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THE ROLE OF SENSE OF PLACE IN RETAIL LOCATION CHOICES

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by

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Preface

This report is the result of a master thesis that examines the role of sense of place in consumer experience in shopping areas. The graduation research is part of the master track Real Estate Management and Development at the Eindhoven University of Technology, and is completed during an internship period at Redevco B.V. in Amsterdam. During this graduation period, which lasted a year from start to finish, I participated in a graduation atelier focused on consumer experience in Dutch retail areas. This atelier is a result of the collaboration of the Eindhoven University of Technology and the Dutch Council of Shopping Centres. Other reports describe consumer experience with an emphasis on the purpose of the visit, the impact of historical locations, and the contribution of environmental characteristics.

The last year has been both extremely interesting as well as demanding. Starting my graduation project at home, handicapped from an ACL reconstruction surgery, I encountered recent research results into both sense of place and mental representations. The possible synergy between these subjects was very promising, and I am very satisfied with the ultimate results.

I want to express my thanks to all the people who contributed in the completion of this thesis. In particular, I want to express my gratitude to the members of the graduating committee, Theo Arentze, Aloys Borgers, and Marrit Laning, who supervised me during my graduation period. Their knowledge and critical attitude were vital for the completion of this thesis, and they were almost always available whenever there was a need for help and supervision.

A special thanks owes to Dick Vos in the role of 'fourth supervisor'. In his modest and helpful manner he was a big support of my graduation project. Being active over 40 years in the field of real estate, his opinion and experience regarding real estate and research in general definitely helped to raise the quality of this thesis. Another person who contributed greatly in this research is ir. Martijn Klabbers of the Department of Mathematics and Computer Science. He was involved in the development of the MentreQe online survey instrument. Without his help, crucial adjustments to MentreQe could not have been made. The fact that he voluntary helped to implement MentreQe on this scale shows his involvement. Lastly, a well-earned thanks goes out to Jeffrey Boerebach, who not only initiated the research into sense of place with regard to shopping locations, but also introduced me to Redevco B.V.

I believe this study serves theoretical as well as practical purposes. Besides the acquiring of knowledge on sense of place, this research contributes to the development of mental representations as a viable research method for examining (unconscious) thinking processes. I hope you enjoy reading these final words as much as it pleases me writing them,

S.V. (Stefan) Janssen
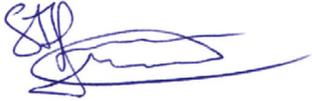
Amsterdam, November 2013

Summary

The objective of this research is to investigate the role of sense of place in shopping trip decisions by consumers. For this reason, the Process-Place-Person framework of Scannell and Gifford (2010) is adopted. These authors suggest that sense of place is a multidimensional concept with personal, psychological process, and place dimensions. Regarding the psychological process dimension – consisting of the three place constructs place attachment, place identity, and place dependence – several observations are expected in the survey. Regarding place attachment, emotional feelings towards a certain shopping location are expected. Place identity is expected to activate considerations with respect to personal expression and social aspects. Lastly, place dependence should let respondents focus strongly on the success during the shopping trip and satisfying one's (practical) needs.

Before discussing whether these expectations are actually met, the concept of sense of place needs to be positioned within the concept of customer experience in general. Customer experience is considered holistic in nature and involves the customer's cognitive, affective, emotional, social, and physical responses to the retail environment. Furthermore, situational and individual moderators, as well as previous experiences with the retail environment affect the total experience. Sense of place may be incorporated in the total customer experience as a response to physical and social elements of the retail environment. On the other hand, customer experience may influence sense of place, as the bonds one has with a place are largely formed by personally memorable experiences.

To ultimately measure the customer's level of intensity of sense of place, a scale is adopted that is capable of distinguishing different levels of intensity of feelings and behaviour of different people who generally reside in the same place at a given time. The scale has been developed by Shamai (1991).

To measure the role of sense of place in customer experience, mental representations are introduced in this thesis. Mental representations consist of several components such as attributes, benefits, situational variables, decision variables and causal links between them. Attribute variables refer to (physically) observable states of the choice options, while benefits variables describe outcomes that are more abstract and represent more fundamental needs (Myers, 1976; Arentze, Dellaert and Timmermans, 2008; Horeni, 2012). Situational (or contextual) variables are not directly or indirectly influenced by the decision maker. As MRs are assumed to represent causal knowledge, they can be mapped as causal networks with nodes as variables and arrows as causal links. Mental representations are able to model unconscious thinking processes like consumer

experience and sense of place, while maintaining individual and context variability. As a result, three different scenarios are developed to examine the applicability of the three place constructs of sense of place. Analysing the components that make up the mental representations of respondents, and combining these results with knowledge from other studies, enables us to not only measure the intensity of sense of place, but also to point out influential items.

An online interview instrument called MentreQe is used to measure mental representations of consumers. The online nature of instrument means that no interviewer is needed, that it is accessible for (almost) all respondents, and that it is easily and economically applicable for researchers. The instrument presents a single shopping scenario to a respondent, who types in his/her considerations when choosing between various locations, given the earlier-mentioned shopping scenario. Consequently, three different shopping scenarios are developed to test the workings of the three place constructs. The place attachment scenario describes a situation in which the respondent goes on a recreational shopping trip alone. The place identity scenario involves a recreational shopping trip with someone that wants to get the respondent better. Lastly, in the place dependence scenario the respondent needs to buy a birthday present within a couple of days. The results are mental representations consisting of considered attributes, benefits and causal links.

A total number of 1,184 respondents started the online questionnaire, with 514 respondents finishing it successfully and properly. It is of utmost importance for the three shopping scenarios to be comparable with regard to various socio-demographic characteristics; this way general statements can be made about the sample, each of the three place constructs, and sense of place as a whole. Except for the geographic distribution, no significant differences between the three shopping scenarios are revealed in the sample. The similarities between subsamples means that mental representations of all three scenarios may be compared validly, and that conclusions with regard to the role of sense of place in different shopping situations may be drawn. The data suggests that the vast majority of the sample is part of a traditional household. Both males and females in the sample have a relatively high average age, and most respondents indicate to be married or living together. In addition, male respondents typically enjoyed a higher level of education, work full-time in paid employment or are already retired, and earn more than the females. This perfectly suits the picture of a traditional household, in which the husband works to support the family, and the wife is a homemaker.

For the most part, the scenarios show no significant differences regarding their complexity. The only significant difference is observed in recalled benefits; respondents in the place dependence scenario more frequently selected benefits as considerations. These recalled benefits are generally practical reasons, such as *the choice options in the area* or the fact *that the shopping area guarantees them a successful shopping trip*. This suggests that the place dependence scenario activated significant different considerations in the mental representations of the respondents.

Further analyses show interesting results regarding the content of elicited mental representations. The place attachment scenario is expected to activate an emotional feeling towards a shopping location, as well as a preference towards other consumers and atmosphere in general. The analyses show that respondents frequently consider attributes such as *the atmosphere in the area, the liveliness in the area, the bustle in the area* and *the bustle inside the stores*. Additionally, *shopping comfort* and *feeling comfortable/relaxed while being in the shopping area* are important underlying reasons, confirming the expectations. Interestingly however, the most commonly mentioned attribute is *the retail offer*, which also dominates the frequency tests of cognitive links and centrality analyses. So while expectations are met and a certain sense of place is detected when respondents are asked to envision doing recreational shopping on their own, the most important consideration to visit a shopping area is the retail offer.

The second scenario – the place identity scenario – is expected to activate considerations regarding *the atmosphere in general* and *the appearance of the physical environment* in order to express the consumer's preference for a certain shopping centre. Social aspects are also expected to be of great importance, because the respondent goes shopping with a friend in the hypothetical scenario. Three attributes ultimately dominate the considerations: *the retail offer, the atmosphere in the area* and *the presence of bars and restaurants*, where *the retail offer* may be seen as an

expression of personal preference. Remarkably, only occasionally do respondents consider items directly related to the physical environment. Sense of place is observed in the scenario, however not in benefits regarding the identification with a certain place, but rather in benefits that express happiness and relaxation. Having a positive emotional bond with a place – which essentially is place attachment – apparently is more important than being able to identify with a place.

Lastly, the place dependence scenario focuses strongly on succeeding during the shopping trip. Considerations regarding time and financial savings are expected due to an imposed time pressure and strong focus on the product. It turns out that respondents in the place dependence scenario reveal more practical and product-oriented attributes, such as *the retail offer*, *the product assortment, the price level of the assortment, the distance (from the shopping area) to your home, the quality of the service* and *the parking costs*. These attributes are very rarely considered in the other scenarios. Relating benefits are *time saving*, *financial saving, the ease of shopping*, and *the shopping area guarantees you quality of product*. In contrast to the other two scenarios, almost no cognitive subsets contained attributes related to atmosphere in the area and the presence of bars and restaurants. These findings confirm the strong focus on shopping success, and point towards the existence of a certain degree of sense of place.

A certain level of sense of place is observed in all scenarios. To determine the exact workings of sense of place, a cluster analysis is performed in order to discriminate different groups of respondents regarding the content of their mental representations. The K-means cluster technique is chosen to classify different groups regarding the content of their mental representations. Since K-means clustering is very sensitive to outliers, the original classification of attributes, benefits and situational variables had to be revised, as the observed frequencies were too little among many of them. From the 178 original attributes and situational variables 19 new attribute variables are formed. Similarly, the 37 original benefits are shrunk down to 15 new ones. Eventually, four clusters could be distinguished:

- Respondents in Absolutely Attached highly value the atmosphere and intimacy of a shopping area, and the feeling of comfort or relaxation it may offer. Consequently, these respondents have a high level of sense of place, mainly caused by their extraordinary high level of place attachment.

- Respondents in Considerately Connected have a stable lifestyle. This stable lifestyle results in a high level of place attachment, as they favour to go to shopping area that gives them a relaxed or comfortable feeling. Additionally, they highly value having choice options and shopping success, giving rise to a moderate level of place dependence.

- Respondents in Definitely Dependent have a busy lifestyle; time is very valuable to them. They are heavily focussed on shopping success, and financial and time saving. This results in a fairly high level of place dependence, as it is important to them to have an effective and successful shopping trip.

- Respondents in Utterly Unrestricted highly value the retail offer and accessibility of a shopping area, and wish to maximize the pleasantness and easiness of their shopping trip. As a consequence, they have a very low level of sense of place; they do not favour a shopping area itself, but merely the fact that it offers a pleasant and easy shopping trip.

Additionally, the newly formed variables are used to examine the influence of the attributes and benefits on the choice behaviour of the respondents. A multinomial logistic regression model is used to examine whether the shopping location choice may be predicted by the content of the mental representations. Regarding the attributes, *the weather, parking facilities,* and *the presence of bars and restaurants* contribute significantly to the regression model. Regarding the benefits, *the choice options in the shopping area, saving – time*, and *attachment – high* are variables that contribute significantly. The fact that items relating to a high level of place attachment are on the one hand observed frequently in the mental representations of the respondents, and on the other hand indicated as influential items on the final shopping location choice, confirms the influence of sense of place on shopping trip decision problems.

All in all, the MentreQe online interview questionnaire is able to accurately extract the mental representations of different consumers groups, and consequently determine the role of sense of place in their decision process. The intensity and kind of feelings a person experiences with regard to a shopping location changes for each person and shopping scenario. A clear distinction between run- and fun-shopping may be made; consumers that go on a recreational shopping trip generally value place attachment. These consumers appreciate atmosphere, liveliness and bustle in the area. Consumers that go runshopping generally value place dependence, and appreciate very different items, such as variety in retailers and product, shopping success and product quality. It is important to note that a person can be a run- or a funshopper, depending on the context and shopping trip. Investors, retailers, real estate managers and developers could utilize the information regarding level of sense of place, the preferred shopping location and highly valued characteristics to create or redevelop more favourable shopping locations. However, since this research did not examine the actual shopping behaviour, no conclusions can be drawn with regard to the actual results of such adjustments.

Contents

1 Introduction

This chapter serves as a starting point for the entire study. It explains the incentives to conduct this study, which ultimately result in a problem definition, research goal, and various research questions. In section 1.1, a brief overview of current trends in the retail landscape is given to provide an understanding of the current situation of the retail market. A short introduction into the role of experiences in our current economy is presented as well. The problem definition and research questions are discussed in section 1.2. Next, the conceptual model, research design and expectations are taken into consideration in sections 1.3 to 1.5. Lastly, the outline is presented in section 1.6.

1.1 Motivation

Today's retail landscape is changing. The economic crisis of 2008 has had a decisive role in the declining purchasing power of consumers, a declining consumer confidence and increased vacancy in many shopping areas (Yerex, 2011). Additionally, the (Dutch) retail market is showing signs of saturation, because of constant expansion in shopping areas (NRW, 2011). This has led to a situation of greater competition between shopping centres.

The demand side on the other hand is characterized by rapidly changing demographic population composition and consumer behaviour. Since the 1970s, rising prosperity has given consumers a more critical attitude. Individualisation of society, the emergence of e-commerce, and demographic changes have altered the balance between various retail channels. Many brick-and-mortar retailers are struggling nowadays, in part because of the growth of e-commerce. The growing competition between retailers has increased the pressure for retailers to differentiate themselves from other retailers (Harvard Business Review, 2011).

Consequently, the creation of customer experience is becoming one of the central objectives in today's retailing environments. Customer experience has been a point of concern since the 1970s, but the recent troublesome economic situation boosted its importance drastically. Creating a distinctive experience for the customer is often considered crucial for individual retailers and retail areas to survive, especially taking into account today's abundance of options for consumers to fulfil their physical and social needs (Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros and Schlesinger, 2009).

1.1.1 The Experience Economy

Creating memorable experiences has always been a central objective for retailers and other businesses. Nevertheless, the term 'Experience economy' has first been described by B. Joseph Pine II and James H. Gilmore in their 1998 article 'Welcome to the experience economy' (Pine and Gilmore, 1998). Pine and Gilmore argue that businesses must orchestrate memorable events for their customers, since the customer unquestionably desires experiences nowadays. These experiences themselves have become the product that people pay for – experiences have emerged as the next step in the so-called progression of economic value (Figure 1-1). All in all, an experience occurs when a company intentionally uses services as the stage, and goods as means of aid, to engage customers in a way that creates a memorable event (Pine and Gilmore, 1998).
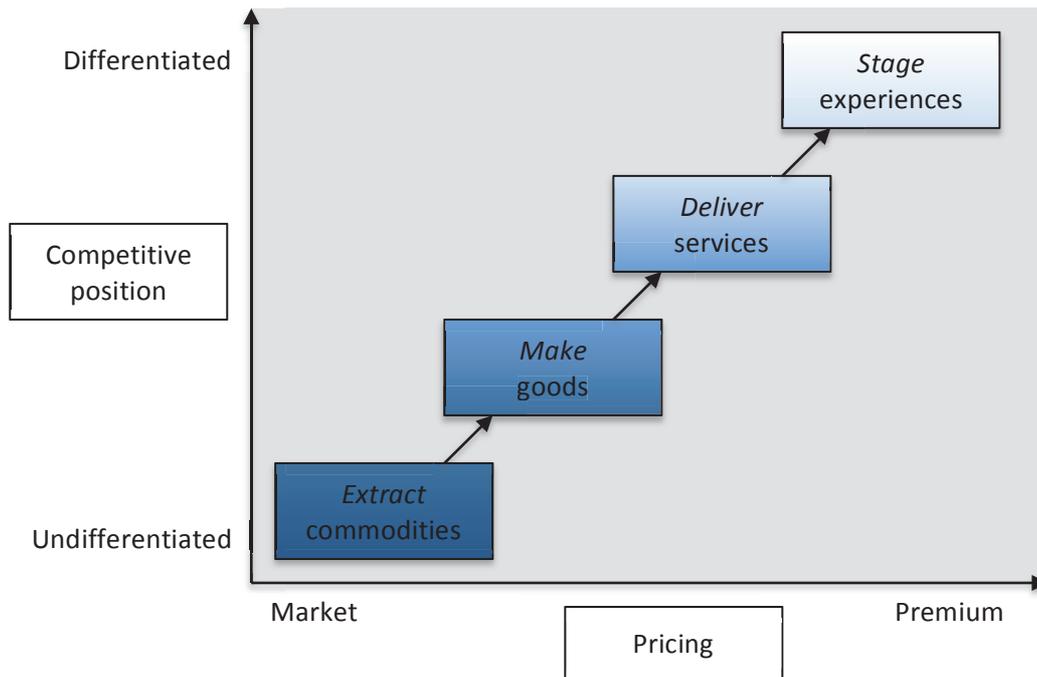
Figure 1-1: Exhibit 'The Progression of Economic Value' (Pine and Gilmore, 1998).

