Norwegian School of Economics

Bergen, Spring 2015

A Brand Concept Maps Approach:

In what sense are preferred brands different from acceptable brands?

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Master thesis, Marketing and Brand Management

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ABSTRACT

Extensive literature has been written on brand positioning and on the importance of differentiation for its success. However, little research has been dedicated to understand how differentiation works in the mind of consumers. In this thesis, we focus on bringing some clarity to this gap by providing some insights on how preferred brands are differentiated from the rest. Our research builds on Suppehellen's (2014) theory, which states that differentiation is driven by secondary associations. We seek to answer the following two questions:

In what sense does the preferred brand differentiate from acceptable brands?

To what extent is the differentiation of preferred brands moderated by the product involvement?

We use the BCM method developed by John, Loken, and Kim (2006) in order to create associative network for preferred and acceptable brands in the smartphone and beer categories. By comparing the number of associations, their connectivity, and their content on preferred vs acceptable brands we uncover important implications for theory on brand positioning and differentiation.

We found that preferred brands are different from acceptable ones in the number of secondary associations they have, but not on the number of primary associations. We also found that the content for associations for preferred brands is moderated by the consumer's level of involvement, with preferred smartphone brands having more benefit associations, more personality trait associations, and less negative associations, while preferred beer brands having more attribute associations. Finally, we discovered that associative networks of preferred brands have stronger links among its associations but no significant difference in the interconnectivity of its associations in comparison with acceptable brands.

ACKNOWLEDGEMENTS

We would like to express our special thanks to our Supervisor, Magne Suppehellen, whose continuous support and guidance made this research paper possible. We are also grateful to all those who encouraged us and aided us along the way, as well as to the respondents who agreed to participate in our research.

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1. Introduction

1.1 Background for the Chosen Topic

The American Marketing Association (AMA) defines a *brand* as a "name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers." In other words, a branded product or service is one that can be distinguished from all others.

Brand positioning, defined as *the act of designing the company's offer and image so that it occupies a distinct and valued place in the target consumers' minds* (Keller, 2013), has been studied by many marketing researchers. Differentiation has been regarded as the core of brand positioning and received most study attention in literature. Literature has shown the importance of brand positioning and the effectiveness of brand differentiation to brand success.

As globalization advances, consumers are provided with endless alternative brands for choice and thus it becomes more difficult for brands to differentiate from competitors. Even though consumers determine the success of brand differentiation, not many studies have been conducted to understand how differentiation works in the consumers' minds. How exactly is a brand cognitively different from its competitors? Why does a consumer ultimately choose one brand over another? These are both interesting questions that need to be further explored in order to better understand brand positioning.

Previous research such as (Supphellen et al., 2014), Hem and Teslo (2012) and Ellefsen and Krogstad (2014), have elaborated on differentiation based on the nature of brand associations. In this study, we build on associative network theory (John et al., 2006) that attempts to explain how brand knowledge exits in memory. Building on Ellefsen's and Krogstad's research (2014), we delve deeper into the nature of brand differentiation by using a different methodology and comparing Brand Concept Maps (John et al., 2006) of what consumers consider as preferred and acceptable brands. Our goal is to shed some light on how brand associations and their connectivity drive differentiation.

In contrast to previous work in the subject, we take into consideration concepts from the consumer-brand relationship field. We explore how consumer-brand relationships factor in differentiation through the anthropomorphisation of the brand and other emotional evaluations of it. In addition, we consider how the level of consumer involvement affects their elaboration of brand associative networks.

1.2 Research Questions

If a consumer prefers a brand above all others, then it must be because they have some previous knowledge about it that drives their choice. It is therefore sensible to compare stored knowledge of preferred and acceptable brands in order to reveal meaningful differences and implications to differentiation theory. However, a consumer's level of product involvement certainly affects the way they think about a brand. The averag person does spend more effort thinking about what soap to buy in comparison to what car to buy. In this study we use product category as a proxy for product involvement. We therefore posit the following questions to guide our research:

RQ1: In what sense does the preferred brand differentiate from acceptable brands?

RQ2: To what extent is the differentiation of preferred brands moderated by the product involvement?

2. Literature Review

In this chapter we establish the theoretical framework of our topic. We begin with an introduction of brand positioning and differentiation, along with a cognitive approach to brand knowledge. Then, we discuss the dynamics of a consumer's level of involvement with a product.

2.1 Differentiation in Brand Positioning

Kotler and Keller (2012) have defined brand positioning as "*the act of designing a company's offer and image so that it occupies a distinct and valued place in target consumer's minds*." Important to note in this definition is that positioning will ultimately depend on the knowledge stored within the consumer's minds. Effective brand positioning helps clarify (1)what a brand

is about, (2)how it is similar to competitors, (3)how it is unique to competitors, and (4)why consumers should purchase it. (Keller, 2013) Therefore, the goal for brand positioning is for a brand to attain a sustainable competitive advantage in the consumer's mind that offers them a compelling reason to buy it. (Keller, 1993) In other words, the essence of brand positioning lies on differentiation.

The importance of a brand being different and unique from competition has been recognized for decades when Rosser Reeves (1961) first proposed the theory of unique selling propositions. Reeves emphasizes that the proposition claimed by the brand must be both unique from competitors and important to consumers. Besides differentiation, brand positioning implies a frame of reference as well. (Aaker and Shansby, 1982; Keller, 2013) In fact, a commonly used approach to brand positioning is to communicate the brand's category membership before stating on what aspect it is unique in comparison to competitors. (Keller, 2013; Keller et al., 2002) The frame of reference shapes the competition, decides the target segment, and could even indicate the types of associations that could function as points for differentiation. (Keller et al., 2002)

Now that we are familiar with the basics of brand positioning, in the next section we will explain in more detail the concept of brand knowledge, which can be said to be what the consumer knows about the company's offer and image.

2.1.1 Brand Knowledge

Brand knowledge is composed of two main dimensions: *brand awareness* and *brand image*. Both of these concepts are defined by borrowing some basic memory principles from the discipline of cognitive psychology, which states that knowledge exists in memory as information stored in nodes connected by links of varying strength (Keller, 1993).

According to Keller (1993), brand awareness relates "to the strength of the brand node or trace in memory, as reflected by the consumer's ability to identify the brand under different conditions." In other words, it relates to the probability of a brand name coming to mind and how easily it does so. Brand awareness is composed of two other constructs, *brand recognition*

and *brand recall*. The former refers to the "consumer's ability to confirm prior exposure to the brand" while the latter refers to his/her ability to retrieve the brand from memory when given certain probes as cues, such as product category or needs fulfilled by the category (Keller, 1993).

Strong brand awareness can help consumers learn and remember more easily information about the brand. It also increases the probability that the brand will be among the consideration set for the purchase decision. Furthermore, in some cases of low-involvement decision setting, brand awareness might even be enough on its own to determine product choice (Keller, 2013; p. 72-74).

The second dimension of brand knowledge is *brand image*, which Keller (1993) defines as "perceptions about a brand as reflected by the brand associations held in consumer memory." Brand associations are all the other informational nodes connected to the brand node. Therefore, brand image contains the meaning of the brand for consumers. In order to build brand equity these associations should be strong, unique, and favorable. (Keller, 1993). Brand image is particularly important because it is the basis for brand positioning and differentiation.

As we delve deeper into the subject of brand image, we must present the associative network memory model in order to summarize and visualize what we have covered of brand knowledge so far.

2.1.1.1 Brand Association Network

An associative network can be defined as a group of nodes connected together by links of varying strength (Matlin 2009; Keller 1993). Nodes represent basic units of information stored in memory such as brand associations (Anderson, 1983). When it comes to a brand associative network, the brand name is considered the core node to which all other nodes are connected. Please see Figure 1 for an example.

FIGURE 1: Brand Associative Network

Adapted from John et al (2006)

Brand associative networks may also be called brand concept maps (John et al, 2006). From the brand map of McDonald's above, we see an example of how associations are connected to the brand and to each other through lines. Once nodes are created and linked, their strength endures because memory is believed to be very durable (Keller, 1993).

When external information related to the associative network is being encoded or when internal information is being retrieved, an automatic process called "spreading activation" occurs, which causes the information of linked nodes to be recalled (Matlin, 2009). It is the strength of the link towards the source of activation that will determine whether or not a particular node will be activated; and activation depends on the probability that the information stored in the node will be useful at a specific moment (Anderson, 1983). Strength is related to the way information enters and is stored in the network, and it depends on how much a person thinks about the

information and the manner in which they do so when they are recalling or processing new information (Keller, 1993).

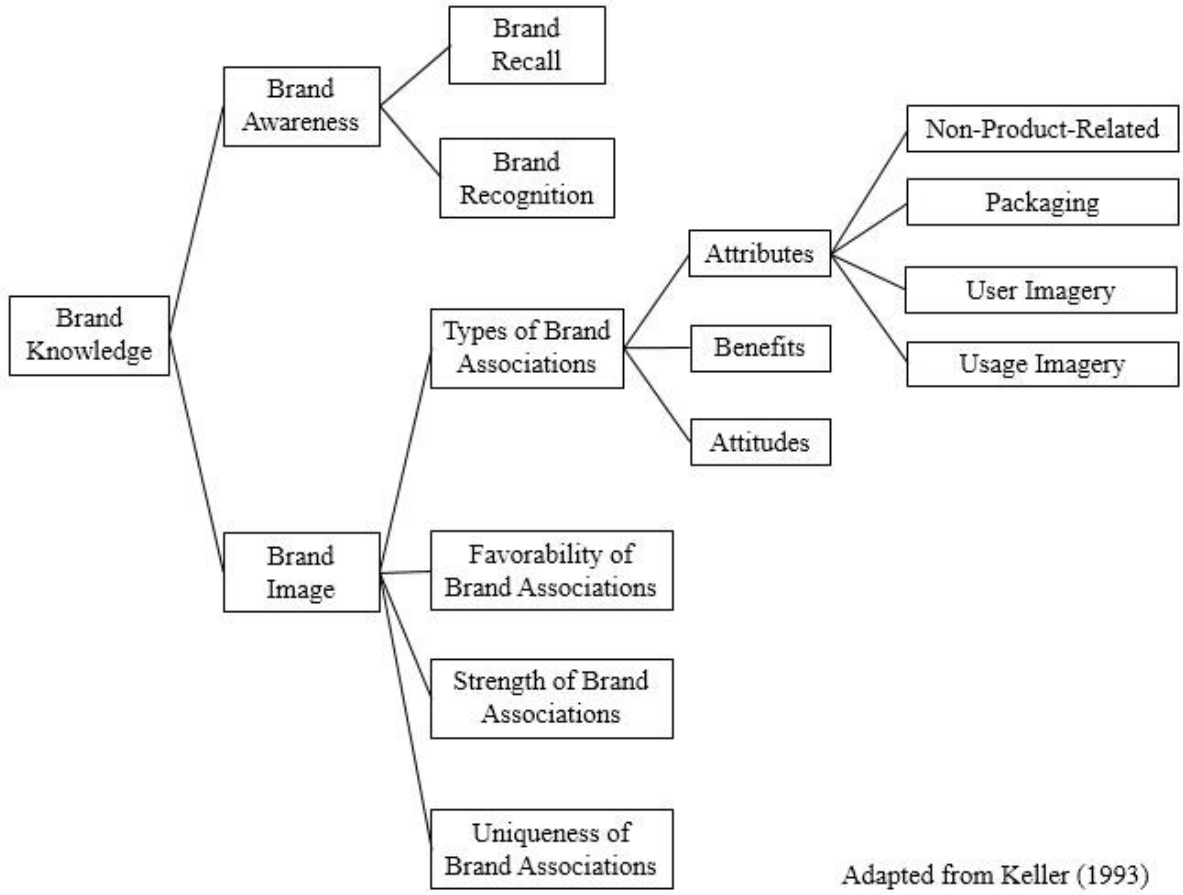
Brand associations can be verbal and easy to communicate, but they can also be abstract. For example, the four note Intel jingle, which helps increase brand recognition. Keller (2013; pp 75) states that creating brand awareness means "increasing familiarity with the brand through repeated exposure." Repetition of this jingle at the end of every advertisement helps increase brand recognition, whereas the more visual "Intel Inside" logo on computers helps increase brand recall by linking the brand to a product category. They both strengthen the brand node in memory.

Now that we understand how brand knowledge is stored in the consumer's mind, in the next section we can describe the different types of associations that make up the brand image. The reason it is necessary to explain in detail the types of associations is the we hypothesize that differentiation will rely more in certain types of associations than others when it comes the top brands of each category.

2.1.1.2 Types of Brand Associations

Up till now we have covered that brand knowledge is composed of brand image and brand awareness. Brand awareness in turn is made up of brand recall and brand recognition, while brand image is made up of brand associations. Figure 2 summarizes and shows the different parts of brand knowledge. In this section we will discuss the different types of brand associations.

Figure 2: Brand Knowledge



According to Keller (1993), brand associations can vary in terms of their strength, favorability, and uniqueness. Strength relates to the way information is stored and retrieved in linked nodes within an associative network. Favorability on the other hand is the consumer's evaluation of how relevant are the brand associations to satisfying their needs and wants (Keller, 2013; p. 78). Finally, uniqueness relates to the extent to which associations are shared with competing brands, and in what ways.

If we use Figure 1 as an example, we could consider that primary associations such as the brand mantra "family – kids – fun" are strong. Two favorable associations could be "service" and "value" which could be important drivers of choice for the fast-food category. On the other hand, "Big Mac" and "Egg-McMuffin" are unique brand associations as they are brands that are not shared with any other competitor.

As seen in Figure 2, associations can be divided into three types in increasing order of abstraction: attributes, benefits, and attitudes (Keller, 1993). We will discuss each of them more in-depth in the next sub-sections.

Attributes

Attributes are the most concrete form associations. They are descriptive features that characterize a product or service, what a consumer thinks of it, or what is involved in the purchase or consumption of it. They can be further divided into two types: product related and non-product related. Product related attributes are those ingredients necessary for performance of the service or product's purpose. Non-product related attributes are those related to pricing, appearance, user imagery (type of person that uses the product or service), and usage imagery (usage situations). (Keller, 1993)

An example of a product related attribute is the four blades in Gillette's razors, and a non-product related attribute is its traditionally high pricing.

Benefits

Keller (1993) defines benefits as the "personal value consumers attach to the product or service attribute," or rather "what the consumer thinks the product or service can do for them." In accordance with previous research (Park et al, 1986), he divides benefits into three different types based on their underlying motivations to which they relate: functional, experiential, and symbolic. According to Park et al. (1986), basic consumer needs fall into one or more of these three categories, and benefits are the solutions brands offer to fulfil or satisfy these needs.

Functional benefits are those designed to solve externally generated consumption needs (Park et al., 1986). They are meant to solve or avoid problems and therefore often correspond to product related attributes (Keller, 1993). A good example would be buying Head & Shoulders shampoo to solve a problem of dandruff, or health insurance to avoid a financial problem in the future.

Experiential benefits are the ones meant to "provide sensory pleasure, variety and/or cognitive stimulation" (Park et al., 1986). They refer to what it feels like to use a product or service and usually correspond to product related attributes (Keller, 1993). When a consumer decides to eat in a different restaurant than usual or when they attend the cinema to be entertained by a film, they do so for the need of variety and cognitive stimulation respectively.

Symbolic benefits are the ones that fulfill "internally generated needs for self-enhancement, role position, group membership, or ego identification" (Park et al., 1986). They usually correspond to non-product related attributes such as pricing (Keller, 2013). For example, a consumer may value the exclusivity of an LVMH bag and how it relates to their self-concept.

Attitudes

The third and last type of brand associations are called attitudes. These are the most abstract form of associations and they can be considered to be the consumer's overall evaluation of the brand (Keller, 1993). As such, attitudes are widely believed to be a function of the salient brand attributes and benefits. Brand attitudes are very important because they can "form the basis of consumer behavior." (Keller, 1993) Hoyer and McInnis (2013) state that attitudes can be formed through cognition or affect by appealing to reason or emotions respectively. They can be positive or negative, such as consumer claiming that they "love Apple" but "dislike MacDonald's".

Having already discussed the composition of brand knowledge and the different types of brand associations, in the next section we elaborate more in-depth on the nature of differentiation and the role brand associations play in order to make a brand unique.

2.1.2 Points-of-Parity (POPs) and Points-of-Difference (PODs)

According to Keller (2013), in brand positioning, points-of-difference (PODs) are defined as *"attribute or benefits that consumers strongly associate with a brand, positively evaluate, and believe that they could not find to the same extent with a competitive brand"*. In line with one of the most important criteria of USP, successful PODs have to be found personally relevant

and important by consumers. A brand can never benefit from a POD that consumers have completely lack of interests into, no matter how unique the brand is on that aspect.

PODs should be believed deliverable by consumers. The brand should have the ability to both live up to its promise on the unique features and convince consumers it does possess the unique features it claims. From this sense, it is easier to differentiate a brand on a unique functional or physical attribute, because the functional or physical attribute directly relates to a proof point, such as performance. In contrast, differentiation on an abstract imagery association might be more effortful and takes time, because the support for the unique point can exist in a more general sense and may need to be developed over time.

On the other hand, points-of-parity (POPs) are usually not unique to the brand and are shared with other competing brands. The shared associations, however, do not necessarily mean a disadvantage to the brand. Some POPs, classified as category POPs, represent the fundamental conditions for a brand to be in the consideration set of consumers. This is because they help strengthen a category membership (Maclnnis and Nakamoto, 1991). Keller et al. (2002) also emphasizes the importance of establishing the frame of reference and leveraging points-of-parity in order for consumers to perceive the brand as a legitimate and credible player within the frame.

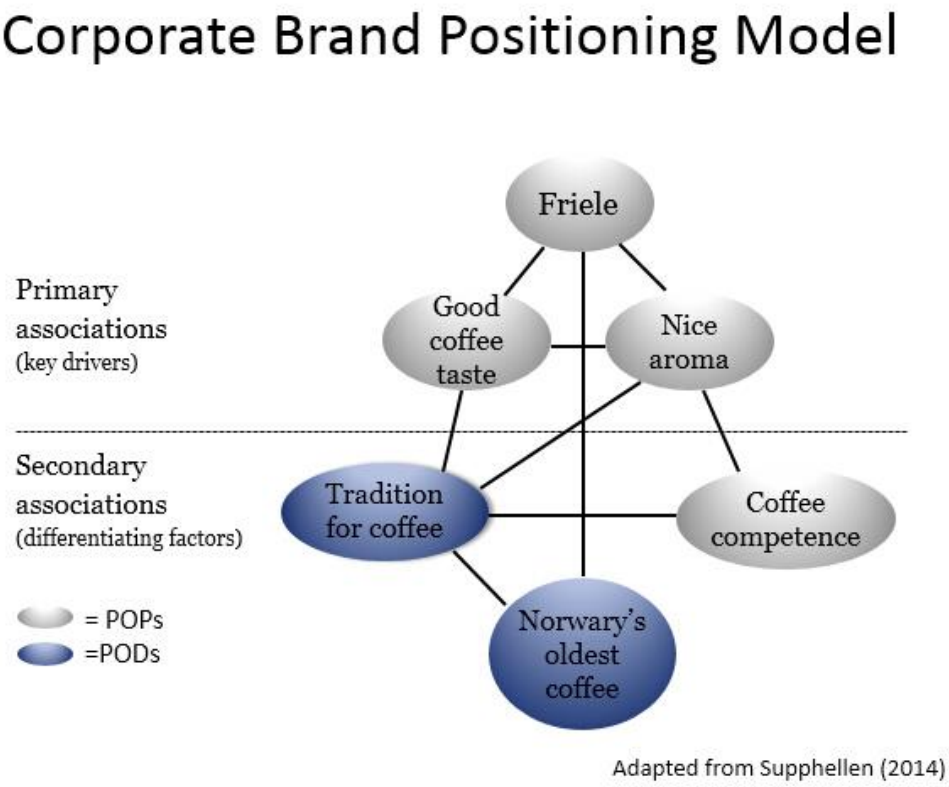
A second type of POPs, named competitive POPs, have value of competitive advantages because they break even competitors' PODs. That is to say, the brand manages to make itself as good as its competitor on one certain aspect where the competitor tries to be unique. In this way, the brand possesses an advantageous positioning from its competitor by making them look less unique in the eyes of consumers.

We have seen how a brand competes within a frame of reference, and that its associations can serve as POD's or POP's. In the next section we discuss in which way these associations interact in the mind of the consumers in order to differentiate the brand.

2.1.3 Differentiation at Secondary Level

In order to display how the brand occupies a distinct and valued place in the minds of consumers, brand association networks are often used to analyze and develop brand positioning. Magne Supphellen (2014) has developed a corporate brand positioning model, which categorizes brand associations into two different levels and explains how differentiation in brand positioning is achieved by the interaction of these two levels. Aligned with Keller (2013), this corporate brand positioning model is based on consumer's need and the nature of competition. (Supphellen, 2014) We use Friele coffee as an illustration of the model.

FIGURE 3: Illustration of Friele on Corporate Brand Positioning



On the primary level of associations, key drivers for choice are associated with the brand. These are usually the core needs that the brand satisfies. It is hard to differentiate on primary associations because the key drivers usually serve as functional or physical needs that establish category membership. Considering that the frame of reference is often established on product

category, it is common that the competitors within the frame of reference share similar associations in the primary level. Taking Friele for example, key drivers for consumers choosing Friele usually derive from their needs for coffee, like “good coffee taste” and “nice” aroma, both of which are shared by Friele’s main competitor in the coffee category of the Norwegian market: Evergood. (Suppehellen, 2014)

On the secondary level, associations interpret and provide various meanings to the primary associations that they link to. In this way, the primary associations are interpreted into vivid expressions of brand attributes and benefits. PODs can be thus distinguished on the secondary level (Supphellen, 2014), as it is easier to differentiate a brand on a specific feature considering deliverability. (Keller, 2013) Friele is the oldest Norwegian coffee brand and, in this way, the good taste and nice aroma of Friele represent a Norwegian tradition for coffee, which is unique to Friele based on its brand facts. Therefore, on the secondary association level, “tradition for coffee” interprets what “good coffee taste” and “nice aroma” could mean to consumers in a more detailed and specific way, and is thus distinguished as a POD.

