPB and CCB as two different dependent variables. They also concluded a difference in the strength of some antecedents on those dependent variables. For example: according to them, perceived ease-of-use is more substantial for CPB than of CCB (Frasquet-Deltoro et al., 2019). This distinction could not be researched in present research as CPB and CCB were aggregated. Moreover, present research found a difference between e-WOM relevance and importance of quality e-WOM while Frasquet-Deltoro et al. (2019) did not made this difference. Overall, Frasquet-Deltoro et al. (2019) found significant results for every hypothesis, which indicated a direct effect towards CPB and CCB, except for fashion involvement in Spain. This is different from the present study as this research only found significant direct results in the relationship between e-WOM relevance and co-creation. It is not possible to compare hypotheses 5 till 8 with the research of Frasquet-Deltoro et al. (2019) as they did not use the moderator of brand community. Nevertheless, present study showed that food brand community is an important predictor of co-creation. Table 11 (page 52) shows that both the interaction between food involvement and food brand community, and between e-WOM relevance and co-creation explained the highest proportions of participation in co-creation.

## 5.2 Limitations and further research

### Further research based on limitations

This research has some limitations relating to the research design. Firstly, due to COVID-19, it was more difficult to collect responses for the questionnaire. Prior to the lockdown measures, the idea was to request people in person if they wanted to fill in the survey. The closure of public spaces made this impossible. Therefore, it was necessary to use social media as the means of distribution of the survey. Although, this led to a substantial number of respondents. The responses were all filtered by my network or people who were indirectly connected to my network. Therefore, it was not easy to approach many different kinds of people. The addition of the control variables removed the significant direct effects between the antecedents and the dependent variable (Model 2, Table 6, page 39). Thus, the control variables are certainly of importance. However, due to the nature of my network, more women



than men filled in the survey, more people who graduated from Bachelor/Master were participating in the survey, and the age of the respondents was mainly around 25 years and 50 years old. Additionally, the majority of the people denoted that they were not interested in participating in co-creation in the food industry. In other words, the sample did not represent a normal distribution. It is suggested for further research to make sure a less skew distribution will be present of those control variables. Those variables can be the reason for the (non) significance of some variables but can also in real life explain the relationship between the independent and dependent variables. A less skew distribution in those variables will also result in more generalizable findings. Present research did not meet this criterion of quality because this research is not comparable with the Dutch population. A more equally distributed population might lead to more generalizable results.

Another important limitation of this research is the lack of potential active members of a food brand community. As Table 2 (page 30) visualizes, more people are on the side where they are not so active in the food brand community platform. This was problematic for the significant results and specific for the group of potential active members ( $N=2$ ). Because too few people registered themselves as potential active members, SPSS did not give output for this category in the regression analysis. This led to the fact that no conclusions could be made of this group of people. Unfortunately, because this is an important group, as they are in one of the highest rankings of involvement of food brand community. It is, therefore, suggested to spread the survey more in food brand communities, to make sure more people fill in they are a potential active member of a food brand community. Present research spread the survey in several food community's, to ensure to reach people who are high food-involved but did not spread the questionnaire in brand communities.

Other criteria of quality are the reliability and validity. The reliability and content validity could have been violated by the fact that respondents may have had difficulty seeing the difference between brand community and co-creation. The definition of co-creation was clearly explained at the beginning of the survey. Besides, the description of a brand community was explained before questions were asked about it. Thus, effort has been taken to make people understand the concepts. However, as it could be that co-creation is something that people are not familiar with, it might be that people misunderstood co-creation and interpret this as part of a brand community. Afterall, co-creation is not something (yet) that people get exposed on a daily base.

The intern validity is somewhat affected by the questions concerning CPB/CCB. People may have answered the questions with a socially desirable answer. The questions are about the behaviour of people. It could be that people are ashamed if they fill in a certain answer. This limitation can be avoided in future research by doing an experiment instead of a survey with those questions.

Besides, perceived ease-of-use could have been operationalized better. Frasquet-Deltoro et al. (2019) used this construct to measure the perceived ease-of-use of a co-creation platform which people used most recently. Present research did not assume that people used such a platform before. Therefore, the questions of Frasquet-Deltoro et al. (2019) about perceived ease-of-use were transformed to

perceived ease-of-use of the internet. However, it does somewhat damage the content validity. At the beginning of this research, it was assumed that because a co-creation platform is part of the internet, people would have the ability to fill in the questions in the correct way. Someone who uses the internet can fill in questions about the internet. Despite the fact that perceived ease-of-use has not led to significant results, it is not certain that the comparison between internet and co-creation is invalid. This is because the relationship between e-WOM relevance and co-creation led to significant results. E-WOM relevance was also measured with questions about the internet and transformed to e-WOM relevance about a co-creation platform. However, during the collection of the surveys, the realization came that maybe it is not possible to compare the internet with a co-creation platform. It is likely that respondents had other types of websites/platforms/reviews in mind while completing the survey. This could have led to unreliable results because the questions are not filled in with the same kind of platform/review in mind, and this violates the content validity. Therefore, to prevent unreliable and invalid results, further research could use a co-creation platform/review as a demonstration. This way, people can imagine a specific platform when they are filling in the survey questions.

#### Further research based on findings

Based on the factor analysis, CPB and CCB were aggregated. This choice was supported the method of Shamim et al. (2016). However, it did not support the method of Frassetto-Deltoro et al. (2019). The fact that CPB and CCB are measured in different methods is striking. The same type of questions was asked to respondents in both the present and the two other surveys. For further research it is therefore suggested to perform an exploratory factor analysis with the four behaviors of co-creation (Wu et al., 2017), instead of only focusing on CPB and CCB. In this way, it could be investigated to what extent the four behaviours (CPB, CCB, prosocial behavior and information sharing, Wu et al., 2017) are interrelated. The fact that CPB and CCB are found to be interrelated, could imply that prosocial behaviour and information sharing could also have interrelations with the other constructs. Besides, this exploratory factor analysis could also reveal the position of tolerance. The factor analysis of present research found that tolerance did not belong to CCB, as Yi and Gong (2013) stated. This is striking as tolerance was assumed as important for the co-creation process.

Besides, longitudinal research in this subject is a suggestion for further research. With the aid of longitudinal research, it can be investigated whether people will actually co-create more if they become more involved in the brand community at a certain point in time. It is interesting to follow someone who was not a member of a community in the beginning but became an active member later on. It is the question whether that person co-creates more when he/she becomes more involved in the brand community. Co-creation in the food industry is not popular yet but considering the fact that 35% of people are interested in co-creation in the food industry, it might be interesting to see who will actually participate. The present research, unfortunately, has not the opportunity to measure possible changes over time.

Lastly, further research could focus on the relationship between brand community and co-creation. Present research made no distinction between the owned and earned brand community, but further research could investigate into that difference. It could be investigated if it matters for the degree of co-creation if a brand community is earned or owned. Besides, it could be investigated if the degree in co-creation will increase when the company would be active in the brand community or not. The answers are interested to know as no research is done in this field.

### 5.3 Managerial implications

This research has relevant implications for firms that are interested in developing and managing online co-creation with customers. First of all, it appeared that 35,9% of the people did not participate in co-creation in the food industry yet but are interested to do this. This is an opportunity for the companies in the food industry as theory claims that co-creation provides many benefits for both the firm and the customer (Filieri, 2013). Therefore, it is suggested to firms who are not owning a co-creation platform, to create one. For the companies who already have a co-creation platform applies to retain it and promote it. At the moment, just 7,8% of the people co-created in the food industry before. This could become more with the help of promotion.

Besides, it appeared that the relevance, usefulness, and the needed information of an online review have a positive effect on the likeliness that someone will participate in co-creation. It is therefore advisable to kindly request users to write a review about their experience with the co-creation platform. However, it is suggested to not request this on the brand community as this might lead to the reversed result: it is less likely that people who are involved in a brand community will participate in co-creation. Instead, it is suggested to request people to write a review after the co-creating experience. When other people doubt about their participation in co-creation with the brand, they can read the reviews, which can lead to more likeliness in participation in co-creation. In the review, it is not important that people get persuaded to start using the co-creation platform. Besides, it is also not recommended that people write too many details in their arguments. Therefore, strong and accurate arguments may be avoided. Alternatively, it is recommended that people just describe their experience with the platform and that the review contains hints about how to use the platform. It is quite all right if the review is somewhat informal. When the company requests people to write a review about the platform, the above-mentioned recommendations could be included in the question. Subsequently, the company has another task to perform in this area. It is recommended to question people who read the review if they consider the review as relevant to them and if it provided the information which they were looking for. Based on their answers, the company can either put the review at the top or not at the top of the reviews. However, a company should only do this if a review has been considered relevant and needed several times. As a result, the people who look up a review afterwards will see the relevant review at the top of the list. According to this research, this leads to more participation in co-creation.

Furthermore, it turned out that high food-involved people are more likely to participate in co-creation in the food industry than less food-involved people. Especially when they are (potential) active member in food brand communities. Therefore, it is suggested to companies in the food industry to search for high food-involved people when the company needs more people to co-create. High food-involved people are, according to the literature, individuals who are seeking for sensation and have the desire to experience new food (Bell & Marshall, 2003). This implicates that the people who come to trade shows or seminars about food are people who are high food-involved. Tradeshow and seminars are mainly about developments, new experiences and trends of the issue in question. It is therefore recommended to get a spot at one of those trade shows or seminars and talk to people who seem interested. People who are involved in food see personal relevance to co-create (Bloch, 1981). Companies can show existing products that have strong sensory characteristics. This is suggested as high-involved people are of the opinion that those characteristics need to be good (Bell & Marshall, 2003). When they see/smell/taste/feel a product of the company in question, and they personally like it, they might start to get interested in the company. This can eventually lead to co-creation. Besides, the company could ask the people if they would like to become active in their brand community. When this is the case, the company knows that those people might be interested in co-creation. Subsequently, the company could stimulate this by promoting their co-creation projects to them.

Although it seems logical to post a request on the brand community which asks for people to co-create, present research reveals the opposite. You might think that people who are (active) member of a brand community are likely to participate in co-creation; this is not the case. Approximately 75% of the significant results showed that people who have not heard of a brand community are more likely to participate in co-creation compared to members of the community/ people who heard of the community. It is therefore recommended not to post a request to co-create on the brand community. Rather, advertise elsewhere, like on your website, in an (online) advertisement, television advertisements or street advertisements.