Regarding retail environments, improving the shopping experience could very well help to provide notable memories, thus helping to attract and retain consumers. Nowadays, many retailers realize that their growth and profitability are being determined by small things that make the difference in consumer experience and satisfaction. Several examples of firm controlled factors that affect customer experience are promotion, prices, merchandise, supply chain and location. Other factors also indirectly affect the customer experience; economic factors (like gasoline prices and inflation) influence consumer shopping behaviour, while economic and financial (un)certainty may also influence the retail environment as a whole (Grewal, Levy and Kumar, 2009).

In this master thesis location is considered to be very important to retail stores in general and consumer experience in particular. 'Location, location, location' is probably the real estate agents' and retailing practitioners' mantra. The accessibility and visibility of a location enable potential customers to easily visit a store, while signage, zoning and planning provide awareness (Grewal et al., 2009; Waters, 2013).

Additionally, people prefer to visit locations that give them a feeling of happiness, that reflect their identity, or fulfil their needs most effectively (Nielsen-Pincus, Hall, Force and Wulfhorst, 2010). Sense of place is a concept that describes this set of emotional and affective bonds between an individual and a place. The bonds are unconsciously constructed through lengthy experiences with a place (Jorgensen and Stedman, 2001), and differ from person to person. Research on sense of place has primarily been focussed on residential areas (Nielsen-Pincus et al., 2010; Giulliani, Ferrara and Barabotti, 2003; Hidalgo and Hernàndez, 2001; Stokols, Shumaker and Martinez, 1983), recreational areas (Williams and Vaske, 2003; Bonaiuto, Breakwell, and

Cano, 1996) and environmental areas (Jorgensen and Stedman, 2001; Williams, Patterson, Roggenbuck and Watson, 1992). Sense of place regarding retail areas has been studied as well, but not to the same extent as the other areas (Shamsuddin and Ujang, 2008). A higher sense of place implies stronger bonds between an individual and a place, generally leading to more frequent visits and a higher judgment (Williams, Patterson, Roggenbuck and Watson, 1992).

1.1.2 Previous research

With regard to sense of place in shopping locations, various studies have been performed. Shamsuddin and Ujang (2008) conclude that sense of place should definitely be considered in the design of urban places. Examining two shopping districts in Kuala Lumpur, they found that attachment to traditional shopping streets to be strongly shaped by functional, emotional and socio-cultural attributes. However, Boerebach (2012) concludes in his master thesis 'Sense of place; attachment to, identity with and dependence of shopping locations' that sense of place does not necessarily improve consumers' general judgment of a shopping location. He adds that the used models do not explain the variance of the sense of place dependent variables very well. Additionally, Deutsch and Goulias (2009) report that many more researchers believe that sense of place is such an experiential process and so highly individualized that it is too much of an undertaking to attempt to quantify it. Conclusively, sense of place may be an important concept regarding shopping areas, but it is very hard to measure its role exactly.

What is needed is a technique to model this unconscious thinking process, while maintaining individual variability. According to the mental model theory of deductive reasoning, individuals construct simplifications of reality to mentally simulate the system they interact with in order to assess various decision options. These so-called mental representations are temporary results of individual perception, postulated to arise through individual's experiences and long-term knowledge from which relevant information is retrieved. Consequently, sense of place is a concept that describes bonds between an individual and a place, unconsciously constructed through lengthy experiences with a place. Examining mental representations of consumers could reveal the role that sense of place plays in shopping choice problems (Arentze, Dellaert and Timmermans, 2008; Horeni, 2012).

1.2 Problem definition and research questions

Knowledge of the role of sense of place in shopping experiences potentially plays an important role in developing and managing shopping locations. The goal of this research is to examine if sense of place is important in shopping location choice problems, using mental representations. If sense of place is indeed important, then the mental representations reveal the elements – either physical or social – of shopping locations that influence the sense of place. This goal results in the following research question:

"What is the role that sense of place plays in shopping trip decision problems by consumers?"

In order to answer the research question, the following sub-questions need to be answered:

- What is meant by consumer experience?
- Which determinants influence consumer experience?
- What is sense of place?
- How does sense of place regarding retail situations differ from other spatial situations?
- What are mental representations?
- To what extent are mental representations relevant models in decision-making?
- How is sense of place generally measured?
- What techniques exist for measuring mental representations?
- How can sense of place be measured using mental representations?
- In what manner does sense of place affect decision-making by consumers?
- How can knowledge of sense of place in shopping areas be used when creating consumer experience?

1.3 Conceptual model

In short, sense of place is referred to as the overarching concept that colligates other concepts describing the relationships between humans and spatial settings (Shamai, 1991). Numerous measures and scales regarding sense of place have been developed from the 1980s onwards. In order to describe the relationships between individuals and a spatial setting, and consequently examine the role of sense of place in shopping trip decisions, this research uses the Process-Place-Person framework by Scannell and Gifford (2010).

The framework suggested by Scannell and Gifford (2010) is a multidimensional concept with personal, psychological process, and place dimensions. The personal dimension describes how sense of place is influenced by personal experiences, shopping motivation, and symbolic meaning shared among certain group members. The psychological process dimension concerns the nature of the psychological interactions between individuals and a place, and includes affective, cognitive and behavioural aspects. These aspects are generally referred to as the place constructs place attachment, place identity, and place dependence, respectively. Place attachment represents the emotional bonding between a person and a particular place, place identity is defined as the belief that a place is reflected in the self, and place dependence is associated with the potential of a particular place to satisfy the needs and goals of an individual (Nielsen-Pincus et al., 2010). Lastly, the place itself is naturally included in the framework for sense of place. This place dimension includes important physical and social aspects of the place. The full model is dealt with in section 2.1.2.

1.4 Research design

Various qualitative and quantitative measures have been developed in recent decades to measure sense of place at different levels. Combining these measures of sense of place with the mental model theory of deductive reasoning should reveal the mechanisms of sense of place in shopping trip decision problems. This research uses a methodology called CNET (Causal Network Elicitation Technique) for determining these mental representations. More specifically, CNET is implemented using an online web instrument called MentreQe. MentreQe is aimed at discovering the trade-offs of individuals, by asking them for their most important considerations when deciding between various shopping locations. The instrument uses fictional scenarios to activate specific mental representations. Three different scenarios are developed to examine important considerations of consumers regarding the three place constructs.

In addition, a scale is developed to measure the level of intensity of sense of place. By assigning variables in MentreQe to a certain level of sense of place, and consequently examining the frequencies of elicited variables in respondents' mental representations, a 'sense of place-score' can be determined. Ultimately, different groups of consumers are distinguished with respect to their level of sense of place.

1.5 Expectations

This research focuses on investigating the role of the psychological process dimension in shopping trip decisions by consumers. Regarding the psychological process dimension – and thus the three place constructs – several observations are expected.

The place attachment scenario is expected to reveal emotional feelings towards a certain shopping location. Emotional relationships with place can represent an array of emotions like love, pride, happiness, contentment and even ambivalence (Nielsen-Pincus et al., 2010), and it gives people a feeling of well-being and security (Relph, 1976; Giuliani, 2003). For example, respondents may indicate that they feel comfortable or relaxed when they visit a specific shopping area. Additionally, the focus on emotional bonds with a place should give rise to a preference towards (positive) atmosphere in general.

The place identity scenario is expected to reveal considerations with respect to personal expression and social aspects (Nielsen-Pincus et al., 2010). The respondents could, for example, express their preference regarding the atmosphere in general and the appearance of the physical

environment. In addition, moments of rest – such as parks, squares, bars and restaurants – are extremely important with regard to the social aspects. These observations may result in increased feeling of belonging to a certain shopping area. Experiencing a pleasant shopping trip could often be considered as well.

Lastly, the place dependence scenario should let respondents focus strongly on the success during the shopping trip and satisfying one's (practical) needs (Stokols and Shumakers, 1981). Think of time saving, the availability of parking facilities, and the acquaintance with the shopping area. Additionally, it is expected that the price level and the assortment (originality/width) are considered often due to a strong focus on the product.

1.6 Outline

This research examines the role of sense of place in complex shopping trip decision problems. Mental representations are used to model the unconscious thinking process (the creation of consumer experience), since mental representations have the advantage to be individual- and context-specific. Therefore, this research is organised into seven chapters. After this introductory chapter, Chapter 2 gives an overview of the previous research into place, sense of place, customer experience, and mental representations. Previous researches reveal the difficulties of modelling sense of place with regard to shopping areas. Consequently, this chapter concludes that mental representations are very well-suited to examine the unconscious thinking process of consumer experience, and the role that sense of place plays in it.

With the selection of mental representations as underlying theory to examine sense of place in shopping areas, the next step is to develop a method to measure the level of intensity of sense of place. Chapter 3 discusses the development of the MentreQe interview system, and discusses how this system may be used to measure sense of place. The development process includes a pilot study, which is performed to improve the technical soundness of the MentreQe system, as well as the clarity of the instructions, and presented variables.

After a successful pilot study, the MentreQe interview system is considered ready to determine the role of sense of place in shopping decision problems. In Chapter 4 the final shopping scenarios – used in the interview system to collect input – and data collection are discussed. The chapter ends with a general description of the sample, after analyzing differences and associations between socio-demographic characteristics.

Chapter 5 analyses and describes the complexity and content of the elicited mental representations, in order to gain insight into important aspects of various sorts of shopping trips. The complexity of the mental representations is covered first, using various statistics to compare the three shopping scenarios. Secondly, the content of the mental representations is discussed by analysing the frequencies of the elicited variables. The chapter ends with a description of the relational patterns of elicited attributes, and a discussion about the respondents' final choice outcomes.

After analysing the complexity and content of elicited mental representations, Chapter 6 discusses the cluster analysis, by which different groups of respondents are distinguished, each with a unique profile regarding their mental representations and level of sense of place. Also, general information about clustering techniques is provided. The chapter ends with general cluster characteristics and their respective levels of sense of place.

As conclusion of this research, Chapter 7 gives a brief overview of all important sections and discusses the most important findings and conclusions. The chapter ends with a number of recommendations.

2 Literature review

Sense of place is perhaps the most complex and comprehensive concept to describe the relationship between people and spatial settings (Jorgenson and Stedman, 2001). This chapter deals with previous research concerning sense of place, consumer experience in general, and mental representations. In order to describe sense of place and its influence on the consumers' decision-making process, the concept of place is outlined first in section 2.1. Next, a framework proposed by Scannell and Gifford (2010) to describe the relationships between individuals and a spatial setting is presented. Differences in definitions and frameworks of various authors are discussed as well. Section 2.2 of this chapter deals with the creation of consumer experience, in order to determine the role of sense of place in the decision-making process of consumers. In section 2.3, several approaches to choice modelling are presented, as well as features of mental models in general. Lastly, mental representations are introduced to examine the role of this complex concept in the entity of consumer experience, and provide further inside in consumers' thinking process.

2.1 Sense of place

In order to understand the workings of sense of place, the concept of place needs to be dealt with first. Place is a complex concept consisting of concrete and abstract elements: the physically observable space combined with human activities at a certain location gains meaning for individuals and form a place. Places order and focus human experiences in a spatial manner. Together, the two concepts (place and space) form the basis of geography, which is described as "*the study of what is where, why there, and why care*" (Cresswell, 2004; Gritzner, 2002). This definition contains phenomenological, spatial, analytical and implicational elements. The analytical and implicational elements describe various interaction and movement elements, to specify the relationships of a place and its importance and relevance to groups of individuals (Gritzner, 2002). In succeeding order, this section discusses the concept of place, the concept of sense of place, and it proposes a framework that is used in this research as a conceptual model to analyse the workings of sense of place.

2.1.1 The concept of place

Space and place together form the basis of geography. But what exactly is place? Geographers have long struggled with this question. Originally, spaces were generalized in a scientific law-like manner, while places were seen as merely descriptive (Cresswell, 2004). However, in the beginning of the 1970s 'humanistic geographers' like Yi-Fu Tuan and Edward Relph started to investigate the concept of place, since it played such an integral role in human experience. The goal of these researchers was to develop notions of place that were as universal and theoretically ambitious as approaches to space. They felt that the then-current definition of place was inadequate (Meys, 2006; Seamon and Sowers, 2008).

For Tuan (1979), space is concrete and physically perceivable, while place is a node where activities converse. The spatial experience is defined by the presence of other people that impact the physical experience. Places offer a pause and a chance of attachment. This sense of attachment is fundamental in this idea of a place as a 'field of care'. Fields of care are places with low imageability and can only be known from within; they do not project much of an image to outsiders. Tuan adds that functional patterns of our lives are capable of establishing an even stronger attachment. A 'habit field' affects our bodily expectations and creates a sense of place. All our senses work together in close contact and long association with the environment to create a sense of place. The place that we perceive differs between individuals and cultural groups. All in all, space becomes place when "*it acquires definition and meaning*" (Johnson, 2013).

Edward Relph was equally interested in the interpretation of human experiences with regard to places. In his book Place and Placelessness (1976), he focuses on the phenomenology of place, which is aimed at examining and clarifying human experiences and meanings with regard to places which typically go unnoticed beneath the level of conscious awareness. He argues that without a thorough understanding of place, it would be impossible to maintain existing places and make new places (Relph, 1976; Seamon and Sowers, 2008).

For Relph, the unique quality of places is their power to order and focus human experiences and actions in a spatial manner. Various modes of spatial experience are identified, which all have a varying intensities in everyday life according to the spatial setting. These in turn lead to various degrees of involvement and attachment for a particular place; Relph discusses seven modes of insideness and outsideness to describe varying levels of experiential involvement and meaning (Relph, 1976; Seamon and Sowers, 2008). The levels of experiential spatial involvement and meaning are discussed in paragraph 3.1.2. Furthermore, Relph argues that people's identity of a particular place consists of three components: 1) the place's physical setting; 2) its activities and events; and 3) individual and group meanings created though people's experiences with the respective place.

Together, these two human geographers illustrate that a place is more than merely the physical setting. The physical setting, the individual's experiences with the place and the activities performed at the place are interrelated components that give meaning to places and offer a unique chance of attachment (Shamsuddin and Ujang, 2008). This attachment may vary for all individuals, according to one's position in society and the presence of others (Seamon and Sowers, 2008). This shows the crucial role experiences may have on the relationship between consumers and a retail location. In the next paragraph, various sorts of bonds with places are elaborated on.

2.1.2 The concept of sense of place

Investigation of the concept of place by human geographers quickly lead to the conclusion that places revolve around emotional bonds that are formed through lengthy experiences with spaces (Jorgenson and Stedman, 2001). Sense of place has been referred to as the overarching concept that colligates other concepts describing the relationships between humans and spatial settings (Shamai, 1991). The sense of place varies from person to person and develops to different degrees towards places with different spatial ranges, such as neighbourhoods, cities and countries (Shamai, 1991; Hidalgo and Hernández, 2001). This individual heterogeneity needs to be respected when attempting to measure sense of place amongst individuals. But how exactly is sense of place constructed?

Numerous measures and scales regarding the sense of place have been developed from the 1980s onwards. The earliest quantitative measures used proxy measures to measure bonding with places, and did not provide any insight into place-related emotions. The following decades saw the development of various scales of place attachment (Lewiska, 2011). Some were one-dimensional (such as Hernandez, Hidalgo, Salazar-Laplace, and Hess, 2007; Hidalgo and Hernandez, 2001), while others are multidimensional (Hammitt, Backlund, and Bixler, 2006; Kyle, Graefe, and Manning, 2005; Lalli, 1992; McAndrew, 1998; Scannell and Gifford, 2010; Williams and Vaske, 2003).

Nevertheless, relatively common aspects can be detected. It is stated that sense of place involves a set of emotional bonds between an individual and a place that includes affective, cognitive and behavioural processes – in environmental psychology literature commonly referred to as three place constructs place attachment, place identity and place dependence (Canter, 1991; Jorgensen and Stedman, 2001). In short, place attachment "*is the emotional bond between a person and a particular place*"; place identity "*is the belief that a place is reflected in the self*" and is generally accepted as being a component of a person's self-identity; and place dependence "*is the degree to which a place facilitates some set of objectives when compared to alternative settings*" (Nielsen-Pincus et al., 2010). Besides these three place constructs, the built environment or physical attributes of a location as well as the founded social and cultural associations to that location are also considered important for the construction of sense of place. Additionally, people experience a place differently depending on their personal state of mind, which includes the intentions and expectations of the person as well as their mood (Deutsch and Goulias, 2009). Together, these three place constructs, the built environment and its activities and a person's own state of mind determine the special meaning a place may have for an individual.