We have seen how associative networks have primary associations that help establish the frame of reference for the brand, and secondary associations that help differentiate it from its competitors. In the next section we elaborate how brands can be differentiated instrumentally or associatively.

2.1.4 Instrumental Differentiation and Associative Differentiation

Previous research (Ellefsen and Krogstad, 2014; Hem and Teslo, 2012) states that differentiation can be classified into two types based on the abstraction level of the benefits associations: instrumental and associative.

Hem and Teslo (2012) argue that instrumental differentiation emphasizes the benefits that are linked directly to product performance. They refer to means-end chain theory to explain instrumental differentiation. Means-end chain theory helps understand how values link to attributes of a product or a brand. (Hoyer and MacInnis, 2010; Gutman, 1991; Walker and Olson, 1991; Gutman, 1982) A consumer values an attribute usually because it serves to a concrete

benefit that is important to him/her; and such benefit could further help consumers achieve some instrumental value or ideal states. In other words, the attribute, via a concrete benefit it serves to, could provide the means to a desired value. Therefore, a product or a brand is chosen on the basis of how attributes help to achieve preferred consequences. In this way, Hem and Teslo (2012) claim that instrumental differentiation provides compelling reasons for purchase by offering and communicating the concrete attributes or benefit that are directly linked to brand performance, mostly in a more functional manner.

In addition, the construct of instrumental differentiation is aligned with the theory of unique selling proposition (USP) (Ellefsen and Krogstad, 2014; Hem and Teslo, 2012). Rosser Reeves (1961) evolved the USP theory from the perspective of effective advertising, which we can also regard as one specific type of marketing communication or as a tactic of achieving brand positioning. Reeves argues that successful advertising needs to make a meaningful promise, namely the USP, which competitors cannot or do not offer. Moreover, the essence of USP is that it offers a specific benefit in product performance. From this sense, the construct of instrumental differentiation is also supported by the theory of unique selling proposition. (Hem and Teslo, 2012)

In contrast, associative differentiation is based on abstract, imagery, or context-relevant associations, like feelings, emotions, user image, usage context, habitual situation, etc., which derived from indirect brand benefits. (Hem and Teslo, 2012) From the perspective of consumer psychology, attitudes can be formed on two different foundations: cognitions or affects (Hoyer and MacInnis, 2010). In the cognitive thought process, consumers evaluate the brand mostly by attributes directly linked to brand performance. This is in line with the theory how instrumental differentiation is expected to have a differential response in the minds of consumers. However, if affects dominate the process of forming attitudes, intangible and abstract benefits, which are not necessarily relevant to the brand performance in a functional or physical sense will decide the attitudes. Accordingly, associative differentiation can be considered as functioning as the affective foundation for attitude. Moreover, affective based

attitudes, independent of cognitive structure, are usually strong, enduring, and resistant to change. (Bodur et al., 2000)

Since associative differentiation does not focus on concrete brand features or link to functional brand performance directly, it conflicts with both the theory of means-end chain and the USP theory. However, researchers have studied various sources for brand differentiation, and their results support the feasibility and effectiveness of associative differentiation. Some researchers argue that brands within the competing category are usually highly similar in terms of attributes, and thus the emotional and symbolic brand attachment with consumers is a vital differentiator in facilitating brand choice. (Ballantyne et al., 2006)

As technology advances rapidly, competitors can easily copy physical attributes of a leading brand. As a result, it becomes more difficult to differentiate a brand from competitors on physical brand attributes in a long-term. (Keller et al., 2002) In certain highly competitive industries, there is no significant distinction on performance among products and thus companies. (Hindle, 2008) Under such circumstances, associative differentiation offers a feasible and more sustainable way of distinguishing the brand from the competitors. Therefore, we infer that associative differentiation might have even stronger impacts on brand image and thus be more effective in determining brand preference.

Researchers in the field of consumer-brand relationship brand argue that imbuing the brand with personality traits helps stimulate differential response from consumers, thus supporting associative differentiation. Brand resonance, which is on the top level of brand equity pyramid, can be achieved when consumers feel the brand relevant to their self-concepts and thus form attachment with the brand. (Keller, 2013) Brand personality could be a way of facilitating brand resonance and, according to Aaker (1997), consumers can infer human characteristics from the brand more easily from the imagery aspects such as user image and brand endorsers, which corresponds to the associative differentiation. Since brand resonance represents a strong relationship between the brand and consumers, which means more than differential consumer response, we could thus reason that a brand could benefit from associative differentiation on various aspects.

Having established the importance of imbuing a brand with personality traits for associative differentiation, in the next section we will go more in depth in the field of consumer-brand relationships.

2.1.5 Consumer Brand Relationship

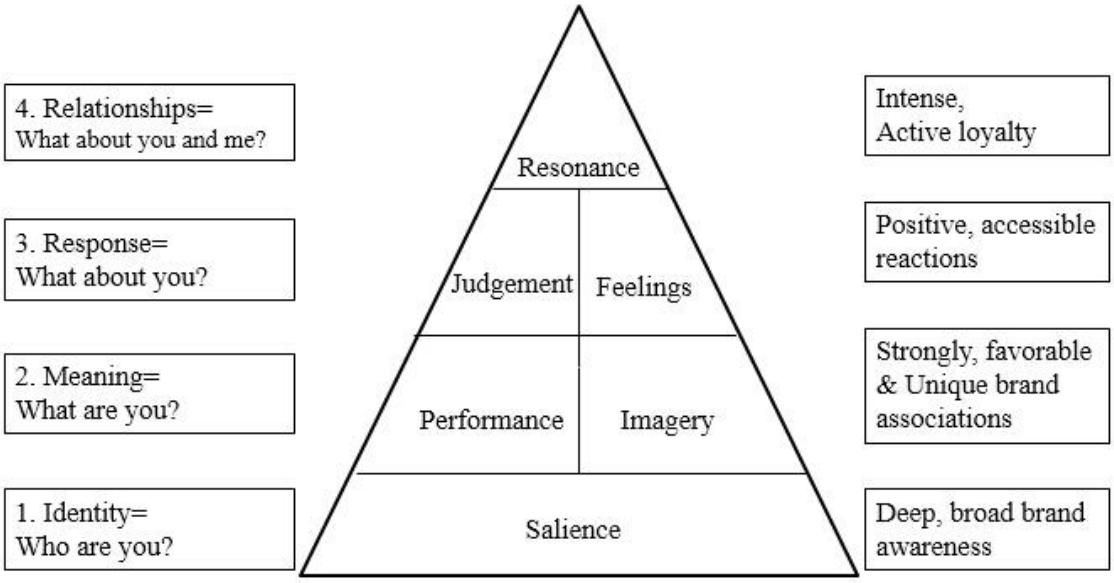
In the previous sections we have discussed different aspects of brand positioning and differentiation. Now we would like to focus on the bigger picture. What is the ultimate purpose of differentiation? It is of course to create brand equity. We believe that associative differentiation is paramount for unlocking the true value of brand equity. In this section we briefly introduce the concept of brand equity and elaborate on what could be considered as the strongest form of brand equity: intense consumer brand relationships.

Keller (1993) defines brand equity as "the differential effect of brand knowledge on consumer response to the marketing of the brand." In the words of Farquhar (1989), "brand equity is the added value endowed by the brand to the product." For the company this value can take the form of "improved perceptions of product performance, greater consumer loyalty, less vulnerability to competitive marketing actions, less vulnerability to marketing crises, larger margins, more inelastic consumer response during price increases, more elastic consumer response to price decreases, greater trade cooperation and support, increased marketing communication effectiveness, possible licensing opportunities, and additional brand extension opportunities" (Keller, 2013, p. 69). On the other hand, for the consumers brands provide value by serving as an "assignment of responsibility to the product maker, a risk reducer, a search cost reducer, a symbolic device, a signal of quality," as an identification of origin, and also due to relational benefits. (Keller, 2013, p. 34)

Keller (2001) proposes a Costumer-Based Brand Equity Model (CBBE model) to subsume the relevant aspects of building brand equity. The model divides the process of building a brand in four stages and six important blocks as seen in the Brand Resonance Pyramid on Figure 4 (Keller, 2013). The first stage focuses on creating brand salience, which is congruent to increasing brand awareness. The second stage (performance and imagery), is meant to fully

establish the meaning of the brand by shaping its brand image through the creation of associations. For the third stage (judgement and feelings), the objective is to elicit the right responses from the costumers towards the brand. The final stage is the culmination of brand building and it is mean to transform those positive feelings and judgments into an intense and active loyalty relationship between the brand and the costumers.

FIGURE 4: Costumer-Based Brand Equity Model

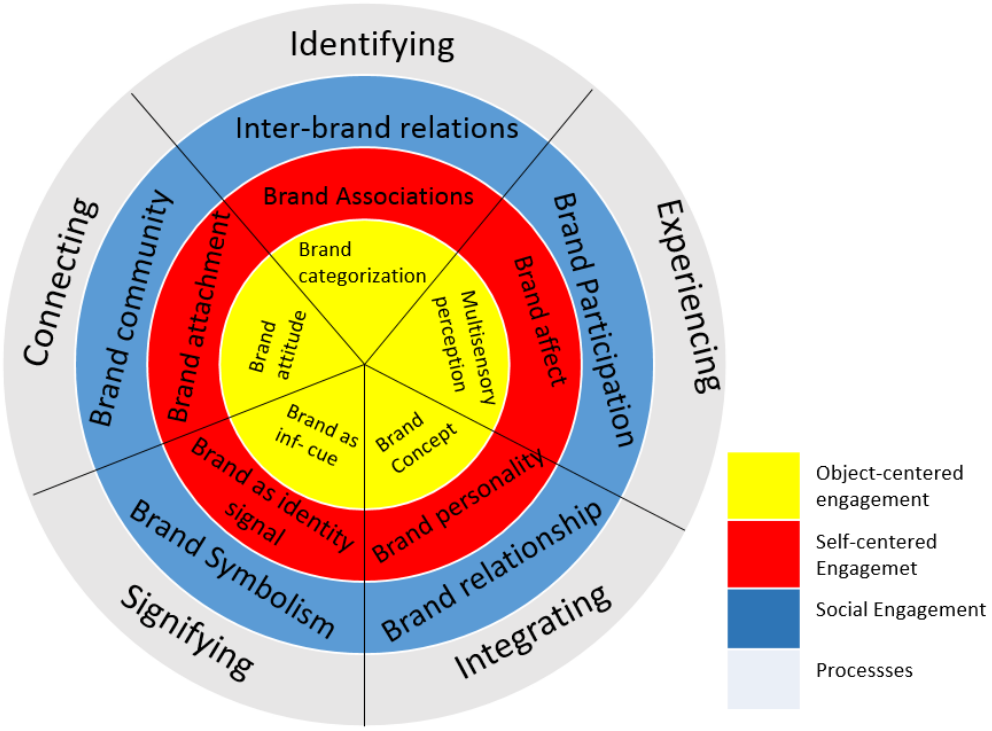


Adapted from Keller (2013)

Brand resonance could be achieved through the left side of the pyramid by focusing on tangible associations such as the ones related to performance, which would then elicit judgements on aspects like the brand's quality and credibility. If achieved through the right side it does so by focusing on intangible associations such as user profiles, personality and values among others in order to elicit the right feelings on consumers such as fun, social approval, and self-respect. Keller argues that truly strong brands often develop its image by eliciting both favorable judgments and feelings in order to reach the top of the pyramid, brand resonance. (Keller, 2013) The author however recognizes that to further develop the field a more encompassing model that integrates more disciplines is required, one "that would provide the necessary depth and breadth of understanding of consumer behavior and marketing activity" (Keller, 2003).

Schmitt (2012) attempts to introduce such a model; a consumer-psychology model of brands (CPMB) that integrates current theory into a holistic framework. See Figure 5. The model distinguishes three levels of engagement: object centered, self-centered, and social. Thus the brand becomes more meaningful to the consumer as one moves from the inner circles to edges. The model further distinguishes between five processes: identifying, signifying, experiencing, integrating, and connecting. These processes are not linear and may occur in different orders and combinations depending on the consumer. (Schmitt, 2012)

FIGURE 5: Consumer-psychology model of brands



Adapted from Schmitt (2012)

The first process is identifying, in which consumers create some brand awareness, brand associations, and inter-brand relations. Next is experiencing, in which consumers have sensory, affective, and participative experiences with a brand. Integrating is the process where consumers summarize brand information into overall concepts and relationships. The fourth process is signifying, and it is where consumers use brands as cultural and personal identity

signals. Finally there is connecting, where consumers form attitudes, personal attachments, and community connections with the brand. (Schmitt, 2012)

A strong brand resonance as proposed by Keller (2013) could theoretically be achieved on second level of engagement (self-centered engagement) when the brand becomes relevant to the costumer and they form an attachment to it (connecting). But the construct of resonance is rather broad as it groups together things like "behavioral loyalty in terms of repeated purchases" and active engagement in brand communities. In this sense Schmitt's model is clearer when organizing the concepts of brand knowledge thanks to the different levels of engagement incorporated to the processes.

Brands can become personally significant to consumers and achieve resonance when they have a brand personality. Aaker (1997) defines brand personality as the "set of human characteristics associated with a brand." In the case of Apple for example, these could be associations such as "cool" and "young." Aaker (1997) develops a framework to distinguish the different dimensions of brand personality based on their scores on perceived sincerity, excitement competence, sophisticated and ruggedness. Consumers can infer these human characteristics from a brand from aspects such as user imagery and brand endorsers (Aaker, 1997).

Fournier (1998) has shown that brands are viable relationship partners, and that consumer brand relationships can be of very different and specific natures. Brand personality plays an important role in the creation of brand-person relationships. Research shows that product attachment as seen in the CPMB is "a function of person-brand congruity, the perceived fit between the person and the brand," and that personality traits such as agreeableness and extraversion can predict the probability of consumers identifying with a brand community (Matzler et al, 2011).

Harding and Humphreys (2010) confirm that felt similarity with the brand and its associations is necessary to create consumer brand relationships. Furthermore, their research supports Fournier's (1998) theory that brand relationships are dyadic in the sense that the perceived the liking of the brand for the person also plays an important role. Kapferer's (2012) Identity Prism model is useful to understand that though brands are made by the communication between the

consumers and the firm, at the same time they are a personified entity with which people relate to and use to interact.

Fournier (1998) proposes a Brand Relationship Quality (BRQ) model where relationship stability is determined by the brand relationship quality, which in turn is made up by six dimensions: love/passion, self-connection, commitment, interdependence, intimacy, and brand partner quality. The BRQ model has received some criticism (Breivik & Thorbjornsen, 2008), but the researchers acknowledge that with some refinements it would have significant explanatory power.

From the literature reviewed on consumer brand relationships we can see that the block of brand resonance in the CBBE model (Keller, 2013) can have an immense amount of depth. We can also argue that in order to achieve strong relationships and brand resonance, creating strong, unique, and favorable associations through the imagery block is extremely important, as it is these types of associations that can best imbue the brand with a personality. Only when consumers can identify to an extent with the brand can they form communities around the brand, and it is through brand communities that brands can attain the highly desirable status of a cultural icon. Without a differentiated brand personality, the true potential of a brand cannot be unlocked.

We have discussed the importance of consumer brand relationships to understand brand equity, and how a brand can be imbued with personality trait as a means to differentiate it. In the next section we will elaborate on a consumer's level of product involvement, as it is an important variable that could determine how much consumers elaborate on a brand.

2.3 High/Low Consumer Involvement

In the previous sections we have discussed the construct of brand knowledge as the key for brand positioning. We have also elaborated on consumer-brand relationships in order to gain some insights on the potential of differentiation strategies. In this section, we present theory regarding the consumer's level of involvement with a product in order to understand how it influences the level of elaboration of associative networks.

Consumers are the ones that determine the effectiveness of brand differentiation and thus the success of brand positioning. It makes sense, when deciding on brand positioning and differentiation strategy, to take into consideration how consumers form attitudes and what factors are more likely to result in preferable attitudes. According to the elaboration likelihood model (ELM), we expect that the consumer's high involvement with the product category to have a moderation impact on the differentiation effects of the preferred brand.

2.3.1 The Influence of Consumer Involvement

Petty and Cacioppo (1979; 1980; 1981) believe that people, or consumers, are neither invariantly cogitative nor universally mindless when dealing with persuasive appeals. Instead, they state that various factors could determine consumers' motivation and ability to whether or not engage in intensive object-relevant thinking. In the ELM, they regard involvement as one of the most important determinants affecting whether or not consumers are motivated to elaborate on the persuasive message.

The main idea of ELM is that two routes exist in the minds of consumers for analysis of consumer attitudes and attitude change. Under certain condition, defined as high elaboration likelihood, consumers have high motivation and ability to engage in intensive relevant information processing, either cognitively or affectively. Otherwise, under the low elaboration likelihood condition, consumers are not likely to be motivated to devote a great deal of attention or consideration to the persuasive information relevant to the attitudinal object. Accordingly, it is suggested that two routes to persuasion (attitude formation) exist: central route to persuasion happens when elaboration likelihood is high, while peripheral route to persuasion happens when elaboration likelihood is low. (Cacioppo and Petty, 1984)

According to Petty and Cacioppo (1979), "issue involvement" measures the extent to which the attitudinal issue, or say object, under consideration is of personal importance. The object can have personal importance if it is related to the consumer's self-relevant constructs, such as values, goals, and even people relevant to themselves. The more important the values, the goals and the people are to the consumer, the higher level of motivation the consumer has to engage

in the persuasive message. Therefore, high involvement is one of the various factors that increase the intensity of information processing. (Petty and Cacioppo, 1990)

However, consumers vary on their need for cognition, affecting the elaboration likelihood condition. To be more specific, the need for cognition can influence the intensity of information processing (Petty and Cacioppo, 1990) and the extent to which attitudes are formed through object-relevant thinking (Cacioppo et al., 1986). In their early research, Petty and Cacioppo (1981) find that the situational factors, which have been used to affect the extent to which attitudes are based on object-relevant thinking, sometimes account for only a small part of variance. Therefore, Cacioppo et al. (1986) reason that systematic individual differences exist among consumers in their desire or intrinsic motivation to engage in effortful cognitive endeavors when they form attitudes.

In their study, they focus on the need for cognition to reveal the individual differences among consumers' desire to engage in intensive information processing and put emphasis of need for cognition on "*the statistical tendency of and intrinsic enjoyment individuals derive from engaging in effortful information processing*". Consumers are said to have high need for cognition, if they tend to involve themselves into intensive object-relevant thinking more often, and do enjoy themselves in such effortful elaboration process. There are two major findings with individuals who have high need for cognition. First, when forming attitudes, consumers high in need for cognition tend to think about and elaborate on the object-relevant information and base their judgment on the extensive thinking process. That is to say, people high in need for cognition are more likely to engage in high elaboration likelihood condition. Second, consumers high in need for cognition also exhibit a stronger attitude-behavior correspondence. In other words, if consumers form attitudes on the basis of extensive object-relevant thinking out of their high need for cognition, they are more likely to act upon the attitudes, which, from a practical marketing sense, means turning the brand preference (attitude) into purchase (behavior).

Even though consumers vary on their need for cognition, there exists a generally stable and enduring pattern that consumers tend to have relatively higher involvement with some product

categories than others, and that such product involvement has significant impacts on consumer behavior. Researchers usually take it into consideration when analyzing the consumer behavior and branding issues. Researchers have shown that product involvement significantly affects consumers' attention focus, comprehension process, and thus decision making (Petty and Cacioppo, 1990; Celsi & Olson, 1988). Researchers have also thoroughly analyzed how product involvement influences consumer attitude, brand preference and brand commitment (Suh and Yi, 2006; Warrington and Shim, 2000; Phelps and Thorson, 1991). To be more specific, high product involvement has been found to result in stronger perception of differentiation on product attributes, perception of greater product importance, and larger commitment to the brand choice (Howard and Sheth 1969).

From the literature reviewed in this section we can see the significant influence of product involvement on consumer perception, comprehension, and attitude, which further affects brand decision and brand commitment. Hence, we have reasons to expect product involvement could have a moderation impact on the brand differentiation of the preferred brand.

In the next section, we review the findings of ELM in more detail to see how different levels of involvement influence consumer comprehension and attitude.

2.3.2 Impacts of High Involvement on Attitude

In a series of studies, Cacioppo and Petty discovered a variety of consequences of high/low elaboration likelihood condition, for which product involvement is one important determinant. We review those relevant impacts of high elaboration likelihood on attitude in this section (Petty and Cacioppo, 1980, 1981).

Firstly, high elaboration likelihood leads to effortful attempts to retrieve from memory relevant associations, either concrete or abstract, which is also related to consumers' ability to further engage in an effortful thinking process. In other words, if consumers are in the high elaboration likelihood condition with the brand as they have relatively high involvement with the product category, they would probably associate the brand with more associations in memory and review them more thoroughly when they are reminded of the brand. For example, a male

consumer may be under the condition of high elaboration likelihood when he needs to make a purchase decision for a car. He might consider some functional features of the car, like the engine performance and the fuel efficiency; he might remember previous experience with a test drive; moreover, he might remember the previous attitude he has towards the car brand or even the country-of-origin image of the car producer.