Considering the mentioned managerial applications, it is advisable for companies to invest in co-creation as results show that people are willing to participate in co-creation, and it can lead to benefits for the company. Specifically, it is advised to reach high food-involved people, stimulate people to write reviews about the co-create platform and promote their platform so, people get acquainted with it. There is interest in co-creation, the companies still have to provide people with the tools.

## References

- Anderson, E.W. (1998), "Customer satisfaction and word of mouth", *Journal of Service Research*, Vol. 1 No. 3, pp. 5-17.
- Agrawal, A.K. and Rahman, Z. (2015). "Roles and resource contributions of customers in value co-creation", *International Strategic Management Review*, Vol. 3 No. 1, pp. 144-160
- Awad, N. F., & Ragowsky, A. (2008). Establishing trust in electronic commerce through online word of mouth: An examination across genders. *Journal of Management Information Systems*, 24(4), 101-121.
- Bastedo, M. and A. Davis (1993). "God, what a blunder, the New Coke story." *Cola Fountain*, 17.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122.
- Bell, R., & Marshall, D. W. (2003). The construct of food involvement in behavioral research: scale development and validation☆. *Appetite*, 40(3), 235-244.
- Bendapudi, N., & Leone, R. P. (2003). Psychological implications of customer participation in co-production. *Journal of marketing*, 67(1), 14-28.
- Bettencourt, L.A. (1997), "Customer voluntary performance: customers as partners in service delivery", *Journal of Retailing*, Vol. 73 No. 3, pp. 383-406.
- Blau, P.M. (1964), *Exchange and Power in Social Life*, John Wiley and Sons, New York, NY.
- Bloch, P. (1981), "An exploration into the scaling of consumer's involvement with a product class", *Advances in Consumer Research*, Vol. 8 No. 1, pp. 61-65.
- Bove, L.L., Pervan, S.J., Beatty, S.E. and Shiu, E. (2009), "Service worker role in encouraging customer Organizational citizenship behaviors", *Journal of Business Research*, Vol. 62 No. 7, pp. 698-705.
- Calisir, F., & Calisir, F. (2004). The relation of interface usability characteristics, perceived usefulness, and perceived ease of use to end-user satisfaction with enterprise resource planning (ERP) systems. *Computers in human behavior*, 20(4), 505-515.
- Cheung, M., Luo, C., Sia, C., & Chen, H. (2009). Credibility of electronic word-of-mouth: Informational and normative determinants of on-line consumer recommendations. *International Journal of Electronic Commerce*, 13(4), 9-38.
- Chiu, C. M., Huang, H. Y., Cheng, H. L., & Sun, P. C. (2015). Understanding online community citizenship behaviors through social support and social identity. *International journal of information management*, 35(4), 504-519.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- Elliott, R., & Wattanasuwan, K. (1998). Brands as Symbolic resources for the construction of identity. *International Journal of Advertising*, 17, 131-144.

- Ennew, C. T., & Binks, M. R. (1999). Impact of participative service relationships on quality, satisfaction and retention: an exploratory study. *Journal of business research*, 46(2), 121-132.
- Eertmans, A., Victoir, A., Vansant, G., & Van den Bergh, O. (2005). Food-related personality traits, food choice motives and food intake: Mediator and moderator relationships. *Food Quality and Preference*, 16(8), 714-726.
- Fang, Y. (2014). Beyond the credibility of electronic word of mouth: Exploring e-WOM adoption on social networking sites from affective and curiosity perspectives. *International Journal of Electronic Commerce*, 18(3), 67-102.
- Feldman, J. M., & Lynch, J. G., Jr. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention and behavior. *Journal of Applied Psychology*, 73(3), 421-435.
- Field, A. (2018) *Discovering statistics using IBM SPSS statistics*. (5<sup>th</sup> edition). London: SAGE
- Filieri, R. (2013). Consumer co-creation and new product development: a case study in the food industry. *Marketing Intelligence & Planning*
- Frasquet-Deltoro, M., and Alarcon-del-Amo, M., & Lorenzo-Romero, C. (2019). Antecedents and consequences of virtual customer co-creation behaviours. *Internet Research*.
- Frow, P., Nenonen, S., Payne, A., & Storbacka, K. (2015). Managing co-creation design: A strategic approach to innovation. *British Journal of Management*, 26(3), 463-483.
- Füller, J., Hutter, K., & Faullant, R. (2011). Why co-creation experience matters? Creative experience and its impact on the quantity and quality of creative contributions. *R&D Management*, 41(3), 259-273.
- Groth, M. (2004). Customers as good soldiers: extending organizational citizenship behavior research to the customer domain. *Nova Science Publishers*, 415-433.
- Groth, M. (2005), "Customers as good soldiers: examining citizenship behaviors in internet service deliveries", *Journal of Management*, Vol. 31 No. 1, pp. 7-27.
- Groth, M., Mertens, D. P., & Murphy, R. O. (2004). Customers as good soldiers: Extending organizational citizenship behavior research to the customer domain. In: D. L. Turnipseed (Ed.), *Handbook of organizational citizenship behavior* (pp. 411-430). Hauppauge, NY: *Nova Science Publishers*.
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data analysis* (7<sup>th</sup> edition). Essex: Pearson.
- Hatch, M. J., & Schultz, M. (2010). Toward a theory of brand co-creation with implications for brand governance. *Journal of Brand Management*, 17(8), 590-604.
- Heise, D. R. (1972). Employing nominal variables, induced variables, and block variables in path analyses. *Sociological Methods & Research*, 1(2), 147-173.
- Hennig-Thurau, T., Walsh, G., & Walsh, G. (2003). Electronic word-of-mouth: Motives for and consequences of reading customer articulations on the Internet. *International journal of electronic commerce*, 8(2), 51-74.

- Herr, P.M., Kardes, F.R. and Kim, J. (1991), "Effects of word-of-mouth and product-attribute information on persuasion: an accessibility-diagnostics perspective", *Journal of Consumer Research*, Vol. 17 No. 4, pp. 454-62.
- Higie, R.A. and Feick, L.F. (1989), "Enduring involvement: conceptual and measurement issues", *Advances in Consumer Research*, Vol. 16 No. 1, pp. 690-696.
- Hong-Youl, H., John, J., John, J.D. and Chung, Y. (2016), "Temporal effects of information from social networks on online behavior: the role of cognitive and affective trust", *Internet Research*, Vol. 26 No. 1, pp. 213-235
- Ind, N., Trevail, C., & Fuller, C. (2012). *Brand together: How co-creation generates innovation and re-energizes brands*. Kogan Page Publishers.
- Janssen, K. L. (2011). Driving the food market. Proactive consumer involvement to support radical product innovation. [Sl: sn].
- Jiménez, F. R., & Mendoza, N. A. (2013). Too popular to ignore: the influence of online reviews on purchase intentions of search and experience products. *Journal of Interactive Marketing*, 27(3), 226–235.
- Karahasanović, A., Brandtzæg, P. B., Heim, J., Lüders, M., Vermeir, L., Pierson, J., ... & Jans, G. (2009). Co-creation and user-generated content—elderly people's user requirements. *Computers in Human Behavior*, 25(3), 655-678.
- Kelley, S. W., Donnelly Jr, J. H., & Skinner, S. J. (1990). Customer participation in service production and delivery. *Journal of retailing*, 66(3), 315.
- Laroche, M., Habibi, M. R., Richard, M. O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior*, 28(5), 1755-1767.
- Lengnick-Hall, C. A. (1996). Customer contributions to quality: A different view of the customer-oriented firm. *The Academy of Management Review*, 21, 791–824.
- Lovett, M. J., & Staelin, R. (2016). The role of paid, earned, and owned media in building entertainment brands: Reminding, informing, and enhancing enjoyment. *Marketing Science*, 35(1), 142-157.
- Marshall, D. W., & Bell, R. (2004). Relating the food involvement scale to demographic variables, food choice and other constructs. *Food Quality and Preference*, 15, 971–979
- Miller, C. F. B. M. D., France, C., & Merrilees, B. (2015). Customer brand co-creation: a conceptual model. *Marketing Intelligence & Planning*, 33, 848-864.
- Morrison, E. W. (1993). Newcomer information seeking: Exploring types, modes, sources, and outcomes. *Academy of management Journal*, 36(3), 557-589.
- Muniz, A. M., & O'guinn, T. C. (2001). Brand community. *Journal of consumer research*, 27(4), 412-432.
- Murillo, D. E. C., Kang, J., & Yoon, S. (2016). Factors influencing pro-social consumer behavior through non-profit organizations. *Internet Research*.
- O'Cass, A. (2004). Fashion clothing consumption: antecedents and consequences of fashion clothing involvement. *European Journal of Marketing*.