Scannell and Gifford (2010) provide an integrative framework to describe the relationships between individuals and a spatial setting. In their Process-Place-Person (PPP) framework (Figure 2-1), they describe how the psychological process – concerning the nature of the psychological interactions between individuals and a place – consists of affective, cognitive and behavioural components, and position this process dimension in a three-dimensional framework with person and place dimensions to describe sense of place.
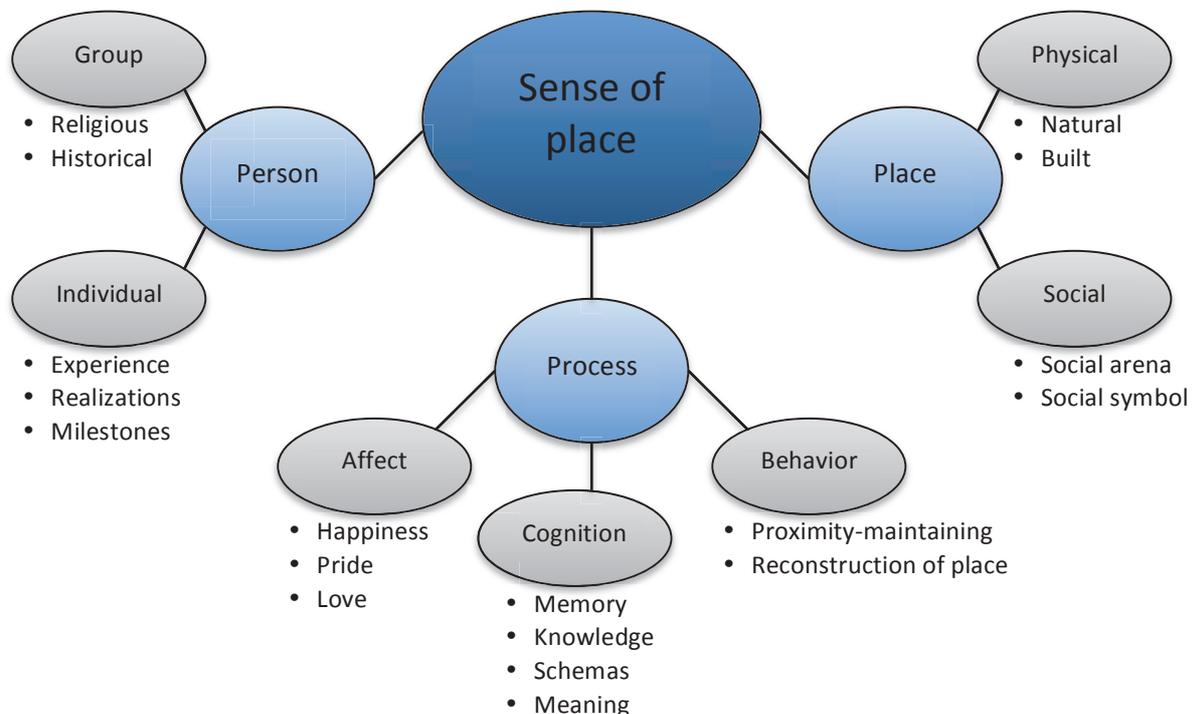
Figure 2-1: Adjusted tripartite model of sense of place (Scannell and Gifford, 2010)

The framework is comprehensive and very useful to describe the exact bonds between a person and a place. Scannell and Gifford (2010) use 'place attachment' as a central item in their framework. In Figure 2-1, this central item is replaced by sense of place for two reasons: 1) Scannell and Gifford (2010) refer in their article 'Defining place attachment: A tripartite organizing framework' to place attachment as "*a multifaceted concept that characterizes the bonding between individuals and their important places*", which corresponds to the earlier mentioned definition for sense of place ("*the overarching concept that colligates other concepts describing the relationships between humans and spatial settings*"), 2) the elements in the framework are essentially the same as the elements attributed to sense of place: an element to represent the three place constructs; an element to represent the physical built environment and its social associations; and an element to represent people's experiences with a place. For these reasons, Scannell and Gifford's (2010) proposed PPP framework is used in this master thesis to describe sense of place. The next paragraph takes a closer look at this framework.

2.1.3 A tripartite organizing framework

As stated before, Scannell and Gifford (2010) propose a framework with sense of place as a multidimensional concept with personal, psychological process, and place dimensions. These three dimensions are widely seen as the basic elements that form sense of place.

The personal dimension describes that bonds with meaningful places are formed both at individual and group levels. At an individual level, it involves personal connections one has to a place. Places become meaningful from personally memorable experiences, realizations and milestones. At the group level, sense of place is comprised of symbolic meanings that are shared among group members. The group members are linked to a place through shared cultural, historical or religious values and symbols. The two levels may overlap, so that, for example, cultural place meanings and values influence the individual level and vica versa (Scannell and Gifford, 2010). In addition, shopping motivation of individuals could also influence the manner in which a place is experienced. Generally, a distinction is made between hedonic and utilitarian shopping motivation. An utilitarian shopping motivation can be seen as "*shopping with a goal*", and a hedonic shopping motivation can be seen as "*shopping as a goal*" (Babin, Darden and Griffin, 1994). The shopping motivation determines specific goals for the shopping trip, and helps to shape symbolic meanings for a place.

The psychological process dimension concerns the nature of the psychological interactions between individuals and a place. Like stated before, this dimension is typically divided into affective, cognitive and behavioural aspects.

- First, the affective aspect of the psychological process is known as place attachment, and represents the emotional bonding between a person and a particular place (Nielsen-Pincus et al., 2010). Place attachment grows over time as our experiences with a particular place grow deeper and more diverse; these places consequently help to give people a feeling of well-being and security (Relph, 1976; Giuliani, 2003). Emotional relationships with place can represent an array of emotions like love, pride, happiness, contentment and even ambivalence (Scannell and Gifford, 2010).
- Second, the cognitive aspect of the psychological process is known as place identity, and is defined as the belief that a place is reflected in the self (Nielsen-Pincus et al., 2010). Besides, place identity may enhance the self-esteem, increase feelings of belonging to one's community, and is an important component of communications about general beliefs and even political statements (Williams and Vaske, 2003). The potential power of a place to make statements may have significant value considering that the current trend of globalization gives many people the feeling that identity and uniqueness with regard to places are disappearing. It is important to realize that place identity is not necessarily a direct result of any particular experience with the place; it generally involves a psychological investment with the place that tends to develop over time (Proshansky, Fabian, and Kaminoff, 1983; Meddah, 2007).

- Third, the behavioural aspect of the psychological process is referred to as place dependence. Stokols and Shumakers (1981) define the concept of place dependence as "*a form of attachment associated with the potential of a particular place to satisfy the needs and goals of an individual and how the current place compares with other currently available settings that satisfy the same set of needs*" (Stokols and Shumakers, 1981; Williams et al., 1992). Jorgensen and Stedman (2001) similarly argue that place dependence concerns how well a setting serves goal achievement given an existing range of alternatives, but at the same time state that place dependence potentially is negatively valued, since a place might limit the achievement of valued outcomes. In addition, the strength of place dependence may be based on specific behavioural goals rather than a general affect (Jorgensen and Stedman, 2001).

Lastly, the place itself is naturally included in the framework for sense of place. But what is it about the place that we connect to? The place dimension has been examined at different geographic scales (house, neighbourhood, city, country) and levels (social and physical). Hidalgo and Hernández (2001) examined the level of attachment considering different spatial levels (home, neighbourhood, and city) and concluded that the strength of the place attachment differed depending on the level of analysis and that physical and social attachments both influence the overall bond. Scannell and Gifford (2010) even call the place itself "*perhaps the most important dimension of [sense of place]*". They also emphasize that the place dimension has important physical and social aspects. It is thought that individuals do not become directly attached to the physical features of a place, but rather to the perceived physical features and the meaning that those features represent (Scannell and Gifford, 2010; Jorgensen and Stedman, 2001).

2.1.4 Definitional discussion

It needs to be said that a significant amount of research has been done to arrive at aforementioned framework, but certain contradictions concerning the relationships between sense of place, place attachment, place identity and place dependence still exist today. A substantial amount of these contradictions can be explained by definitional differences and varying place-related concepts (Lewiska, 2011).

For example, an additional fourth place construct 'place satisfaction' is appointed by Deutsch and Goulias (2009), which is defined as "*a person's level of satisfaction with the services, environment and needs provided for by a specific place*". It is emphasised that this fourth construct is often not considered a core concept like the other three, but that when combined with place attachment it explains the social psychological dimensions of sense of place.

Another framework is proposed by Williams et al. (1992), who distinguish place dependence and place identity as dimensions of place attachment. Place dependence is considered functional attachment, reflecting the importance of a place in providing features and conditions that support specific goals. Place identity is defined here as emotional attachment, referring to the symbolic importance of a place that gives meaning (Williams et al., 1992; Williams and Vaske, 2003). Almost similarly, Shamsuddin and Ujang (2008) conclude that attachment to traditional shopping streets in Kuala Lumpur is strongly shaped by functional, emotional and socio-cultural attributes. The social element strongly prevails in the attachment, characterized by others who engage in similar activities. Korpela (1989) introduces the idea of environmental self-regulation and its relation to place identity. He argues that the physical environment can be used as a strategy to maintain one's self. The main basis of this idea is that some kind of (emotional) attachment is already present, thus confirming Williams' et al. (1992) statement regarding place identity and emotional attachment.

Besides, Lewicka (2011) describes a variety of frameworks that have been modified to test people's bonds with places. These frameworks often consist of vastly different dimensions than the aforementioned ones. Hernandez et al. (2007) only made a distinction between place attachment and place identity, resulting in a two-dimensional scale. Kyle, Graefe and Manning (2005) developed a three-dimensional scale that includes place identity, place dependence and a subscale of social bonding. The scale developed by Hammitt, Backlund and Bixler (2006) contains five dimensions: Place Familiarity, Belongingness, Identity, Dependence, and Rootedness). Williams

(2000) have been engaged in various modifications of the place attachment measures. Along place attachment, the place identity subscale was divided into four components: Identity/Importance, Identity Expression, Centrality, and Satisfaction. Lalli (1992) proposed a multi-dimensional Urban Identity Scale, consisting of five dimensions: External Evaluation, General Attachment, Continuity with Personal Past, Perception of Familiarity, and Commitment. Two scales refer to emotional bonds with home/hometown: McAndrew (1998) uses a two-dimensional scale consisting of Home/Family and Desire for Change; and Scopelliti and Tiberio (2010) propose the Hometown Scale consisting of three factors: Identification, Lack of Resources, and Social Relations. Another scale treats measures of place attachment as subscales aimed at measuring community cohesion (Pretty, Chipuer, and Bramston, 2003). Lewicka (2011) adds that the exact construction of these scales depends a great deal on which the items that have been considered and included in particular subscales.

In the next paragraph, a broader outline with regard to sense of place and consumer experience is presented. Afterwards, mental representations are introduced as a method to shed light upon the decision making process of consumers.

2.2 Consumer experience

To determine the role of sense of place in the decision-making process of consumers, this paragraph reviews its position in a larger – consumer experience – framework. General information about the role of experiences in today's economy is given first, after which a framework is presented that discusses how customer experience in retail environments is created.

2.2.1 Experience in general

Carù and Cova (2003) stress how the word 'experience' has become an all-embracing term in all languages and scientific disciplines. It is generally used to indicate a memorable event that a person has had during his everyday life. Relatively distinct definitions of 'experience' have emerged in a variety of fields of study, such as science, philosophy, sociology, psychology, anthropology, and ethnology (Carù and Cova, 2003). For example, for science, an experience is similar to an experiment based on objective facts and data that can be generalized. For philosophy, an experience is a personal trial that generally transforms the individual. The difference here is that a scientific experience provides universal knowledge valid for all, and a philosophical experience provides the individual with particular knowledge. In sociology and anthropology, experience is an activity that allows the individual to develop, and it describes *"how events are received by consciousness"* (Carù and Cova, 2003).

Regarding consumers and their decision-making behaviour, experiences are personal occurrences with important emotional significance. The interaction with products or services stimulates the creation of 'extraordinary experiences', something today's consumer is increasingly seeking (Holbrook and Hirschman, 1982). This phenomenon was already mentioned as "*the progression of economic value*" in Pine and Gilmore's (1998) description of 'the Experience Economy'. These consumer experiences provide a background to the sense of place concept in retail environment. For this reason, frameworks will be presented in this paragraph to describe the composition and creation of consumer experiences.

2.2.2 Consumer experience

Pine and Gilmore (1998) discuss how in nowadays' economy the next competitive battleground lies in staging experiences. Experiences are not only relevant in consumer industries; business-to-business settings as well present stages for experiences (Pine and Gilmore, 1998). Regarding consumers in a retail environment, it becomes necessary to consider which emotional, irrational and/or rational aspects account for the whole experience coming from the set of interactions between a company and its customers (Holbrook and Hirschman, 1982; Gentile, Spiller and Noci, 2007). Gentile et al. (2007) summarize this by stating that "*The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and*

implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual)". Verhoef et al. (2009) and Walls, Okumus, Wang and Kwun (2011) add that this experience is influenced and created by elements that the retailer can control, but also by elements that are outside the retailer's control. Also, the customer experience encompasses the total shopping experience that includes all stages (need recognition, search, purchase, and consumption/post-purchase phases) and may involve multiple communication channels (Puccinelli, Goodstein, Grewal, Price, Raghubir, and Stewart, 2009; Verhoef et al., 2009; Walls et al., 2011).

Verhoef et al. (2009) provide a broad conceptualization of how the customer's experience in retail environments is created (Figure 2-2). Customer experience is considered holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retail environment. The developed conceptual model includes a variety of determinants, such as the social environment, the service interface, the retail atmosphere, the assortment and the price (and promotion). Furthermore, the potential influence of retail brand on the customer experience, and that fact that in today's multi-channel environment the experience in one channel may be affected by other channels has to be taken into account as well. The effect of these determinants is moderated by situation and consumer factors. Lastly, the proposed model includes a dynamic component, which reflects the customer's previous experience with the respective store or shopping location (Verhoef et al., 2009). This proposed conceptualization captures all relevant elements of customer experience creation; it includes physical and social determinants, acknowledges the importance of situational and individual moderators, and incorporates previous customer experiences.
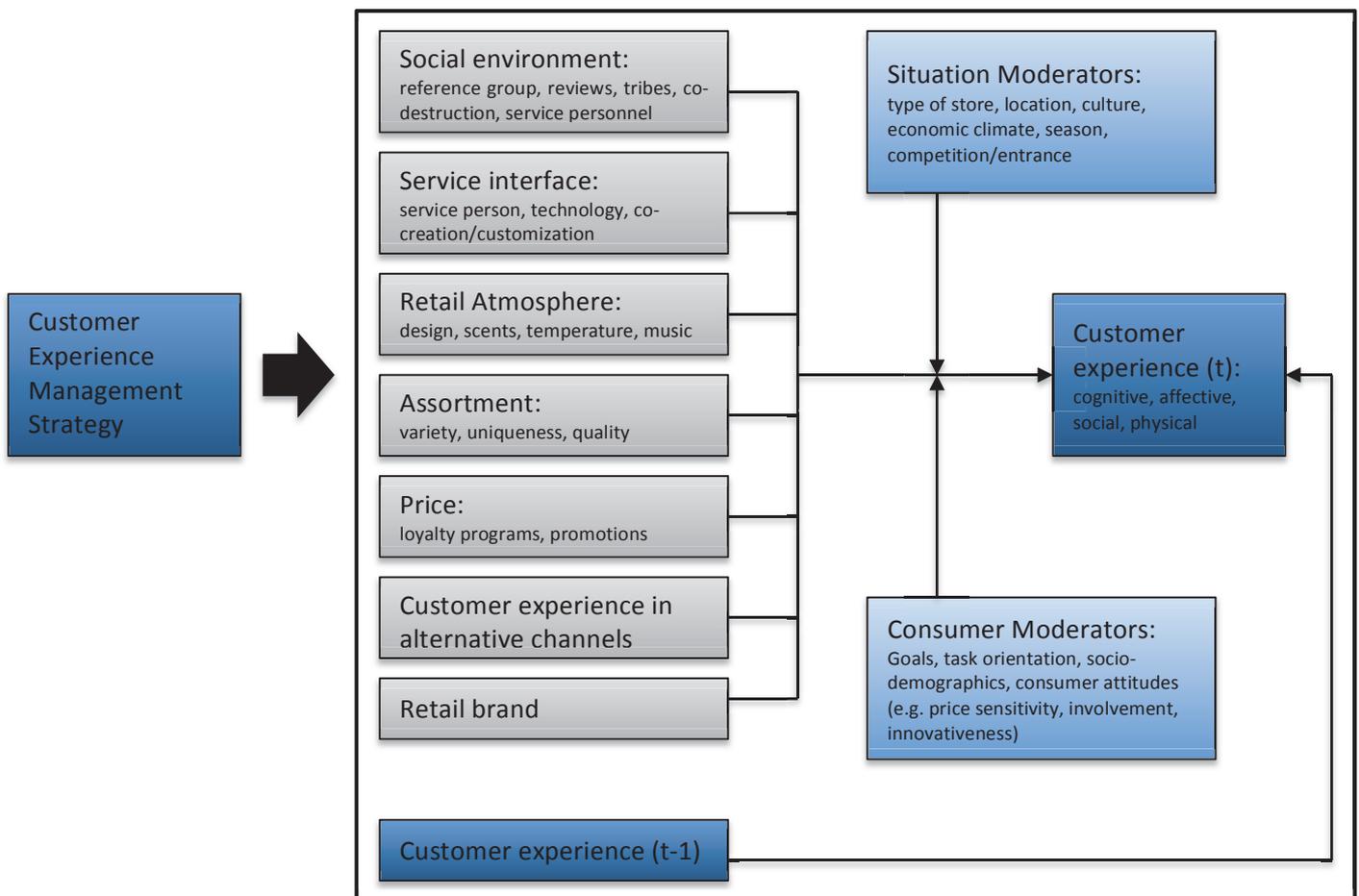
Figure 2-2: Conceptual model of customer experience creation (Verhoef et al., 2009)

The last section of this chapter deals with mental representations; the proposed methodology to examine the role of sense of place in shopping trip decision problems.