All the relevant prior knowledge that can be accessed from memory has significant influences when consumers form attitudes, as it might lead the thinking process to a biased direction. (Petty and Cacioppo, 1990) If consumers possess relatively little or balanced knowledge about the object under consideration and thus hold a weak or relatively neutral attitude towards it, their low involvement will lead them to process information in a relatively objective manner. On the other hand, the intensive information processing would be conducted in a more biased fashion as the level of consumer involvement increases. Therefore, when consumers have high product involvement, possessing not only high motivation but also considerable volume of prior knowledge, they tend to make judgments of a brand congruently with their previous impression of it. From this sense, we infer that a consumer who has strong relationship with a brand or at least shares same values and personality as the brand conveys will evaluate the brand more favorably, making it more preferable in comparison with other competing brands. Therefore, brand relationship and brand personality serve as one type of prominent associative differentiation in this situation.

Secondly, consumers in the high elaboration likelihood situation would like to devote large efforts into the information processing, thus leading them to form an attitude towards the object under consideration. Sometimes, when consumers find their prior knowledge insufficient, they search for relevant information from external sources, and then scrutinize and evaluate both internal and external information together in order to draw an attitude toward the focal object. Therefore, consumers with high involvement are inclined to retrieve more brand-relevant associations from memory when they evaluate the brand.

Thirdly, attitudes resulted from the thorough and effortful central-route processing are expected to be relatively enduring, as they have been integrated as part of the schema (associative

network) for the attitudinal object. Such resultant attitude will become prior knowledge stored in consumer memory. When consumers come across the object later in life, they will retrieve this previous attitude from memory thus influencing their evaluation. This further supports our inference that with high product involvement consumers can form a strong relationship with the brand. This in turn will lead to positive and favorable attitude towards the brand that function as prior knowledge and affect evaluation in the long-term.

Finally, such resultant attitudes out of high elaboration likelihood are expected to be relatively predictive of behaviors. Since consumers in the high elaboration likelihood condition with high involvement tend to review relevant information extensively, it is very likely that consumers have already considered their previous experience to reach to the attitude, which in turn makes consumers more confident of the attitude and more willingly to act upon it. From a marketing perspective, it can be said that it is very likely for consumers to purchase a brand if they form their attitudes with high-efforts consideration.

3 Hypotheses

Previously we reviewed literature in brand positioning on which we base our research. In this section, we introduce the hypotheses we infer from extant literature and test in our research. We briefly summarize the theory that supports each of our hypotheses, and then present them. We group the hypotheses into three categories according to the topics they cover: number of associations, content of associations, and connectivity.

3.1 Number of Associations

The first group of hypotheses is meant to compare the number of associations preferred and acceptable brands possess. Keller's (1993) theory of brand knowledge argues that in order to create brand equity it is necessary to increase brand knowledge with strong, unique, and favorable associations. The number of associations consumers have for a brand is related to the extent to which they have thought about it. Consumers should theoretically have more

experiences with their preferred brands, so these maps should contain a higher number of associations than for acceptable brands. We therefore posit the following hypothesis:

H1: Preferred brands have a higher number of brand associations than acceptable brands.

According to Keller (1993), a brand is said to have positive brand equity when consumers react more favorably to an element of the marketing mix of the brand than they do when the same marketing element is attributed to a fictitious or unnamed brand. It is also possible for a brand to have negative brand equity, that is to say that consumers react more negatively to elements of the marketing mix when they know it is related to the brand. Following this logic, we argue that associations either contribute or subtract from brand equity, such as "easy to use" and "low quality materials" respectively. We consider that even descriptive and seemingly neutral associations, such as Heineken being associated with the color green, contribute to brand equity by creating familiarity with the product. As such, they can be considered as positive. A preferred brand should have few to zero negative associations, while an acceptable one should have a higher number. We therefore posit the following hypothesis:

H2: Preferred brands have less negative associations than acceptable brands.

Supphellen (2014) argues that differentiation occurs mostly in the secondary level when consumers elaborate on what makes a brand different. Primary associations could be shared among competing brands because they may be drivers for choice or requirements for category membership, such as a smartphone having applications and coffee having a good taste. It is the secondary associations that give depth to the primary ones, and in doing so imbue them with a different interpretation and meaning than that of competitors. If differentiation occurs in the secondary level, then there should be little to no difference on the primary level with brands leading a product category. Ellefsen and Krogstad (2014) prove in their research that preferred brands have more positive associations than acceptable ones on the secondary level. We test their results using a different method. We therefore posit the following hypothesis:

H3: There is no significant difference between the number of associations on the primary level for preferred brands and acceptable brands.

3.2 Content of Secondary Associations

The second group of hypotheses is meant to investigate the possible differences of content of secondary brand associations of preferred and acceptable brands. Associations can be either attributes, benefits, or attitudes if classified according to their level of abstraction (Keller, 1993). Attributes are more product descriptive whereas benefit relate more to a personal evaluation of what can a brand do for a consumer. As such, it can be said that benefits reflect a more elaborated stage given that it establishes a perceived link between the brand and the consumer. Therefore, differentiation for preferred brands should occur more often with benefit associations rather than attributes. Given that differentiation should mostly happen at the secondary association level, we posit the following hypotheses:

H4: Preferred brands have more benefit associations on the secondary level than acceptable brands.

H4a: The ratio of benefit associations to the total amount of associations on the secondary level is higher for preferred than for acceptable brands.

H4b: The ratio of benefit to attribute association on the secondary level will be higher for preferred brands than for accepted brands

In order to create strong brand resonance (Keller, 2013), firms can focus on tangible associations (left side of the pyramid) or intangible associations (right side). In accordance with Keller's CBBE model and in combination with the different differentiation strategies discussed, differentiation based on either side can be considered instrumental or associative respectively (Hem & Teslo, 2012; Ellefsen & Krogstad, 2014). Nevertheless, theory suggests that differentiation based on instrumental aspects is difficult because it is easier to copy by the competition, and because many of these aspects become drivers of choice for the category.

As technology advances, brands within a competing category are becoming more similar to each other in terms of physical attributes. Globalization makes brand differentiation even more difficult. It is no surprise then that the emotional and symbolic brand attachment with

consumers is becoming an increasingly important element for brand differentiation. (Ballantyne et al., 2006) In order to create true brand resonance it is necessary to imbue the brand with a personality. This can be done only through the right side of the brand resonance pyramid with the creation of intangible associations. Brand personality is the basis for consumer brand relationships. We therefore posit the following hypotheses:

H5: Preferred brands have more personality trait associations on the secondary level than acceptable brands

H5a: Preferred brands have a higher ratio of personality trait associations to the total amount of associations on the secondary level than acceptable brands

Furthermore, Aaker (1997) and Fournier (1998) argue that brand personality is a prerequisite for consumer brand relationships. If it is the case that what distinguishes preferred brands is that they are imbued with more personality traits, then it is reasonable to assume that consumers would be more likely to feel personally connected to them than to acceptable brands. Personal attachment can be considered as an important aspect of consumer brand relationships since it signals a self-centered engagement with the product (Schmitt, 2012). We therefore posit the following hypothesis:

H6: Preferred brands score higher on personal attachment than acceptable brands

3.3 Connectivity of Associative Networks

The last group of hypotheses is meant to compare the degree of connectivity of preferred and acceptable brands. According to Keller (1993), the strength of the associations within a network refers to the way information enters and is stored in the network, and it depends on how much a person thinks about the information and the manner in which they do so. The connectivity of an associate network could be measured by the level of interconnection among its associations, and also by the strength of its links. Furthermore, given that we expect differentiation to occur mostly in the secondary level, it would be interesting to see whether or not a difference in connectivity in brand associative networks is driven by the secondary level of associations.

If consumers prefer a brand then they would likely have not only more associations, but also more connections among their associations given that they spend more effort elaborating on their stored information. Therefore, we posit the following hypotheses:

H7: The ratio of connections to associations will be higher for preferred than for acceptable brands

H7a: The ratio of connections to associations on the primary level will be higher for preferred than for acceptable brands

H7b: The ratio of connections to associations on the secondary level will be higher for preferred than for acceptable brands

Following the same logic that preferred brands must have a higher number of connections in its associative network, it is reasonable to assume that not only its associations have more interconnections but also that the strength of these links should be higher. We therefore posit the following hypotheses:

H8: The ratio of extraordinary connections to the total amount of connections will be higher for preferred than for acceptable brands.

H8 a: The ratio of extraordinary connections to the total amount of connections on the primary level will be higher for preferred than for acceptable brands.

H8 b: The ratio of extraordinary connections to the total amount of connections on the secondary level will be higher for preferred than for acceptable brands.

Finally, these measurements on the interconnectivity of associations and strength of their links should reflect that preferred brands have stronger maps that acceptable ones. Based on the two previous hypotheses, we posit the following hypotheses:

H9: The ratio of weighted connections to associations is higher for preferred than for acceptable brands.

H9 a: The ratio of weighted connections to associations on the primary level will be higher for preferred than for acceptable brands.

H9 b: The ratio of weighted connections to associations on the secondary level will be higher for preferred than for acceptable brands.

4 Methodology

In the previous chapter were presenter our hypotheses and the theoretical reasoning behind them. In this chapter, we describe the methodology used to answer our research questions and hypotheses. We begin with a general description of our research approach followed by the explanation of our research design. Thirdly, we outline the different procedures we utilize to gather our data. In the fourth and fifth sections, we describe how we prepared the data for analysis and also the variables we used to measure our data. Then we present a data analysis with some descriptive statistics. We end the chapter with a description of our sample group in the last section.

4.1 Research Approach

The purpose of this research was to find out in what sense do preferred brands differ from acceptable brands in the consumer's mind. Extant literature describes how brands exist in the mind of the consumer from a cognitive perspective. In order to answer our research questions, we formulated several hypotheses based on this previous research. Therefore, our research can be considered to be of a deductive nature. To analyze our data we used a quantitative method since it limits the researcher's subjectivity and it was more suitable to test hypothesis.

Our approach can be categorized as descriptive research, given that we attempted to describe a group of individuals. We conducted a case study in order to elaborate more in-depth and in detail the cognitive aspect of differentiation. In essence, we compared brand associative networks built by our respondents to distinguish the different types of associations they contained and how they were connected to each other.

We built on previous research from Ellefsen and Krogstad (2014) as well as Hem and Teslo (2012), and considered new variables to explain specific aspects of differentiation. However, we used an entirely different method to answer our research questions. We believe that it was possible for some of these topics to be sensitive to methodology, and given that it was a new field it was sensible and advisable to try a different approach.

It is important to note that though there existed enough theoretical background for us to build hypotheses based on previous research, the specific topics we ventured are rather new. As such, it could be said that our research approach had some exploratory elements to it.

4.2 Research Design

Brand Concept Maps (John et al., 2006) is a consumer mapping approach to identify brand association networks. In this procedure, respondents create a brand map displaying the network of salient brand association, which reveal a consumer's perceptions of the brand. We used the BCM method to create brand maps for preferred and acceptable brands in order to compare the nature of the associations and the manner in which they are connected.

A preferred brand was defined in this study as the brand that consumers would choose first above another brand in a determined category, while the acceptable brand was the second choice and replacement when the preferred brand is not available. Respondents were asked to build one brand map for each category, of which one had to be preferred and another acceptable. We used a mixed factorial design, and two brands were nested in each of the product categories. Respondents were first asked which brand did they prefer in each category, and then asked to build a map for either their preferred or acceptable brand first in a given category. Then they were assigned to build a second map in the other category but with the preference level being opposite to the first map they built. See Table 1: Factorial Design

TABLE 1:
FACTORIAL DEISGN

Product Category	Preferred Brand	Acceptable Brand
Beer (Hansa/Tuborg)	1	2
Smartphone (iPhone/Galaxy)	3	4

In the literature review, we discussed how the level of involvement might affect the creation and development of brand associations in the brand network. It is for this reason that we use product category as a proxy for level of involvement. We chose two product categories that represent low and high involvement: beer and smartphones respectively. These are both relevant categories for students who tend to follow the advances on phone technology and who are an important market segment of the beer industry. Besides being relevant to our respondents, we chose these two categories because they have clear market leaders and rivals within our sample group. In the category of smartphones our chosen brands were Iphone (Apple) and Galaxy (Samsung) while in the beer category we chose Hansa and Tuborg. See Table1.

The beer industry is known for its regional brands. While both the brands we use in this study are Scandinavian, Hansa is the local Norwegian brand from the Bergen region while Tuborg is a low cost Danish brand. Both are regularly bought by students and have a larger shelf space in stores when compared to other brands. They are both very accessible to our target group, and are very similar even in the packaging and colours. We believe this similarity to be representative of low involvement categories. Furthermore, we expected the comparison between the associative networks to be interesting given that it is a case of a national vs a foreign brand.

In contrast, the smartphone category is much more international. Samsung and Apple are very well known brands that have active transnational brand communities. Their rivalry extends from marketing tactics to consumer initiated viral responses throughout the internet. Both brands have managed to create symbolic associations that are used by consumers as social cues.

For these reasons, we expected our respondents to be familiar with the brands and to have rich associative networks.

As previously stated, we used the brand concept maps methodology developed by John, Loken, and Kim (2006) in order to build networks with clear core associations and connections. With this method we were able to compare brand associative networks and the different types of associations they contained, along with the way they were connected.

The BCM method can be divided into three stages: elicitation stage, mapping stage, and aggregation stage. In this research we focused on the first two stages. We did not carry out the aggregation of maps because it was not needed to test our hypotheses. This was because we were interested in comparing the differences of preferred and acceptable brand maps, and not in constructing detailed maps for brands that were already well researched. The third stage of aggregation requires all maps to be combined into one collective version. Instead, we focused on quantifying and cataloguing the different types of associations and the nature of their connections, therefore basing our statistical analyses more directly from the data.

In the next section, we will explain in more detail the procedures used in the BCM method.

4.3 Data Collection

As stated in the previous section, we used the BCM method (John et al, 2006) to gather our data. The BCM method consist of three stages of which we mainly focus on two: the elicitation stage and the mapping stage. In this section, we explain in detail how we performed each stage.

4.3.1 Elicitation

The first stage consisted of the elicitation of brand associations. Twenty respondents were chosen through convenience sampling, and were interviewed to elicit associations of one beer brand and one smartphone brand. Ten were interviewed about the beer brand first and ten about the phone brand first in order to mitigate potential disparate effects of respondent fatigue.

There exist several techniques developed for the elicitation of brand associations. The main challenge lies in choosing the right combination of them to balance their strengths and weaknesses. In this study we attempted to follow the guidelines provided by Supphellen (2000) in order to avoid the problems of access, verbalization, and censoring.

We began our interviews by explaining the purpose of our research and specifying the estimated time the interview would take. Respondents were assured that all answers would be anonymous and would remain strictly confidential. Furthermore, they were encouraged to take the amount of time they need in order to answer to the best of their ability. They were told that pauses and moments of silence were perfectly natural in that type of interview.

We chose a total of three elicitation techniques: free associations, snowballing, and a list emotions and semantic judgements. They are listed in the order in which they were carried out. Though Supphellen (2000) recommends to use at least one visual and one object-projective technique, we decided not to do so to avoid respondent fatigue. These techniques are meant to reduce the problem of accessibility and verbalization, but we believe that our emphasis on snowballing and the additional lists of emotions and judgements were enough to elicit the most important associations. Overall, we believe the techniques we have chosen provided a good balance that enabled us to elicit an encompassing brand image.

To see the interview guide for the elicitation stage, please view Appendix 1.1.

4.3.1.1 Free Associations Techniques and Snowballing

With the Free Associations technique, we used the brand name as a cue in order to elicit the respondent's primary associations. This is a standard technique known to reveal the most conscious and verbal associations to the brand in the consumer's memory. Respondents were asked questions such as "What things come to your mind when you think of brand?" All associations that first came to their mind were listed.

A snowballing technique was used to compliment this free association technique. After all primary associations were listed, respondents were asked about what associations they connected to those primary associations in a similar fashion. The results were considered to be

secondary associations for the brand. After respondents were done with this second part, respondents were reminded of primary associations they had mentioned and then asked if they had any other associations to add. If they did, the process was repeated to elicit the secondary associations.

4.3.1.2 Scale of Emotions

To better capture the emotions that consumers attached to the brand directly and systematically, we used two established scales of emotions and judgements. We enhanced these scales created by Burke and Edell (1987) by adding some extra possible emotions and judgements based on the main personality traits as described by Aaker (1997). Respondents were asked to read through a pre-defined lists of emotions (Burke and Edell, 1987) and to pick the relevant words that best described their emotional reactions to the brand. We did not use a scale, thus reducing the amount of work for the respondents and simplifying our analysis, as we do not need to measure the strength of these associations. A scale would have been more suitable for research wanting to explore graded differentiation of associations.

The use of this technique spared the respondents from the demanding workload of finding the proper words for less verbal emotions and associations. It also helped elicit more unconscious and hidden associations. To see the two lists

used please view Appendix 1.1.1 and Appendix 1.1.2.

4.3.2 Mapping

After the elicitation stage came the mapping stage. On this second stage a new set of respondents was asked to form an individual brand map for one of their preferred brands and one of their acceptable brands. Respondents connected core brand associations to the brand and to one another to reveal the nature of their network.

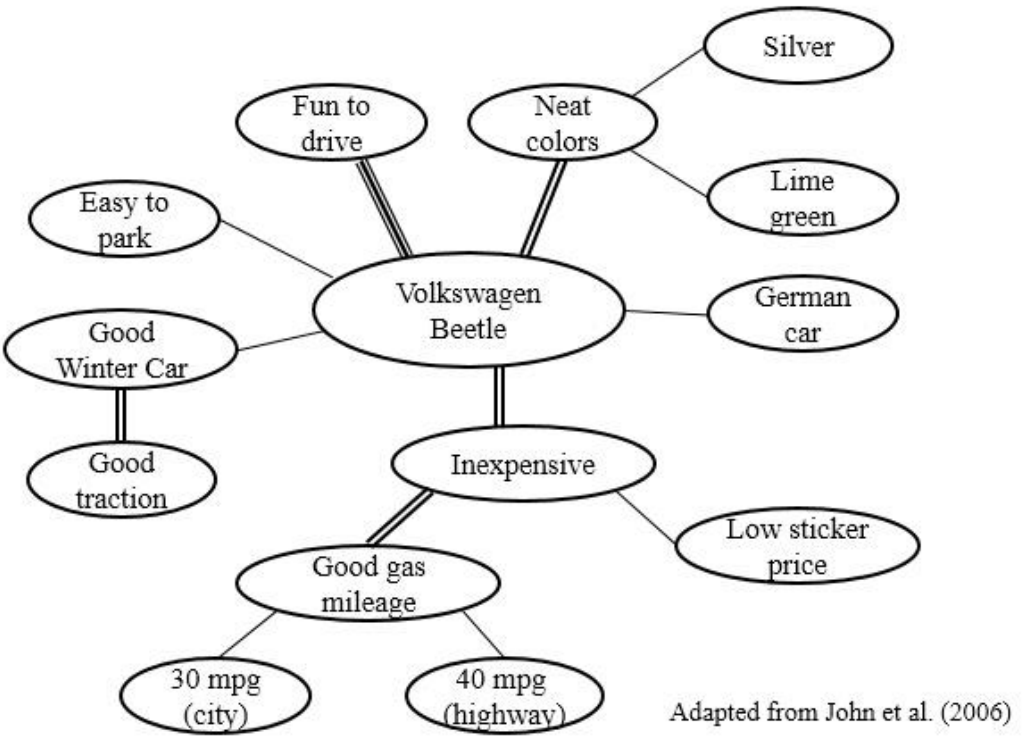
Before respondents participated in the mapping process, we performed a frequency count of all mentioned association during the elicitation stage. Thirty or thirty-one of the most relevant brand associations were chosen for each brand, according to their frequency and

meaningfulness, from the associations elicited at the previous stage. Each chosen association was written on a small card. All the cards chosen for each brand were shown to the respondents for mapping.

Respondents were instructed to construct their own brand maps in four steps. First, they were asked to pick the core brand associations by thinking about what first came to their minds when reminded of the brand. They were required to pick the core associations from the cards shown to them on the board, and they were also encouraged to add additional associations by writing them down on blank cards.

Second, the nature of associative networks was explained to them. An example of Volkswagen Beetle (adapted from John et al., 2006) was used to facilitate respondents' understanding of how to build brand concept maps. The brand map of Volkswagen Beetle was (see Figure 6) to illustrate how different levels of associations on the map were distinguished and why different types of lines were used to connect associations.

FIGURE 6: Example of BCM



According to Supphellen (2014), the primary level of the association network, namely the associations directly linked to the brand, contains the strongest associations for the brand and often the key drivers for choice. The secondary association level, that is to say the associations indirectly linked to the brand, expand and explain the meaning of the primary associations. In the Volkswagen Beetle example, being "inexpensive" is one of the reasons for consumers to choose the Beetle, and "good gas mileage" and "low sticker price" further explain what the consumer means by "inexpensive".

The different number of lines that connect associations indicate the strength of the connection. The stronger the connection, the more salient the association. Volkswagen Beetle is "easy to park" (single-line connected), "inexpensive" (double-line connected), and "fun to drive" (triple-line connected). Therefore, "fun to drive" is the most salient associations of Volkswagen Beetle in the mind of that specific consumer.

The third step in the mapping stage involves respondents to build their own brand maps according to the instruction in the second step. Respondents were provided with the cards they chose in the first step and are asked to draw the three types of lines to connect the cards together with the brand name in the middle. They were also allowed to look at the Volkswagen Beetle's example whenever they needed and to ask questions about the procedure or rules of building the map according to BCM method.

Lastly, respondents were given two questions to indicate their general attitude towards the brand as advised by (John et al, 2006). In addition to this, we decided to add a second question related to how connected respondents felt they were to the brand. Respondents were asked to rate how much they agree with the statement on a five-point scale. See Appendix 1.2.1

For the Mapping Stage Interview Guide please view Appendix 1.2.

4.4 Data Preparation

After gathering our data we began a thorough process of cataloguing it. We quantified the number of primary associations, secondary associations, total number of connections,

connections in the primary level, connections in the secondary level, and the strength of connections for each preferred and acceptable brand map.