- O'Hern, M. S., & Rindfleisch, A. (2010). Customer co-creation: a typology and research agenda. *Review of marketing research*, 6(1), 84-106.
- O'Hern, M. S., & Rindfleisch, A. (2017). Customer co-creation: a typology and research agenda. In *Review of marketing research* (pp. 108-130). Routledge.
- Ortiz, J., Chih, W. and Teng, H. (2017), "Electronic word of mouth in the Taiwanese social networking community: participation factors", *Internet Research*, Vol. 27 No. 5, pp. 1058-1084.
- Park, D., Lee, J., & Han, I. (2007). The effect of on-Line consumer reviews on consumer purchasing intention: The moderating role of involvement. *International Journal of Electronic Commerce*, 11(4), 125-148.
- Payne, A., Storbacka, K., Frow, P. and Knox, S. (2009), "Co-creating brands: diagnosing and designing the relationship experience", *Journal of Business Research*, Vol. 62 No. 3, pp. 379-389.
- Pepsico. (2012). *Lay's Maak de Smaak – The Battle*. Retrieved at 21 February, 2020 from <https://www.pepsico.nl/nl-NL/live/pressrelease/lays-maak-de-smaak--the-battle>
- Phang, C. W., Kankanhalli, A., & Sabherwal, R. (2009). Usability and sociability in online communities: A comparative study of knowledge seeking and contribution. *Journal of the association for Information Systems*, 10(10), 2.
- Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of interactive marketing*, 18(3), 5-14.
- Radner, R., & Rothschild, M. (1975). On the allocation of effort. *Journal of Economic Theory*, 10(3), 358-376.
- Ramaswamy, V. (2009). Co-creation of value—towards an expanded paradigm of value creation. *Marketing Review St. Gallen*, 26(6), 11-17.
- Ramaswamy, V. (2011). It's about human experiences... and beyond, to co-creation. *Industrial Marketing Management*, 40(2), 195-196.
- Ramaswamy, V. and F. Gouillart (2010). *The Power of Co-creation*. New York, NY: *The Free Press*.
- Richins, M.L., Bloch, P.H. and McQuarrie, E.F. (1992), "How enduring and situational involvement combine to create involvement responses", *Journal of Consumer Psychology*, Vol. 1 No. 2, pp. 143-153.
- RIVM. (2020). *Vragen en antwoorden nieuw Coronavirus (COVID-19)*. Retrieved at 13-4-20 from <https://www.rivm.nl/coronavirus-covid-19/vragen-antwoorden#Vragen%20over%20voorkomen%20besmetting>
- Rosenbaum, M. S., & Massiah, C. A. (2007). When customers receive support from other customers: Exploring the influence of intercustomer social support on customer voluntary performance. *Journal of service research*, 9(3), 257-270.
- See-To, E. W., & Ho, K. K. (2014). Value co-creation and purchase intention in social network sites: The role of electronic Word-of-Mouth and trust—A theoretical analysis. *Computers in Human Behavior*, 31, 182-189.



- Shamim, A., Ghazali, Z., & Albinsson, P. A. (2016). An integrated model of corporate brand experience and customer value co-creation behaviour. *International Journal of Retail & Distribution Management*.
- Smith, D. (2003). *Five principles for research ethics*. Retrieved at 10-6-20 from <https://www.apa.org/monitor/jan03/principles>
- Starbucks. (n.d.) *Submit your idea*. Retrieved at 10-6-20 from <https://ideas.starbucks.com>
- StarbucksFanBlogs. (n.d.) *StarbucksFanBlogs*. Retrieved at 17-3-20 from <https://www.facebook.com/groups/279426065540737/>
- Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management science*, 42(1), 85-92.
- Teo, T. S., Lim, V. K., & Lai, R. Y. (1999). Intrinsic and extrinsic motivation in Internet usage. *Omega*, 27(1), 25-37.
- Thrassou, A. (2016). Global agrifood management paradigms from the Italian industry. *Britisch Food Journal*.
- Traditional Medicinals. (n.d.) *Join our community of plant people*. Retrieved at 17-3-20 from <https://www.traditionalmedicinals.com/articles/>
- Tsao, W. C., & Hsieh, M. T. (2015). e-WOM persuasiveness: do e-WOM platforms and product type matter?. *Electronic Commerce Research*, 15(4), 509-541.
- Tubbing, L. (2015) Normaliteit kwantificeren met cijfers. Retrieved at 18-5-202 from <https://deafstudeerconsultant.nl/statistiek-met-spss/verkennen-van-aannames/normaliteit-kwantificeren-met-cijfers/>
- Van Trijp, J. C. M., Hoyer, W. D., & Inman, J. J. (1996). Why switch. Product category level explanations for true variety seeking. *Journal of Marketing Research*, 33(3), 281–292.
- Wu, S. H., Huang, S. C. T., Tsai, C. Y. D., & Lin, P. Y. (2017). Customer citizenship behavior on social networking sites. *Internet Research*.
- Xie, C., Bagozzi, R. P., & Troye, S. V. (2008). Trying to presume: toward a theory of consumers as co-creators of value. *Journal of the Academy of marketing Science*, 36(1), 109-122.
- Yi, Y. and Gong, T. (2008), “If employees ‘go the extra mile’, do customers reciprocate with similar behavior?”, *Psychology and Marketing*, Vol. 25 No. 10, pp. 961-986.
- Yi, Y., & Gong, T. (2013). Customer value co-creation behavior: Scale development and validation. *Journal of Business research*, 66(9), 1279-1284.
- Zahra, S. and S. Nambisan (2011). ‘Entrepreneurship in global innovation ecosystems’, *AMS Review*, 1, pp. 4–17.
- Zaichkowsky, J. L. (1994). The personal involvement inventory: Reduction, revision, and application to advertising. *Journal of advertising*, 23(4), 59-70.
- Zaichkowsky, J.L. (1986), “Conceptualizing involvement”, *Journal of Advertising*, Vol. 15 No. 2, pp. 4-34.

Zhu, D. H., Sun, H., & Chang, Y. P. (2016). Effect of social support on customer satisfaction and citizenship behavior in online brand communities: The moderating role of support source. *Journal of Retailing and Consumer Services*, 31, 287-293.

## Appendices

### Appendix 1. TAM Model

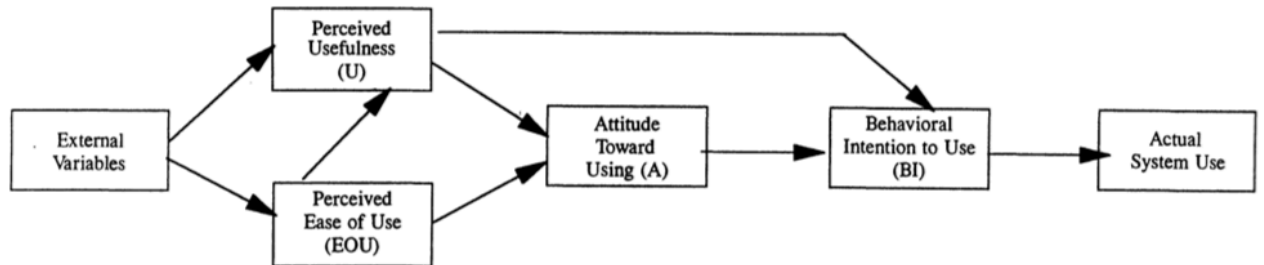


Figure 1. Technology Acceptance Model, Szajna (1996)

## Appendix 2. Questionnaire

Beste,

Voor mijn scriptie van de Master Marketing ga ik onderzoek doen naar de drijfveren van co-creatie. Daarvoor heb ik een vragenlijst opgesteld. Uw deelname is geheel vrijblijvend en de gegevens zullen vertrouwelijk en anoniem worden behandeld. Het invullen van de vragenlijst zal ongeveer 10 minuten van uw tijd in beslag nemen. U zou mij erg helpen als u deze in wilt vullen.

Co-creatie is de samenwerking van consumenten en bedrijven om samen tot een nieuw product of een verbetering van een product te komen. Een bekend voorbeeld is de co-creatie campagne van Lays 'Maak de Smaak'. In 2010 konden consumenten bij deze campagne een smaak insturen voor nieuwe chips. Dit is co-creatie omdat Lays haar consumenten betrok bij een nieuwe smaak voor de chips. Een ander voorbeeld van co-creatie is het ontwerp van de nieuwe winkel inrichting van IKEA. Naar aanleiding van de nieuwe catalogus, mochten consumenten een Pinterest-board creëren waarop zij hun droomkamer presenteerden. De droomkamer van de winnares werd daarna in Ikea Amsterdam tot leven gebracht.

Ik ga onderzoeken op welke manier een bedrijf ervoor kan zorgen dat consumenten sneller mee gaan werken aan co-creatie. Mijn onderzoek focust zich specifiek op de voedingsmiddelenindustrie. Dit gaat dus zowel om eten als drinken.

De resultaten van mijn onderzoek zijn nuttig voor zowel de wetenschap als de maatschappij. De resultaten dragen bij aan de wetenschap omdat de relaties die centraal staan in dit onderzoek, nog niet eerder onderzocht zijn in de voedingsmiddelenindustrie. Daarnaast draagt dit onderzoek bij aan de maatschappij omdat bedrijven met deze uitkomst weten wat voor consumenten belangrijk is om te gaan co-creëren. Bedrijven kunnen zich hierop aanpassen.

Als u benieuwd bent naar de uitkomsten van dit onderzoek, kunt u mij mailen op het volgende emailadres: [willemin.bader@student.ru.nl](mailto:willemin.bader@student.ru.nl). Alvast bedankt voor het invullen!

Met vriendelijke groeten,  
Willemijn Bader

Onderstaande vragen gaan over uw betrokkenheid met eten en drinken. Geef aan op een schaal van 1 (helemaal niet mee eens) tot 5 (helemaal wel mee eens) in hoeverre u het eens bent met de volgende stellingen. Wanneer het niet van toepassing is op u, kunt u dit ook aanklikken.

1. Praten over eten/drinken is iets wat ik graag doe
2. Gedurende de dag denk ik niet veel aan eten/drinken
3. Vergeleken met andere beslissingen op de dag, is de beslissing wat ik ga eten/drinken niet belangrijk
4. Ik wil graag nieuwe soorten eten/drinken uit proberen
5. Ik ben loyaal naar merken in de voedingsmiddelen industrie (dat wil zeggen: u gebruikt bijna altijd hetzelfde merk voor een bepaald soort eten/drinken)

Ik vind het belangrijk dat eten/drinken...

6. Lekker ruikt
7. Lekker smaakt
8. Er aantrekkelijk uit ziet
9. Goed voelt

Onderstaande vragen gaan over het gebruiksgemak van het internet en over uw vaardigheden van ICT. Met het internet worden de sites bedoeld die u bezoekt wanneer u surft op het internet. Geef aan op een

schaal van 1 (helemaal niet mee eens) tot 5 (helemaal wel mee eens) in hoeverre u het eens bent met de volgende stellingen. Wanneer het niet van toepassing is op u, kunt u dit ook aanklikken.

10. Over het algemeen vind ik het internet makkelijk te gebruiken
11. Over het algemeen lukt het mij om het internet te laten doen wat ik wil dat het doet
12. Het is voor mij niet belangrijk dat een site gebruiksvriendelijk is
13. Het is voor mij niet gemakkelijk om bekwaam te worden in het gebruik van het internet.