2.3 Mental representations

At the beginning of this chapter it was argued how someone's sensorial perception of a certain place and unconscious thinking processes influence experiences with and opinion about that place. These past experiences are used whenever (rational) decisions need to be made. The temporary results of individual perception that are stored in working memory for the moment of consideration are often referred to as 'mental representations'. From a behavioral perspective, individuals and households face different space-time environments in which they face different constraints in organizing their activities. Regarding retail environments, they have different experiences and hence will have different mental representations of the retail environment. Horeni (2012) even argues that this line of reasoning can be extended further to "*also capture the fact that besides individual differences, mental representations may also differ for one and the same individual depending on the specific situation that he or she faces.*" In other words, mental representations underlie individual and contextual variability. Modelling such individual variability using mental representations could provide further insight in consumers' thinking process, and possibly reveal the role of sense of place (Horeni, 2012; Kearney and Kaplan, 1997). For this reason, mental representations are used in this master thesis to analyse the role of sense of place in retail environments.

Three important aspects of mental representations are discussed in this paragraph. First, several approaches to choice modelling are presented, as well as features of choice models in general. These approaches are covered since this thesis focuses on decision making in shopping journeys. Second, mental models and cognitive maps are discussed. It is assumed that these mental models and cognitive maps are used by individuals in their decision-making process. Lastly, mental representations themselves are elaborated upon, as well as their importance to this thesis.

2.3.1 Choice modelling

Research into choice processes is naturally done to provide a better understanding of the key determinants of (consumer) decision-making. According to the level of cognitive control, one can group the whole decision process into impulsive decisions, habitual decisions, limited decisions and extensive decisions (Horeni, 2012). An important assumption is that individuals always strive to reduce mental effort. Impulsive decisions totally lack cognitive control. Habitual choices only have little cognitive control, and result from rational past decisions that have led to satisfying outcomes. Limited decisions are also referred to as script-based behaviour; if certain conditions are given, then a certain action will be performed. Finally, extensive (or rational) decisions require a high level of cognitive control. In those cases, the decision problem and its possible solutions need to be explored actively and effectively. Human decision makers must have an (simplified) image of reality in mind to evaluate the options and consequences effectively; otherwise human cognitive capabilities are rapidly overwhelmed (Loewenstein, 2001).

Regarding extensive, or rational, decisions, Adamowicz, Bunch, and Cameron (2008) state how research in choice modelling is crucial to deepen our understanding of decision-making process of people in an attempt to forecast choice behaviour. It is scientifically impossible to identity exactly which decision rule an individual uses to make choices, since only the outcome of those choices can be observed. This explains why multiple decision rules still exist in choice modelling, such as the economic, behavioural or psychological, and statistical approach.

Constraints generally deny full achievement of the most preferred alternative; these constraints need to be taken into account in order to specify realistic choice sets (Scott and He, 2012). Failure to do so results in misspecification of choice alternatives, erroneous inferences and misunderstanding of an individual's decision-making behaviour. Scott and He (2012) add that the explicit incorporation of space-time constraints is especially important in the derivation of destination choice sets for shopping, because of the spatial distribution of shopping opportunities.

2.3.2 Mental models

One approach to model choice behaviour is mental models. People need to make decisions regarding their choice options to implement daily activities. Like mentioned before, many of these decision models do not require an active mental process of evaluating possible courses of actions; the preferences for certain choice behaviour may already be known by an individual due to past experience. But the variable nature of retailing and the spatial environment indicates that task requirements and situational settings will also play a mayor role. In those cases, decisions are made through an active mental process of problem orientation and evaluation of solutions (Arentze, Dellaert and Timmermans, 2008).

Several 19th-century thinkers anticipated the model theory; psychologists like Charles Sander Peirce and physicists like Ludwig Boltzmann described how various models could represent entities in virtue of structural similarity to them, and how all our ideas and concepts are internal images, respectively. Especially in 19th-century physics it was very common to use models for scientific thinking (Johnson-Laird, 2004).

Kenneth Craik was one of the first to mention mental models as underlying structure for thinking and reasoning. In 1943 he wrote in his book 'The nature of explanation': "*If the organism carries a 'small-scale model' of external reality and of its own possible actions in his head, it is able to try out various alternatives, conclude which is the best of them, react to future situations before they arise, utilize knowledge of past events in dealing with the present and future, and in every way to react in a much fuller, safer, and more competent manner to the emergencies which it faces*" (Craik, 1943; Spicer, 1998). In short, Craik described how knowledge and understanding operate through the application of working models in an individual's mind (Spicer, 1998). For Craik, a model can parallel or imitate reality, but its structure can differ from the structure of what it represents. In the modern theory of mental models however, iconicity plays an important role. Mental models are now considered to mirror the structure of what they represent (Craik, 1943; Johnson-Laird, 2004).

Kenneth Craik's view of mental models has not changed much; in 1983, Johnson-Laird states in his book 'Mental Models: Towards a Cognitive Science of Language, Inference and Consciousness' that mental models at its simplest level are simply small-scale models of reality. This definition, however, was very vulnerable for different interpretations by researcher from different fields (Horeni, 2012). Arentze, Dellaert, and Timmermans (2008) provides another definition of mental models: "*mental models are cognitive structures that participants construct specifically for a given task and situation and use to mentally simulate a system*". Spicer's (1998) definition of mental models is fairly similar: "*It is possible to see a mental model as providing a framework which directs and controls an individual's decision-making process*". In addition, mental models provide a framework for interpreting new information and for determining appropriate responses to new situations (Kearney and Kaplan, 1997).

Nevertheless, mental models have their limitations. They are context-specific, and are simplifications of reality. Some people believe that this makes them inappropriate for complex ideas. In addition, mental models may vary considerably between individuals as a result of selective perception, and they are (implicitly) constructed from incomplete knowledge (Spicer, 1998).

2.3.3 Cognitive maps

Cognitive mapping is a concept that is allied to mental models. Spicer (1998) addresses the confusion that exists between mental models and cognitive maps. He states that the confusion can largely be contributed to the fact that there is no agreed terminology for mental models, cognitive maps, and other related techniques, and inevitably there is some discussion regarding both concepts.

In short, cognitive maps provide graphical descriptions of the unique ways in which individuals view a particular domain. The map is traditionally seen as a diagrammatic representation of spatial and environmental knowledge. Kearney and Kaplan (1997) on the other hand state that cognitive maps are useful to structure more abstract objects, regardless the field of

study. Associations in cognitive maps can be spatial, causal, conceptual, and temporal. This changed focus could explain the confusion between mental models and cognitive maps; the clearest difference between the concepts – mental models specify all causal links, while cognitive maps describe spatial associations – is almost completely discarded, which essentially equals both concepts.

The concept of cognitive mapping came into being in 1948, when Edward C. Tolman was studying decision making in rats and men in spatial settings. The development of cognitive mapping shares many of the same base theories of cognitive psychology and thinking used by mental model theorists (Tolman, 1948; Spicer, 1998). Several years later, in 1955, George Kelly introduced the Personal Construct Theory to provide a way of understanding personal and organizational problem solving. He added that constructs made to understand events differ from person to person (Kelly, 1955; Eden, 1988).

The aforementioned definition and the older definitions of cognitive mapping shows an emphasis on the form of presentation, and thus the skill of the researcher to effectively produce the cognitive map, while reducing the bias to a minimum. The constructed map should be clear and comprehensive (Spicer, 1998). And just like mental models, are cognitive maps created over time from numerous experiences, which means that structures from different individuals will show substantial variation due to differences in expertise, experience and training (Kearney and Kaplan, 1997). Combining the theories of mental modelling and cognitive maps create visual representations of mental processes: mental representations.

2.3.4 Mental representations

Arentze, Delleart and Timmermans (2008) characterize mental representations (MRs) as a type of cognitive map. They emphasize that in their view MRs differ from cognitive maps; cognitive maps are considered representations of concrete objects in space, while the nodes in MRs represent a person's notion of available action alternatives, causes and effects, and utilities of action outcomes. Hence, the relationships are typically causal relationships rather than spatial relationships. MRs are postulated to arise through individual's experiences and long-term knowledge from which relevant information is retrieved, reordered or translated into other forms. This knowledge is based on the association of co-occurring features (Kearney and Kaplan, 1997).

Mental representations consist of several components such as attributes, benefits, situational variables, decision variables and causal links between them. Attribute variables refer to (physically) observable states of the choice options, while benefits variables describe outcomes that are more abstract and represent more fundamental needs (Myers, 1976; Arentze, Dellaert, and Timmermans, 2008; Horeni, 2012). Situational (or contextual) variables are not directly or indirectly influenced by the decision maker. As MRs are assumed to represent causal knowledge, they can be mapped as causal networks with nodes as variables and arrows as causal links. The obtained structure is displayed in Figure 2-3. It is crucial to understand that an MR is tailored to the task and situational setting at hand, because of which different selections of variables and links are triggered (Arentze, Dellaert, and Timmermans, 2008; Horeni, 2012). The limited capacity of the working memory imposes limitations on the amount of information that can be used by individuals, leading to a significant simplification of reality (Anderson, 1983).
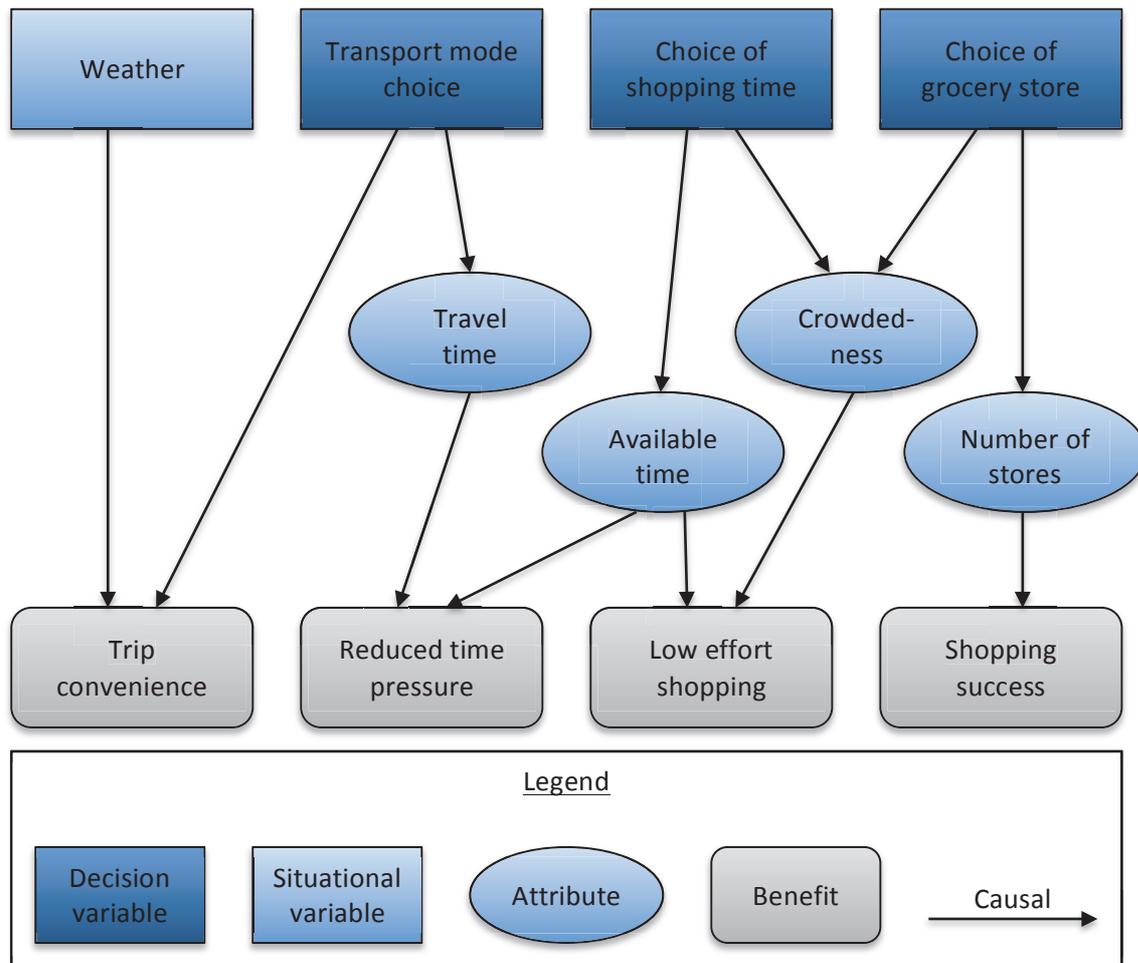
Figure 2-3: Mental representation for an activity-travel task (Horeni, 2012)

With the addition of conditional probabilities and utility variables, the MR structure can be modelled as a Decision Network (DN). This Decision Network on its turn is an extension of a Bayesian Belief Network (BBN). A great characteristic of BBNs is that they support both problem diagnosis (backward reasoning) as well as prediction (forward reasoning).

Arentze, Dellaert, and Timmermans (2008) distinguish two components in BBNs: "*(1) a directed acyclic graph (DAG) in which nodes represent stochastic variables and directed arcs represent dependencies between the variables and (2) a conditional probability distribution for each node specifying the dependency relationships*". The conditional probabilities are displayed in a so-called Conditional Probability Table (CPT). BBNs provide options to use techniques to represent knowledge and uncertainties in a causal network and using that network for probabilistic reasoning. In addition, in DNs utility variables are incorporated as separate nodes in the network. As a result, MRs include a utility variable for each benefit variable and a link between them representing the dependency relationship between benefit and utility. Parameters are assigned to each link, which can be arranged in a Conditional Utility Table (CUT) for each benefit variable. The relative importance of a benefit variable is captured by the size of the range of utility values across outcomes of a benefit variable. So in short, DNs provide a method to evaluate utilities of decision choices (Arentze, Achten, and de Vries, 2008). Appendix I shows examples of a full DN model consisting of a directed acyclic graph (Appendix I.1), conditional probability (Appendix I.2) and utility tables (Appendix I.3).

Regarding shopping problems, basic features like the behaviour of personnel, layout, prices, and selection are found to be most important features that determine experiences (Bäckström and Johansson, 2006). However, contextual information can also influence the elaboration process.

Dellaert, Arentze, Timmermans (2008) state that consumers develop different mental representations depending on the (shopping) context. This is because different benefits and attributes will be activated in the consumer's mental representation for different shopping contexts. As a matter of fact, "*attribute and benefit activations [because of contextual changes] are instrumental to identifying which decision alternative provides the best match between generated and required benefits*" (Delleart et al., 2008). Using mental representations to investigate the shopping context should reveal the role of sense of place in shopping decisions.