In addition, we listed all mentioned associations and classified them according to whether they were attributes, benefits, or negative associations. Furthermore, we also distinguished among all associations that corresponded to personality traits. This classification of associations was done separately by each researcher, and the results had a 93% overlap. For the disputed %7 we discussed our argumentation before we finally reached a full consensus on the classification.

4.5 Measurement

In this section, we introduce the 20 variables we used to analyze the data we gathered from the mapping stage. The variables are listed according to the order they correspond to our hypotheses.

4.5.1 Pref_Not

The variable Pref_Not measured the preference level of the brands assigned to respondents to construct the brand concept maps, with 1 being preferred and 2 being acceptable.

4.5.2 Prod_Cat

The variable Prod_Cat referred to the product category to which the brands assigned to the respondents belong, with 1 being beer and 2 being smartphone. As we mentioned previously, we used the product category as a proxy for product involvement. Therefore, product category 1 (beer) represented the low involvement product, while product category 2 (smartphone) represented the high involvement product.

4.5.3 Nr_A

The variable Nr_A measured the total number of brand associations, which was used to test H1.

4.5.4 Nr_Ng_A

The variable Nr_Ng_A measured the number of negative associations, which was used to test H2.

4.5.5 Nr_A_P

Nr_A_P measured the number of primary associations, which was used to test H3.

4.5.6 Nr_B_S, Rt_B_S, Rt_B_A_S

The three variable presented in this section all relate to the content of the secondary associations. The variable Nr_B_S measured the number of benefit associations on the secondary level directly by the relevant data gathered from maps, and it was used to test the H4. The variable Rt_B_S referred to the ratio of benefit associations on the secondary level and was used to test H4a, while Rt_B_A_S referred to the ratio of benefit to attribute associations on the secondary level and was used to test H4b. The two latter variables were both calculated by equations, as specified below:

$$\text{Rt\_B\_S}=\frac{Number\ of\ benefit\ associations\ on\ the\ secondary\ level}{Number\ of\ secondary\ associations};$$

$$\text{Rt\_B\_A\_S}\frac{Number\ of\ benefit\ associations\ on\ the\ secondary\ level}{Number\ of\ attribute\ associations\ on\ the\ secondary\ level}\ .$$

4.5.7 Nr_Per_S, Rt_Per_S

The variables presented in this section both relate to the content of the secondary associations as well. The variable Nr_Per_S measured the number of personality trait associations on the secondary level, which is used to test H5. The latter variable Rt_Per_S measured the ratio of personality trait associations to total associations on the secondary level, which is used to test H5a. Moreover, it was computed as the equation below:

$$\text{Rt\_Per\_S}=\frac{Number\ of\ personality\ traits\ on\ the\ secondary\ level}{Number\ of\ secondaryassociations}.$$

4.5.8 Per_Atch

The variable Per_Atch is the last variable in this research that relates to the content of the secondary associations. It measured the score on the question of personal attachment after respondents constructed the maps, and it was used to test H6.

4.5.9 Rt_Ct_A, Rt_C_A_P, Rt_C_A_S

The three variables presented in the section all relate to the connectivity of associations without regard of strengths. Rt_Ct_A measured the ratio of connections to associations, corresponding to H7, and was computed as the equation below:

$$\text{Rt\_Ct\_A}=\frac{Total\ number\ of\ connections}{Total\ number\ of\ brand\ associations}\ .$$

Rt_C_A_P measured the ratio of connections to associations on the primary level, corresponding to H7a, and was computed as the following equation:

$$\text{Rt\_C\_A\_P}=\frac{Number\ of\ connections\ on\ the\ primary\ level}{Number\ of\ primary\ associations}\ .$$

Rt_C_A_S measured the ratio of connections to associations on the secondary level, corresponding to H7b, and was computed as the equation shown below:

$$\text{Rt\_C\_A\_S}=\frac{Number\ of\ connections\ on\ the\ secondary\ level}{Number\ of\ secondary\ associations}\ .$$

4.5.10 Rt_EtC, Rt_EtC_P, Rt_EtC_S

The three variables in this section all relate to the strength of the connections in the brand concept maps. In our research, the double-line connections and the triple-line connections were regarded as extraordinary connections. Therefore, Rt_EtC, corresponding to H8, measured the ratio of extraordinary connections, and was computed as the equation below:

$$\text{Rt\_EtC}=\frac{Number\ of\ double-line\ connections+Number\ of\ triple-line\ connections}{Total\ number\ of\ connections}\ .$$

Corresponding to H8a, Rt_EtC_P measured the ratio of extraordinary connections on the primary level, and was computed as the equation below:

$$\text{Rt\_EtC\_P} = \frac{(\text{Number of double-line connections on primary level}) + (\text{Number of triple-line connections on primary level})}{\text{Number of connections on the primary level}}$$

Corresponding to H8b, Rt_EtC_S measured the ratio of extraordinary connections on the secondary level, and was computed as the equation below:

$$\text{Rt\_EtC\_S} = \frac{(\text{Number of double-line connections on secondary level}) + (\text{Number of triple-line connections on secondary level})}{\text{Number of connections on the secondary level}}$$

4.5.11 R_WCt_A, R_WC_A_P, R_WC_A_S

The three variables presented in the section all relate to the connectivity of associations with regard of strengths. In this case, we gave a weight of 1 to single-line connections, a weight of 2 to double-line connections, and a weight of 3 to triple-line connections, and thus calculated the weighted sum of connections for the map as a whole, for the primary level and for the secondary level respectively.

Rt_WCt_A measured the ratio of weighted connections to associations, corresponding to H9, and was computed as the equation below:

$$\text{R\_WCt\_A} = \frac{\text{Weighted sum of total connections}}{\text{Total number of connections}} .$$

Rt_WC_A_P measured the ratio of weighted connections to associations on the primary level, corresponding to H9a, and was computed as the equation below:

$$\text{R\_WC\_A\_P} = \frac{\text{Weighted sum of connections on the primary level}}{\text{Number of primary associations}} .$$

Rt_C_A_S measured the ratio of weighted connections to associations on the secondary level, corresponding to H9b, and was computed as the equation below:

$$\text{R\_WC\_A\_S} = \frac{\text{Weighted sum of connections on the secondary level}}{\text{Number of secondary associations}} .$$

4.6 Data analysis

In this section, we present how we analyze the data in SPSS Statistics version 22.0. We first present the descriptive statistics of the data we gathered from the mapping stage. Then we conduct a reliability analysis to examine the internal consistency of our measurements. Finally, we discuss whether the data meets the assumptions for the main statistical techniques we applied in SPSS, namely one-way ANOVA and PROCESS macro.

4.6.1 Descriptive statistics

Descriptive statistics for all the variables in our research can be seen in Table 2.

TABLE 2:
DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Pref_Not	80	1.00	2.00	1.5000	.50315	.253	.000	.269	-2.052	.532
Prod_Cat	80	1.00	2.00	1.5000	.50315	.253	.000	.269	-2.052	.532
Nr_A	80	4.00	25.00	13.6500	4.29041	18.408	.492	.269	.528	.532
Nr_Ng_A	80	.00	8.00	.9875	1.25782	1.582	2.451	.269	10.892	.532
Nr_A_P	80	2.00	12.00	5.2500	2.07151	4.291	1.102	.269	1.405	.532
Nr_B_S	80	.00	11.00	3.7000	2.52281	6.365	.610	.269	-.288	.532
Rt_B_S	79	.00	.86	.4162	.20635	.043	-.082	.271	-.602	.535
Rt_B_A_S	79	.00	6.00	1.2427	1.20014	1.440	1.987	.271	4.677	.535
Nr_Per_S	80	.00	7.00	2.0500	1.74225	3.035	.894	.269	.078	.532
Rt_Per_S	79	.00	.71	.2291	.16496	.027	.563	.271	.195	.535
Per_Atch	80	1.00	5.00	2.8000	1.16271	1.352	.155	.269	-.852	.532
Rt_Ct_A	80	1.00	1.46	1.0901	.12321	.015	1.197	.269	.356	.532
Rt_C_A_P	80	.89	1.50	1.0599	.12108	.015	1.841	.269	2.588	.532
Rt_C_A_S	79	1.00	3.00	1.1370	.28823	.083	4.105	.271	22.607	.535
Rt_EtC	80	.00	1.00	.5610	.19456	.038	.108	.269	.453	.532
Rt_EtC_P	80	.00	1.50	.7659	.23670	.056	.063	.269	1.023	.532
Rt_EtC_S	79	.00	1.00	.4353	.27026	.073	.131	.271	-.567	.535
R_WCt_A	80	1.14	2.87	1.9385	.38051	.145	.382	.269	-.434	.532
R_WC_A_P	80	1.00	3.25	2.2632	.44588	.199	.313	.269	.243	.532
R_WC_A_S	79	1.00	6.00	1.7746	.65595	.430	3.466	.271	21.214	.535
Valid N (listwise)	79									

We had 40 respondents at the mapping stage and each of them were assigned to a preferred brand in one product category and an acceptable brand in the other product category to construct two brand concept maps respectively. Therefore, we gathered 80 maps constructed by respondents in total, which can be categorized into 4 groups according to the factorial design (see Table1: Factorial Design). Since we applied a quota sampling method to the mapping stage, the distribution of preference level and product category between the 4 groups is entirely even. Moreover, due to the fact that our sample was mainly based on NHH students, the variance between respondents is expected to be small.

4.6.2 Reliability analysis

In this section, we present the reliability analysis to check the internal consistency of measurements in the research. Given that we applied a new methodology that combined qualitative and quantitative approaches to study brand differentiation, we did not have any scales in the traditional research sense. However, we expected the differentiation of preferred brands to appear in certain aspects as we explained in the elaboration of our hypotheses in chapter 3: *number of associations*, *content of secondary associations*, and *connectivity of associative networks*. Therefore, several separate measurement were considered in groups to capture the expected effects in the three aspects respectively. From this sense, we invented three scales to measure the expected differentiation of preferred brands. We wanted to examine and make sure that all the items of measurement we used in each of the three invented scales represented the same construct as we expected. A reliability analysis of Cronbach's alpha coefficient was thus conducted (Appendix 2.1). A summary of the Cronbach's alpha coefficient can be seen in Table 3.

TABLE 3:
CRONBACH'S ALPHA

Number of associations		
Cronbach's alpha	*Variables*	*Correlated item-total correlation*
.960	Nr_A	.957
	Nr_Pst_A	.927
	Nr_A_S	.863
Content of secondary associations		
Cronbach's alpha	*Variables*	*Correlated item-total correlation*
.773	Nr_B_S	.844
	Rt_B_S	.814
	Rt_B_A_S	.546
	Nr_Per_S	.885
	Rt_Per_S	.779
	Per_Atch	.476
Connectivity of associative network		
Cronbach's alpha	*Variables*	*Correlated item-total correlation*
.805	Rt_Ct_A	.439
	Rt_C_A_P	.293
	Rt_C_A_S	.393
	Rt_EtC	.696
	Rt_EtC_P	.353
	Rt_EtC_S	.573
	R_WCt_A	.920
	R_WC_A_P	.542
	R_WC_A_S	.721
	Rt_Ct_A	.439
	Rt_C_A_P	.293
	Rt_C_A_S	.393

As the results show, all the Cronbach's alpha coefficients are above .7, indicating a very good level of internal consistency of our three invented scales to measure the expected differentiation of preferred brands. Moreover, the first two invented scales, *number of associations* and *content of secondary associations*, are even better at the internal consistency with the correlated item-total correlation for all the variables above .3, indicating that no any single variable measures something other than the construct means to. However, the internal consistency of the last invented scale, *connectivity of associative network*, is good enough with only two out of 9 variables barely beating the threshold of .3. Therefore, we conclude that the internal reliability of our measurements are good.

4.6.3 Test of statistical assumptions

Some assumptions are required to be fulfilled in order to apply the chosen statistical techniques to analyze data. In this section, we begin with an overview of all the statistical assumptions, and then present the tests of these assumptions with reasonable explanation to the violation of assumptions.

First, there are three assumptions underlying the use of one-way ANOVA: (1) independence of observations, (2) normal distribution, and (3) homogeneity of variance. None of the three assumptions is strictly met in our data analysis. However, this is not considered as a severe threat to the validity of our data analysis given the size of our large enough sample size, the quota sampling method applied in the research, and the relatively lower significance level passed in the tests. We will now discuss the test of the three statistical assumptions in order.

Independence of observations

Required by the independence of observations, each measurement should not be influenced by another measurement (Pallant, 2005).By procedure, it was ensured by the fact that we conducted the mapping process privately with every single respondent. By statistics, we have analyzed the correlation between all the dependent variables by using the Pearson ́s correlation coefficient. It ranges from -1 to +1, illustrating not only the extent to which the variables are

correlated among each other, but also the valence of the correlation. The correlation matrix can be found in Appendix 2.2.

As the correlation matrix shows, the measurement of variables are not completely independent of each other. However, this does not pose a severe threat to the validity of our data analysis given the following two reasons: Firstly, there is not a serious problem of multicollinearity, as there are barely few cases of high correlations ($r>.8$) found in the correlation matrix. Secondly, if taken Stevens's recommendation to set a more stringent alpha value, for example $p< .01$, to mitigate the violation effects and increase the validity of data analysis (Stevens, 2009), most of our hypotheses are still supported (see Table 31: Hypotheses Summary). Therefore, we consider the assumption of independence of observation relatively acceptable.

Normal distribution

The second assumption for one-way ANOVA to be applied is that the population from which the sample are drawn are normally distributed. However, this is usually not the case especially in a lot of researches in the social sciences area. To test the assumption in data analysis, we reported the Skewness and Kurtosis value in the descriptive statistics (see Table 2: Descriptive statistics). Skewness value indicates the level of the symmetry distribution and Kurtosis value indicates the peak of the distribution. For both Skewness and Kurtosis, the closer the value is to zero, the better the normal distribution is. (Pallant, 2005)

As we could see in Table 2, the Skewness and Kurtosis value for several variables in our research is far away from zero, indicating that our data does not have a perfectly normal distribution. Fortunately, with large enough data size, like the sample of 40 respondents we had in the mapping stage, the data analysis under one-way ANOVA can stay reasonably robust with violations of this assumption. (Stevens, 2009) Therefore, the violation of the normal distribution assumption is not considered as severe threat to the validity of our data analysis.

Homogeneity of variance

The last assumption of homogeneity of variance requires that the sample drawn from population is of equal variances. To test this assumption, we applied the Levene test of equality of variances, the result of which can be found in Appendix 2.3.

The results suggest the variances for 2 out of 17 dependent variables between the two groups are not equal, that is to say Nr_B_S (number of benefit associations on the secondary level) and Nr_Per_S (number of personality trait associations on the secondary level). Fortunately, F statistic stays robust against the heterogeneous variances provided the group sizes are approximately equal (largest/smallest<1.5) (Stevens, 2009). In our research at the mapping stage, a quota sampling is applied and we thus had an exactly the same number for different groups (see Table 1: Factorial Design). Therefore, without bearing a severe threat to the validity of our data analysis, we accept the violation to the assumption of homogeneity of variance.

4.7 Sample

Our sample was based on convenience and was defined as students of the Norwegian School of Economics (NHH). Though such a specific sample group will perhaps not produce significant external validity, it is suitable to ensure internal validity. Internal validity is essential for theory development, and that is the main goal of our research. Nevertheless, external validity may be balanced to an extent due to the fact that many different nationalities were included in our sample (international students).

In order to recruit respondents we offered them the chance to win one of several pairs of movie tickets. A total number of 60 respondents participated in this research, 20 in the elicitation stage and 40 in the mapping stage. For the elicitation stage 20 respondents were recruited from the sampling group based on their availability. On the other hand, for the mapping stage we used a quota system in order to fill all the desired maps (10 preferred and 10 acceptable maps for each brand), and as such there were some requirements to participate in our research based on the respondent preferences for brands in the beer and smartphones categories.

5. Results

In the previous chapter we presented the methods we used as well as an analysis of our data. In this chapter, we start by testing the nine hypotheses to answer our first research question. To be more specific, H1-H9 were tested by analyzing differences in the mean value between preferred brands and acceptable brands in one-way ANOVAs. Then, potential differences between product categories of different involvement level are addressed accordingly to answer our second research question by analyzing the interaction effects in PROCESS macro.

5.1 (H1) Number of associations

5.1.1 Test of H1

To test H1, we used a one-way ANOVA to analyze the difference of the *total number of associations* in the mean value between preferred brands and acceptable brands (Appendix 3.1.1). The results are summarized in Table 4.

TABLE 4:
ONE-WAY ANOVA
(H1) NUMBER OF ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Nr_A	80	15.35	11.95	14.745	.000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA show a higher mean for preferred brands (15.35) than acceptable brands (11.95). The difference is statistically significant with a high F-value of 14.745 and a p-value of .000. Therefore, H1 of preferred brands having a higher number of band associations than acceptable brands is supported.

5.1.2 Test of moderation effect for H1

To test the potential moderation effects of product involvement on H1, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement

(represented by the product category) on the *number of associations* (Appendix 3.2.1). The results are summarized in Table 5.

TABLE 5:
PROCESS (MODEL=1)
(H1) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Nr_A	80	.8737	.3529	1	13.85	11.25	.0349**
				2	16.85	12.65	.0009***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product category is not statistically significant with an F-value of .8737 and a p-value of .3229. Therefore, the moderation effect of product involvement for H1 is not supported.

5.2 (H2) Number of negative associations

5.2.1 Test of H2

To test H2, we used a one-way ANOVA to analyze the difference of the *number of negative associations* in the mean value between preferred brands and acceptable brands (Appendix 3.1.2). The result are summarized in Table 6.

TABLE 6:
ONE-WAY ANOVA
(H2) NUMBER OF NEGATIVE ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Nr_Ng_A	80	.5750	1.40	9.533	.003***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA show a lower mean for preferred brands (.5750) than acceptable brands (1.40). The difference is statistically significant with a high F-value of 9.533

and a p-value of .003. Therefore, H2 of preferred brands having less negative associations than acceptable brands is supported.

5.2.2 Test of moderation effect for H2

To test the potential moderation effects of product involvement on H2, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *number of negative associations* (Appendix 3.2.2). The results are summarized in Table 7.

TABLE 7:
PROCESS (MODEL=1)
(H2) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Nr_Ng_A	80	5.8933	.0176**	1	.70	.90	.5844
				2	.45	1.9	.0002***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is statistically significant with an F-value of 5.8933 and a p-value of .0176. Therefore, the moderation effect of product involvement for H2 is supported.

Moreover, the results show a statistically significant difference in the mean value between preferred smartphone (.45) and acceptable smartphone (1.9) with a p-value of .0002, while the difference between preferred beer (.70) and acceptable beer (.90) is not statistically significant with a p-value of .5844.

5.3 (H3) Number of primary associations

5.3.1 Test of H3

To test H3, we used a one-way ANOVA to analyze the difference of the *number of primary associations* in the mean value between preferred brands and acceptable brands (Appendix 3.1.3). The result are summarized in Table 8.

TABLE 8:
ONE-WAY ANOVA
(H3) NUMBER OF PRIMARY ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Nr_A_P	80	5.40	5.10	.416	.521

The results from the one-way ANOVA show a higher mean for preferred brands (5.40) than acceptable brands (5.10). However, the difference is not statistically significant with an F-value of .416 and a p-value of .521. Therefore, H3 that no difference exists between the numbers of primary associations for preferred brands and acceptable brands is supported.

5.3.2 Test of moderation effect for H3

To test the potential moderation effects of product involvement on H3, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *number of primary associations* (Appendix 3.2.3). The results are summarized in Table 9.

TABLE 9:
PROCESS (MODEL=1)
(H3) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Nr_A_P	80	.0119	.9134	1	4.90	4.65	.7007
				2	5.90	5.55	.5907

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .0119 and a p-value of .9134. Therefore, the moderation effect of product involvement for H3 is not supported.

5.4 (H4, H4a, H4b) Benefit associations on the secondary level

5.4.1 Test of H4, H4a, and H4b

The data was analyzed by a one-way ANOVA to test our hypotheses (H4, H4a, H4b) about *benefit associations on the secondary level* (Appendix 3.1.4). The results are summarized in Table 10.

TABLE 10:
ONE-WAY ANOVA
(H4, H4a, H4b) BENEFIT ASSOCIATIONS ON SECONDARY LEVEL

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Nr_B_S	80	4.80	2.60	18.597	.000***
Rt_B_S	79	.4672	.3638	5.234	.025**
Rt_B_A_S	79	1.3438	1.1390	.572	.452

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA listed in the first row show a higher mean for preferred brands (4.80) than acceptable brands (2.60). The difference is statistically significant with a

high F-value of 18.597 and a p-value of .000. Therefore, H4 of preferred brands having more benefit associations on the secondary level than acceptable brands is supported.

The results from the one-way ANOVA listed in the second row show a higher mean for preferred brands (.4672) than acceptable brands (.3638). The difference is statistically significant with an F-value of 5.234 and a p-value of .025. Therefore, H4a of preferred brands having higher ratio of benefit associations to total associations on the secondary level than acceptable brands is supported.

The results from the one-way ANOVA listed in the last row show a higher mean for preferred brands (1.3438) than acceptable brands (1.1390). However, the difference is not statistically significant with an F-value of 0.572 and a p-value of .425. Therefore, H4b of preferred brands having higher ratio of benefit to attribute associations on the secondary level than acceptable brands is not supported.

5.4.2 Test of moderation effect for H4

To test the potential moderation effects of product involvement on H4, we used the PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *number of benefit associations on secondary level* (Appendix 3.2.4). The results are summarized in Table 11.