Onderstaande vragen gaan over elektronische mond tot mondreclame (dat wil zeggen: positieve of negatieve uitspraken op het internet over een bedrijf/product (denk aan het kopen van producten, boeken van vakanties). Geef aan op een schaal van 1 (helemaal niet mee eens) tot 5 (helemaal wel mee eens) in hoeverre u het eens bent met de volgende stellingen. Wanneer het niet van toepassing is op u, kunt u dit ook aanklikken.

14. Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn
15. Wanneer ik een recensie lees, vind ik het belangrijk dat de recensie sterke argumenten heeft
16. Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt
17. Over het algemeen vind ik recensies nuttig wanneer ik iets wil kopen/gaan doen
18. Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben
19. Over het algemeen zijn recensies relevant voor mij

Onderstaande vragen gaan over het waarschijnlijke gedrag wat u zou vertonen wanneer u online zou gaan co-creëren (dus ideeën aan een bedrijf geven voor de verbetering van een huidig product of het opwerpen van een nieuw product).

Stelt u zich voor dat u gaat co-creëren bij een bedrijf dat zich bevindt in de voedingsmiddelenindustrie. Het gaat hierbij dus om etenswaren of drinken. Je hebt in deze situatie dus een idee voor een verbetering van een bestaand product/ een idee voor nieuw product.

Geef aan op een schaal van 1 (helemaal niet mee eens) tot 5 (helemaal wel mee eens) in hoeverre u het in deze situatie eens zou zijn met de volgende stellingen. Wanneer het niet van toepassing is op u, kunt u dit ook aanklikken.

20. Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren.
21. Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product
22. Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen
23. Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het online co-creëren.
24. Als ik een goed idee heb voor een verbetering van een product, of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten.
25. Ik zou anderen bepaalde producten of bedrijven aanraden
26. Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had.
27. Wanneer het product/dienst dat ik hebt bedacht door middel van co-creatie niet is geworden zoals ik had verwacht, zou ik bereid zijn om het te accepteren

Onderstaande vragen gaan over een 'online community'. Een online community is een groep mensen die allen verbonden zijn aan een bepaald merk via het internet (Dit kan zijn via Facebook, Twitter, Instagram, een speciale website et cetera). Deze mensen willen elkaar direct/indirect helpen. Dit doen zij door middel van het delen van informatie en ideeën over het product/merk. Binnen een community kan men mensen leren kennen met dezelfde interesses, informatie uitwisselen over het desbetreffende product/merk en discussiëren over het onderwerp in kwestie.

28. Heeft u al eens gehoord van dit soort communities?
- a. Ja
  - b. Nee
29. Bent u lid van een (of meerdere) community(s) van (een) voedingsmiddelen- of drankenmerk?
- a. Ja
  - b. Nee, maar ik zou dit wel willen
  - c. Nee, en ik zou dit ook niet willen
30. Op welk(e) platform(s) bent u lid van deze community?
- a. Open vraag
31. Beschouwd u zichzelf als een actieve deelnemer van de community? (U bent actief als u regelmatig deelneemt aan discussies, foto's plaatst, vragen stelt et cetera)
- a. Ja
  - b. Nee, maar ik zou dit wel willen
  - c. Nee, en ik zou dit ook niet willen

#### Laatste vragen

32. Heeft u al wel eens aan co-creatie in de voedingsmiddelenindustrie (eten en drinken) mee gedaan?
- a. Ja
  - b. Nee, maar ik zou dit wel willen
  - c. Nee, en zou daar ook geen interesse in hebben
33. Wat is uw geslacht?
- a. Man
  - b. Vrouw
  - c. Anders
  - d. Wil ik niet zeggen
34. Wat is uw leeftijd?
- a. Open vraag
  - b. Wil ik niet zeggen
35. Wat is uw hoogst genoten opleiding?
- a. Basisschool
  - b. Middelbare school
  - c. MBO
  - d. HBO
  - e. WO Bachelor
  - f. WO Master
  - g. PHD
  - h. Anders, namelijk...
  - i. Wil ik niet zeggen
36. Heeft u naar aanleiding van deze vragenlijst nog vragen of opmerkingen die u aan mij mee wilt geven?
- a. Open vraag

### Appendix 3. Analysis pre-test

The descriptives statistics illustrates the descriptives of all the questions, which belong to the constructs. The table is displayed in the same order as the questions were asked to the respondents. It illustrates that people filled in the reversed questions in the right way. This is visible as reversed questions have a lower mean than the not reversed questions. This indicates that the respondents had enough attention while filling in the survey. Thus, there is no sign of response bias. The second and third questions of Food Involvement illustrate this.

Besides, the construct of electronic Word-of-Mouth shows that the maximum amount of people choose was 6. This equals the option 'not applicable'. Normally, this is not good; however, in this case, only one person (out of 24 persons) filled in this choice. Therefore, no adjustments were made to those questions. Another striking result is the fact that 'member of communities' was not filled in by 24 respondents but by 23. This is not strange because that means that someone answered 'no' to the previous question and was therefore routed on to questions that no longer concern communities. Besides, this was also the only missing which was visible in the frequency table.

#### Descriptives Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
<b>Food involvement</b>					
Talking about food/drinks	24	2	5	4.17	.816
Thinking about food/drinks (Reversed)	24	1	5	2.46	1.250
Importance of decision about food/drinks (Reversed)	24	1	4	2.08	.654
Try new food/drinks	24	2	5	4.13	.947
<b>Perceived ease-of-use</b>					
Internet is ease to use	24	4	5	4.71	.464
Internet does what I want to	24	4	5	4.71	.464
Importance of user-friendly (Reversed)	24	1	5	2.08	1.248
Ease of use of internet (Reversed)					
<b>Electronic Word-of-Mouth</b>					
Importance of accurate arguments (Reversed)	24	1	4	2.13	.900
Importance of strong arguments	24	4	6	4.38	.576
Importance of correctness of review	24	4	6	4.67	.565
Review is helpful	24	2	6	4.33	.917
Review is needed	24	2	6	3.96	.806
Review is relevant	24	2	6	3.96	.859

#### Customer participation behaviour

Information seeking	24	2	5	3.71	.859
Information sharing	24	2	5	3.75	.847
Responsible behaviour	24	3	5	3.83	.702
Personal interaction	24	3	5	4.33	.702

#### **Customer Citizenship behaviour**

Feedback	24	2	5	3.50	.834
Advocacy	24	2	6	4.00	.933
Helping	24	2	5	4.00	.780
Tolerance	24	2	5	3.33	.917

#### **Brand community**

Heard of food/drinks communities	24	1	2	1.04	.204
Member of food/drinks communities	23	1	3	2.74	.541
Active member of food/drinks communities	1	3	3	3.00	-

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## Appendix 4. Frequency tables

### Food involvement

#### Praten over eten/drinken is iets wat ik graag doe

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	2	.9	.9	.9
	Niet mee eens	7	3.1	3.1	4.0
	Neutraal	37	16.4	16.4	20.4
	Eens	82	36.4	36.4	56.9
	Helemaal mee eens	97	43.1	43.1	100.0
	Totaal	225	100.0	100.0	

#### Gedurende de dag denk ik niet veel aan eten/drinken

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	43	19.1	19.1	19.1
	Niet mee eens	94	41.8	41.8	60.9
	Neutraal	47	20.9	20.9	81.8
	Eens	27	12.0	12.0	93.8
	Helemaal mee eens	14	6.2	6.2	100.0
	Totaal	225	100.0	100.0	

#### Vergeleken met andere beslissingen op de dag, is de beslissing wat ik ga eten/drinken belangrijk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	29	12.9	12.9	12.9
	Niet mee eens	133	59.1	59.1	72.0
	Neutraal	30	13.3	13.3	85.3
	Eens	24	10.7	10.7	96.0
	Helemaal mee eens	9	4.0	4.0	100.0
	Totaal	225	100.0	100.0	

#### Ik wil graag nieuwe soorten eten/drinken uit proberen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	2	.9	.9	.9
	Niet mee eens	16	7.1	7.1	8.0
	Neutraal	26	11.6	11.6	19.6
	Eens	81	36.0	36.0	55.6
	Helemaal mee eens	99	44.0	44.0	99.6
Missing	Niet van toepassing	1	.4	.4	100.00
	Totaal	225	100.0	100.0	

**Ik vind het belangrijk dat eten/drinken... - lekker ruikt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	5	2.2	2.2	2.2
	Neutraal	23	10.2	10.2	12.4
	Eens	127	56.4	56.4	68.9
	Helemaal mee eens	70	31.1	31.1	100.0
	Totaal	225	100.0	100.0	

**Ik vind het belangrijk dat eten/drinken... - lekker smaakt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutraal	3	1.3	1.3	1.3
	Eens	56	24.9	24.9	26.2
	Helemaal mee eens	166	73.8	73.8	100.0
	Totaal	225	100.0	100.0	

**Ik vind het belangrijk dat eten/drinken... - er aantrekkelijk uitziet**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	11	4.9	4.9	4.9
	Neutraal	47	20.9	20.9	25.8
	Eens	117	52.0	52.0	77.8
	Helemaal mee eens	50	22.2	22.2	100.0
	Totaal	225	100.0	100.0	

**Ik vind het belangrijk dat eten/drinken... - goed voelt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	12	5.3	5.3	5.8
	Neutraal	55	24.4	24.4	30.2
	Eens	110	48.9	48.9	79.1
	Helemaal mee eens	47	20.9	20.9	100.0
	Totaal	225	100.0	100.0	

## Perceived ease-of-use

### Over het algemeen vind ik het internet makkelijk te gebruiken

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	3	1.3	1.3	1.3
	Neutraal	7	3.1	3.1	4.4
	Eens	83	36.9	36.9	41.3
	Helemaal mee eens	131	58.2	58.2	99.6
Missing	Niet van toepassing	1	.4	.4	100.0
	Totaal	225	100.0	100.0	

### Over het algemeen lukt het mij om het internet te laten doen wat ik wil dat het doet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	6	2.7	2.7	2.7
	Neutraal	10	4.4	4.4	7.1
	Eens	89	39.6	39.6	46.7
	Helemaal mee eens	120	53.3	53.3	100.0
	Totaal	225	100.0	100.0	