2.4 Conclusion

All in all, it can be concluded that many authors have tried to capture the concept of sense of place in various frameworks with varying dimensions. The most-used dimensions are place attachment, place identity and place dependence, but even for these dimensions no consensus has been reached with regard to their relationships. The proposed Process-Place-Person (PPP) framework of Scannell and Gifford (2010) seems to capture all different relationships that may exist between an individual and a place. The framework describes how an individual (person) forms bonds with physical and social aspects of a place through lengthy experiences and other emotional connections (process).

The (emotional) bonds one has with a place are largely formed by personally memorable experiences, and it was even argued that individual experiences might actually form the basis for bonds with a meaningful place. Considering the growing emphasis on experiences – because of the upcoming 'experience economy' – the role of sense of place in retail environments may be growing. This ultimately leads to the question whether sense of place really influences consumers in their decision making process; and which elements play the biggest role in forming the sense of place.

Lastly, in this chapter a method was presented to model the unconscious thinking process – the creation of consumer experience – by means of mental representations. Mental representations have the advantage to be individual- and context-specific, which makes them very well-suited for the given research subject: sense of place in retail environments. The next chapter presents an online interview system, designed to test the influence of sense of place in various shopping location decision problems using mental representations.

3 Research methodology

Various qualitative and quantitative measures have been developed in recent decades to measure sense of place at different levels. In addition, various scales have been developed to describe the level of intensity of sense of place. This chapter starts by introducing three measurement instruments in section 3.1, which quantitatively measure the level of sense of place. These three instruments have been developed in particular to measure the intensity of the three place constructs.

Furthermore, a scale is introduced, that enables different levels of intensity of feelings and behaviour of different people that reside in the same place at the same time to be distinguished. Section 3.2 presents an online web methodology for determining these mental representations. Together, these items are used to test the influence of sense of place in various shopping location decision problems. Lastly, section 3.3 puts forward a pilot study that has been performed at Redevco B.V.

3.1 Review of previous research

This section gives a short overview of qualitative and quantitative measures that have been developed in recent decades to measure sense of place at different levels. After a short introduction into qualitative and quantitative measures of sense of place, examples of surveys are presented that attempt to measure the strength of sense of place using statements regarding the three place constructs. Next, these statements are used to develop a scale capable of measuring sense of place empirically. Lastly, several studies that attempt to link observable physical and social characteristics of places to the concept of sense of place are put forward.

3.1.1 Standard measurement of sense of place

Sense of place may be measured at different scales using qualitative and quantitative measures (Boerebach, 2012; Hidalgo and Hernández, 2001; Lewiska, 2011). These measures focus all sorts of places, such as residential areas, recreational settings, holiday locations, lake property, traditional retail streets and natural landscapes. All the studies attempt to provide insight in the nature of human-place bonding by examining sense of place effects on respondents' perceptions of physical and social conditions (Scannell and Gifford, 2010).

Qualitative measures on the one hand are intended to offer insight into meanings that places entail. These qualitative measures exist of verbal measures (such as in-depth interviews, think-aloud protocols, and free association tasks) or pictorial measures (using photographs or evaluative maps) (Lewiska, 2011). Some argue that the meaning of place is of great importance, since it is an intermediate link between the place's physical properties and the strength of the emotional bonds with the place (Jorgensen and Stedman, 2001).

Quantitative measures on the other hand are used to verify the existence and relationships between various place dimensions. Sense of place is a hypothetical construct that is not accessible through observation (Jorgensen and Stedman, 2001). Hence, early quantitative research used proxy measures, such as house ownership, length of residence, and neighbourhood ties (Riger and Lavrakas, 1981; Taylor, Gottfredson and Brower, 1985). These measures were based on the assumption that positive bonds with places lead to certain behaviour. Newer quantitative measures derive a sense of place via responses of affective, cognitive, and behavioural nature in a survey. It is assumed that these responses are mediated by their respective place construct (place attachment, place identity, place dependence).

Several (comparable) surveys are developed to measure the strength of the three place constructs quantitatively (Deutsch and Goulias, 2009; Jorgensen and Stedman; 2001; Nielsen-Pincus et al., 2010). Jorgensen and Stedman (2001) measure sense of place among lakeshore property owners using a twelve items survey (Table 3-1) with a 5-point Likert response scale ranging from 'strongly disagree' to 'strongly agree'. The Likert scale is a scale which is used to allow an individual to express how much they agree or disagree with a particular statement; an example is shown in Table 3-2. The three place constructs consist of four items each, resulting in twelve items in total.

Table 3-1: Scale items relating to sense of place (Jorgensen and Stedman, 2001).

Place construct	Item description
Place attachment	I feel relaxed when I'm at my lake property.
	I feel happiest when I'm at my lake property.
	My lake property is my favourite place to be.
	I really miss my lake property when I'm away from it too long.
Place identity	Everything about my lake property is a reflection of me.
	My lake property says very little about who I am.
	I feel that I can really be myself at my lake property.
	My lake property reflects the type of person I am.
Place dependence	My lake property is the best place for doing the thing that I enjoy most.
	For doing the things that I enjoy most, no other place can compare to my lake property.
	My lake property is not a good place to do the things I most like to do.
	As far as I am concerned, there are better places to be than at my lake property.

Table 3-2: Example of a 5-point Likert scale.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Cats are cute.	O	O	O	O	O

Deutsch and Goulias (2009) modified this survey in an attempt to gain an understanding of how this experiential aspect of place differs among people and between locations with special regard to shopping mall references (Table 3-3). The scale is upgraded to a 7-point Likert scale (like Table 3-4), and the number of questions changed. The additional place constructs place satisfaction is used to examine how the respondents value different shopping centre attributes such as food options, parking facilities, level of services and entertainment options. However, the proposed structure of sense of place by Deutsch and Goulias (2009) – consisting of place attachment, identity, dependence and satisfaction – does not correspond with the framework proposed in the previous chapter.

Table 3-3: Scale items relating to sense of place (Deutsch and Goulias, 2009).

Place construct	Item description: "Paseo Nuevo or La Cumbre …
Place attachment	… makes me feel relaxed." … makes me feel happy." … is one of my favourite places in Santa Barbara."
Place identity	… reflects the type of person I am." … says very little about me." … makes me feel like I can be myself."
Place dependence	… meets my needs better than any other location in Santa Barbara." … I only come when I have specific reasons in mind."
Place satisfaction	"I am satisfied with … (mall attributes such as parking, number of people, food options, entertainment options, products and level of service)."

Table 3-4: Example of a 7-point Likert scale.

	Strongly agree	Agree	Agree somewhat	Neutral	Disagree somewhat	Disagree	Strongly disagree
Cats are cute.	O	O	O	O	O	O	O

Lastly, Nielsen-Pincus et al. (2010) modified the items of Jorgensen and Stedman (2001) in order to assess differences in the relationship among new and long-time, and local and absentee residents in rural countries (Table 3-5). The items are measured on a 7-point Likert-type response scale ranging from very strongly agree to very strongly disagree. The resulting survey solely consists of the three aforementioned place constructs and provides general statements that can easily be used to examine sense of place for all sorts of places. These statements are adopted as benefits in the survey. The statements reveal exactly which place construct is considered. In addition, the statements also prove to be very useful to measure the role of sense of place in mental representations; this is discussed in paragraph 3.1.2.

Table 3-5: Scale items relating to sense of place (Nielsen-Pincus et al., 2010).

Place construct	Item description: "How important to you is [this] country and it's landscape?"
Place attachment	It is my favourite place to be. I feel happiest when I am here. I really miss it when I am away for too long.
Place identity	I do not identify with this landscape very well. Everything about this landscape is a reflection of me. This landscape says very little about who I am. I feel I can really be myself when I am here.
Place dependence	As far as I am concerned there are better places to be. It is the best place for me to do the things I enjoy. I would enjoy the outdoor activities I do here just as well in another place.

3.1.2 Levels of sense of place

Last section describes how sense of place can be examined using several attitudinal statements. With Likert-type response scales ranging from (very) strongly agree to (very) strongly disagree, people's responses to these statements are measured. These statements are in turn used by the researchers to determine the attitude of the respondents towards the three place constructs (Deutsch and Goulias, 2009; Jorgensen and Stedman; 2001; Nielsen-Pincus et al., 2010). However, these methods do not provide a scale capable of describing sense of place as a whole. Such a scale is particularly important considering the fact that "*individuals and groups whose environmental interactions differ will form different assessments of the places they experience*" (Canter, 1977).

Various scales have been developed to describe the level of intensity of feelings towards place. Many of these scales only use two or three levels of sense of place (Shamai, 1991). One of the first researchers to introduce a more elaborate scale was Relph (1976), who distinguished seven degrees of 'insideness' and 'outsideness' in ways of sensing a place (Table 3-6). To be inside a place is to identify with it, and the more profoundly inside you are the stronger this identity with the place is. Relph (1976) states that the inside-outside division is extremely important in our experiences of lived-space, as it provides the essence of place. Hence, the creation of an 'inside' that is separate from an 'outside' is crucial to a place. The seven levels of insideness reflect the variations in our intentions with a place.

Table 3-6: Levels of insideness (Relph, 1976).

Level of insideness	Explanation
Existential outsideness	Involves a self-conscious and reflective uninvolvement. Places are backgrounds to activities, places assume the same meaningless identity and are distinguishable only by their superficial qualities.
Objective outsideness	Involves a deep separation of person and place, to consider places in terms of their locations or as spaces where objects and activities are located. Thus, places have certain attributes within a system of locations.
Incidental outsideness	A largely unselfconscious attitude in which places are experienced as little more than the background or setting for activities and are quite incidental to those activities. This only applies to places in which we are visitors.
Vicarious insideness	Applicable when places are experienced in a second-hand/vicarious way. This experience is one of deeply felt involvement, without actually visiting them.
Behavioural insideness	Consists of being in a place and seeing it as a set of objects, views, and activities arranged in certain ways and having certain observable qualities. It involves deliberately attending to the appearance of that place, where the content tells us we are here instead of somewhere else.
Empathetic insideness	Involves emotional and empathetic involvement in a place, and appreciating the essential elements of its identity. Your own experiences and general symbols of a place help to identity with its meanings.
Existential insideness	A place is experienced without deliberate and self-conscious reflection yet is full with significances: 'home sweet home'. Existential insideness is part of knowing implicitly that this place is where you belong.

The aforementioned scale of Relph (1976) merely focuses on identification with a place, but forms a good base for measuring the level of sense of place nonetheless. The scale needs to be transformed to account for all place constructs of sense of place. Shamai (1991) attempted to develop a scale capable of distinguishing different levels of intensity of feelings and behaviour of different people who generally reside in the same place at a given time. This is the case for consumers in shopping areas. The suggested scale (Table 3-7) of sense of place consists of three phases and seven levels. Each phase can be broken down into two levels. The first phase (1 and 2) is belonging to a place, the middle phase (3 and 4) is attachment to a place, and the highest phase (5 and 6) is commitment to a place. The levels are not connected to the place constructs, even though the labels would suggest so. Between the levels there is not always a sharp distinction, but altogether they create a continuum between not having any sense of place and a deep commitment towards a place (Shamai, 1991).

Table 3-7: Levels of sense of place (Shamai, 1991).

	Level	Explanation
0	Not having any sense of place	When people do not have any sort of connection with a place.
1	Knowledge of being located in a place	When people recognize symbols and know that they are in a distinguishable place, but they do not have any feeling that binds them. The place is merely an address or location.
2	Belonging to a place	There is knowledge of the name of the place, its symbols, and a feeling of 'togetherness' and common destiny. What happens at the place is important, and symbols are respected.
3	Attachment to a place	The place is a centre of a personal and collective experience and that identity combines with the meaning of the place and its symbols to create a 'personality' of the place. The place is emphasized through its uniqueness and its difference from other places.
4	Identifying the with place goals	When the majority of the people of the place recognize the goals of the place and are in conformity with them. There is a blending with the place's interest and needs, and people are loyal and devoted to the place.
5	Involvement in a place	The resident takes an active role in the community because of a commitment to a place (taking an environmental role). This and the next level are probed mainly through actual behaviour of the residents, and imply investment of human resources.
6	Sacrifice for a place	Involves the deepest commitment to a place, and is realized through the readiness to sacrifice personal and/or collective interests for the sake of the larger interest of the place.

Shamai (1991) adds that the suggested scale does not apply to each place and study, because certain aspects of the scale are only relevant in specific contexts. The scale merely forms a framework, and should be adjusted to match the given situation. For this reason, the level '6. Sacrifice for a place' is omitted from this thesis. A *"readiness to sacrifice personal and/or collective interests for the sake of the larger interest of the place"* simply does not apply for shopping locations. The remaining six levels are used to measure the respondents' level of intensity for each place construct, which will be discussed in section 3.2.4.

3.1.3 Standard measurement of influential elements on sense of place

Only a number of researchers have attempted to link observable physical and social characteristics of places to the concept of sense of place. Kyle et al. (2004) examine the effects of place attachment on respondents' perceptions of social and environmental characteristics along the Appalachian Trail in the USA. Even though their focus is contrary to this research – Kyle et al. (2004) examine the influence of sense of place on the perception of several place characteristics, while this thesis focuses on the influence of place characteristics on sense of place – they still yield interesting conclusions. Their findings indicate that a certain degree of place identity and place dependence affected the respondents' perception and judgement of the Appalachian Trail. For example, place identified respondents are more critical of the number of hikers and facilities along the trail. The question is whether these relationships are reversible.

Regarding retail locations, Shamsuddin and Ujang (2008) examine the role of attachment in creating sense of place for traditional shopping streets in Kuala Lumpur, Malaysia. Their research consisted of two parts. First, they measure the degree of sense of place using a survey similar to those mentioned in the previous paragraph. Next, in order to fully understand the factors that influence attachment (and thus sense of place) to the traditional streets, they examine *"the attributes and characteristics of the streets as a place of functional and emotional significance that forms the attachment"* (Shamsuddin and Ujang, 2008). They conclude that accessibility, legibility, vitality, diversity, choice, transaction, comfort and distinctiveness can be identified as

significant characteristics supporting the attachment. Furthermore, they conclude that the success of the streets is influenced by the ability of places to effectively accommodate human activity. In summary, place attachment should be one of the factors to consider in the design of urban space and places due to its significant contribution in influencing the sense of place (Shamsuddin and Ujang, 2008).

Boerebach (2012) used a similar method to Shamsuddin and Ujang (2008) for examining the relationship between sense of place and physical characteristics of shopping locations. He investigates the physical characteristics of the survey location by means of personal observation and desk-research. Several categories of physical characteristics are distinguished, such as merchandising, architecture, furniture and human scale and crowdedness. Next, the degrees of sense of place, place attachment, place identity and place dependence, as well as personal characteristics are examined using a survey based on the works of Jorgensen and Stedman (2001), Deutsch and Goulias (2009), and Nielsen-Pincus et al. (2010). Several statistically significant physical characteristics with regard to sense of place are determined, but overall the fit of the regression model that uses physical characteristics of the location to predict sense of place is disappointingly low (R^2 = 0.073).

3.2 Experimental design

The previous chapter described the construction of sense of place and the possible influence it may have on the creation of customer experience, and consequently on the decision-making process of customers regarding shopping locations. However, recent attempts to determine the workings of sense of place with regard to shopping locations – by examining influential physical or social elements of shopping location on sense of place – yielded mediocre results.

For this reason, mental representations are introduced. Whenever faced with complex decision problems, individuals generate mental representations that allow them to interpret the situation at hand and evaluate alternative actions. Mental representations encompass important causal relationships from reality as simplifications in people's mind, while maintaining individual and contextual variability (Horeni, 2012). Hence, mental representations may be the key to unravelling the mechanisms of sense of place.

In short, this research examines in what manner the three place constructs affect decision-making by consumers. More specifically, each respondent is presented with one of three different scenarios (one for each place construct), and the considered attributes and benefits are examined in order to determine interesting variations. The scenarios provide a certain setting, and stimulate the respondents to actively think about the situation. It is assumed that different contextual situations activate different attributes and benefits; consequently, each scenario should yield different results with regard to the frequencies of mentioned attributes and benefits.

The following paragraph introduces an online web methodology for determining these mental representations (ISAM MentreQe, 2013). First, some background information regarding this instrument is given. Then, the input that is needed to adequately run the online application, and its method of collection, are reviewed. Lastly, the development of the three scenarios – which are designed to evoke certain mental representations – is discussed.