TABLE 11:
PROCESS (MODEL=1)
(H4) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Nr_B_S	80	15.1267	.0002***	1	3.10	2.60	.4211
				2	6.5	2.6	.0000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is statistically significant with a high F-value of 15.1267 and a p-value of .0002. Therefore, the moderation effect of product involvement for H4 is supported.

Moreover, the results show a statistically significant difference in the mean value between preferred smartphone (6.5) and acceptable smartphone (2.6) with a p-value of .0000, while the difference between preferred beer (3.10) and acceptable beer (2.60) is not statistically significant with a p-value of .4211.

5.4.3 Test of moderation effect for H4a

To test the potential moderation effects of product involvement on H4a, we used the PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of benefit associations on secondary level* (Appendix 3.2.4.1). The results are summarized in Table 12.

TABLE 12:
PROCESS (MODEL=1)
(H4a) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_B_S	80	13.3597	.0005***	1	.3322	.3754	.4507
				2	.6023	.3527	.0000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product category is statistically significant with a high F-value of 13.3597 and a p-value of .0005. Therefore, the moderation effect of product involvement for H4a is supported.

Moreover, the results show a statistically significant difference in the mean value between preferred smartphone (.6023) and acceptable smartphone (.3527) with a p-value of .0000, while

the difference between preferred beer (.3322) and acceptable beer (.3754) is not statistically significant with a p-value of .4507.

5.4.4 Test of moderation effect for H4b

To test the potential moderation effects of product involvement on H3, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of benefit to attribute associations on the secondary level* (Appendix 3.2.4.2). The results are summarized in Table 13.

TABLE 13:
PROCESS (MODEL=1)
(H4b) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_B_A_S	79	3.5749	.0625	1	.6706	.9314	.4642
				2	2.0170	1.3363	.0554

The results from PROCESS show that the interaction effect between preference level and product involvement is only significant with significance level of .10 (p=.0625, F=3.5749). Therefore, at a .05 significance level, the moderation effect of product involvement for H4b is not supported.

5.5 (H5, H5a) Personality trait associations

5.5.1 Test of H5 and H5a

The data was analyzed by a one-way ANOVA to test our hypotheses (H5, H5a) about *personality trait associations* (Appendix 3.1.5). The results are summarized in Table 14.

TABLE 14:
ONE-WAY ANOVA
(H5, H5a) PERSONALITY TRAIT ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Nr_Per_S	80	2.7250	1.3750	13.981	.000***
Rt_Per_S	80	.2589	.1986	2.689	.105

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA listed in the first row show a higher mean for preferred brands (2.7250) than acceptable brands (1.3750). The difference is statistically significant with a high F-value of 13.981 and a p-value of .000. Therefore, H5a of preferred brands having more personality trait associations on the secondary level than acceptable brands is supported.

The results from the one-way ANOVA listed in the second row show a higher mean for preferred brands (.2589) than acceptable brands (.1986). The difference is not statistically significant with an F-value of 2.689 and a p-value of .105. Therefore, H5a of preferred brands having higher ratio of personality trait associations to total associations on secondary level than acceptable brands is not supported.

5.5.2 Test of moderation effect for H5

To test the potential moderation effects of product involvement on H5, we used the PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *number of personality trait associations on secondary level* (Appendix 3.2.5). The results are summarized in Table 15.

TABLE 15:
PROCESS (MODEL=1)
(H5) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Nr_Per_S	80	11.2343	.0013***	1	1.45	1.10	.4094
				2	4.00	1.65	.0000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is statistically significant with a high F-value of 11.2343 and a p-value of .0013. Therefore, the moderation effect of product involvement for H5 is supported.

Moreover, the results show a statistically significant difference in the mean value between preferred smartphone (4.00) and acceptable smartphone (1.65) with a p-value of .0000, while the difference between preferred beer (1.45) and acceptable beer (1.10) is not statistically significant with a p-value of .4094.

5.5.3 Test of moderation effect for H5a

To test the potential moderation effects of product involvement on H5a, we used the PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of personality trait associations on secondary level* (Appendix 3.2.5.1). The results are summarized in Table 16.

TABLE 16:
PROCESS (MODEL=1)
(H5a) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_Per_S	79	6.6280	.0120**	1	.1427	.1625	.6593
				2	.3750	.2329	.0019***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is statistically significant with an F-value of 6.6280 and a p-value of .0120. Therefore, the moderation effect of product involvement for H5a is supported.

Moreover, the results show a higher mean for preferred smartphone (.3750) than for acceptable smartphone (.2329), which is statistically significant with a p-value of .0019. However, the difference between preferred beer (.1427) and acceptable beer (.1625) is not statistically significant with a p-value of .6593.

5.6 (H6) Score on personal attachment

5.6.1 Test of H6

To test H6, we used a one-way ANOVA to analyze the difference of the *score on personal attachment* in the mean value between preferred brands and acceptable brands (Appendix 3.1.6). The result are summarized in Table 17.

TABLE 17:
ONE-WAY ANOVA
(H6) SCORE ON PERSONAL ATTACHMENT

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Per_Atch	80	3.55	2.05	56.796	.000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA show a higher mean for preferred brands (3.55) than acceptable brands (2.05). The difference is statistically significant with a high F-value of 56.796 and a p-value of .000. Therefore, H6 of preferred brands scoring higher on personal attachment than acceptable brands is supported.

5.6.2 Test of moderation effect for H6

To test the potential moderation effects of product involvement on H6, we used the PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *score on personal attachment* (Appendix 3.2.6). The results are summarized in Table 18.

TABLE 18:
PROCESS (MODEL=1)
(H6) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Per_Atch	79	17.7755	.0001***	1	3.00	2.25	.0039***
				2	4.10	1.85	.0000***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is statistically significant with a high F-value of 17.7755 and a p-value of .0001. Therefore, the moderation effect of product involvement for H6 is supported.

Moreover, the results show a higher variance in the mean value between preferred brands and acceptable brands for smartphone (-2.25) than for beer (-.75), both of which are statistically significant with a p-value of .0000 for smartphone and .0039 for beer.

5.7 (H7, H7a, H7b) Ratio of connections to associations

5.7.1 Test of H7, H7a, and H7b

The data was analyzed by a one-way ANOVA to test our hypotheses (H7, H7a, H7b) about *ratios of connections to associations* (Appendix 3.1.7). The results are summarized in Table 19.

TABLE 19:
ONE-WAY ANOVA
(H7, H7a, H7b) RATIO OF CONNECTIONS TO ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Rt_Ct_A	80	1.1083	1.0719	1.764	.188
Rt_C_A_P	80	1.0661	1.0536	.209	.649
Rt_C_A_S	79	1.1685	1.1047	.966	.329

The results from the one-way ANOVA listed in the first row show a higher mean for preferred brands (1.1083) than acceptable brands (1.0719). However, the difference is not statistically significant with an F-value of 1.764 and a p-value of .188. Therefore, H7 that the ratio of connections to associations is higher for preferred brands than for acceptable brands is not supported.

The results from the one-way ANOVA listed in the second row show a higher mean for preferred brands (1.0661) than acceptable brands (1.0536). However, the difference is not statistically significant with an F-value of .209 and a p-value of .649. Therefore, H7a that the ratio of connections to associations on the primary level is higher for preferred brands than for acceptable brands is not supported.

The results from the one-way ANOVA listed in the last row show a higher mean for preferred brands (1.1685) than acceptable brands (1.1047). However, the difference is not statistically significant with an F-value of .966 and a p-value of .329. Therefore, H7b that the ratio of connections to associations on the secondary level is higher for preferred brands than for acceptable brands is not supported.

5.7.2 Test of moderation effect for H7

To test the potential moderation effects of product involvement on H7, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of connections to associations* (Appendix 3.2.7). The results are summarized in Table 20.

TABLE 20:
PROCESS (MODEL=1)
(H7) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_Ct_A	79	1.4750	.2283	1	1.0917	1.0887	.9386
				2	1.1249	1.0551	.0767

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of 1.4750 and a p-value of .2283. Therefore, the moderation effect of product involvement for H7 is not supported.

5.7.3 Test of moderation effect for H7a

To test the potential moderation effects of product involvement on H7a, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of connections to associations on the primary level* (Appendix 3.2.7.1). The results are summarized in Table 21.

TABLE 21:
PROCESS (MODEL=1)
(H7a) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_C_A_P	80	1.9410	.1676	1	1.0433	1.0688	.5099
				2	1.0888	1.0385	.1948

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of 1.9410 and a p-value of .1676. Therefore, the moderation effect of product involvement for H7a is not supported.

5.7.4 Test of moderation effect for H7b

To test the potential moderation effects of product involvement on H7b, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of connections to associations on the secondary level* (Appendix 3.2.7.2). The results are summarized in Table 22.

TABLE 22:
PROCESS (MODEL=1)
(H7b) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_C_A_S	79	.2855	.5947	1	1.1933	1.0943	.2921
				2	1.1436	1.1146	.7541

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .2855 and a p-value of .5947. Therefore, the moderation effect of product involvement for H7b is not supported.

5.8 (H8, H8a, H8b) Ratio of extraordinary connections

5.8.1 Test of H8, H8a, and H8b

The data was analyzed by a one-way ANOVA to test our hypotheses (H8, H8a, H8b) about *ratios of extraordinary connections* (Appendix 3.1.8). The results are summarized in Table 23.

TABLE 23:
ONE-WAY ANOVA
(H8, H8a, H8b) RATIO OF EXTRAORDINARY CONNECTIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
Rt_EtC	80	.6247	.4972	9.524	.003***
Rt_EtC_P	80	.8326	.6992	6.818	.011**
Rt_EtC_S	79	.5306	.3376	11.424	.001***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA in the first row show a higher mean for preferred brands (.6247) than acceptable brands (.4927). The difference is statistically significant with an F-value of 9.524 and a p-value of .003. Therefore, H8 that the ratio of extraordinary connections to the total connections is higher for preferred brands than for acceptable brands is supported.

The results from the one-way ANOVA in the second row show a higher mean for preferred brands (.8326) than acceptable brands (.6992). The difference is statistically significant with an F-value of 6.818 and a p-value of .011. Therefore, H8a that the ratio of extraordinary connections to the total connections on the primary level is higher for preferred brands than for acceptable brands is supported.

The results from the one-way ANOVA in the last row show a higher mean for preferred brands (.5306) than acceptable brands (.3376). The difference is statistically significant with an F-value of 11.424 and a p-value of .001. Therefore, H8b that the ratio of extraordinary connections to the total connections on the secondary level is higher for preferred brands than for acceptable brands is supported.

5.8.2 Test of moderation effect for H8

To test the potential moderation effects of product involvement on H8, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of extraordinary connections to total associations* (Appendix 3.2.8). The results are summarized in Table 24.

TABLE 24:
PROCESS (MODEL=1)
(H8) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_EtC	80	.5945	.4431	1	.6204	.4609	.0081***
				2	.6291	.5335	.1071

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .5945 and a p-value of .4431. Therefore, the moderation effect of product involvement for H8 is not supported.

5.8.3 Test of moderation effect for H8a

To test the potential moderation effects of product involvement on H8a, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of extraordinary connections to total associations on the primary level* (Appendix 3.2.8.1). The results are summarized in Table 25.

TABLE 25:
PROCESS (MODEL=1)
(H8a) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_EC_P	80	.1460	.7034	1	.8369	.6838	.0395**
				2	.8283	.7147	.1242

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .1460 and a p-value of .7034. Therefore, the moderation effect of product involvement for H8a is not supported.

5.8.4 Test of moderation effect for H8b

To test the potential moderation effects of product involvement on H8b, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of extraordinary connections to total associations on the secondary level* (Appendix 3.2.8.2). The results are summarized in Table 26.

TABLE 26:
PROCESS (MODEL=1)
(H8b) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
Rt_EC_S	79	.2268	.6353	1	.5138	.2922	.0083***
				2	.5475	.3806	.0419**

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .2268 and a p-value of .6353. Therefore, the moderation effect of product involvement for H8b is not supported.

5.9 (H9, H9a, H9b) Ratio of weighted connections to associations

5.9.1 Test of H9, H9a, and H9b

The data was analyzed by a one-way ANOVA to test our hypotheses (H9, H9a, H9b) about *ratios of weighted connections to associations* (Appendix 3.1.9). The results are summarized in Table 27.

TABLE 27:
ONE-WAY ANOVA
(H9, H9a, H9b) RATIO OF WEIGHTED CONNECTIONS TO ASSOCIATIONS

Variable	*N*	*Mean Preferred*	*Mean Acceptable*	*F*	*P-value*
R_WCt_A	80	2.0696	1.8074	10.656	.002***
R_WC_A_P	80	2.3962	2.1302	7.725	.007***
R_WC_A_S	79	1.9940	1.5495	10.133	.002***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from the one-way ANOVA in the first row show a higher mean for preferred brands (2.0696) than acceptable brands (1.8074). The difference is statistically significant with an F-value of 10.656 and a p-value of .002. Therefore, H9 that the ratio of weighted connections to associations is higher for preferred brands than for acceptable brands is supported.

The results from the one-way ANOVA in the second row show a higher mean for preferred brands (2.3962) than acceptable brands (2.1302). The difference is statistically significant with an F-value of 7.725 and a p-value of .007. Therefore, H8a that the ratio of weighted connections to associations on the primary level is higher for preferred brands than for acceptable brands is supported.

The results from the one-way ANOVA in the last row show a higher mean for preferred brands (1.9940) than acceptable brands (1.5495). The difference is statistically significant with an F-value of 10.133 and a p-value of .002. Therefore, H8b that the ratio of weighted connections to associations on the secondary level is higher for preferred brands than for acceptable brands is supported.

5.9.2 Test of moderation effect for H9

To test the potential moderation effects of product involvement on H9, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of weighted connections to total associations* (Appendix 3.2.9). The results are summarized in Table 28.

TABLE 28:
PROCESS (MODEL=1)
(H9) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
R_WCt_A	80	.0643	.8005	1	2.0364	1.7948	.0386**
				2	2.1028	1.8200	.0160**

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .0643 and a p-value of .8005. Therefore, the moderation effect of product involvement for H9 is not supported.

5.9.3 Test of moderation effect for H9a

To test the potential moderation effects of product involvement on H9a, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of weighted connections to total associations on the primary level* (Appendix 3.2.9.1). The results are summarized in Table 29.

TABLE 29:
PROCESS (MODEL=1)
(H9a) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
R_WC_A_P	80	1.1683	.2832	1	2.3210	2.1588	.2364
				2	2.4714	2.1015	.0080***

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of 1.1683 and a p-value of .2832. Therefore, the moderation effect of product involvement for H9a is not supported.

5.9.4 Test of moderation effect for H9b

To test the potential moderation effects of product involvement on H9b, we used a PROCESS (Model=1) to examine the interaction between preference level and product involvement (represented by the product category) on the *ratio of weighted connections to total associations on the secondary level* (Appendix 3.2.9.2). The results are summarized in Table 30.

TABLE 30:
PROCESS (MODEL=1)
(H9b) PREFERENCE X PRODUCT INVOLVEMENT

Variable	*N*	*Interaction Effect*		*Conditional Effect*			
		F	*P-value*	*Product Category*	*Mean Preferred*	*Mean Acceptable*	*P-value*
R_WC_A_S	79	.8354	.3636	1	2.0644	1.4897	.0053***
				2	1.9237	1.6062	.1127

NOTE: * p<.10, ** p<.05, *** p<.01

The results from PROCESS show that the interaction effect between preference level and product involvement is not statistically significant with an F-value of .8354 and a p-value of .3636. Therefore, the moderation effect of product involvement for H9b is not supported.

We have presented the results of our statistical test that were meant to evaluate our hypotheses. In the next section, we discuss these findings and their implications on theory and practice.

6. Discussion

After presenting the results of our statistical analyses in the previous chapter, on this chapter we elaborate on the implications and value of our findings. We first present a summary of our hypotheses and their corresponding results. Then we discuss the theoretical implications and end the chapter with the managerial implications of our research.

6.1 Summary of Results

In this section, we present a summary of the hypotheses we used to answer or research questions. Our research questions were:

RQ1: In what sense does the preferred brand differentiate from acceptable brands?

RQ2: To what extent is the differentiation of preferred brands moderated by the product involvement?

We summarized the results of our hypotheses in the following table:

TABLE 31: HYPOTHESES SUMMARY

Hypotheses	**RQ.1** PB VS. AB	**RQ.2** Moderation by Product involvement
(H1) Preferred brands (PB) have a higher number of brand associations.	Yes***	No
(H2) PB have less negative associations.	Yes***	Yes**
(H3) Preferred (PB) and acceptable brands (AB) have the same number of primary associations.	Yes	No
(H4) PB have a higher number benefit associations on the secondary level.	Yes***	Yes***(only diff. for smartphone)

(H4a) PB have a higher ratio of benefit associations to the total amount of secondary associations.	Yes**	Yes***(only diff. for smartphone)
(H4b) PB have higher ratio of benefit to attribute associations on the secondary level.	No	No
(H5) PB have a higher number of personality trait associations on the secondary level.	Yes***	Yes***(only diff. for smartphone)
(H5a)PB have higher ratio of personality associations to total associations on the secondary level.	No	Yes**(only diff. for smartphone)
(H6) PB score higher on personal attachment aspect.	Yes***	Yes***
(H7) PB have a higher ratio of connections to associations.	No	No
(H7a) PB have a higher ratio of connections to associations on the primary level.	No	No
(H7b) PB have a higher ratio of connections to associations on the secondary level.	No	No
(H8) PB have a higher ratio of extraordinary connections to total connections.	Yes***	No
(H8a) PB have a higher ratio of extraordinary connections to total connections on the primary level.	Yes**	No
(H8b) PB have a higher ratio of extraordinary connections to total connections on the secondary level.	Yes***	No
(H9) PB have a higher ratio of weighted connections of associations.	Yes***	No
(H9a) PB have a higher ratio of weighted connections to associations on the primary level.	Yes***	No
(H9b) PB have a higher ratio of weighted connections to associations on the secondary level.	Yes***	No

NOTE:
1. *** = Hypothesis supported on a .01 significance level, ** = Hypothesis supported on a .05 significance level;
2. PB=Preferred Brand, AB=Acceptable Brand.

6.2 Theoretical Implications

In this section we discuss the implications our findings have on brand positioning theory. We divide the section into three parts by grouping hypotheses according to the topics they cover: number of brand associations, content of secondary brand associations, and connectivity of associative networks.

6.2.1 Number of Brand Associations (H1, H2, H3)

In our data analysis we find support for H1, thus proving that preferred brands have more associations than acceptable brands. These findings are no surprise as they can be deducted from the foundations of the widely accepted consumer based brand equity theory (Keller, 1993). It is logical to assume that preferred brands have a higher degree of brand knowledge than acceptable ones. No moderation effect of product involvement was found.

Support for H2 shows that preferred brands also have less negative associations than acceptable ones. The combined implications of H2 with H1directly support Ellefsen's and Krogstad's (2014) findings that preferred brands have more positive brand associations. However, a moderation effect of product involvement was found making the hypothesis true for smartphones but not for beer.

As stated in the research design, for our analysis we used product category as a proxy for the level of involvement. Therefore, this difference could be explained from the ELM (Cacioppo & Petty, 1984), since it states that for high involvement situations consumers will process information in a more biased manner. They would thus be more unlikely to attach negative associations to their preferred brands, and this explains the significantly fewer mentions of negative associations for preferred smartphone brands in our data. On the other hand, for low involvement situations, information is processed more objectively and thus it is possible for

there to be no significant difference in the number of negative associations attached to preferred or acceptable products.

Finally, support for H3 indicates that the number of primary association for preferred and acceptable brands is similar. Since we have already established with H1 that preferred brands have more associations than acceptable brands, then it follows that the difference in number of associations is mostly driven by the secondary associations. These findings strengthen Supphellen's (2014) theory that differentiation occurs mostly in the secondary level of associations. More associations found in the secondary level for preferred brands means more elaboration on that level. It could be assumed that there is more room for differentiation, and thus a higher possibility for these associations to be driving differentiation.

Supphellen (2014) states that primary associations are often drivers of choice in a category, and that it is secondary associations expand the meaning of the primary ones and help differentiate it. No moderation effect was found neither for H3 or H1, which further support Suppehllen's argument in conditions of both high and low involvement.

In this section, we have established that preferred brands not only have more associations, but also fewer negative associations. Furthermore, our data supports that for preferred brands these additional associations can be found mostly on the secondary level. Next, we focus on the secondary level of associations in order to unveil the content of these additional associations.

6.2.2 Content of Secondary Associations (H4, H5, H6)

Hypotheses 4, 5, and 6 were meant to reveal the extra content that could be found on the extra associations of the preferred brands. For our analysis, we categorized all associations into three types: attributes, benefits, and negative associations. It was necessary for us to classify negative associations differently from attributes and benefits in order to evaluate their impact on associative networks. In addition, we distinguished and quantified the number of associations that corresponded to personality traits.

Support for H4 shows that preferred brands have more benefit associations on the secondary level than acceptable brands. From the evidence supporting H4a we find that preferred brands also have a higher ratio of benefit associations to the total amount of associations on the secondary level. From theory (Keller,1993) we know that benefits have a higher level of abstraction, and that they imply more elaboration given that the consumer established a connection with the product by answering "what can the product do for me?." It is for this reason that we assumed that given higher level of elaborations, then also more abstract associations like benefits should be present. Our results therefore support extant theory, to an extent.

Nevertheless, there was a pronounced moderation effect from product category, making H4 and H4a true for high involvement products (smartphones) but not so for low involvement products (beers). This could be explained by the lower involvement level of the product category, given that consumers would simply elaborate less in general and thus not think of the more abstract traits. Therefore, there is no significant difference in level of abstraction for associations in low involvement categories for preferred or acceptable brands. It should thus be no surprise that for the preferred beer brands it was found that the additional secondary association come mainly from attributes and not from benefits.