### Het is voor mij niet belangrijk dat een site gebruiksvriendelijk is

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	68	30.2	30.2	30.2
	Niet mee eens	100	44.4	44.4	74.7
	Neutraal	16	7.1	7.1	81.8
	Eens	26	11.6	11.6	93.3
	Helemaal mee eens	15	6.7	6.7	100.0
	Totaal	225	100.0	100.0	

### Het is voor mij niet gemakkelijk om bekwaam te worden in het gebruik van internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	86	38.2	38.2	38.2
	Niet mee eens	97	43.1	43.1	81.3
	Neutraal	18	8.0	8.0	89.3
	Eens	11	4.9	4.9	94.2
	Helemaal mee eens	5	2.2	2.2	96.4
Missing	Niet van toepassing	8	3.6	3.6	100.0
	Totaal	225	100.0	100.0	

**Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	58	25.8	25.8	25.8
	Niet mee eens	105	46.7	46.7	72.4
	Neutraal	24	10.7	10.7	83.1
	Eens	27	12.0	12.0	95.1
	Helemaal mee eens	9	4.0	4.0	99.1
Missing	Niet van toepassing	2	.9	.9	100.0
	Totaal	225	100.0	100.0	

**Wanneer ik een recensie lees, vind ik het belangrijk dat de recensie sterke argumenten heeft**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	4	1.8	1.8	1.8
	Neutraal	14	6.2	6.2	8.0
	Eens	136	60.4	60.4	68.4
	Helemaal mee eens	68	30.2	30.2	98.7
Missing	Niet van toepassing	3	1.3	1.3	100.0
	Totaal	225	100.0	100.0	

**Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Niet mee eens	2	.9	.9	.9
	Neutraal	1	.4	.4	1.3
	Eens	96	42.7	42.7	44.0
	Helemaal mee eens	122	54.2	54.2	98.2
Missing	Niet van toepassing	4	1.8	1.8	100.0
	Totaal	225	100.0	100.0	

**Over het algemeen vind ik recensies nuttig wanneer ik iets wil kopen/gaan doen**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	9	4.0	4.0	4.4
	Neutraal	27	12.0	12.0	16.4
	Eens	115	51.1	51.1	67.6
	Helemaal mee eens	69	30.7	30.7	98.2
Missing	Niet van toepassing	4	1.8	1.8	100.0
	Totaal	225	100.0	100.0	

<b>Over het algemeen geven recensies mij de informatie waar ik naar opzoek ben</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	21	9.3	9.3	9.8
	Neutraal	61	27.1	27.1	36.9
	Eens	118	52.4	52.4	89.3
	Helemaal mee eens	21	9.3	9.3	98.7
Missing	Niet van toepassing	3	1.3	1.3	100.0
	Totaal	225	100.0	100.0	

<b>Over het algemeen zijn recensies relevant voor mij</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	14	6.2	6.2	6.7
	Neutraal	72	32.0	32.0	38.7
	Eens	113	50.2	50.2	88.9
	Helemaal mee eens	22	9.8	9.8	98.7
Missing	Niet van toepassing	3	1.3	1.3	100.0
	Totaal	225	100.0	100.0	

#### Customer Participation Behaviour

<b>Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga ik co-creëren</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	3	1.3	1.3	1.3
	Niet mee eens	28	12.4	12.4	13.8
	Neutraal	38	16.9	16.9	30.7
	Eens	109	48.4	48.4	79.1
	Helemaal mee eens	41	18.2	18.2	97.3
Missing	Niet van toepassing	6	2.7	2.7	100.0
	Totaal	225	100.0	100.0	

<b>Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product</b>					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	3	1.3	1.3	1.3
	Niet mee eens	20	8.9	8.9	10.2
	Neutraal	31	13.8	13.8	24.0
	Eens	136	60.4	60.4	84.4
	Helemaal mee eens	31	13.8	13.8	98.2
Missing	Niet van toepassing	4	1.8	1.8	100.0
	Totaal	225	100.0	100.0	

**Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	18	8.0	8.0	8.4
	Neutraal	54	24.0	24.0	32.4
	Eens	115	51.1	51.1	83.6
	Helemaal mee eens	34	15.1	15.1	98.7
Missing	Niet van toepassing	3	1.3	1.3	100.0
	Totaal	225	100.0	100.0	

**Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het online co-creëren**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	3	1.3	1.3	1.8
	Neutraal	20	8.9	8.9	10.7
	Eens	109	48.4	48.4	59.1
	Helemaal mee eens	89	39.6	39.6	98.7
Missing	Niet van toepassing	3	1.3	1.3	100.0
	Totaal	225	100.0	100.0	

## Customer Citizenship Behaviour

**Als ik een goed idee heb voor een verbetering van een product, of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	9	4.0	4.0	4.0
	Niet mee eens	24	10.7	10.7	14.7
	Neutraal	51	22.7	22.7	37.3
	Eens	108	48.0	48.0	85.3
	Helemaal mee eens	31	13.8	13.8	99.1
Missing	Niet van toepassing	2	.9	.9	100.0
	Totaal	225	100.0	100.0	

**Ik zou anderen bepaalde producten of bedrijven aanraden**

		Frequency	Percent	Valid Percent	Cummulative Percent
Valid	Helemaal niet mee eens	2	.9	.9	.9
	Niet mee eens	15	6.7	6.7	7.6
	Neutraal	47	20.9	20.9	28.4
	Eens	114	50.7	50.7	79.1
	Helemaal mee eens	41	18.2	18.2	97.3
Missing	Niet van toepassing	6	2.7	2.7	100.0
	Totaal	225	100.0	100.0	

**Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie, dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor heb**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	1	.4	.4	.4
	Niet mee eens	14	6.2	6.2	6.7
	Neutraal	44	19.6	19.6	26.2
	Eens	119	52.9	52.9	79.1
	Helemaal mee eens	42	18.7	18.7	97.8
Missing	Niet van toepassing	5	2.2	2.2	100.0
	Totaal	225	100.0	100.0	

**Wanneer het product/dienst dat ik heb bedacht door middel van co-creatie niet is geworden zoals ik had verwacht, zou ik bereid zijn om het te accepteren**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	4	1.8	1.8	1.8
	Niet mee eens	33	14.7	14.7	16.4
	Neutraal	69	30.7	30.7	47.1
	Eens	94	41.8	41.8	88.9
	Helemaal mee eens	20	8.9	8.9	97.8
Missing	Niet van toepassing	5	2.2	2.2	100.0
	Totaal	225	100.0	100.0	

Brand community

**Heeft u al eens gehoord van dit soort communities?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja	151	67.1	67.1	67.1
	Nee	74	32.9	32.9	100.0
	Totaal	225	100.0	100.0	

**Bent u lid van een (of meerdere) community (communities) van een voedingsmiddelen- of drankenmerk**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja	18	8.0	11.9	11.9
	Nee, maar ik zou dit wel willen	23	10.2	15.2	27.2
	Nee, en ik zou dit ook niet willen	110	48.9	72.8	100.0
	Total	151	67.1	100.0	
Missing	System	74	32.9		
	Totaal	225	100.0		

**Op welk(e) platform(s) bent u lid van deze community (communities)?**

	Frequency	Percent	Valid Percent	Cummulative Percent
	209	92.9	92.9	92.9
De vegetarische slager	1	.4	.4	93.3
Dutch Whisky Group	1	.4	.4	93.8
Facebook	3	1.3	1.3	95.1
Facebook, Instagram	1	.4	.4	95.6
Facebook groep Vegan Nederland	1	.4	.4	96.0
Facebook, instagram	1	.4	.4	96.4
Facebook/instagram	1	.4	.4	96.9
Herbalife, en andere healthy food accounts niet iets specifiek	1	.4	.4	97.3
LinkedIn, Facebook, Instagram	1	.4	.4	97.8
N.v.t	1	.4	.4	98.2
Untapped	1	.4	.4	98.7
Vegan	1	.4	.4	99.1
Vegan nederland	1	.4	.4	99.6
Vegan Nederland	1	.4	.4	100.0
Totaal	225	100.0	100.0	

**Beschouwd u zichzelf als een actieve deelnemer van de community? ( U bent actief als u regelmatig deelneemt aan discussies, foot's plaatst, vragen stelt et cetera)**

		Frequency	Percent	Valid Percent	Cummulative Percent
Valid	Ja	6	2.7	33.3	33.3
	Nee, maar ik zou dit wel willen	3	1.3	16.7	50.0
	Nee, en ik zou dit ook niet willen	9	4.0	50.0	100.0
	Total	18	8.0	100.0	
Missing	System	207	92.0		
	Totaal	225	100.0		



## Control variables

### Ik ben loyaal naar merken in de voedingsmiddelen industrie (dat wil zeggen: u gebruikt bijna altijd hetzelfde merk voor een bepaald soort eten/drinken)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Helemaal niet mee eens	13	5.8	5.8	5.8
	Niet mee eens	51	22.7	22.7	28.4
	Neutraal	42	18.7	18.7	47.1
	Eens	97	43.1	43.1	90.2
	Helemaal mee eens	22	9.8	9.8	100.0
	Totaal	225	100.0	100.0	

### Heeft u al wel eens aan co-creatie in de voedingsmiddelen industrie (eten en drinken) mee gedaan?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ja	20	8.9	8.9	8.9
	Nee, maar ik zou dit wel willen	78	34.7	34.7	43.6
	Nee, en ik zou dit ook niet willen	127	56.4	56.4	100.0
	Totaal	225	100.0	100.0	

### Wat is uw geslacht?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	61	27.1	27.2	27.2
	Vrouw	163	72.4	72.8	100.0
	Total	224	99.6	100.0	
Missing	Wil ik niet zeggen	1	.4		
	Totaal	225	100.0		

### Wat is uw leeftijd? (wilt u dit niet vermelden, zet dan een streepje)

		Frequency	Percent	Valid Percent	Cumulative Percent
Missing	-	7	3.1	3.1	3.1
	/	1	.4	.4	3.6
Valid	16	2	.9	.9	4.4
	19	2	.9	.9	5.3
	20	4	1.8	1.8	7.1
	21	11	4.9	4.9	12.0
	22	17	7.6	7.6	19.6
	23	20	8.9	8.9	28.4
	24	22	9.8	9.8	38.2
	25	17	7.6	7.6	45.8
	26	12	5.3	5.3	51.1
	27	9	4.0	4.0	55.1
	28	6	2.7	2.7	57.8