3.2.1 Background information

To reveal mental representations, a semi-structured interview method called CNET (Causal Network Elicitation Technique) was developed by Arentze, Dellaert and Timmermans (2008). Anouk den Hartog is also acknowledged by the authors for her contributions to the operationalization of the CNET protocol, experiment and data collection (Den Hartog, Arentze, Dellaert and Timmermans, 2005). The CNET method consists of an interview protocol to elicit the structures at the individual level as a causal network. The measurement method was critically tested to provide evidence of its sensitivity and reliability (Arentze, Dellaert, and Timmermans, 2008; Dellaert et al., 2008).

During the original CNET interview, respondents are confronted with several decision variables in a random arrangement. Their considerations – when facing with the alternatives – are elicited using a number of subsequent questions. For each decision variable, the respondent is asked "*What are your considerations when faced with these alternatives?*". The variables that correspond to the considerations of the respondent are identified using a list of predefined attributes and benefits, which is not visible to the respondent. If this variable is an attribute, the interview continues with the question "*Why is this variable influential in this case?*", in an attempt to find underlying benefits generated by the attribute. If the originally mentioned variable is a benefit, the interview continued with the question "*How is this variable influenced?*", leading to the identification of situational or alternative attributes. The procedure is repeated until no further considerations could be mentioned. The causal links between variables are also established and verified if in doubt. Lastly, after establishing the entire mental representation of the decision problem, respondents are asked which alternative they would choose in the given scenario (Arentze, Dellaert, and Timmermans, 2008; Horeni, 2012).

Although the CNET method proves to be suited for the measurement of mental representations, some imperfections can be pointed out. It may be noticed that this interview is quite intensive and time-consuming. Each variable needs to be processed step-by-step to capture all attributes and benefits of the mental representation. Additionally, the interviewer uses a predefined list of variables to identify the answers of the respondents. This inevitably creates a bias, since the interviewer uses his/her personal reasoning to interpret the respondents' answers. Not using this list would result in more unbiased, individually tailored and thus qualitatively better mental representations. However, this would make the data analysis very inefficient and too time-consuming, and for these reasons the list is used.

To both shorten the interview duration and make the measurement method applicable in large-scale surveys, Horeni (2012) introduces an online web methodology for determining mental representations of respondents. The methodology is aimed at discovering the trade-offs of individuals for certain fictional scenarios. The physical interviewer is replaced by a string recognition algorithm and a pre-defined list of attributes and benefits, in order to automatically interpret the responses. The semi-structured CNET interview protocol is largely adopted, as the system presents a certain situation and consequently asks for important attributes. Subsequently – and similarly to the original CNET protocol – underlying benefits are revealed. A common set of variable labels is still considered to be necessary to enable comparing mental representations between individuals. Horeni (2012) states that a tool for measuring mental representations should serve three purposes:

- Being attractive and accessible for (almost) all respondents;
- Being easily and economically applicable for researchers;
- Eliciting genuine data without impacting the respondent.

This online method serves all three purposes because of its online nature and the fact that no interviewer is needed. It brings out the benefits and attributes involved in certain choice situations and orders them in a decision network model of the mental representation.

Again, using an online survey does provide some limitations. For example, certain populations are less likely to have Internet access and therefore to respond to online questionnaires. Additionally, Internet users today are constantly assaulted with messages and they can easily disregard a survey invite. Lastly, the absence of a trained interviewer to clarify ambiguities and probe the respondents answers can possibly lead to less reliable data. With a proper selection of respondents and proper instructions these limitations do seem manageable. The issue of data collection is dealt with in paragraph 4.3.2.

3.2.2 MentreQe

The system introduced by Horeni (2012) is called MentreQe, which stands for Mental Representations Questionnaire Environment. The web system is developed by LaQuSo (Laboratory for Quality Software) for ISAM (Institute for Sales and Account Management). The exact workings of MentreQe are best described by the developers themselves. "*MentreQe enables researchers in the field of marketing to setup, execute, and monitor mental representations web interview. Mental representation interviews are interviews in which the mental representation in respect to a certain type of decision is measured. This system supports interviewing respondents through the web. This system includes the routing algorithm for generating the explicit order of question types that will determine the mental representation correctly*" (ISAM MentreQe, 2013). MentreQe helps to shed light upon the mental representations of consumer and consequently reveal the role of sense of place in shopping location decision problems.

The interview instrument that Horeni (2012) developed is largely adopted in this thesis: respondents are confronted with a certain shopping scenario, and people are asked to state their considerations regarding this scenario. However, the interview instrument is also adapted in several ways. Firstly, the shopping task is modified to reveal consumer behaviour for non-food shopping trips in a non-fictional environment. Second, the decision task is reduced from three to one choice, namely just for shopping location. Horeni's (2012) research focuses on a daily activity-travel choice task to test this new online methodology, while this thesis focuses on non-daily location choice tasks to reveal the role that sense of place plays to consumers in these choice tasks.

The next parts describe the construction of a list of attributes, benefits and situational variables that the respondents might consider in the experimental choice situations, as well as the development of the shopping scenarios.

3.2.3 Variables input

Before any data can be collected, lists of attributes, benefits and situational variables that the respondents may consider in the shopping scenarios need to be predefined. For the online methodology the synonyms of these variables also have to be collected (Horeni, 2012), as well as a list of causal links specifying which benefits will be revealed to respondents when they mention certain attributes, and a list of words that should be ignored by the software. The reason for tailoring the benefits to the attributes is twofold. First, it prevents confusing the respondents by showing benefits that are out of the question for a certain attribute. For example, it is very unlikely that a respondent considers the benefit 'the safety while travelling' because it would impact 'the price level of the products'. Second, pre-specifying the links between attributes and benefits increases the readability of the webpage by reducing the number of benefits that is shown to respondents. Besides, the respondent always has the opportunity to type in a benefit in the case that they want to indicate causal links that are excluded. The list of ignore words contains very commonly mentioned – and often small and meaningless – words like 'afhankelijk' (dependent), 'dit/dat' (this/that), 'je' (you), and 'meer' (more). Whenever the respondents enter these words, MentreQe will ignore them, thus speeding up the entire system and reducing page loading times.

A number of approaches have been used to collect as many (meaningful) considerations (and their synonyms) and causal links as possible:

- Previous research based on CNET;
- Literature;
- Brainstorming;
- Interviews.

The lists of pre-defined and added variables of both Den Hartog (2005) and Horeni (2012) are taken as an origin for the variable collection. Both researchers focussed on activity-travel related choices, which explains the number of travel related attribute and benefit variables mentioned in these reports. For example, more than half of Den Hartog's (2005) attribute variables (43 out of 85 attribute variables, including situational) concern travel issues like travel time, travel costs, routing aspects and mode of transport. Since other scenarios are presented to the

respondents in this research, it is expected that other attributes and benefits will be mentioned. Hence, the list of variables established by Den Hartog (2005) and Horeni (2012) should be expanded, especially with regard to considerations that explain consumer experience and sense of place. Several sources are used to expand the list of variables.

Firstly, a literature study is performed to obtain a basic list of determinants of consumer experience and possible predictors of sense of place. Bäckström and Johansson (2006), Grewal et al. (2009) and Verhoef et al. (2009) describe many macro-factors of customer experience; Oppewal and Timmermans (2010), Reith (2011), Teller and Reutterer (2008) and Zwetheul (2009) outline attributes that describe physical and social appearance, layout and other attractiveness variables; and Giuliani et al. (2003), Korpela (1989), Lewicka (2011), and Shamsuddin and Ujang (2008) present possible attributes and predictors of sense of place. Furthermore, the works of Deutsch and Goulias (2009), Jorgensen and Stedman (2001), Nielsen-Pincus et al. (2010), and Boerebach (2012) are used to yield benefits that could describe the role of sense of place. Many of the consulted studies are in English, and the obtained variables had to be translated first before they could be used in MentreQe. Hence, this literature study serves more as source for additional variables than synonymous expressions.

Secondly, a brainstorming session is held with five colleagues of the researcher. These colleagues work at the Research & Strategy and Concept & Design departments at Redevco B.V. They are given an oral instruction after which they receive a three-page questionnaire where conceivable considerations respondents might have regarding shopping location choices could be filled in. The colleagues are asked to use both their professional knowledge and common sense. The brainstorming session consists of three parts:

- A general part that focuses on preliminary decision phases and contextual issues like service level and general layout of the shopping location;
- A part focusing on practical considerations for both food and non-food shopping trips;
- A part that focuses on physical appearance and secondary activities at the shopping location like leisure, restaurants and bars.

The instructions, template, and the results of the brainstorming session are found in Appendix II. The brainstorming session yielded many useful Dutch variables and synonyms regarding considerations during shopping location decision problems.

Thirdly, expert interviews are held at various companies. Anouk den Hartog's (2005) interview protocol is used as a base for these expert interviews. This interview protocol is comparable to the CNET interview method, and uses subsequent questions as well to reveal one's mental representation of a shopping location decision problem. Three shopping scenarios are presented to the experts, after which they are asked to name possible considerations regarding these scenarios, and to give their opinion on the scenarios in general. More information on the scenarios is given in the next section. The interview protocol and resulting expert input can be found in Appendix III. The approached experts are selected to represent different industries and specialities. More specifically, the consulted experts are active in the fields of place branding, consumer experience, consumer motivation from an evolutionary psychology perspective, and real estate consultancy.

The considerations collected by all three methods are analysed, summarized and categorized as attributes, benefits or situational variables and added to the database. The experts' opinions regarding the shopping scenarios are analysed as well. In the end, the database consists of 200 attributes (including situational variables) and 35 benefits. Each benefit is appointed to a certain level of sense of place – as will be described in the next section – to subsequently quantify the intensity of sense of place according to the respondents' chosen benefits. Additionally, benefits that reflect higher levels of sense of place are also appointed to a place construct. For example, the first level of sense of place ('Not having any sense of place') contains benefits that do not refer to any sort of relationship between humans and spatial settings ('The pleasure of the shopping activity', 'The safety during the journey', etc.). In contrast, a higher level of sense of place (like the fifth level 'Identifying with place goals') contains benefits that reflect a certain level of loyalty and devotion to a place ('You feel at ease at the shopping location', 'The shopping location reflects the kind of person you are', etc.). Naturally, all intermediary levels of sense of place are assigned

corresponding benefits as well. A complete overview of the allocation of all benefits to the levels of sense of place is shown in Table 3-8.

3.2.4 Allocation of benefits to sense of place scores

Last section describes the development of lists of attributes, benefits and situational variables, which serve as input for the final survey. These variables are used to examine the role of sense of place in shopping trip decision problems. The level of intensity of sense of place of respondents is measured using the scale suggested by Shamai (1991). A complete overview of the allocation of all benefits to the levels of sense of place is shown in Table 3-8.

First, the benefits respondents may consider are assigned to a certain level of sense of place. Remember that many of the benefits derive from the statements of Nielsen-Pincus et al. (2010). Besides revealing which place construct is considered, these statements also reveal the intensity of sense of place. For example, *the shopping area is one of your favourite places to be* indicates a higher level of intensity than *the shopping area makes you feel relax*. The benefits are subjectively assigned to a level of sense of place using the descriptions of the respective levels. Second, the mental representations of the respondents are examined. Respondents with relatively similar mental representations are grouped. Lastly, the frequencies of elicited benefits of a group of respondents are used to determine a final 'sense of place-score'. The exact process to determine 'sense of place-scores' is discussed more elaborately in section 6.3.

Table 3-8: The allocation of benefits to level of sense of place (Shamai, 1991).

0. Not having any sense of place	When people do not have any mental connection with a place.
the ease of shopping the shopping comfort the pleasure during shopping the pleasure of the journey the comfort of the journey the ease of the journey the safety of the journey time saving health enhancement mental ease financial saving to experience a pleasant shopping trip your life becomes more predictable the environmental load how healthy do you feel the choice options in the shopping area the need for social contact	
1. Knowledge of being located in a place	When people recognize symbols and know that they are in a distinguishable place, but they do not have any feeling that binds them. The place is merely an address or location.
the experience by the physical environment the atmospherics in general your curiosity for new experiences the shopping area makes you feel relaxed relaxation in general	
2. Belonging to a place	There is knowledge of the name of the place, its symbols, and a feeling of 'togetherness' and common destiny. What happens at the place is important, and symbols are respected.
the feeling of safety the shopping area helps you to relax the shopping area gives you a feeling that you can be yourself the shopping area guarantees you a successful shopping trip the shopping area guarantees you quality of products	

3. Attachment to a place	This involves an emotional attachment to a place. The place is a centre of a personal and collective experience and that identity combines with the meaning of the place and its symbols to create a 'personality' of the place. The place is emphasized through its uniqueness and its difference from other places.
the shopping area makes you feel happy the shopping area says a lot about who you are the shopping area meets your needs better than other areas	
4. Identifying the with place goals	When the majority of the people of the place recognize the goals of the place and are in conformity with them. There is a blending with the place's interest and needs, and people are loyal and devoted to the place.
the shopping area makes you feel comfortable the shopping area reflects the type of persons you are the shopping area is a good place for doing things you enjoy most	
5. Involvement in a place	The resident takes an active role in the community because of a commitment to a place (taking an environmental role). This and the next level are probed mainly through actual behaviour of the residents, and imply investment of human resources.
the shopping area is one of your favorite places to be the shopping area and you share a special connection the shopping area is a good reflection of your identity the shopping area is the best place for doing things you enjoy mos	
6. Sacrifice for a place	Involves the deepest commitment to a place, and is realized through the readiness to sacrifice personal and/or collective interests for the sake of the larger interest of the place.
-	

3.2.5 Development of the shopping scenarios

As stated before, the respondents are confronted with a shopping scenario to activate a mental representation. More specifically, the respondents are informed of their task and a situational setting. Then the respondents are asked to state their considerations regarding the scenario. The three place constructs – place attachment, place identity and place dependence – form the basis for the construction of the scenarios. Hence, three scenarios are created: one scenario for each place construct. The scenarios had to be developed in such a way that they form a realistic and familiar decision problem for the respondents. The idea behind the development of these three scenarios is to test exactly in what manner each place construct influences the activation of attributes and benefits in the mental representations of the respondents.

Three shopping locations are presented to the respondents in each scenario. Even though this thesis focuses on consumer behaviour and considerations to visit a certain location, the respondents are also asked to state the shopping location that he or she would choose in the given scenario. The presentation of these choice options may even help respondents to recall larger mental representations. The three shopping locations are 1) an inner city of a small town, 2) an inner city of a large city, 3) a peripheral shopping centre. Additionally, the 'place dependence' shopping scenario possesses a fourth choice option: 4) online shopping (including home delivery service). This option is added because of the spectacular growth of online shopping last years, and the expectation that online retailing will continue to increase as a result of new technology and a further growth of mobile Internet (Yerex, 2011). The shopping options are presented with atmospheric images, so respondents would form relatively similar impressions of the shopping locations. Nevertheless, by excluding concrete examples of the shopping options, the respondents should relate the options to actual shopping areas they are familiar with, thus stimulating sense of place components.

A number of approaches have been used to develop the scenarios. The first versions of the scenarios were based on the original scenarios by Horeni (2012), and other literature (Shamsuddin and Ujang, 2008; Trope and Liberman, 2003). In addition, random consumers are interviewed in

the inner cities of a medium-sized and a large city in the Netherlands to collect information about their age, favourite shopping locations, and shopping motivations. The results from these street interviews are compared to the original scenarios to yield more realistic shopping scenarios.

The first shopping scenario focuses on the place construct 'place attachment'. The scenario describes a situation in which the respondent wants to spend a free afternoon by going shopping. The respondent does not have any other obligations, and is alone. The shopping trip is purely recreational (to get some air), and the weather is nice and sunny. This scenario stimulates a desire for well-being and security, since place attachment represents the emotional bonding between a person and a place.

The second shopping scenario concentrates on the place construct 'place identity'. The respondent is asked to envision a situation in which he/she plans a shopping trip to a shopping area that he/she favours. In addition, the respondent is meeting with another person. This person want to get to know the respondent better, and the shopping location should match the respondent's identity. Place identity can be seen as a component of the person's self-identity, where a place is reflected in the self (Williams and Vaske, 2003). It is an important component of communications about general belief and preferences. By introducing the need to express oneself as a person, it is expected that considerations regarding place identity are activated.

The third and last shopping scenario focuses on the place construct 'place dependence'. The scenario describes a situation in which the respondent would need to buy a birthday present. There also is an element of time pressure: the birthday present needs to be bought within a couple of days. Remember that place dependence is defined as a form of attachment associated with the potential of a particular place to satisfy the needs and goals of an individual, in particular when comparing the place to other available settings that satisfy the same set of needs. This scenario is expected to strongly activate practical considerations and needs, in order to avoid negative consequences.