We did not find support for H4b, which means that the ratio of attribute and benefits in the secondary level for preferred and acceptable brands is similar. This is an interesting finding because it follows that the extra associations that are found in the secondary level for preferred brands come from a similar increase in percentage of both benefit and attributes. No moderation effect was found, thus implying that larger associative networks come from an increase of associations in general, regardless of level of abstraction and level of involvement. It also follows that high involvement categories would tend to have more benefit associations, while low involvement categories more attributes.

Support for H5 proves that preferred brands have more personality trait associations on the secondary level than acceptable brands. However, a moderation effect was found making the hypothesis not true for the beer category. The difference between preferred and acceptable

smartphones was so strong that it drove on its own the positive result for H5. In a similar fashion, when we take the moderation effect of product involvement for H5a, smartphones were found to have a higher ratio of personality trait associations to total amount of associations in the secondary level, but this was not true for beers. It is thus reasonable to infer that in low involvement situations products would be evaluated more objectively, hence the presence of more attributes and less personality traits.

Our study also found support for H6, which states that preferred brands score higher on personal attachment. Once again, the moderation effect of product category was present, thus making H6 less true for low involvement products (beer brands). These findings support Aaker (1997) and Fournier (1998) that state the important of brand personality for the creation of consumer brand relationships. We find that preferred smartphone brands have significantly more personality traits as well as a much higher score higher on personal attachment, while beer brands in general who have fewer personally trait associations score significantly lower in attachment. Though we cannot determine a causality effect with our research, we can observe that it supports literature on consumer brand relationships and that it is possible for personality traits to be driving differentiation on high involvement categories and through secondary associations.

6.2.3 Connectivity of Associative Networks (H7, H8, H9)

According to Keller (1993), the strength of an associative network can be assessed by the number of interconnections amongst its associations as well as by the strength of the links between them. Theory suggest that consumers would elaborate more on their preferred brands and as such, they would have a higher number of links per associations (interconnections) among their associations as well as links of greater strength than for acceptable brands.

Contrary to what we expected, H7 does not find any difference in ratio of interconnectivity (number of links per associations) among its associations neither on the primary nor on the secondary level. There was a higher number total number of connections on secondary level, but this was expected due to the higher number of associations. According to Supphellen (2014),

differentiation occurs on the secondary level and as such, more elaboration on this level should have been reflected not only by more associations but also by more connections among each of them. These results do not support this theory, and instead point at differentiation being driven more by the number of secondary association rather than the way they are connected.

These unexpected results could have been caused by an error in our methodology. We retrospectively realized that the map of the Volkswagen Beetle we used during the Mapping Stage had no examples of interconnection from secondary to secondary associations nor primary to primary associations. Even though our instructions assured the respondents that all sorts of connections were allowed, it is possible that the visual example we provided conditioned the response of some of them on this aspect. Therefore, the sample of connections from primary to primary and secondary to secondary associations in our study was likely not sufficient to draw conclusive evidence for this hypothesis.

Support for H8 on both primary and secondary levels shows that associations for preferred brands are more strongly linked to each other. This supports Keller's (1993) argument that the strength of the connections among associations reflects positively on brand equity. It does not have any decisive implications on Suppehellen's (2014) theory that differentiation occurs mostly in the secondary level. However, it does establish the possibility for it to be supported given that the difference on the strength of links is present in the secondary level as well, thus indicating a higher level of elaboration combined with a greater number of associations.

H9 can be considered to be a unified measurement of both strength of links and number of links per association (interconnectivity of associations) to determine connectivity. In our research, H9 and its sub-hypotheses are supported thus showing that preferred brands to have a higher ratio of weighted connections for both their primary and secondary associations. Given that H7 was not supported, we know that this higher ratio comes from the strength of the links and not from the number of links (interconnectivity). We included H9 because we believe it possible for a brand's higher degree of connectivity to be revealed by the combination of the two measurements but not necessarily by both of them separately.

No moderation effect of product involvement was found for H7, H8, or H9 or their sub-hypotheses. This implies that level of involvement does not necessarily influence the way information is stored, but rather the amount and type of information that is stored.

In this section we have presented the theoretical implications of our findings. In the next one we focus on the more practical and managerial implications for marketers.

6.3 Managerial Implications

Our findings have relevant implications for positioning theory and differentiation strategies. We examine the differences of number of associations, content, and connectivity of preferred and acceptable brand associate networks and provide important insights for marketers to take into consideration when devising branding strategies for their products. Furthermore, we establish how products in low and high involvement category might require different strategies in order to differentiate. We first begin by presenting general implications, followed by implications for low involvement categories, and ending with implications for high involvement categories.

6.3.1 General Implications:

We have found that preferred brands defer mostly in the number of secondary associations. This implies that marketers should focus on giving depth to their primary associations through the creation of secondary associations. Furthermore, if differentiation is mostly driven by secondary associations as Suppehellen (2014) suggests and our results support, then it would be important for acceptable brands to focus on creating points of parities for their primary associations and focus on differentiating these primary associations through secondary ones.

Though we did not find support for preferred brands having more interconnectivity among its associations, we did find that preferred brands have stronger links among its associations in both primary and secondary levels. Stronger links imply greater spread activation effect when associations in a network are recalled. Therefore, it is important for marketers to be consistent

on their branding strategies on the long-term so that they can strengthen the links of their associations through repetition.

6.3.2 Low Involvement Product Categories

For products on low involvement categories we have found that preferred brands have more attribute associations than acceptable brands. This is an interesting finding that might imply how important it is for brands in low involvement categories to differentiate on attributes that are important to consumers. These attributes could be something as simple as ingredients or packaging, or even more non-product related attributes such as user imagery (Keller, 1993). Given that consumers will not tend to elaborate much on information if they are not highly involved, then perhaps it is recommendable to focus on more simple associations with a lower level of abstraction.

Furthermore, we have also found that acceptable brands possess more or less the same amount of negative associations than preferred brands in low involvement categories. This implies that consumers for these categories evaluate brands more objectively, thus implying that marketers should focus on creating associations to the brand that are relevant and valued by the consumer's judgement.

6.3.3 High Involvement Product Categories

For products on high involvement categories we have found that preferred brands have fewer negative associations. This may be because consumers form a more biased opinion of the brands they prefer as the ELM suggest (Cacioppo & Petty, 1984. As such, it is implied that preferred brands have more potential to downplay their shortcomings than acceptable brands.

More importantly, we have found that preferred brands possess more personality trait associations than acceptable brands, as well as a higher ratio of them in comparison to other associations. This underlines the importance of imbuing with personality traits brands that are in high involvement categories. Preferred brands were also found to score higher than acceptable on personal attachment, which supports extant literature that recognizes brand

personality as an important ingredient for consumer brand relationships (Aaker 1997; Fournier 1998).

Having discussed both theoretical and managerial implications, in the next chapter we review the limitations of our research and offer suggestions for future research on the field.

7. Limitations and Future Research

In the last chaptered we explained the theoretical and managerial implications of our findings. Next, we elaborate on the limitations of our chosen method. We first identify the potential limitations of our research by discussing the nature of the threats, and then we describes the steps we took mitigate it. Moreover, for some limitations we accepted as weaknesses of our chosen methods, we make suggestions for the future researchers.

7.1 Limitations

We identify the limitations of our research by discussing the reliability and validity. We first discuss the potential threats to both internal and external aspects of the two constructs. We then discuss how we tried to mitigate these potentially negative consequences in practice.

7.1.1 Reliability

7.1.1.1 Internal Reliability

Internal reliability refers to the statistical consistency of the measurement in the research. It is most applicable for situations where any constructs are expressed and measured in several different variables. We conducted an internal reliability analysis (see Appendix 2.1), even though we applied a new methodology, which is not entirely standardized as a traditional quantitative research. The reliability analysis results granted our confidence on the three invented constructs we measured in the research. Therefore, we do not consider there is an obvious and severe limitation on the aspect of internal reliability.

7.1.1.2 External Reliability

External reliability refers to the degree to which results of an experiment would be replicated under the same conditions. We believe several of the main threats to external reliability are secured by the way we conducted the research in procedure. Firstly, we are confident that respondent error due to the lack of motivation was largely reduced by the fact that our respondents volunteered and were offered a proper incentive. Secondly, observer error is eliminated by strict method guidelines to conduct each interview, even though we used a combination of qualitative and quantitative methods to gather and analyze our data. Furthermore, observer bias regarding how researchers interpret the answers was also taken care of during the data preparation stage. To be specific, the categorization that our analysis required was done by the two researchers separately and then its overlap was discussed to reach a final consensus. As such, we are confident on the external reliability of our data.

Nevertheless, there is one aspect we previously mentioned regarding respondent bias that is our main threat to external reliability. External reliability refers to when respondents answer something they believe would meet the researcher's expectation. In this case, though we provided clear verbal and written instructions for the mapping procedure, we neglected to include a visual example of two types of connections: primary to primary associations, and secondary to secondary associations. Though we had several respondents who made these types of connections, it is possible that many of the respondents were conditioned by the example shown and thus less inclined to do these types of connections. This is a very relevant threat regarding the results of H7, and as such we advocate for more research on the area.

7.1.2 Validity

7.1.2.1 Internal Validity

Internal validity refers to the extent to which researchers manage to control for other variables that could have an impact on the experiment in addition to the independent variables. We tried

to eliminate the main threats to the internal validity of our research by designing and conducting the research with care.

First, to tackle the possible problems caused by testing threats, we made it clear with all the respondents in our research, for both elicitation stage and mapping stage, that all their answers would be kept anonymous and only used for the research in our master thesis. Moreover, in order to balance the maturation effects, we conducted the interview in the way that half respondents got beer brand first and half respondents got smartphone first.

When it comes to the instrumentation threats, we conducted the research with every single respondent in private, as opposed to a group context, in order to eliminate the external effects in the test. As a result, we are confident that the instrumentation effects did not influence the respondents during the test. However, since it took us some days to finish the data collection and all of our respondent were students from NHH, we did not have absolute control for the external effects between tests. In this way, instrumental effects might have threatened our research though it was unlikely given the size of the population. Therefore, we consider that the internal validity is held within a good level.

7.1.2.2 External Validity

External validity refers to the extent to which results can be generalize outside the sample group. In our case, the sample group was very specific, namely business students from 21-27 years in the Norwegian School of Economics. As such, it cannot be said that the results of our statistical analysis can be applied to other populations. However, this weakness is balanced with the fact that our respondents come from many different national backgrounds. Furthermore, our field of research was very much related to cognitive functions, so results could possibly have implications on other populations given that the way the brain works should not have great variations among populations.

7.2 Suggestions for Future Research

Our research ventures into a rather unexplored area in literature, thus there are many questions yet to be answered. In this section, we will provide several suggestions for future research based on the implications of our findings.

In our study we managed to prove that associations were more strongly linked to each other, but not particularly more connected for preferred brands, thus finding only partial support for Suppehellen's theory (2014). However, we managed to pinpoint a potential cause for this unexpected finding in our methodology. It is for this reason that one of our main suggestions is for researchers to examine the strength and connectivity on secondary associations for preferred vs acceptable brands with an improved methodology. They could do so by presenting an example that contains connections from primary to primary associations, as well as secondary to secondary associations.

Furthermore, we have established that there is a difference in the number and content of secondary brand associations for preferred and acceptable brands. In our study, we classified these associations as attributes, benefits, and negative associations. We also distinguished those associations that reflected personality traits. Future research should be conducted using elicitation techniques to construct associative networks, and to determine more specifically what is the content of these secondary associations. A different typology could used, as well as a more specific one such as classifying the benefits on whether they meet functional, experiential, or symbolic needs (Park & Maclnnis, 1986).

In line with the previous suggestions, it would also be interesting to see in future research if certain types of associations contribute more to the connectivity of the associative network. For example, are abstract associations like benefits or personality traits more interconnected than more concrete associations such as attributes? This would have important implications on brand positioning theory and differentiation, as well as useful practical implications for marketers who want to build a cohesive brand imagine more efficiently.

Finally, the moderation effect of high and low involvement upon associative networks should be explored in more detail. We only used product category as a proxy for level of involvement, but the ELM (Cacioppo & Petty, 1984) suggests that many other factors can affect the elaboration likelihood. As such, the moderation effect could perhaps be much better captured and explained by a more encompassing measurement.

Having discussed the limitations of our study and our suggestions for future research, in the next chapter we end our paper with some brief concluding remarks.

8. Conclusion

In our thesis we have researched the way preferred brands are differentiated from acceptable ones. We have also sought to understand the impact of the level of involvement upon this differentiation. Our research questions were:

RQ1: In what sense does the preferred brand differentiate from acceptable brands?

RQ2: To what extent is the differentiation of preferred brands moderated by the product involvement?

Our findings have significant implications upon traditional brand positioning and differentiation theory. We find support for Suppehellen's (2014) argumentation that differentiation is driven by secondary associations, as well as offer some insight as on what kind of associations could be driving the differentiation and how are they connected to each other.

We researched associative networks of preferred and acceptable brands in order to reveal how they differed. To construct these maps and gather our data we used the BCM method developed by John, Loken, and Kim (2006). We used a factorial design to build maps for two brands per two different product categories representing high and low involvement; smartphones and beer respectively. We then compared these maps' quantity of primary and secondary associations, as well as their content and connectivity in terms of strength and number of connections. To

analyze our data we used two statistical techniques: One-way ANOVA and PROCESS macro with SPSS.

Our findings show that preferred brands have more associations than acceptable ones, and that this difference in number is driven by secondary associations. We also found that preferred brands have less negative associations on high involvement categories, thus making the difference even starker if considered in terms of positive associations. Furthermore, our research showed that level of involvement could influence the content of these extra secondary associations in preferred brands, so that in low involvement categories networks had a greater percentage of attribute associations whereas in high involvement categories they had a greater percentage of benefit associations. In addition, we found that preferred brands in high involvement categories have a greater percentage of personality trait associations on the secondary level and score higher on personal attachment, whereas neither was true for low involvement categories. Finally, we showed that preferred brands have a stronger connected network, and that this difference was not driven by more interconnections among associations but by stronger links.

Future research should focus on investigating the content of these additional associations found in the secondary level, as well as on determining to what extent different types of secondary associations contribute to the connectivity of the network. It should also verify whether preferred and acceptable brands truly differ only in the strength of the links of their associations, and not so much on their interconnectivity as our results suggest. Finally, the moderating effect should be explored more in-depth in order to better understand its impact upon the elaboration of associative networks and differentiation.

Ellefsen and Krogstad (2014) point out a paradox in marketing literature: *"even though differentiation is known as the core of brand positioning, very little research is conducted to understand it."* Our research help lessen this gap in extant literature. It also contributes to the development of Suppehellen's (2014) theory, which states differentiation occurs through secondary brand associations. Furthermore, by testing these previously developed theories about differentiation based on secondary associations using a different method, we help bring

validity to the findings of previous researchers. Finally, we go a step further by providing some insights on the content of these additional secondary associations that might be driving differentiation.

We can conclude that preferred brands are different from acceptable ones in terms of the higher degree of elaboration that can be found on the secondary level of brand associations. This is reflected by a higher number of secondary brand associations as well as by stronger connections in its network. Lastly, we conclude that the product category, whether it is high or low involvement, moderates the difference that can be found regarding the content of these additional secondary brand associations.

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APPENDIX

1. INTERVIEW GUIDE

1.1 ELICITATION GUIDE

"Thank you for agreeing to participate in this research as part of our Master Thesis in NHH. Its purpose is to delve deeper into what makes brands different from each other. This interview will take around 30 minutes. We would like confirm that all your answers will be strictly confidential and anonymous.

We will ask you a couple of question about one brand to reveal what kind of things you associate with it. Then, we will repeat the same process for another brand. Please keep in mind that it is perfectly normal in this type of interview for respondents to take some time to think of their answers, so do not feel pressured or uncomfortable during moments of silence."

I- Free Association Technique

Respondents will first be prodded to reveal their primary associations to the brand by asking the following question:

- *What comes to your mind when you think about (brand name)?*

II- Snowballing Technique

A snowballing technique would then be used to reveal secondary associations in order to refine the meaning of each of the primary associations previously mentioned:

- *What do you associate with (primary association)?*

III- Repeat

After primary associations are given depth be eliciting the secondary associations, respondents will be asked if they have any more association towards the brand. Then each of these newly mentioned associations will also be prodded for secondary associations

- *You first mentioned (x,y,z…) as associations that come to your mind when you think of (brand name). Is there anything else that comes to your mind when you think of (brand name)?*
- *What do you associate with (primary association)?*

IV- Burke and Edell Scale of Emotions

Respondents will be given two separate sheets of paper one after the other (See Appendix 1.1.1 and 1.1.2). The first one will be the a List of Feelings. They will then be read the following instructions:

"Now we would like to inquire what kind of feelings do you have for (Brand name). We are interested in your feelings towards the brand, not how you would describe it. We will provide you a list of emotions. Please mark all those emotions that relate to the way you feel about the brand."

Once respondents are done with the Feelings List, they will be given the Semantic Judgement List. They will be read the following instructions:

"Now we will provide you a list of words. We are interested in your thoughts about the brand and how would you describe it. Please mark all those words you believe describes (the brand"

Thank you for participating in our research.

1.1.1 Scale of Feelings

Please mark each word on the list you believe corresponds to <u>how you feel towards</u> (the brand):

1. Active
2. Affectionate
3. Alive
4. Amused
5. Attentive
6. Attractive
7. Bored
8. Calm
9. Carefree
10. Cheerful
11. Concerned
12. Confident
13. Contemplative
14. Convinced
15. Creative
16. Critical
17. Defiant
18. Delighted
19. Depressed
20. Disgusted
21. Disinterested
22. Dubious
23. Dull
24. Elated
25. Emotional
26. Energetic
27. Happy
28. Hopeful
29. Humorous
30. Independent
31. Industrious
32. Inspired
33. Interested
34. Joyous
35. Kind
36. Lazy
37. Lighthearted
38. Lonely
39. Moved
40. Offended
41. Patriotic
42. Peaceful
43. Pensive
44. Playful
45. Pleased
46. Proud
47. Regretful
48. Sad
49. Satisfied
50. Sentimental
51. Silly
52. Skeptical
53. Stimulated
54. Strong
55. Suspicious
56. Warmhearted

1.1.2 Scale of Semantic Judgment

Please mark each word on the list you believe <u>describes</u> (the brand):

1. Believable
2. Charming
3. Cheerful
4. Competent
5. Daring
6. Energetic
7. Exciting
8. For Me
9. Gentle
10. Down to Earth
11. Honest
12. Humorous
13. Imaginative
14. Informative
15. Ingenious
16. Intelligent
17. Interesting
18. Irritating
19. Meaningful to Me
20. Merry
21. Novel
22. Playful
23. Phony
24. Reliable
25. Ridiculous
26. Serene
27. Soothing
28. Sophisticated
29. Spirited
30. Successful
31. Tender
32. Tough
33. Terrible
34. Unique
35. Up-to-date
36. Upper class
37. Valuable
38. Vigorous
39. Wholesome
40. Worth Remembering

1.2 MAPPING GUIDE

"Thank you for agreeing to participate in this research as part of our Master Thesis in NHH. Its purpose is to delve deeper into what makes brands different from each other. This interview will take around 20 minutes. We would like confirm that all your answers will be strictly confidential and anonymous. Feel free to ask questions at any stage during the interview. "

Respondents will be instructed to build two brand concept maps, one for a smart phone brand and another for a beer brand. We will follow a factorial design, so half of the respondents will build the map for the smartphone first and the other for the beer brand first. We will provide an example of a brand concept map for Volkswagen Beetle to illustrate them how to build one. Afterwards, we will ask a few questions regarding their general feelings about each brand.

I- Fitting into the factorial design

"Before we start the mapping procedure, we want to know which brand you prefer of the two smart phone brands iPhone and Galaxy, and which brand you prefer of the two beer brands Hansa and Calsberg."

We then present to them the list of associations they will use to construct the associative network.

II- Choosing the core associations

"These 30 cards represent some of the possible brand association for (the brand). Think about what comes to your mind when you think of (the brand). You can choose from these 30 cards, and you can also add additional thoughts or feelings by writing them down on the blank cards in order to build the map."

When they are finished, we explain to them how to build an associative network.

III- Introducing the Brand Concept Map method

"Here is an example of brand concept map built for the Volkswagen Beetle. It is like a mental picture of a consumer's thoughts of brand. You can see that associations are connected to the brand and to each other through lines.

The number of lines represent the strength of the connection, with 3 being the strongest type of connection and 1 being the weakest. For example, the Beetle is "easy to park" (single-line connected), "inexpensive" (double-line connected), and "fun to drive" (triple-line

connected). Therefore, "Fun to drive" has the strongest connection to the Beetle among the three associations in the mind of that specific consumer.

You should also note that associations can be connected directly to the brand, or indirectly through other associations. Those connected directly to the brand can be considered as your strongest associations to the brand or the reasons you would choose it. Those associations indirectly connected to the brand through other associations help expand and explain the meaning of other associations. Take the Volkswagen Beetle for example. Being "inexpensive" is one of the reasons for a consumer to choose Volkswagen Beetle, and "good gas mileage" and "low sticker price" further explain what the consumer means by "inexpensive".

You can use the cards you chose at the beginning to develop your own brand concept map for (the brand). Remember that you should draw different types of lines to connect your associations. You will have enough time to complete the map, so do not feel rushed or pressured."

[After finish] *"Please review your map and see if you want to add any other connections or adjust the strength of any connections."*

[After final review] *"We will take a picture of your map."*

IV- Indicating the general feelings of and commitment into the brand

"Last, we would like to know your general attitude and feelings you have towards the brand. Please answer this short survey."

1.2.1 Mapping survey

Respondent _____

- I feel personally connected to (brand name).

  (5) Strongly agree

  (4) Agree

  (3) Neither agree nor disagree

  (2) Disagree

  (1) Strongly disagree

- If I use a number between 1 to 5 to indicate how I feel about (brand name), I would choose:

  (5) Extremely positive

  (4) Somewhat positive

  (3) Neutral

  (2) Somewhat negative

  (1) Extremely negative

Thank you for participating in our research!