29	4	1.8	1.8	59.6
30	2	.9	.9	60.4
31	3	1.3	1.3	61.8
32	2	.9	.9	62.7
33	2	.9	.9	63.6
34	2	.9	.9	64.4
35	3	1.3	1.3	65.8
36	1	.4	.4	66.2
39	4	1.8	1.8	68.0
45	1	.4	.4	68.4
47	2	.9	.9	69.3
48	1	.4	.4	69.8
49	3	1.3	1.3	71.1
50	2	.9	.9	72.0
51	3	1.3	1.3	73.3
52	10	4.4	4.4	77.8
53	8	3.6	3.6	81.3
54	5	2.2	2.2	83.6
55	4	1.8	1.8	85.3
56	2	.9	.9	86.2
57	2	.9	.9	87.1
58	5	2.2	2.2	89.3
59	2	.9	.9	90.2
60	4	1.8	1.8	92.0
61	5	2.2	2.2	94.2
62	4	1.8	1.8	96.0
63	1	.4	.4	96.4
64	3	1.3	1.3	97.8
64 jaar	1	.4	.4	98.2
65	1	.4	.4	98.7
66	1	.4	.4	99.1
68	2	.9	.9	100.0
Totaal		225	100.0	100.0

Wat is uw hoogst genoten opleiding?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Basisschool	1	.4	.4	.4
	Middelbare school	17	7.6	7.6	8.0
	MBO	27	12.0	12.0	20.0
	HBO	77	34.2	34.2	54.2
	WO Bachelor	27	12.0	12.0	66.2
	WO Master	67	29.8	29.8	96.0
	PHD	3	1.3	1.3	97.3
	Anders namelijk...	4	1.8	1.8	99.1
	Wil ik niet zeggen	2	.9	.9	100.0
Missing					
Totaal		225	100.0	100.0	

**Wat is uw hoogst genoten opleiding? – Anders namelijk...- Tekst**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		221	98.2	98.2	98.2
	HBO master	1	.4	.4	98.7
	HBO nog niet afgerond	1	.4	.4	99.1
	Post hbo	1	.4	.4	99.6
	Post HBO	1	.4	.4	100.0
	Totaal	225	100.0	100.0	

## Appendix 5. Factor analyses

### Food involvement - Sensory characteristics

<b>Communalities</b>		
	Initial	Extraction
Ik vind het belangrijk dat eten/drinken... - lekker ruikt	1.000	.663
Ik vind het belangrijk dat eten/drinken... - lekker smaakt	1.000	.399
Ik vind het belangrijk dat eten/drinken... - er aantrekkelijk uit ziet	1.000	.615
Ik vind het belangrijk dat eten/drinken... - goed voelt	1.000	.382

Extraction Method: Principal Component Analysis

<b>Component Matrix<sup>a</sup></b>	
	Component 1
Ik vind het belangrijk dat eten/drinken... - lekker ruikt	.814
Ik vind het belangrijk dat eten/drinken... - lekker smaakt	.632
Ik vind het belangrijk dat eten/drinken... - er aantrekkelijk uit ziet	.784
Ik vind het belangrijk dat eten/drinken... - goed voelt	.618

Extraction Method: Principal Component Analysis.  
a: 1 components extracted

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of items
.669	4

## Food involvement

<b>Communalities</b>		
	Initial	Extraction
Praten over eten/drinken is iets wat ik graag doe	1.000	.592
'Geen reversed meer!' Gedurende de dag denk ik niet veel aan eten/drinken	1.000	.268
'Geen reversed meer!' Vergeleken met andere beslissingen op de dag, is de beslissing wat ik ga eten/drinken niet belangrijk	1.000	.405
Ik wil graag nieuwe soorten eten/drinken uitproberen	1.000	.486
Sensorycharacteristics3	1.000	.217

Extraction Method: Principal Component Analysis

<b>Component Matrix<sup>a</sup></b>	
	Component 1
Praten over eten/drinken is iets wat ik graag doe	.769
'Geen reversed meer!' Gedurende de dag denk ik niet veel aan eten/drinken	.517
'Geen reversed meer!' Vergeleken met andere beslissingen op de dag, is de beslissing wat ik ga eten/drinken niet belangrijk	.637
Ik wil graag nieuwe soorten eten/drinken uitproberen	.697
Sensorycharacteristics3	.466

Extraction Method: Principal Component Analysis.  
a: 1 components extracted

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of items
.596	5

# Perceived ease-of-use

<b>Component Matrix<sup>a</sup></b>		
	Component 1	Component 2
Over het algemeen lukt het mij om het internet te laten doen wat ik wil dat het doet	.905	-.107
Over het algemeen vind ik het internet makkelijk in gebruik	.883	-.111
'Geen reversed meer!' Het is voor mij niet belangrijk dat een site gebruiksvriendelijk is	-.049	.955
"Geen reversed meer!' Het is voor mij niet gemakkelijk om bekwaam te worden in het gebruik van het internet	.689	.352

Extraction Method: Principal Component Analysis.  
a: 2 components extracted

→ Q3 deleted (only variable which is loading on component 2)

<b>Communalities</b>		
	Initial	Extraction
Over het algemeen lut het mij om het internet te laten doen wat ik wil dat het doet	1.000	.815
Over het algemeen vind ik het internet makkelijk in gebruik	.1.000	.778
"Geen reversed meer!' Het is voor mij niet gemakkelijk om bekwaam te worden in het gebruik van het internet	1.000	.482

Extraction Method: Principal Component Analysis.

<b>Component Matrix<sup>a</sup></b>	
	Component 1
Over het algemeen lut het mij om het internet te laten doen wat ik wil dat het doet	.903
Over het algemeen vind ik het internet makkelijk in gebruik	.882
"Geen reversed meer!' Het is voor mij niet gemakkelijk om bekwaam te worden in het gebruik van het internet	.694

Extraction Method: Principal Component Analysis.  
a: 1 components extracted

Reliability Statistics		
Cronbach's Alpha	N of items	
.739	3	

#### E-WOM

Component Matrix <sup>a</sup>		
	Component 1	Component 2
“Geen reversed meer!” Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn	.265	.716
Wanneer ik een recensie lees vind ik het belangrijk dat de recensie sterke argumenten heeft	.433	.539
Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt	.360	.654
Over het algemeen vind ik recensies nuttig wanneer ik iets il kopen/gaan doen	.707	-.322
Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben	.809	-.270
Over het algemeen zijn recensies relevant voor mij	.827	-.257

Extraction Method: Principal Component Analysis.  
a: 2 components extracted

→ Q2 deleted (Cross-loading)

Communalities		
	Initial	Extraction
“Geen reversed meer!” Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn	1.000	.671
Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt	1.000	.658
Over het algemeen vind ik recensies nuttig wanneer ik iets wil kopen/gaan doen	1.000	.605
Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben	1.000	.741
Over het algemeen zijn recensies relevant voor mij	1.000	.751

Extraction Method: Principal Component Analysis.

<b>Component Matrix<sup>a</sup></b>		
	Component 1	Component 2
“Geen reversed meer!” Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn	.157	.804
Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt	.263	.767
Over het algemeen vind ik recensies nuttig wanneer ik iets il kopen/gaan doen	.745	-.224
Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben	.857	-.080
Over het algemeen zijn recensies relevant voor mij	.860	-.108

Extraction Method: Principal Component Analysis.  
a: 2 components extracted

#### Importance of quality E-WOM

<b>Communalities</b>		
	Initial	Extraction
“Geen reversed meer!” Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn	1.000	.552
Wanneer ik een recensie lees vind ik het belangrijk dat de recensie sterke argumenten heeft	1.000	.495
Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt	1.000	.554

Extraction Method: Principal Component Analysis.

<b>Component Matrix<sup>a</sup></b>	
	Component 1
“Geen reversed meer!” Wanneer ik een recensie lees, vind ik het niet belangrijk dat de argumenten nauwkeurig zijn	.743
Wanneer ik een recensie lees vind ik het belangrijk dat de recensie sterke argumenten heeft	.703
Wanneer ik een recensie lees, vind ik het belangrijk dat de inhoud klopt	.744

Extraction Method: Principal Component Analysis.  
a: 1 components extracted



### Reliability Statistics

Cronbach's Alpha	N of items
.519	3

### E-WOM relevance

#### Communalities

	Initial	Extraction
Over het algemeen vind ik recensies nuttig wanneer ik iets wil kopen/gaan doen	1.000	.618
Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben	1.000	.753
Over het algemeen zijn recensies relevant voor mij	1.000	.764

Extraction Method: Principal Component Analysis.

#### Component Matrix<sup>a</sup>

	Component 1
Over het algemeen vind ik recensies nuttig wanneer ik iets wil kopen/gaan doen	.786
Over het algemeen geven recensies mij informatie waarnaar ik opzoek ben	.868
Over het algemeen zijn recensies relevant voor mij	.874

Extraction Method: Principal Component Analysis.

a: 1 components extracted

### Reliability Statistics

Cronbach's Alpha	N of items
.796	3

### Customer Participation Behaviour

#### Communalities

	Initial	Extraction
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren	1.000	.360
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	1.000	.614
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	1.000	.564

Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het co-creëren	1.000	.293
---	-------	------

Extraction Method: Principal Component Analysis.

#### Component Matrix<sup>a</sup>

	Component 1
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren	.600
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	.783
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	.751
Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het co-creëren	.541

Extraction Method: Principal Component Analysis.

a: 1 components extracted

#### Reliability Statistics

Cronbach's Alpha	N of items
.593	4

#### Customer Citizenship Behaviour

#### Communalities

	Initial	Extraction
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	1.000	.612
Ik zou anderen bepaalde producten of bedrijven aanraden	1.000	.525
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	1.000	.529
Wanneer het product/dienst dat ik heb bedacht door middel van co- creatie niet is geworden zoals ik ha verwacht, zou ik bereid zijn het te accepteren	1.000	.868

Extraction Method: Principal Component Analysis.