After these preparatory steps the whole system was ready to be pilot tested.

3.3 Pilot testing

This paragraph deals with the pilot study that is conducted prior to the actual survey. A pilot study is considered necessary because of the newness of the developed instrument. MentreQe is developed by Horeni (2012) and LaQuSo, and this marks the first time that it would be implemented on a larger scale. This paragraph covers the experimental design of the pilot study, as well as the sample and analysis of the pilot study. Finally, a conclusion with implications for the main survey is presented.

3.3.1 Experimental design

The preliminary version of the questionnaire is tested by Dutch speaking colleagues of Redevco B.V. and by friends and family outside Redevco B.V. and the Eindhoven University of Technology who are acquainted with the researcher. A number of colleagues of Redevco B.V. are active within the real estate sector – thus possessing knowledge about retailing and possibly sense of place – while others occupy different positions at Human Resources (HR), Public Relations (PR), or Information Technology (IT). All respondents are invited to participate in the experiment by e-mail. The people are informed that they were about to participate in a pilot test, and that the questionnaire itself would take about ten to fifteen minutes to complete. Since the questionnaire should be self-explanatory, no other instructions are given. Afterwards, the respondents are asked to state their opinion about the questionnaire in general and to point out any ambiguities.

The questionnaire naturally starts with an introduction in which general information about the thesis, the research goal and general instructions are given. The main part of the questionnaire itself consists of seven parts, which are shown in Table 3-9. The questionnaire ends with a page informing the respondent that the questionnaire has been completed. Screenshots of the questionnaire can be found in Appendix IV.1 to IV.11.

Table 3-9: Questionnaire structure.

Page number	Page title	Function
1	Personal data	Personal data is collected on this page: age, gender, postal code of living address, number of years residing at this address, household composition, education level, working situation, net income.
2	The research	This page describes the structure of the questionnaire. It is emphasised that this research concentrates on considerations to visit a shopping location, not the actual choice.
3	The situation and your considerations	One of the three scenarios is presented on this page, complete with supporting text and atmospheric images. After the description respondents may enter their considerations.
4 (a)	Suggestions	On this page the respondent's input is matched to attributes in the database. The respondent may select one attribute from the provided suggestion list.
4 (b)	Restating your considerations	Whenever the respondent's input cannot be matched with any attributes, they are given the option to restate their consideration on this page.
4 (c)	More considerations	The selected attribute on the previous page determines which benefits are displayed on this page. The respondent are asked to select 'underlying motives' that relate to the attribute.
5	Overview	This page sums up the previous pages (selection of attributes and benefits), and introduces page 6.
6	Other considerations	Page 4 concentrated on the selection of attributes, and picking benefits that relate to the selected attribute. This page does the exact opposite, it asks which attributes relate to selected benefits. This is done to detect any missing causal links.
7	Actual choice	Finally the scenario is presented once again (text and atmospheric images) and respondents are asked to state their actual choice.

The pilot test is performed to check the technical soundness of the system, the clarity of the task instructions, and the clarity and accuracy of the attributes, benefits and causal links. Since the instrument and task instructions themselves do not change among the scenarios, only one scenario is pilot tested: the place attachment scenario. Afterwards, the results are compared to the main survey conducted by Horeni (2012).

3.3.2 Pilot study sample

Table 3-10 shows information regarding the dropouts and interview durations of the pilot study. A total number of 28 persons started the pilot study, with 15 persons successfully finishing it. This dropout rate is much higher than Horeni (2012) experienced. Not only did Horeni (2012) use a nationwide panel for his research – thus improving the willingness of the respondents to finish the questionnaire – short dialogues with all starters also showed that extremely long page loading times caused many people to drop out of this pilot study. This issue is discussed further in paragraph 3.3.3. Furthermore, the average interview duration of the pilot study is relatively long. This may as well be explained by the long page loading times and the fact that respondents are asked to write down any comments they had during the questionnaire. Nevertheless, the instructions are reviewed and simplified and/or shortened wherever possible.

Table 3-10: dropouts and interview duration of the pilot study.

	Pilot study
Starters	28
Finishers	15
Dropouts	13
Dropout rate	46.4%
Mean interview duration	0:25:12
Standard deviation interview duration	0:11:38
Median interview duration	0:22:32

Table 3-11 shows the characteristics of the sample of finishers. These numbers are calculated from responses to questions concerning socio-demographic information. The fifteen people who completed the pilot study successfully are aged 39.3 years on average and are predominantly men. The fact that mostly employees of Redevco B.V. filled in the questionnaire is clearly observable as most respondents are full-time in paid employment and enjoyed University- or HBO-level education. The total percentage of higher educated persons in this pilot study (93.3% combined) is extremely high. This could either help or hurt the clarity assessments. On the one hand, this could lead to high-quality reviews and better formulated comments; on the other hand, these respondents may understand unclear instructions far better than lower-educated persons, which means unclear instructions and/or variables could remain in the survey. Paragraph 3.3.3 will go deeper into this issue.

Table 3-11: Descriptors of the pilot sample.

Characteristics		Pilot study
N		15
Gender (% men)		60.0
Age (years) (M/SD)		39.3 (13.1)
Years living at current home (M/SD)		9.3 (7.2)
Status (%)	Couple with children	46.7
	Childless couple	6.7
	Lone parent with children	0.0
	Childless lone parent	20.0
	Student	20.0
	Other	6.7
	I'd rather not say	0.0
Education (%)	University	60.0
	HBO[1]	33.3
	MBO[2]	0.0
	Secondary school	6.7
	Elementary school	0.0
	I'd rather not say	0.0
Job (%)	Entrepreneur	0.0
	Full-time in paid employment	60.0
	Part-time in paid employment	13.3
	Student	6.7
	Unemployed	20.0
	Retired	0.0
	Other	0.0
	I'd rather not say	0.0
Net income per month (%)	1,200 euro or less	13.3
	1,200 – 2,000 euro	6.7
	2,000 – 4,000 euro	33.3
	4,000 – 6,000 euro	13.3
	6,000 – 8,000 euro	13.3
	8,000 euro or more	0.0
	I'd rather not say	20.0

[1] HBO = Hoger beroepsonderwijs = Higher professional education
[2] MBO = Middelbaar beroepsonderwijs = Vocational training school

3.3.3 Analysis

The pilot study is analysed in two ways. First, the elicited mental representations of the pilot study are examined. Second, the pilot study is checked by examining the respondents' comments.

Table 3-12 shows general statistics of the elicited mental representations of the pilot study performed at Redevco B.V. Several variables are selected to examine the complexity of the mental representations. Cognitive subsets are defined as all causal associations of the form decision variable – (attribute –) benefit. Attributes are the number of selected suggestions in step 4(a) of the questionnaire; unknown attributes are entries typed in by the respondents themselves. Benefits are the number of selected or added benefits in step 4(c) of the questionnaire; unknown benefits are again entries typed in by the respondents themselves. Lastly, the benefits/attribute describes the ratio between the number of benefits and the number of attributes.

Table 3-12: Means of dependent variables of the pilot study.

Variables	Pilot study
Cognitive subsets; mean	21.47
Cognitive subsets; standard deviation	25.93
Attributes; mean	4.93
Attributes; standard deviation	2.49
Unknown attributes; mean	0.47
Benefits; mean	7.13
Benefits; standard deviation	4.29
Unknown benefits; mean	0.53
Benefits/attribute; mean	1.45
Benefits/attribute; standard deviation	0.44

Since only one version of the pilot test has been dispatched, no comparative statistics can be used to analyse the outcomes. However, a comparison can be made with the results from Horeni's (2012) main survey. This comparison is not entirely valid; several characteristics of Horeni's (2012) research differ fundamentally from this thesis research – Horeni (2012) uses three decision variables instead of one; his scenarios describe grocery shopping trips instead of non-food shopping trips; and his list of predefined attributes and benefits is smaller. However, these statistics can still be used as a useful benchmark.

The number of cognitive subsets is more than twice as high for the pilot study than CNET basic. A quick look at the dataset reveals an outlier with a number of 105 causal associations. Without this outlier the mean number of cognitive subsets would be 15.50 (with a standard deviation of 12.20). This number is still slightly higher compared to Horeni (2012). The mean numbers of attributes and benefits of the pilot study are also higher than CNET basic. The relatively high number of attributes entered is hard to explain. A possible explanation is the instructions given in the e-mail. The e-mails states that the respondents are part of a pilot study, as a result motivating them to enter a larger number of entries to test the effectiveness of the system. The large number of benefits may be explained by the number of suggested benefits presented to the respondents in steps 4(a) and 4(c). The list of benefits used in the pilot study possessed a higher level of detail than Horeni's (2012) list, possibly explaining the higher number of selected benefits. At the same time, a larger number of suggested variables could also have unwantedly activated a larger mental representation, thus yielding in more selected items. It is decided to combine attributes with only marginal differences, therefore reducing the number of attributes in the database from 200 to 178. For example, when two variables describe the same phenomenon but in the opposite direction (push/pull-variables), they are combined to form a single overarching variable. The number of suggested links per attribute is also decreased.

The number of unknown attributes in the pilot study is quite low, with a mean of just 0.47. The number of unknown benefits entered is relatively low as well; just 0.53 benefits are entered on average by the respondents during the pilot study. The most commonly entered benefit is related to relaxation in general. This is a feasible benefit, and therefore added to the database. Lastly, the ratio of benefits to attributes is determined. This ratio is fairly similar to the ratio of Horeni's (2012) CNET basic (1.45 for the pilot study, compared to 1.79), therefore not resulting in any additional adjustments. All in all, the online instrument used during this pilot study seemed reliable enough to elucidate mental representations for the given scenario.

Furthermore, the respondents are asked to write down their comments regarding the questionnaire. Their comments are grouped into three categories: general comments regarding the technical soundness of the system and the layout; comments concerning ambiguities in the instructions; and lastly comments regarding the attributes, benefits and causal links. An overview of these comments is found in Appendix V.

Regarding the technical soundness of the system and the layout (Appendix V.1), most respondents comment that the page loading times – after the considerations are typed in – are extremely long. This corresponds with the comment that some inputs result in a very large number

(40+) of suggestions. It turns out that several trigger words – for example 'aanwezig' (present), 'aanwezigheid' (presence), 'winkel' (store), 'winkels' (stores), and 'gebied' (area) – result in a very large number of attributes, which may have resulted in long page loading times. These words are included in the ignore list, drastically reducing the page loading time. It is also commented that it is hard to match the atmospheric images to the different choice options. Several changes are made to the layout to correct this problem.

Concerning ambiguities in the instructions (Appendix V.2), the most commonly mentioned comment referred to the clarity of the tasks. People comment that they had little idea what exactly they were doing. The solution is to run over the instructions again, and shorten/simplify them wherever needed. It is particularly interesting that many respondents are confused when they had to state their considerations regarding the shopping trip. People are clearly used to questionnaires that merely study their choice between different options. A note is added in the instructions that the research concentrates on their considerations, and that their final choice can be given at the end of the questionnaire.

It was very clear that the mental representations of the respondents are stimulated by the provided suggestions and benefits. Several respondents want to return to a previous page in the questionnaire, to add more considerations. This, however, is impossible because of methodological reasons. A note is added to the introduction stating that going back in the questionnaire is not possible. Lastly, respondents miss a progression indicator. For this reason the pages are numbered (e.g. 5 of 7), to show respondents their progress in the questionnaire.

All in all, the comments regarding the attributes, benefits and causal links are diverse and mostly trivial, but useful nonetheless (Appendix V.3). The most frequent comment concerns the fact that some inputs resulted in a very large number (40+) of suggestions. As noted, several very common trigger words are included in the ignore list, to reduce the number of stated suggestions, thus increasing the questionnaire's accuracy. The combining of attributes with only marginal differences helps to decrease this large number of suggestions too. Lastly, one attribute is swapped to the benefit list, and one more benefit is added.

After all the statistics and comments regarding the pilot study are analysed, and subsequently changes are made to improve the quality of the online instrument, it is tested once more by a few Dutch speaking colleagues of Redevco B.V. The system worked satisfactorily and is considered ready for the main survey.

3.4 Conclusions and implications for the main survey

Various qualitative and quantitative measures have been developed in recent decades to measure sense of place at different levels. In addition, various scales have been developed to measure the level of intensity of sense of place. Researchers like Shamsuddin and Ujang (2008) and Boerebach (2012) tried to combine surveys – containing quantitative measures – with observations and desk-research to determine the effect of (physical) characteristics on the sense of place in retail locations. In general, these studies indicate that several social and physical characteristics might explain sense of place, but that exact relationships and the workings of sense of place creation remain hard to detect.

Consequently, an online interview instrument called MentreQe – which was developed by Horeni (2012) in collaboration with LaQuSo – is introduced to measure the level of intensity of sense of place and reveal relevant variables. The instrument perfectly suits the goal of determining mental representations of consumers in large-scale surveys. No interviewer is needed, it is accessible for (almost) all respondents, and it is easily and economically applicable for researchers. Various approaches are used to collect the input data for the instrument, such as the attributes, benefits, situational variables, causal links and shopping scenarios. The different scenarios are expected to yield different results with regard to elicited mental representations. Each scenario focuses on a particular place construct, which should be reflected in the chosen benefits in each scenario.

Lastly, this online interview instrument is pilot tested. The analysis of the dependent variables of the pilot study resulted in valuable adjustments. In addition, the respondents' comments correspond considerably, thus showing and confirming that some shortcomings inevitably needed to be dealt with before the main survey.

All in all, the results of the pilot study have helped to improve the technical soundness of the MentreQe system, as well as the clarity of the instructions, variables and causal links. The size and complexity of the elicited mental representations is adequate. The system is now ready to test the influence of sense of place in various shopping location decision problems.

4 Main survey

In the previous chapter various measures are presented to qualitatively and quantitatively determine the sense of place that people experienced in a particular place. In addition, some of the researchers have attempted to link place characteristics to the concept of sense of place, with mixed results. Lastly, several scales are put forward to measure the level of intensity of sense of place.

Since the exact relationship between sense of place and shopping locations is still unknown, mental representations are introduced as a method to get hold of the important causal relationships in people's mind. Mental representations encompass these important causal relationships from reality as simplifications in people's mind, while maintaining individual and contextual variability (Horeni, 2012). Maintaining individual variability is crucial, since every person has it's own individual thoughts, hence the saying "*So many men, so many minds*". The MentreQe online interview system is used to determine these mental representations correctly, eliciting the workings of sense of place with regard to shopping locations.

This chapter starts with a description of the final shopping scenarios in section 4.1. Afterwards, the performance of the interview system is analysed and general sample characteristics are presented in sections 4.2 and 4.3.

Subsequently, Chapter 5 discusses the complexity and content of the elicited mental representations.

4.1 Experimental settings

After a successful pilot study at Redevco B.V., the MentreQe interview system is considered ready to determine the role of sense of place in shopping decision problems. In this paragraph the final shopping scenarios – used in the interview system to collect input – and data collection method are discussed.

4.1.1 Final shopping scenarios

After the brainstorming session at Redevco B.V., the expert interviews and the pilot study, three scenarios have been developed that are believed to be realistic situations for the respondents to be in. Presenting realistic decision problems stimulates the respondents to focus on the actual task of writing down their considerations, instead of questioning the experimental task and research in general.

The structure of the main survey is the same as the pilot study structure presented in paragraph 3.3.1. In short, the questionnaire consists of several parts. In the first part, personal data like age, gender, education level and income is collected. The questionnaire then switches to the actual research; the questionnaire structure is shortly outlined, after which one scenario is presented and the considerations may be entered. Atmospheric images are presented alongside the choice options for visual support. Next, the respondent is run through a set of questions to generate an image of their mental representation. The questionnaire ends with a page where the respondents can enter their actual choice. The scenario and atmospheric images are repeated on this page to aid the respondents.

In total, three different scenarios are developed. As stated in paragraph 3.2.4, the goal of each scenario is to examine the workings of a single place construct. This is done by matching the elicited benefits of the respondents in each scenario to a certain level of sense of place (Table 3-8 in section 3.2.4). In addition, some benefits are allocated to one of the three place constructs. For example, the benefits *you feel at ease at the shopping location* is allocated to the place construct 'place attachment', but may as well be entered in the 'place identity'-scenario or 'place dependence'-scenario.