2. DATA ANALYSIS

2.1 RELIABILITY ANALYSIS

2.1.1 Number of associations

Case Processing Summary

		N	%
Cases	Valid	80	100.0
	Excluded[a]	0	.0
	Total	80	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.960	3

Item Statistics

	Mean	Std. Deviation	N
Nr_A	13.6500	4.29041	80
Nr_Pst_A	12.6625	4.21253	80
Nr_A_S	8.3875	3.96980	80

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Nr_A	21.0500	61.390	.957	.908
Nr_Pst_A	22.0375	63.935	.927	.931
Nr_A_S	26.3125	70.724	.863	.978

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
34.7000	144.137	12.00569	3

2.1.2 Content of secondary associations

Case Processing Summary

		N	%
Cases	Valid	79	98.8
	Excluded[a]	1	1.3
	Total	80	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.773	6

Item Statistics

	Mean	Std. Deviation	N
Nr_B_S	3.7468	2.50368	79
Rt_B_S	.4162	.20635	79
Rt_B_A_S	1.2427	1.20014	79
Nr_Per_S	2.0759	1.73776	79
Rt_Per_S	.2291	.16496	79
Per_Atch	2.8228	1.15203	79

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Nr_B_S	6.7867	12.718	.844	.674
Rt_B_S	10.1174	32.111	.814	.780
Rt_B_A_S	9.2909	25.937	.546	.735
Nr_Per_S	8.4576	17.992	.885	.617
Rt_Per_S	10.3044	32.563	.779	.786
Per_Atch	7.7108	27.032	.476	.751

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.5336	34.057	5.83581	6

2.1.3 Connectivity of associative network

Case Processing Summary

		N	%
Cases	Valid	79	98.8
	Excluded[a]	1	1.3
	Total	80	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.805	9

Item Statistics

	Mean	Std. Deviation	N
Rt_Ct_A	1.0912	.12358	79
Rt_C_A_P	1.0606	.12167	79
Rt_C_A_S	1.1370	.28823	79
Rt_EtC	.5617	.19568	79
Rt_EtC_P	.7693	.23627	79
Rt_EtC_S	.4353	.27026	79
R_WCt_A	1.9409	.38234	79
R_WC_A_P	2.2697	.44490	79
R_WC_A_S	1.7746	.65595	79

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rt_Ct_A	9.9491	3.485	.439	.802
Rt_C_A_P	9.9797	3.553	.293	.808
Rt_C_A_S	9.9034	3.213	.393	.797
Rt_EtC	10.4786	3.179	.696	.777
Rt_EtC_P	10.2711	3.342	.353	.801
Rt_EtC_S	10.6050	3.085	.573	.779
R_WCt_A	9.0994	2.454	.920	.720
R_WC_A_P	8.7707	2.710	.542	.782
R_WC_A_S	9.2658	1.950	.721	.777

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.0403	3.702	1.92413	9

2.2 CORRELATIONS

Correlations

		Nr_A	Nr_Ng_A	Nr_AP	Nr_B_S	Rt_B_S	Rt_B_A_S	Nr_Per_S	Rt_Per_S	Per_Atch	Rt_Ct_A	Rt_C_A_P	Rt_C_A_S	Rt_EtC	Rt_EtC_P	Rt_EtC_S	R_WCt_A	R_WCA_P	R_WCA_S
Nr_A	Pearson Correlation	1	.208	.390**	.714**	.249*	.165	.653**	.281*	.465**	.230*	.231*	.070	.154	.100	.248*	.272*	.268*	.217
	Sig. (2-tailed)		.064	.000	.000	.027	.145	.000	.012	.000	.040	.039	.537	.173	.379	.028	.014	.016	.055
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Nr_Ng_A	Pearson Correlation	.208	1	.069	-.145	-.286*	-.076	-.098	-.161	-.331**	-.119	.014	-.175	.176	-.005	.204	.086	-.006	.021
	Sig. (2-tailed)	.064		.542	.200	.011	.507	.388	.157	.003	.292	.902	.123	.118	.962	.072	.446	.957	.854
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Nr_A_P	Pearson Correlation	.390**	.069	1	.019	.007	.209	.154	.185	.252*	.386**	.447**	.498**	.118	-.155	.056	.347**	.102	.402**
	Sig. (2-tailed)	.000	.542		.865	.949	.065	.172	.102	.024	.000	.000	.000	.299	.170	.621	.002	.367	.000
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Nr_B_S	Pearson Correlation	.714**	-.145	.019	1	.761**	.516**	.890**	.623**	.523**	.078	.090	-.141	.083	.168	.187	.089	.304**	-.025

	Sig. (2-tailed)	.000	.200	.865		.000	.000	.000	.000	.000	.492	.428	.214	.465	.137	.100	.431	.006	.824
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_B_S	Pearson Correlation	.249*	-.286*	.007	.761**	1	.807**	.702**	.800**	.334**	.013	.065	-.238*	.080	.055	.174	.043	.186	-.127
	Sig. (2-tailed)	.027	.011	.949	.000		.000	.000	.000	.003	.907	.569	.034	.484	.628	.126	.704	.100	.263
	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Rt_B_A_S	Pearson Correlation	.165	-.076	.209	.516**	.807**	1	.566**	.774**	.184	.050	.155	-.116	.100	-.072	.182	.090	.111	-.034
	Sig. (2-tailed)	.145	.507	.065	.000	.000		.000	.000	.105	.659	.171	.308	.382	.529	.108	.432	.328	.766
	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Nr_Per_S	Pearson Correlation	.653**	-.098	.154	.890**	.702**	.566**	1	.823**	.505**	.122	.161	-.085	.080	.118	.163	.118	.303**	-.005
	Sig. (2-tailed)	.000	.388	.172	.000	.000	.000		.000	.000	.280	.154	.456	.483	.296	.151	.295	.006	.967
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_Per_S	Pearson Correlation	.281*	-.161	.185	.623**	.800**	.774**	.823**	1	.314**	.106	.160	-.118	.075	.005	.147	.107	.200	-.058
	Sig. (2-tailed)	.012	.157	.102	.000	.000	.000	.000		.005	.351	.159	.298	.514	.965	.197	.346	.077	.613

	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Per_Atch	Pearson Correlation	.465**	-.331**	.252*	.523**	.334**	.184	.505**	.314**	1	.216	.254*	.144	.324**	.236*	.306**	.413**	.417**	.319**
	Sig. (2-tailed)	.000	.003	.024	.000	.003	.105	.000	.005		.055	.023	.206	.003	.035	.006	.000	.000	.004
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_Ct_A	Pearson Correlation	.230*	-.119	.386**	.078	.013	.050	.122	.106	.216	1	.594**	.749**	-.100	-.143	-.040	.464**	.231*	.492**
	Sig. (2-tailed)	.040	.292	.000	.492	.907	.659	.280	.351	.055		.000	.000	.376	.205	.728	.000	.039	.000
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_C_A_P	Pearson Correlation	.231*	.014	.447**	.090	.065	.155	.161	.160	.254*	.594**	1	.290**	-.018	-.197	.031	.311**	.393**	.227*
	Sig. (2-tailed)	.039	.902	.000	.428	.569	.171	.154	.159	.023	.000		.009	.871	.080	.787	.005	.000	.044
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_C_A_S	Pearson Correlation	.070	-.175	.498**	-.141	-.238*	-.116	-.085	-.118	.144	.749**	.290**	1	-.061	-.115	-.073	.378**	.061	.707**
	Sig. (2-tailed)	.537	.123	.000	.214	.034	.308	.456	.298	.206	.000	.009		.592	.313	.524	.001	.596	.000
	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79

Rt_EtC	Pearson Correlation	.154	.176	.118	.083	.080	.100	.080	.075	.324**	-.100	-.018	-.061	1	.554**	.877**	.795**	.549**	.544**
	Sig. (2-tailed)	.173	.118	.299	.465	.484	.382	.483	.514	.003	.376	.871	.592		.000	.000	.000	.000	.000
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_EtC_P	Pearson Correlation	.100	-.005	-.155	.168	.055	-.072	.118	.005	.236*	-.143	-.197	-.115	.554**	1	.231*	.401**	.738**	.111
	Sig. (2-tailed)	.379	.962	.170	.137	.628	.529	.296	.965	.035	.205	.080	.313	.000		.040	.000	.000	.330
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
Rt_EtC_S	Pearson Correlation	.248*	.204	.056	.187	.174	.182	.163	.147	.306**	-.040	.031	-.073	.877**	.231*	1	.701**	.320**	.598**
	Sig. (2-tailed)	.028	.072	.621	.100	.126	.108	.151	.197	.006	.728	.787	.524	.000	.040		.000	.004	.000
	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
R_WCt_A	Pearson Correlation	.272*	.086	.347**	.089	.043	.090	.118	.107	.413**	.464**	.311**	.378**	.795**	.401**	.701**	1	.653**	.775**
	Sig. (2-tailed)	.014	.446	.002	.431	.704	.432	.295	.346	.000	.000	.005	.001	.000	.000	.000		.000	.000
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79

R_WC_A_P	Pearson Correlation	.268*	-.006	.102	.304**	.186	.111	.303**	.200	.417**	.231*	.393**	.061	.549**	.738**	.320**	.653**	1	.280*
	Sig. (2-tailed)	.016	.957	.367	.006	.100	.328	.006	.077	.000	.039	.000	.596	.000	.000	.004	.000		.013
	N	80	80	80	80	79	79	80	79	80	80	80	79	80	80	79	80	80	79
R_WC_A_S	Pearson Correlation	.217	.021	.402**	-.025	-.127	-.034	-.005	-.058	.319**	.492**	.227*	.707**	.544**	.111	.598**	.775**	.280*	1
	Sig. (2-tailed)	.055	.854	.000	.824	.263	.766	.967	.613	.004	.000	.044	.000	.000	.330	.000	.000	.013	
	N	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

2.3 HOMOGENEITY OF VARIANCE

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Nr_A	2.007	1	78	.161
Nr_Ng_A	2.029	1	78	.158
Nr_A_P	1.748	1	78	.190
Nr_B_S	9.816	1	78	.002
Rt_B_S	.006	1	77	.940
Rt_B_A_S	.001	1	77	.971
Nr_Per_S	16.766	1	78	.000
Rt_Per_S	.759	1	77	.386
Rt_Ct_A	2.124	1	78	.149
Rt_C_A_P	1.107	1	78	.296
Rt_C_A_S	.401	1	77	.528
Rt_EtC	.181	1	78	.672
Rt_EtC_P	.802	1	78	.373
Rt_EtC_S	1.618	1	77	.207
R_WCt_A	.832	1	78	.365
R_WC_A_P	.342	1	78	.560
R_WC_A_S	.933	1	77	.337

3. RESEAUCH RESULTS

3.1 ONE-WAY ANOVA: PREFERRED VS. ACCEPTABLE

3.1.1 Number of brand associations

Descriptives

Total number of associations

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Preferred	40	15.3500	4.31188	.68177	13.9710	16.7290	7.00	25.00
Acceptable	40	11.9500	3.57305	.56495	10.8073	13.0927	4.00	21.00
Total	80	13.6500	4.29041	.47968	12.6952	14.6048	4.00	25.00

ANOVA

Total number of associations

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	231.200	1	231.200	14.745	.000
Within Groups	1223.000	78	15.679		
Total	1454.200	79			

3.1.2 Number of negative associations

Descriptives

Number of negative associations

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Preferred	40	.5750	.87376	.13815	.2956	.8544	.00	3.00
Acceptable	40	1.4000	1.44648	.22871	.9374	1.8626	.00	8.00
Total	80	.9875	1.25782	.14063	.7076	1.2674	.00	8.00

ANOVA

Number of negative associations

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.612	1	13.612	9.533	.003
Within Groups	111.375	78	1.428		
Total	124.988	79			

3.1.3 Number of primary associations

Descriptives

Number of the primary associations

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Preferred	40	5.4000	2.22803	.35228	4.6874	6.1126	3.00	12.00
Acceptable	40	5.1000	1.91887	.30340	4.4863	5.7137	2.00	12.00
Total	80	5.2500	2.07151	.23160	4.7890	5.7110	2.00	12.00

ANOVA

Number of the primary associations

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.800	1	1.800	.416	.521
Within Groups	337.200	78	4.323		
Total	339.000	79			

3.1.4 Benefit associations

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Number of the benefit associations on secondary level	Preferred	40	4.8000	2.68137	.42396	3.9425	5.6575	.00	11.00
	Acceptable	40	2.6000	1.79458	.28375	2.0261	3.1739	.00	7.00
	Total	80	3.7000	2.52281	.28206	3.1386	4.2614	.00	11.00
Ratio of benefit associations to the total amount of associations on secondary level	Preferred	40	.4672	.20000	.03162	.4033	.5312	.00	.86
	Acceptable	39	.3638	.20197	.03234	.2983	.4292	.00	.83
	Total	79	.4162	.20635	.02322	.3699	.4624	.00	.86
Ratio of benefit to attribute associations on secondary level	Preferred	40	1.3438	1.22439	.19359	.9522	1.7354	.00	6.00
	Acceptable	39	1.1390	1.18155	.18920	.7560	1.5220	.00	5.00
	Total	79	1.2427	1.20014	.13503	.9739	1.5115	.00	6.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Number of the benefit associations on the secondary level	Between Groups	96.800	1	96.800	18.597	.000
	Within Groups	406.000	78	5.205		
	Total	502.800	79			
Ratio of benefit associations to the total amount of associations on the secondary level	Between Groups	.211	1	.211	5.234	.025
	Within Groups	3.110	77	.040		
	Total	3.321	78			
Ratio of benefit to attribute associations on the secondary level	Between Groups	.828	1	.828	.572	.452
	Within Groups	111.517	77	1.448		
	Total	112.345	78			

3.1.5 Personality trait associations

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Number of personality traits on the secondary level	Preferred	40	2.7250	1.97403	.31212	2.0937	3.3563	.00	7.00
	Acceptable	40	1.3750	1.14774	.18147	1.0079	1.7421	.00	4.00
	Total	80	2.0500	1.74225	.19479	1.6623	2.4377	.00	7.00
Ratio of personality traits to total associations on secondary level	Preferred	40	.2589	.17125	.02708	.2041	.3136	.00	.71
	Acceptable	39	.1986	.15451	.02474	.1485	.2487	.00	.67
	Total	79	.2291	.16496	.01856	.1922	.2661	.00	.71

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Number of personality traits on secondary level	Between Groups	36.450	1	36.450	13.981	.000
	Within Groups	203.350	78	2.607		
	Total	239.800	79			
Ratio of personality traits to total associations on the secondary level	Between Groups	.072	1	.072	2.689	.105
	Within Groups	2.051	77	.027		
	Total	2.123	78			

3.1.6 Score on personal attachment

Descriptives

Personal attachment

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Preferred Brand	40	3.5500	.93233	.14741	3.2518	3.8482	1.00	5.00
Acceptable Brand	40	2.0500	.84580	.13373	1.7795	2.3205	1.00	4.00
Total	80	2.8000	1.16271	.13000	2.5413	3.0587	1.00	5.00

ANOVA

Personal attachment

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	45.000	1	45.000	56.796	.000
Within Groups	61.800	78	.792		
Total	106.800	79			

3.1.7 Ratio of connections to associations

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ratio of connections to associations	Preferred	40	1.1083	.13116	.02074	1.0664	1.1503	1.00	1.46
	Acceptable	40	1.0719	.11344	.01794	1.0356	1.1082	1.00	1.38
	Total	80	1.0901	.12321	.01378	1.0627	1.1175	1.00	1.46
Ratio of connections to associations on the primary level	Preferred	40	1.0661	.12494	.01976	1.0261	1.1060	.89	1.40
	Acceptable	40	1.0536	.11836	.01871	1.0158	1.0915	1.00	1.50
	Total	80	1.0599	.12108	.01354	1.0329	1.0868	.89	1.50
Ratio of connections to associations on the secondary level	Preferred	40	1.1685	.33895	.05359	1.0601	1.2769	1.00	3.00
	Acceptable	39	1.1047	.22473	.03599	1.0319	1.1776	1.00	2.00
	Total	79	1.1370	.28823	.03243	1.0724	1.2016	1.00	3.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Ratio of connections to associations	Between Groups	.027	1	.027	1.764	.188
	Within Groups	1.173	78	.015		
	Total	1.199	79			
Ratio of connections to associations on the primary level	Between Groups	.003	1	.003	.209	.649
	Within Groups	1.155	78	.015		
	Total	1.158	79			
Ratio of connections to associations on the secondary level	Between Groups	.080	1	.080	.966	.329
	Within Groups	6.400	77	.083		
	Total	6.480	78			

3.1.8 Ratio of extraordinary connections to total connections

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ratio of extraordinary connections to total connections	Preferred	40	.6247	.17233	.02725	.5696	.6799	.22	1.00
	Acceptable	40	.4972	.19656	.03108	.4343	.5601	.00	1.00
	Total	80	.5610	.19456	.02175	.5177	.6043	.00	1.00
Ratio of extraordinary connections to total connections on primary level	Preferred	40	.8326	.19821	.03134	.7692	.8960	.38	1.33
	Acceptable	40	.6992	.25510	.04034	.6176	.7808	.00	1.50
	Total	80	.7659	.23670	.02646	.7132	.8186	.00	1.50
Ratio of extraordinary connections to total connections on secondary level	Preferred	40	.5306	.22566	.03568	.4585	.6028	.00	1.00
	Acceptable	39	.3376	.27980	.04480	.2469	.4283	.00	1.00
	Total	79	.4353	.27026	.03041	.3748	.4959	.00	1.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Ratio of extraordinary connections to total connections	Between Groups	.325	1	.325	9.524	.003
	Within Groups	2.665	78	.034		
	Total	2.991	79			
Ratio of extraordinary connections to total connections on the primary level	Between Groups	.356	1	.356	6.818	.011
	Within Groups	4.070	78	.052		
	Total	4.426	79			
Ratio of extraordinary connections to total connections on the secondary level	Between Groups	.736	1	.736	11.424	.001
	Within Groups	4.961	77	.064		
	Total	5.697	78			

3.1.9 Ratio of weighted connections to associations

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Ratio of weighted connections to associations	Preferred	40	2.0696	.37343	.05905	1.9502	2.1890	1.50	2.87
	Acceptable	40	1.8074	.34436	.05445	1.6973	1.9176	1.14	2.61
	Total	80	1.9385	.38051	.04254	1.8538	2.0232	1.14	2.87
Ratio of weighted connections to associations on the primary level	Preferred	40	2.3962	.39351	.06222	2.2703	2.5220	1.71	3.25
	Acceptable	40	2.1302	.45997	.07273	1.9831	2.2773	1.00	3.25
	Total	80	2.2632	.44588	.04985	2.1640	2.3624	1.00	3.25
Ratio of weighted connections to associations on secondary level	Preferred	40	1.9940	.77010	.12176	1.7477	2.2403	1.20	6.00
	Acceptable	39	1.5495	.41452	.06638	1.4151	1.6838	1.00	2.55
	Total	79	1.7746	.65595	.07380	1.6276	1.9215	1.00	6.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Ratio of weighted connections to associations	Between Groups	1.375	1	1.375	10.656	.002
	Within Groups	10.063	78	.129		
	Total	11.438	79			
Ratio of weighted connections to associations on the primary level	Between Groups	1.415	1	1.415	7.725	.007
	Within Groups	14.290	78	.183		
	Total	15.706	79			
Ratio of weighted connections to associations on the secondary level	Between Groups	3.903	1	3.903	10.133	.002
	Within Groups	29.658	77	.385		
	Total	33.561	78			

3.2 PROCESS: BEER VS. SMARTPHONE

3.2.1 Number of brand associations

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Nr_A
    X = Pref_Not
    M = Prod_Cat
Sample size
        80
**************************************************************************
Outcome: Nr_A
Model Summary
R       R-sq      MSE        F         df1      df2         p
,4841   ,2344    14,6500    7,7543     3,0000    76,0000     ,0001
Model
            coeff        se         t         p      LLCI      ULCI
constant    11,8500     4,2793     2,7691     ,0071    3,3270    20,3730
Prod_Cat     4,6000     2,7065     1,6996     ,0933    -,7904     9,9904
Pref_Not    -1,0000     2,7065     -,3695     ,7128   -6,3904     4,3904
int_1      -1,6000     1,7117     -,9347     ,3529   -5,0092     1,8092
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2          p
int_1     ,0088       ,8737     1,0000    76,0000     ,3529
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect        se         t         p      LLCI      ULCI
1,0000      -2,6000     1,2104    -2,1481     ,0349    -5,0107     -,1893
2,0000      -4,2000     1,2104    -3,4700     ,0009    -6,6107    -1,7893
**************************************************************************
    Pref_Not   Prod_Cat    Nr_A.
     1,0000     1,0000    13,8500
     2,0000     1,0000    11,2500
     1,0000     2,0000    16,8500
     2,0000     2,0000    12,6500
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.2 Number of negative associations