<b>Component Matrix<sup>a</sup></b>		
	Component 1	Component 2
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	.743	-.244
Ik zou anderen bepaalde producten of bedrijven aanraden	.675	-.262
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	.673	.276
Wanneer het product/dienst dat ik heb bedacht door middel van co-creatie niet is geworden zoals ik ha verwacht, zou ik bereid zijn het te accepteren	.190	.912

Extraction Method: Principal Component Analysis.  
a: 2 components extracted

→ Q4 deleted (Only variable which is loading on component 2)

<b>Component Matrix<sup>a</sup></b>	
	Component 1
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	.750
Ik zou anderen bepaalde producten of bedrijven aanraden	.698
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	.669

Extraction Method: Principal Component Analysis.  
a: 1 components extracted

<b>Reliability Statistics</b>	
Cronbach's Alpha	N of items
.497	3

	<b>Communalities</b>	
	Initial	Extraction
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	1.000	.499
Ik zou anderen bepaalde producten of bedrijven aanraden	1.000	.265
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	1.000	.298
Wanneer het product/dienst dat ik heb bedacht door middel van co-creatie niet is geworden zoals ik ha verwacht, zou ik bereid zijn het te accepteren	1.000	.612
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren	1.000	.392
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	1.000	.560
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	1.000	.499
Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het co-creëren	1.000	.462

Extraction Method: Principal Component Analysis.

	<b>Component Matrix<sup>a</sup></b>	
	Component 1	Component 2
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	.625	-.330
Ik zou anderen bepaalde producten of bedrijven aanraden	.514	-.023
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik	.544	.046

ze graag willen helpen als ik daar de mogelijkheden voor had		
Wanneer het product/dienst dat ik heb bedacht door middel van co-creatie niet is geworden zoals ik ha veracht, zou ik bereid zijn het te accepteren	.162	.765
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren	.552	-.295
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	.738	-.126
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	.692	.143
Ik zou aardig zijn tegen de persoon die eventueel virtueel aanwezig is tijdens het co-creëren	.421	.534

Extraction Method: Principal Component Analysis.  
a: 2 components extracted

→ Q8 deleted (Cross-loading)

<b>Component Matrix<sup>a</sup></b>		
	Component 1	Component 2
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	.670	-.141
Ik zou anderen bepaalde producten of bedrijven aanraden	.494	-.143
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	.549	.298
Wanneer het product/dienst dat ik heb bedacht door middel van co-creatie niet is geworden zoals ik ha veracht, zou ik bereid zijn het te accepteren	.144	.928
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke	.571	-.226

kring) over het product wanneer ik ga co-creëren		
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	.746	-.067
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	.678	.068
Extraction Method: Principal Component Analysis. a: 2 components extracted		

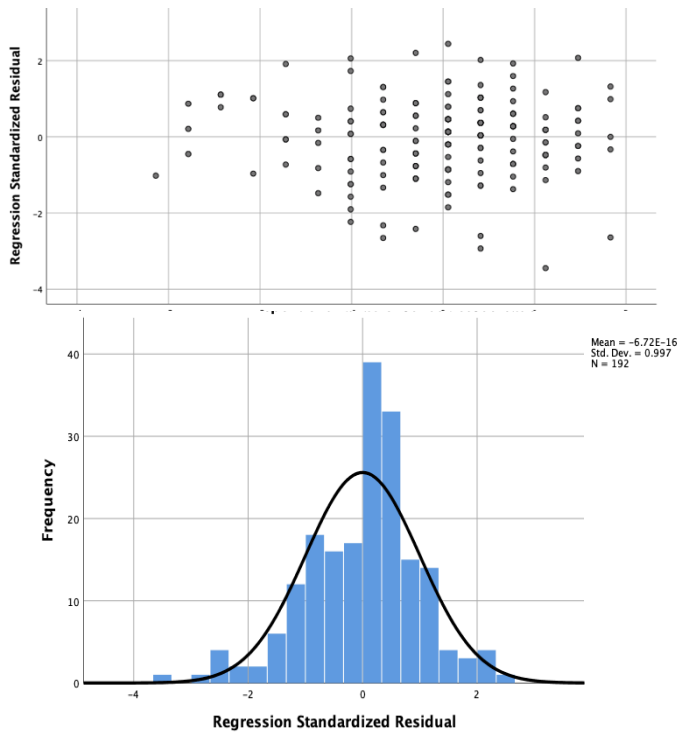
→ Q4 deleted (Only variable which is loading on Component 2)

Component Matrix <sup>a</sup>	
	Component 1
Als ik een goed idee heb voor een verbetering van een product of een helemaal nieuw product, zou ik dit aan het desbetreffende bedrijf laten weten	.675
Ik zou anderen bepaalde producten of bedrijven aanraden	.494
Wanneer mensen een vraag hebben over een bepaald product in de voedselindustrie dan zou ik ze graag willen helpen als ik daar de mogelijkheden voor had	.541
Ik zou andere mensen informatie vragen (op het co-creatie platform of in mijn eigen persoonlijke kring) over het product wanneer ik ga co-creëren	.567
Ik zou het bedrijf informatie geven over mijn voorstellen voor een beter/nieuw product	.749
Ik zou alle vragen beantwoorden die het bedrijf via het platform aan mij zou vragen	.674
Extraction Method: Principal Component Analysis. a: 1 components extracted	

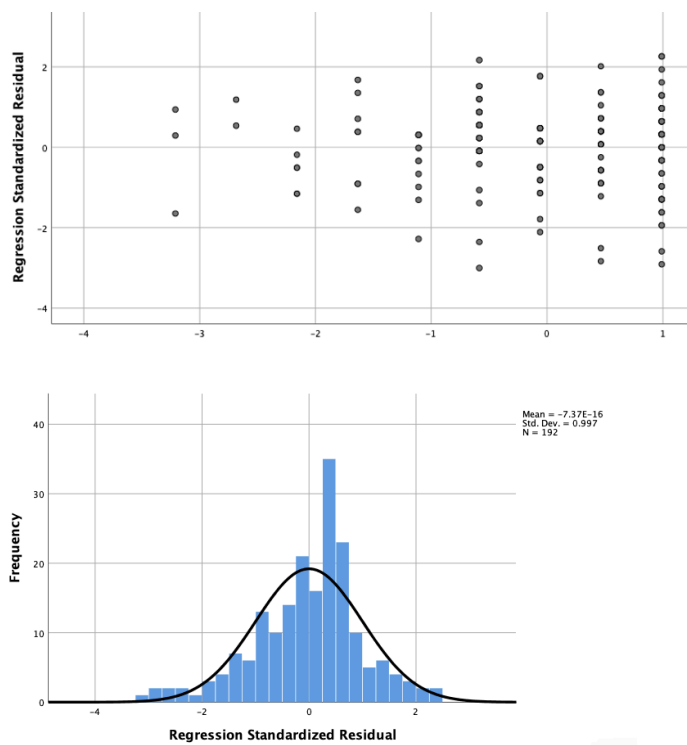
Reliability Statistics	
Cronbach's Alpha	N of items
.676	6

## Appendix 6. Scatterplots and histograms

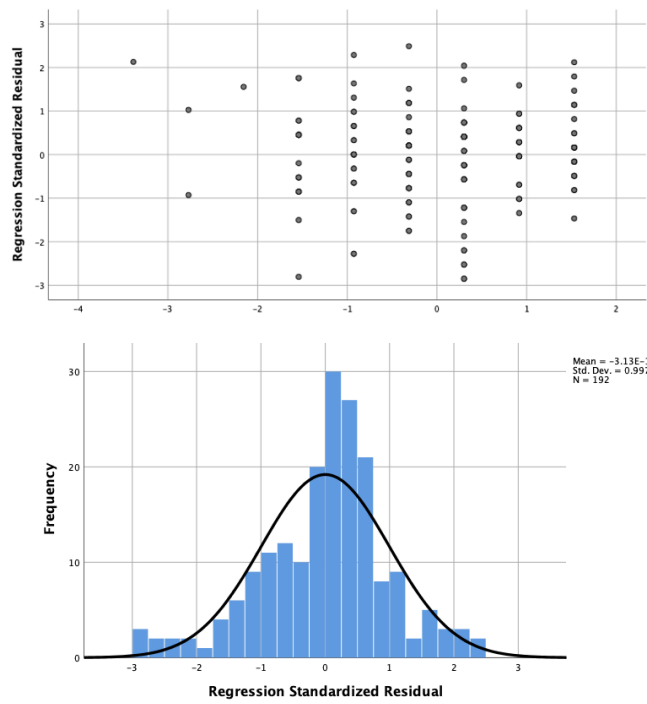
### Variate Food involvement and CVCCB



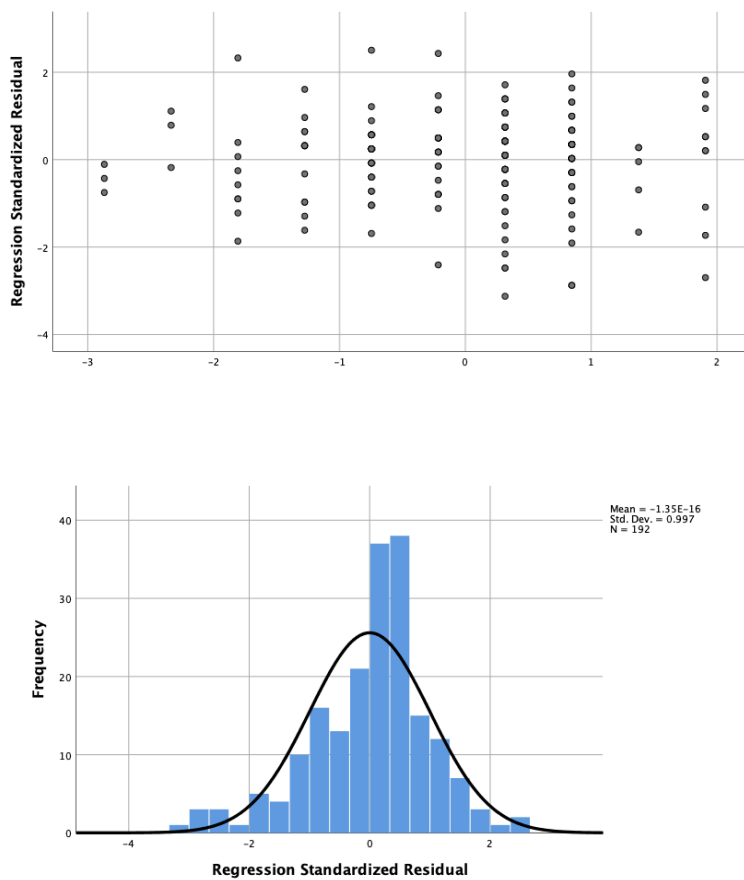
### Variate Perceived ease-of-use and CVCCB



## Variate Importance of quality e-WOM and CVCCB

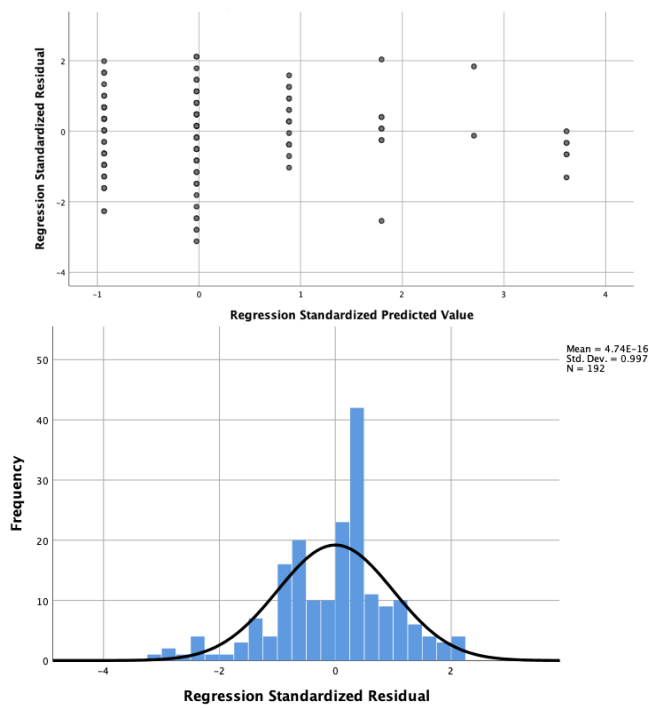


## Variate E-WOM relevance and CVCCB

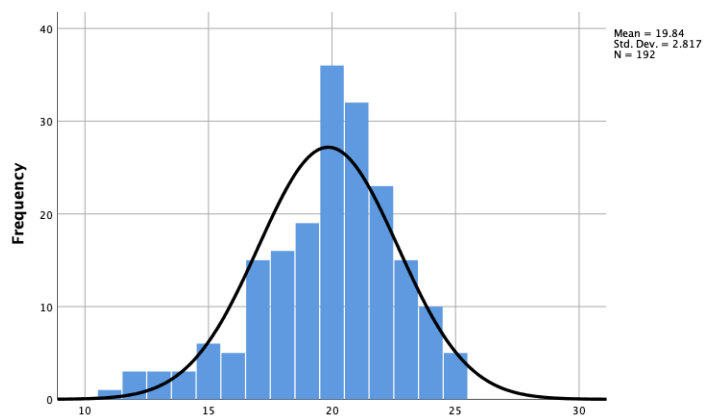




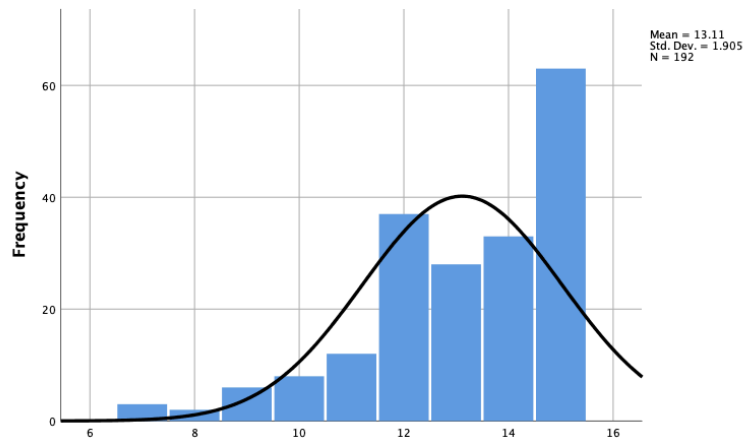
## Variate Brand community and CVCCB



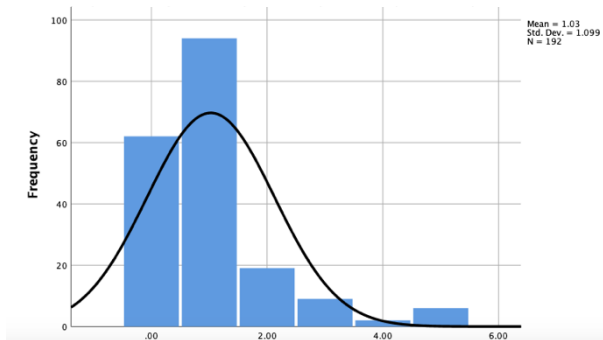
## Food involvement



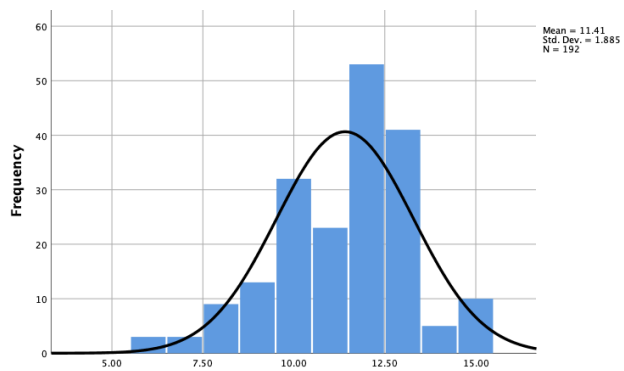
## Perceived ease-of-use



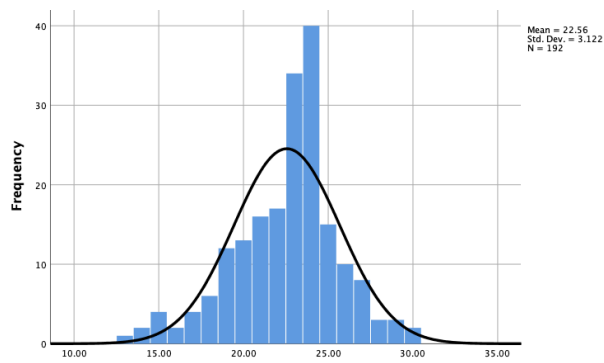
## Importance of quality e-WOM



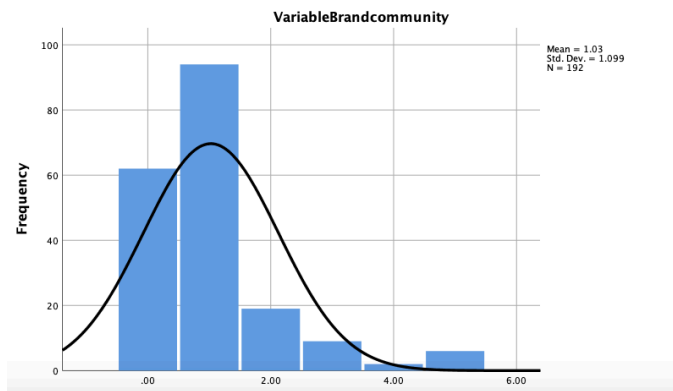
## E-WOM relevance



## CVCCB



## Brand community



## Appendix 7. Interactional graphs

To visualize the interactions, interactional graphs are used. The formula to make such a graph is as follows:  $Y_i = (b_0 + b_1A_i + b_2B_i + b_3AB_i) + E_i$  (Field, 2018).

To visualize the effect of the moderator brand community on the relationship between food involvement and co-creation and between e-WOM relevance and co-creation, the formula needs to be completed with the values of food involvement/e-WOM relevance.  $B_0$  stands for the intercept of the total model in this case thus 12,267 (see Model 4b).  $B_1$  displays the coefficient of the regression independent variables.  $A_i$  is the score someone scores on food involvement. For food involvement, the lowest score was 11, and the highest 25 (Table 4, page 33). For e-WOM relevance, the lowest score was 6 and the highest 15 (Table 4, page 33).  $B_2$  is the coefficient of the degree someone scores in brand community. While measuring ‘not heard of brand community’, this value will be in 0, as this is the reference category.  $B_i$  is the score whether someone belongs to a typical level of brand community or not. The only answers possible are 0 (= not belonging to typical group) and 1 (=belonging to typical group).  $B_3$  shows the interaction coefficient of the interaction variable between food involvement/e-WOM relevance and brand community.  $AB_i$  is the multiplication of the level of food involvement and the belongingness to a typical group or not. The last part of the formula,  $E_i$ , was not filled in as the values of output already consist of error variance.

The follow formulas arise when completing the basic formula:

For people with low food involvement and ‘not heard of brand community’

$$Co-creation = 12,276 + (-0,03 * 11) + (0 * 1) + (0 * (11 * 1)) = 11.964$$

For people with high food involvement and ‘not heard of brand community’

$$Co-creation = 12,276 + (-0,03 * 25) + (0 * 1) + (0 * (25 * 1)) = 11.526$$

For people with low food involvement and ‘not want to be active’

$$Co-creation = 12,276 + (-0,03 * 11) + (28,412 * 1) + (-1,93 * (11 * 1)) = 19.128$$

For people with high food involvement and ‘not want to be active’

$$Co-creation = 12,276 + (-0,03 * 25) + (28,412 * 1) + (-1,93 * (25 * 1)) = -8,321$$

For people with low eWOM relevance and ‘not heard of brand community’

$$Co-creation = 12,276 + (0,463 * 6) + (0 * 1) + (0 * (6 * 1)) = 15.054$$

For people with high eWOM relevance and ‘not heard of brand community’

$$Co-creation = 12,276 + (0,463 * 15) + (0 * 1) + (0 * (15 * 1)) = 19.221$$

For people with low eWOM relevance and ‘heard of but not want to be member’

$$Co-creation = 12,276 + (0,463 * 6) + (0,385 * 1) + (-.450 * (6 * 1)) = 12.739$$

For people with high eWOM relevance and ‘heard of but not want to be member’

$$Co-creation = 12,276 + (0,463 * 15) + (0,385 * 1) + (-.450 * (15 * 1)) = 12.856$$