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Nr_Ng_A
    X = Pref_Not
    M = Prod_Cat
Sample size
        80
**************************************************************************
Outcome: Nr_Ng_A
Model Summary
R         R-sq       MSE         F       df1       df2         p
,4404     ,1939     1,3257      6,0945    3,0000    76,0000     ,0009
Model
            coeff        se         t         p      LLCI      ULCI
constant    2,0000    1,2873    1,5537     ,1244    -,5638    4,5638
Prod_Cat   -1,5000     ,8141   -1,8424     ,0693   -3,1215     ,1215
Pref_Not   -1,0500     ,8141   -1,2897     ,2011   -2,6715     ,5715
int_1       1,2500     ,5149    2,4276     ,0176     ,2245    2,2755
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0625       5,8933    1,0000    76,0000     ,0176
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect        se         t         p      LLCI      ULCI
1,0000       ,2000      ,3641     ,5493     ,5844    -,5252     ,9252
2,0000      1,4500      ,3641    3,9825     ,0002     ,7248    2,1752
**************************************************************************
    Pref_Not   Prod_Cat   Nr_Ng_A.
     1,0000    1,0000     ,7000
     2,0000    1,0000     ,9000
     1,0000    2,0000     ,4500
     2,0000    2,0000    1,9000
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output:95,00
```

3.2.3 Number of primary associations

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Nr_A_P
    X = Pref_Not
    M = Prod_Cat
Sample size
        80
**************************************************************************
Outcome: Nr_A_P
Model Summary
R         R-sq       MSE         F       df1       df2         p
,2423     ,0587    4,1987    1,5799    3,0000    76,0000     ,2012
Model
            coeff        se         t         p      LLCI      ULCI
constant    4,0500     2,2909    1,7678     ,0811    -,5128    8,6128
Prod_Cat    1,1000     1,4489     ,7592     ,4501   -1,7858    3,9858
Pref_Not    -,1500     1,4489    -,1035     ,9178   -3,0358    2,7358
int_1       -,1000      ,9164    -,1091     ,9134   -1,9251    1,7251
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1    ,0001         ,0119    1,0000    76,0000     ,9134
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect    se         t         p      LLCI       ULCI
1,0000    -,2500     ,6480    -,3858     ,7007   -1,5406    1,0406
2,0000    -,3500     ,6480    -,5401     ,5907   -1,6406     ,9406
**************************************************************************
    Pref_Not   Prod_Cat    Nr_A_P.
     1,0000    1,0000    4,9000
     2,0000    1,0000    4,6500
     1,0000    2,0000    5,9000
     2,0000    2,0000    5,5500
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.4 Number of benefit associations on the secondary level

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Nr_B_S
    X = Pref_Not
    M = Prod_Cat
Sample size
        80
**************************************************************************
Outcome: Nr_B_S
Model Summary
R         R-sq       MSE         F         df1       df2         p
,6499     ,4224      3,8211    18,5289     3,0000    76,0000     ,0000
Model
            coeff        se         t         p       LLCI      ULCI
constant    -3,2000     2,1855    -1,4642     ,1473    -7,5528     1,1528
Prod_Cat     6,8000     1,3822     4,9196     ,0000     4,0471     9,5529
Pref_Not     2,9000     1,3822     2,0981     ,0392      ,1471     5,6529
int_1       -3,4000      ,8742    -3,8893     ,0002    -5,1411    -1,6589
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F         df1       df2         p
int_1     ,1150      15,1267     1,0000     76,0000     ,0002
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect        se      t         p       LLCI      ULCI
1,0000      -,5000       ,6181    -,8089     ,4211    -1,7311     ,7311
2,0000      -3,9000      ,6181    -6,3092    ,0000    -5,1311    -2,6689
**************************************************************************
    Pref_Not   Prod_Cat    Nr_B_S.
     1,0000     1,0000     3,1000
     2,0000     1,0000     2,6000
     1,0000     2,0000     6,5000
     2,0000     2,0000     2,6000
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.4.1 Ratio of benefit associations on the secondary level

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Rt_B_S
    X = Pref_Not
    M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: Rt_B_S
Model Summary
R          R-sq       MSE         F         df1         df2           p
,5336      ,2848      ,0317      9,9542    3,0000    75,0000      ,0000
Model
             coeff       se         t          p        LLCI       ULCI
constant     -,2739      ,1998    -1,3709      ,1745     -,6720      ,1241
Prod_Cat      ,5629      ,1262     4,4612      ,0000      ,3115      ,8143
Pref_Not      ,3361      ,1272     2,6427      ,0100      ,0827      ,5894
int_1        -,2928      ,0801    -3,6551      ,0005     -,4524     -,1332
Interactions:
int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1      ,1274    13,3597    1,0000    75,0000      ,0005
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect      se         t         p      LLCI      ULCI
1,0000      ,0432       ,0570      ,7582     ,4507     -,0703      ,1568
2,0000     -,2496       ,0563    -4,4348     ,0000     -,3617     -,1375
**************************************************************************
    Pref_Not   Prod_Cat    Rt_B_S.
     1,0000     1,0000      ,3322
     2,0000     1,0000      ,3754
     1,0000     2,0000      ,6023
     2,0000     2,0000      ,3527
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was:1
```

3.2.4.2 Ratio of benefit to attribute associations on the secondary level

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Rt_B_A_S
    X = Pref_Not
    M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: Rt_B_A_S
Model Summary
R         R-sq       MSE         F         df1         df2          p
,4277     ,1830     1,2239     5,5983    3,0000     75,0000     ,0016
Model
            coeff        se         t          p         LLCI       ULCI
constant   -1,8782    1,2421    -1,5122     ,1347    -4,3525     ,5961
Prod_Cat    2,2880     ,7843     2,9172     ,0047     ,7256     3,8505
Pref_Not    1,2023     ,7905     1,5211     ,1324     -,3723     2,7770
int_1       -,9416     ,4980    -1,8907     ,0625    -1,9336     ,0505
Interactions:
int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
       R2-chng         F       df1       df2         p
int_1     ,0389    3,5749    1,0000    75,0000     ,0625
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect      se         t         p      LLCI       ULCI
1,0000     ,2608      ,3544      ,7358     ,4642     -,4453     ,9668
2,0000    -,6808      ,3498    -1,9460     ,0554    -1,3777     ,0161
**************************************************************************
    Pref_Not   Prod_Cat  Rt_B_A_S.
    1,0000    1,0000     ,6706
    2,0000    1,0000     ,9314
    1,0000    2,0000    2,0170
    2,0000    2,0000    1,3363
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was: 1
```

3.2.5 Number of personality trait associations on the secondary level

```
Run MATRIX procedure:
**************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Nr_Per_S
    X = Pref_Not
    M = Prod_Cat
Sample size
        80
**************************************************************************
Outcome: Nr_Per_S
Model Summary
R        R-sq       MSE         F        df1       df2         p
,6601     ,4358     1,7803    19,5664     3,0000    76,0000     ,0000
Model
            coeff        se         t         p      LLCI      ULCI
constant    -2,7500    1,4918    -1,8435     ,0692    -5,7211     ,2211
Prod_Cat     4,5500     ,9435     4,8226     ,0000     2,6709     6,4291
Pref_Not     1,6500     ,9435     1,7489     ,0844     -,2291     3,5291
int_1       -2,0000     ,5967    -3,3518     ,0013    -3,1884     -,8116
Interactions:
int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0834    11,2343    1,0000    76,0000     ,0013
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect      se         t         p       LLCI      ULCI
1,0000      -,3500     ,4219     -,8295     ,4094    -1,1904     ,4904
2,0000     -2,3500     ,4219    -5,5696     ,0000    -3,1904    -1,5096
**************************************************************************
    Pref_Not   Prod_Cat   Nr_Per_S.
     1,0000     1,0000     1,4500
     2,0000     1,0000     1,1000
     1,0000     2,0000     4,0000
     2,0000     2,0000     1,6500
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.5.1 Ratio of personality trait associations on the secondary level

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Rt_Per_S
    X = Pref_Not
    M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: Rt_Per_S
Model Summary
R          R-sq       MSE         F          df1       df2          p
,5573      ,3106      ,0195      11,2654    3,0000    75,0000      ,0000
Model
            coeff        se         t          p        LLCI        ULCI
constant     -,2712      ,1568    -1,7294      ,0878     -,5836      ,0412
Prod_Cat      ,3941      ,0990     3,9801      ,0002      ,1969      ,5914
Pref_Not      ,1817      ,0998     1,8204      ,0727     -,0171      ,3805
int_1        -,1619      ,0629    -2,5745      ,0120     -,2871     -,0366
Interactions:
int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1      ,0609     6,6280    1,0000    75,0000      ,0120
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect      se         t          p        LLCI       ULCI
1,0000       ,0198      ,0447      ,4426      ,6593     -,0693      ,1089
2,0000      -,1421      ,0442    -3,2163      ,0019     -,2301     -,0541
**************************************************************************
    Pref_Not   Prod_Cat   Rt_Per_S.
     1,0000     1,0000      ,1427
     2,0000     1,0000      ,1625
     1,0000     2,0000      ,3750
     2,0000     2,0000      ,2329
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was:1
```

3.2.6 Score on personal attachment

```
Run MATRIX procedure:
**************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Per_Atch
   X = Pref_Not
   M = Prod_Cat
Sample size
       80
**************************************************************************
Outcome: Per_Atch
Model Summary
R        R-sq       MSE       F        df1       df2         p
,7414    ,5496     ,6329    30,9161    3,0000    76,0000     ,0000
Model
            coeff        se         t         p      LLCI      ULCI
constant    1,1500     ,8894    1,2929     ,1999    -,6215    2,9215
Prod_Cat    2,6000     ,5625    4,6219     ,0000    1,4796    3,7204
Pref_Not     ,7500     ,5625    1,3332     ,1864    -,3704    1,8704
int_1      -1,5000     ,3558   -4,2161     ,0001   -2,2086    -,7914
Interactions:
int_1    Pref_Not    X    Prod_Cat
R-square increase due to interaction(s):
       R2-chng         F       df1       df2         p
int_1     ,1053   17,7755    1,0000   76,0000     ,0001
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect      se        t         p      LLCI       ULCI
1,0000     -,7500     ,2516   -2,9812    ,0039   -1,2511    -,2489
2,0000    -2,2500     ,2516   -8,9437    ,0000   -2,7511   -1,7489
**************************************************************************
   Pref_Not   Prod_Cat   Per_Atch.
    1,0000    1,0000    3,0000
    2,0000    1,0000    2,2500
    1,0000    2,0000    4,1000
    2,0000    2,0000    1,8500
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.7 Ratio of connections to associations

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Rt_Ct_A
   X = Pref_Not
   M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: Rt_Ct_A
Model Summary
R        R-sq       MSE      F         df1       df2         p
,2018    ,0407     ,0151    1,0757    3,0000    76,0000      ,3645

Model
            coeff        se         t         p      LLCI      ULCI
constant     ,9946     ,1376    7,2306     ,0000     ,7207    1,2686
Prod_Cat     ,1001     ,0870    1,1500     ,2537    -,0732     ,2733
Pref_Not     ,0638     ,0870     ,7336     ,4655    -,1095     ,2371
int_1       -,0668     ,0550   -1,2145     ,2283    -,1764     ,0428

Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0186    1,4750    1,0000    76,0000     ,2283
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect      se        t         p        LLCI       ULCI
1,0000      -,0030     ,0389     -,0772     ,9386    -,0805     ,0745
2,0000      -,0698     ,0389    -1,7948     ,0767    -,1473     ,0077
**************************************************************************
    Pref_Not   Prod_Cat   Rt_Ct_A.
     1,0000    1,0000    1,0917
     2,0000    1,0000    1,0887
     1,0000    2,0000    1,1249
     2,0000    2,0000    1,0551
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.7.1 Ratio of connections to associations on the primary level

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Rt_C_A_P
   X = Pref_Not
   M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: Rt_C_A_P
Model Summary
R        R-sq       MSE        F       df1       df2         p
,1687    ,0285     ,0148     ,7424    3,0000    76,0000     ,5301
Model
            coeff        se         t         p      LLCI      ULCI
constant     ,8966     ,1360    6,5903     ,0000     ,6256    1,1675
Prod_Cat     ,1213     ,0860    1,4097     ,1627    -,0501     ,2927
Pref_Not     ,1013     ,0860    1,1772     ,2428    -,0701     ,2727
int_1       -,0758     ,0544   -1,3932     ,1676    -,1842     ,0326

Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0248    1,9410    1,0000   76,0000     ,1676
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect     se         t         p       LLCI       ULCI
1,0000     ,0255     ,0385     ,6621     ,5099    -,0512     ,1021
2,0000    -,0503     ,0385   -1,3082     ,1948    -,1270     ,0263
**************************************************************************
   Pref_Not   Prod_Cat   Rt_C_A_P.
    1,0000    1,0000    1,0433
    2,0000    1,0000    1,0688
    1,0000    2,0000    1,0888
    2,0000    2,0000    1,0385
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output:
   95,00
```

3.2.7.2 Ratio of connections to associations on the secondary level

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 *************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = Rt_C_A_S
    X = Pref_Not
    M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: Rt_C_A_S
Model Summary
R        R-sq      MSE         F       df1       df2         p
,1297    ,0168      ,0849     ,4279    3,0000    75,0000     ,7336
Model
            coeff        se         t         p      LLCI      ULCI
constant     1,4122     ,3272    4,3157     ,0000     ,7604    2,0641
Prod_Cat     -,1198     ,2066    -,5798     ,5638    -,5314     ,2918
Pref_Not     -,1692     ,2082    -,8124     ,4192    -,5840     ,2457
int_1         ,0701     ,1312     ,5343     ,5947    -,1913     ,3315
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0037     ,2855    1,0000    75,0000     ,5947
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat     Effect      se         t         p        LLCI       ULCI
1,0000      -,0991     ,0934    -1,0611     ,2921     -,2851     ,0869
2,0000      -,0290     ,0922     -,3144     ,7541     -,2126     ,1546
**************************************************************************
    Pref_Not    Prod_Cat   Rt_C_A_S.
     1,0000     1,0000     1,1933
     2,0000     1,0000     1,0943
     1,0000     2,0000     1,1436
     2,0000     2,0000     1,1146
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was: 1
```

3.2.8 Ratio of extraordinary connections to total connections

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Rt_EtC
   X = Pref_Not
   M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: Rt_EtC
Model Summary
R        R-sq      MSE       F        df1       df2        p
,3559    ,1267     ,0344     3,6754    3,0000    76,0000     ,0157
Model
            coeff        se         t         p      LLCI      ULCI
constant     ,8352     ,2073     4,0297     ,0001     ,4224     1,2479
Prod_Cat    -,0552     ,1311     -,4214     ,6746    -,3163     ,2058
Pref_Not    -,2234     ,1311    -1,7046     ,0923    -,4845     ,0376
int_1        ,0639     ,0829     ,7710     ,4431    -,1012     ,2290
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0068     ,5945     1,0000    76,0000     ,4431
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect     se        t         p       LLCI      ULCI
1,0000     -,1595     ,0586    -2,7212     ,0081    -,2763    -,0428
2,0000     -,0956     ,0586    -1,6308     ,1071    -,2124     ,0212
**************************************************************************
    Pref_Not   Prod_Cat    Rt_EtC.
     1,0000     1,0000     ,6204
     2,0000     1,0000     ,4609
     1,0000     2,0000     ,6291
     2,0000     2,0000     ,5335
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output:
   95,00
```

3.2.8.1 Ratio of extraordinary connections to total connections on the primary level

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Rt_EC_P
   X = Pref_Not
   M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: Rt_EtC_P
Model Summary
R        R-sq       MSE       F         df1       df2         p
,2876     ,0827     ,0534     2,2843     3,0000    76,0000     ,0856

Model
            coeff         se         t         p       LLCI      ULCI
constant     1,0380     ,2584     4,0171     ,0001     ,5234     1,5527
Prod_Cat     -,0480     ,1634     -,2940     ,7696    -,3735     ,2775
Pref_Not     -,1926     ,1634    -1,1786     ,2422    -,5181     ,1329
int_1         ,0395     ,1034     ,3821     ,7034    -,1664     ,2454

Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0018     ,1460     1,0000    76,0000     ,7034
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect      se       t         p       LLCI      ULCI
1,0000     -,1531     ,0731    -2,0950     ,0395    -,2987    -,0076
2,0000     -,1136     ,0731    -1,5546     ,1242    -,2592     ,0319
**************************************************************************
   Pref_Not   Prod_Cat    Rt_EtC_P.
    1,0000     1,0000     ,8369
    2,0000     1,0000     ,6838
    1,0000     2,0000     ,8283
    2,0000     2,0000     ,7147
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output:
   95,00
```

3.2.8.2 Ratio of extraordinary connections to total connections on the secondary level

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
   Y = Rt_EtC_S
   X = Pref_Not
   M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: Rt_EtC_S
Model Summary
R        R-sq       MSE       F        df1       df2        p
,3802    ,1446     ,0650    4,2250    3,0000    75,0000     ,0081
Model
            coeff        se         t         p      LLCI      ULCI
constant     ,7562     ,2862    2,6422     ,0100     ,1860    1,3263
Prod_Cat    -,0209     ,1807    -,1156     ,9083    -,3809     ,3391
Pref_Not    -,2762     ,1821   -1,5163     ,1336    -,6390     ,0867
int_1        ,0547     ,1147     ,4763     ,6353    -,1739     ,2832

Interactions:
 int_1    Pref_Not    X    Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0026     ,2268    1,0000    75,0000     ,6353
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect     se       t          p       LLCI      ULCI
1,0000    -,2215     ,0817   -2,7127     ,0083    -,3842    -,0588
2,0000    -,1669     ,0806   -2,0701     ,0419    -,3275    -,0063
**************************************************************************
   Pref_Not   Prod_Cat   Rt_EtC_S.
    1,0000    1,0000     ,5138
    2,0000    1,0000     ,2922
    1,0000    2,0000     ,5475
    2,0000    2,0000     ,3806
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was: 1
```

3.2.9 Ratio of weighted connections to associations

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Release 2.12.1 **************
         Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = R_WCt_A
    X = Pref_Not
    M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: R_WCt_A
Model Summary
R        R-sq       MSE       F        df1       df2         p
,3530    ,1246     ,1318    3,6058    3,0000    76,0000     ,0171
Model
            coeff        se         t         p      LLCI      ULCI
constant    2,1706     ,4058    5,3486     ,0000    1,3623    2,9788
Prod_Cat     ,1075     ,2567     ,4188     ,6765    -,4037     ,6187
Pref_Not    -,2005     ,2567    -,7810     ,4372    -,7116     ,3107
int_1       -,0412     ,1623    -,2535     ,8005    -,3645     ,2821

Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0007     ,0643    1,0000    76,0000     ,8005
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect     se        t         p        LLCI      ULCI
1,0000    -,2416     ,1148    -2,1049     ,0386    -,4702    -,0130
2,0000    -,2828     ,1148    -2,4635     ,0160    -,5114    -,0542
**************************************************************************
    Pref_Not   Prod_Cat   R_WCt_A.
     1,0000    1,0000    2,0364
     2,0000    1,0000    1,7948
     1,0000    2,0000    2,1028
     2,0000    2,0000    1,8200
******************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
```

3.2.9.1 Ratio of weighted connections to associations on the primary level

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = R_WC_A_P
    X = Pref_Not
    M = Prod_Cat
Sample size 80
**************************************************************************
Outcome: R_WC_A_P
Model Summary
R       R-sq       MSE       F        df1       df2        p
,3265    ,1066     ,1846    3,0230    3,0000    76,0000     ,0347
Model
            coeff        se         t         p      LLCI      ULCI
constant    2,1250     ,4804    4,4234     ,0000    1,1682    3,0818
Prod_Cat     ,3581     ,3038    1,1787     ,2422    -,2470     ,9633
Pref_Not     ,0455     ,3038     ,1499     ,8813    -,5596     ,6507
int_1       -,2077     ,1922   -1,0809     ,2832    -,5904     ,1750
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2         p
int_1     ,0137    1,1683    1,0000    76,0000     ,2832
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect     se        t         p        LLCI      ULCI
1,0000     -,1622     ,1359    -1,1935     ,2364    -,4328     ,1085
2,0000     -,3699     ,1359    -2,7220     ,0080    -,6405    -,0992
**************************************************************************
    Pref_Not   Prod_Cat   R_WC_A_P.
     1,0000    1,0000     2,3210
     2,0000    1,0000     2,1588
     1,0000    2,0000     2,4714
     2,0000    2,0000     2,1015
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output:95,00
```

3.2.9.2 Ratio of weighted connections to associations on the secondary level

```
Run MATRIX procedure:
*************** PROCESS Procedure for SPSS Release 2.12.1 **************
        Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
   Documentation available in Hayes (2013). www.guilford.com/p/hayes3
**************************************************************************
Model = 1
    Y = R_WC_A_S
    X = Pref_Not
    M = Prod_Cat
Sample size 79
**************************************************************************
Outcome: R_WC_A_S
Model Summary
R       R-sq       MSE       F        df1       df2        p
,3552    ,1261     ,3910    3,6085    3,0000    75,0000     ,0171
Model
            coeff        se         t         p      LLCI      ULCI
constant    3,0372     ,7021    4,3260     ,0000    1,6386    4,4358
Prod_Cat    -,3980     ,4433    -,8978     ,3721   -1,2812     ,4851
Pref_Not    -,8320     ,4468   -1,8621     ,0665   -1,7221     ,0581
int_1        ,2573     ,2815     ,9140     ,3636    -,3035     ,8180
Interactions:
 int_1    Pref_Not    X     Prod_Cat
R-square increase due to interaction(s):
        R2-chng         F       df1       df2        p
int_1     ,0097     ,8354    1,0000    75,0000     ,3636
**************************************************************************
Conditional effect of X on Y at values of the moderator(s):
Prod_Cat    Effect      se       t         p        LLCI      ULCI
1,0000     -,5747     ,2003    -2,8688     ,0053    -,9738    -,1756
2,0000     -,3174     ,1977    -1,6052     ,1127    -,7114     ,0765
**************************************************************************
    Pref_Not   Prod_Cat   R_WC_A_S.
     1,0000    1,0000     2,0644
     2,0000    1,0000     1,4897
     1,0000    2,0000     1,9237
     2,0000    2,0000     1,6062
****************** ANALYSIS NOTES AND WARNINGS ************************
Level of confidence for all confidence intervals in output: 95,00
NOTE: Some cases were deleted due to missing data.  The number of such
cases was:
  1
```