To ensure an even distribution of respondents over the three scenarios, each respondent is randomly allocated to and presented with only one scenario. The remainder of this paragraph describes the final scenarios used in the main survey.

<u>Place attachment scenario</u>

In this scenario a situation is sketched that is expected to activate emotional feelings towards a certain shopping location.

Imagine a hypothetical situation in which you have a free afternoon. The weather outside is good and you would like to take a break on your own. On this free afternoon you decide to go shopping. In this hypothetical situation you have got three shopping locations to your disposal. The three shopping locations all have equal accessibility. Further down, four atmospheric images are displayed for each shopping location.

1. *A small inner city*
2. *A large inner city*
3. *A peripheral shopping center*

What are your considerations if you had to choose between these options? Please pay attention: this survey focuses on your considerations to visit or not visit a shopping location, and not on your final choice. You can state your final choice during question 7.

In summary, the respondents are asked to imagine a situation in which they would go (recreational) shopping. The fact that they are alone on this shopping trip should exclude considerations of interactional nature (e.g. wants and needs of a companion), thus allowing the respondent to focus on their own considerations and choice preference with regard to recreational shopping. Since place attachment helps places to give people a feeling of well-being and security – both important for relaxation – benefits and attributes regarding positive atmospherics and intimacy are expected here (Relph, 1976; Giuliani, 2003).

<u>Place identity scenario</u>

This scenario is expected to yield results with regard to place identity.

> *Imagine that you are going shopping with someone who wants to get to know you better. You want to have a great day, and for this reason you decide to visit a shopping location which, in your opinion, resembles you. In this hypothetical situation you have got three shopping locations to your disposal. The three shopping locations all have equal accessibility. Further down, four atmospheric images are displayed for each shopping location.*
>
> 1. *A small inner city*
> 2. *A large inner city*
> 3. *A peripheral shopping center*
>
> *What are your considerations if you had to choose between these options? Please pay attention: this survey focuses on your considerations to visit or not visit a shopping location, and not on your final choice. You can state your final choice during question 7.*

The scenario describes a situation in which the respondent goes shopping with another person. Place identity is generally accepted as a component of a person's self-identity (Nielsen-Pincus et al., 2010), and for this reason the scenario emphasizes that the respondent needs to exhibit his/her personality by selecting a shopping location that resembles them as a person. A shift towards attributes and benefits regarding personal expression and social aspects is expected.

<u>Place dependence scenario</u>

This scenario focuses on place dependence. The scenario presents the respondents with four instead of the normal three choice options. The option for respondents to do their shopping online is added because of the spectacular growth of online shopping recently. This online shopping option also includes a home delivery service.

> *Imagine that a good friend of yours is giving a birthday party in a couple of days. For this special occasion you would like to buy an original birthday gift. You only have time to buy this gift today or tomorrow. In this hypothetical situation you have got four shopping options at your disposal. The shopping locations all have equal accessibility. If you order the gift online, it will be delivered at your home. Further down, four atmospheric images are displayed for each shopping option.*
>
> 1. *A small inner city*
> 2. *A large inner city*
> 3. *A peripheral shopping center*
> 4. *Online*
>
> *What are your considerations if you had to choose between these options? Please pay attention: this survey focuses on your considerations to visit or not visit a shopping location, and on not your final choice. You can state your final choice during question 7.*

This scenario differs fundamentally from the other scenarios because of two reasons. Firstly, the respondent is confronted with four instead of three choice options. Secondly, the necessity of the purchase, as well as the time pressure should activate stronger practical needs compared to the other scenarios. The prerequisite to succeed during the shopping trip is essential, and therefore a stronger focus on satisfying one's needs exists. Since place dependence concerns how well a setting serves goal achievement given a range of options, a stronger focus upon shopping success and time saving is expected.

4.1.2 Data collection

The options for respondent recruitment are limited because of the online nature of the questionnaire. Horeni (2012) describes how anonymous recruitment of respondents through systematic distribution of invitations led to a highly non-representative sample and an unpleasantly low response rate. Fortunately, Redevco B.V. maintained close ties with Q&A, a research and consultancy agency, specialized in conducting research within the business to consumer market. Q&A holds an independent consumer panel in the Netherlands, who participate in online surveys on a regular basis. The Q&A panel is made up of members who have a specific interest in (online) shopping. In addition, Q&A recruits members in shopping areas, and it is therefore assumed that the panel reflects the Dutch shopping audience. On average, the panel – hence, the Dutch shopping audience – is slightly older and more feminine than the entire Dutch population. The panel forms the population of this research, and from this pool of members a random sample is drawn to participate in this online questionnaire.

As stated in the previous paragraph, each respondent is faced with a questionnaire that contains only one of the three scenarios. Respondents are randomly allocated to a scenario. It was decided in agreement with Q&A to distribute the three versions of the questionnaire in succeeding order. This way, succeeding versions of the questionnaire could be modified if serious problems unexpectedly occurred during one of the previous versions. Furthermore, the aim is to collect the mental representations of approximately 200 respondents for each version of the questionnaire. No restrictions are imposed on the selection of the respondents. Q&A invites the panel members to participate in the survey by email. Each version of the questionnaire is kept open until at least 200 respondents had completed it.

4.2 Responses

The following section discusses general statistics regarding the response of the sample. These statistics are important to compare the clarity and comprehensibility of each scenario. The date and time at which the questionnaires are spread are discussed first. Hereafter, the response rates and interview durations are reviewed. Appendices VI.1 to VI.4 show elaborate results of the performed statistical tests regarding sections 4.2.2 and 4.2.3.

4.2.1 Date and time

As stated in section 4.1.2, the three versions of the questionnaire are distributed in succeeding order. First, the place attachment version was conducted. This version of the online questionnaire is online from the 25th until the 30th of June 2013. No alarming problems were revealed, thus setting the stage for the next two versions of the questionnaire. The Place dependence and Place identity version of the questionnaire are conducted from the 1st until the 5th of July 2013, and from the 5th until the 11th of July 2013, respectively. In total, 1,184 respondents started the online questionnaire, of which 659 completed it.

Figure 4-1 shows the distribution of respondents who completed the questionnaire during the weeks it was online. All three versions ran during weekdays, the place attachment and place identity scenarios also ran during two different weekends.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	12 25-06	33 26-06	76 27-06	62 28-06	21 29-06	11 30-06
73 01-07	42 02-07	74 03-07	28 04-07	11* 05-07	17 06-07	5 07-07
53 08-07	34 09-07	74 10-07	33 11-07	■ Place attachment ■ Place identity ■ Place dependence		

Figure 4-1: Distribution of completions with regard to the days of the week.

* Place dependence (1 respondent) and Place identity (10 respondents) combined.

Besides, Figure 4-2 shows a distribution of the completions regarding periods of the day. Over three quarters of the respondents completed the questionnaire during the afternoon or evening (between 12:00-18:00 and 18:00-00:00, respectively).
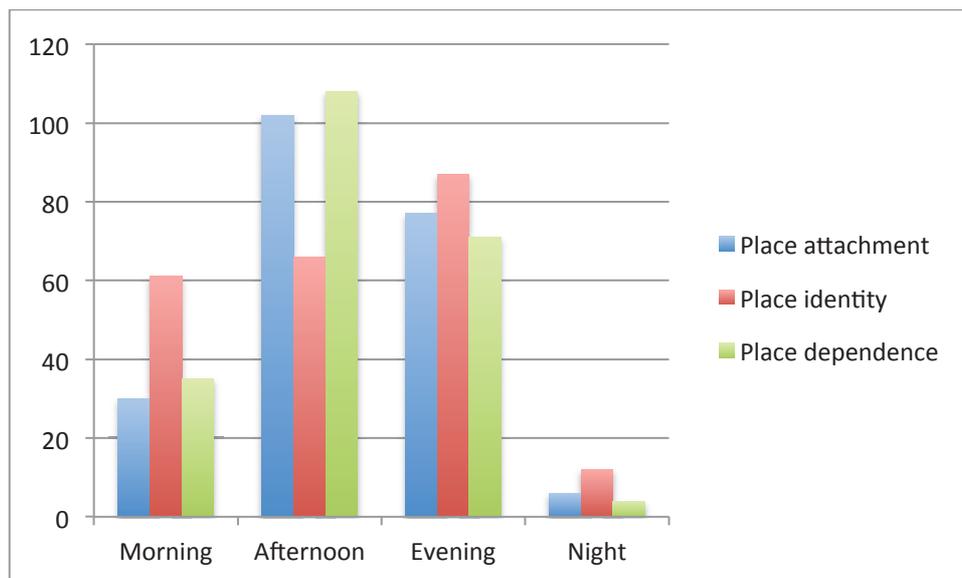
Figure 4-2: Distribution of completions with regard to the periods of the day.

4.2.2 Response rate and dropouts

Table 4-1 presents the frequencies for dropouts, deleted and completed interview for each scenario. The row 'Completed' stands for the number of respondents that finished the questionnaire successfully. The row 'Dropouts' represents the number of respondents that started the questionnaire, but dropped out prematurely. The fact that all 'Dropouts' dropped out after completing the personal questions may suggest several things. Firstly, the instructions may have been unclear. Secondly, the experimental task may have been too demanding. Lastly, the actual task description may have not aroused enough interest among the respondents. The row 'Deleted' represents the number of respondents who did finish the questionnaire, but did so incorrectly. Most of these respondents entered their choice of shopping location on page 3 ('The situation and

your considerations') instead of their considerations, even though it was clearly stated that the actual choice should be given on page 7 ('Actual choice'). The higher ratio of deletions in the place dependence scenario may be explained by its utilitarian focus, because of which respondents are more eager to state their choice. Other invalid answers include comments on the experimental task or questionnaire in general. A Chi-Square test (Appendix VI.2) between the three scenarios does not show significant differences between the number of completions, dropouts and deletions (χ^2=6.398, df=4, p=.171).

Table 4-1: Descriptives for response rate.

Experimental group	Place attachment	Place identity	Place dependence	Total
Completed	175 (46.4%)	181 (44.6%)	158 (39.4%)	514 (43.5%)
Dropouts	162 (43.0%)	180 (44.3%)	183 (45.6%)	525 (44.3%)
Deleted	40 (10.6%)	45 (11.1%)	60 (15.0%)	145 (12.2%)
Total	377 (100.0%)	406 (100.0%)	401 (100.0%)	1184 (100.0%)

From this point onwards, only characteristics and responses are used of those respondents that finished the questionnaire successfully.

4.2.3 Interview duration

Descriptives for the interview duration are presented in Table 4-2. Please note that these numbers only include respondents who completed the interview successfully. The mean interview duration does not differ much between scenarios; the difference between the shortest and longest mean interview duration is just 1 minute and 33 seconds. An analysis of variance or ANOVA (Appendix VI.4) confirms that the scenarios do not significantly differ regarding the interview duration (F=1.593, df=2, p=.204).

It is interesting to note that the mean and standard deviation for the place identity scenario are the smallest of all scenarios. Even though these differences are not significant between scenarios, this could indicate that most respondents in the place identity scenario had an easier time coming up with considerations.

Table 4-2: Descriptives for interview duration.

Experimental group	Place attachment	Place identity	Place dependence
N	175	181	158
Mean	0:13:26	0:11:53	0:12:57
Standard deviation	0:10:06	0:06:39	0:07:57
Minimum	0:01:17	0:01:29	0:02:56
Maximum	1:15:12	0:35:37	0:50:38

4.3 Sample characteristics

The following section discusses several general characteristics of the sample. In succeeding order, the gender distribution, age characteristics, place of residence, family status, education level, and working situation of all respondents who finished the online survey are presented. In Appendices VI.5 to VI.76 elaborate results of the performed statistical tests regarding sections 4.3.1 to 4.3.6 are shown.

4.3.1 Gender

Table 4-3 shows the distribution of male and female respondents regarding the three shopping scenarios. A slightly larger number of females completed the questionnaire for all three scenarios (the ratio male-female is roughly 40-60 for all scenarios). This ratio is approximately the same when looking at the total population, as well as the total sample of completed and uncompleted questionnaires, indicating that no differences exists between genders in willingness to cooperate with the survey in the first place. A Chi-Square test (Appendix VI.6) shows no

significant differences within the distribution of males and females between scenarios (χ^2=.244, df=2, p=.885). This effect between genders is discussed more elaborately in section 4.6.

Table 4-3: Gender distribution of the sample.

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel
Male	71 (40.6%)	72 (39.8%)	60 (38.0%)	- (41.0%)
Female	104 (59.4)	109 (60.2%)	98 (62.0%)	- (59.0%)

4.3.2 Age

Figure 4-3 contains age pyramids with accompanying data set. Additionally, age characteristics of the sample can be found in Table 4-4.
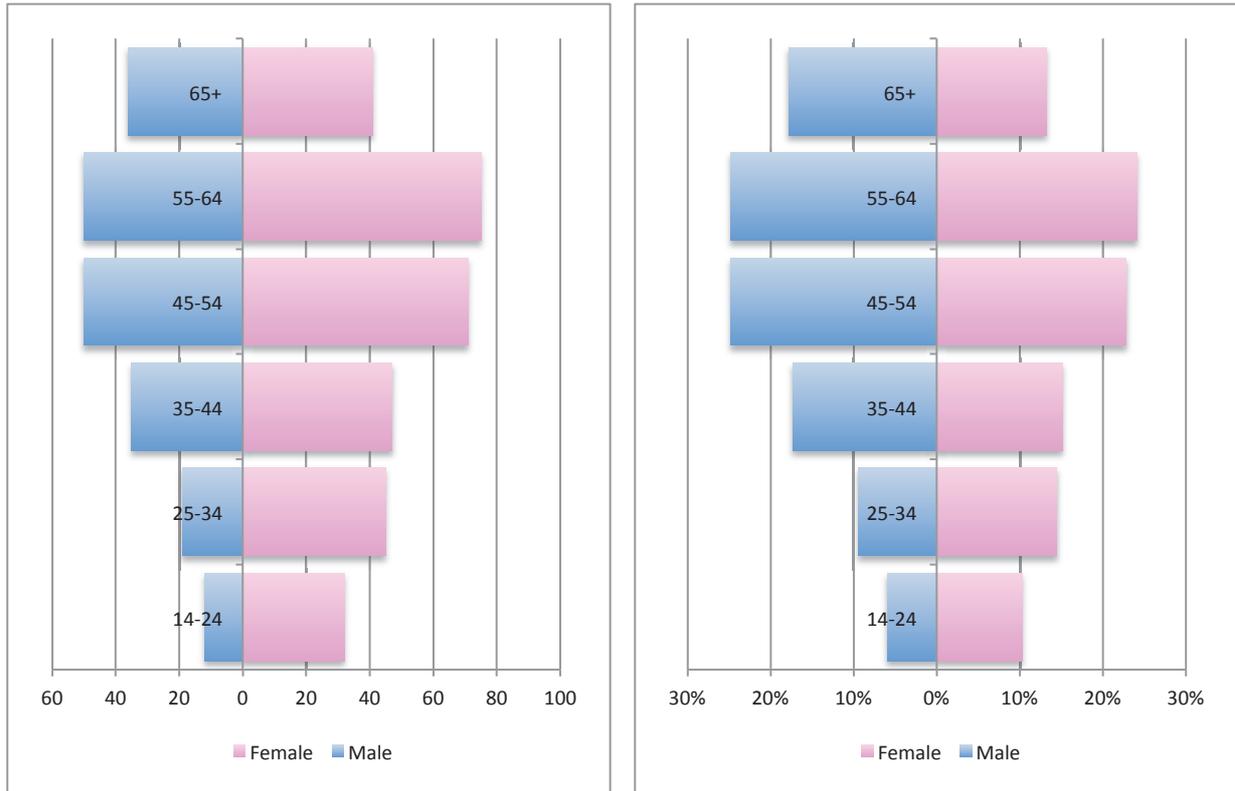
Age	Male	Female
14-24 years	12 (5.9%)	32 (10.3%)
25-34 years	19 (9.4%)	45 (14.5%)
35-44 years	35 (17.3%)	47 (15.1%)
45-54 years	50 (24.8%)	71 (22.8%)
55-64 years	50 (24.8%)	75 (24.1%)
65+ years	36 (17.8%)	41 (13.2%)

Figure 4-3: Age pyramids (left absolutely; right relatively) with accompanying data set.

Approximately half of the respondents is between 45 and 64 years of age. Additionally, relatively many females between 14 and 34 years completed the survey. Compared to males of the same age, twice as much females completed the survey. This may be explained by a (well-known) eminent liking for shopping by (young) females. A T-Test (Appendix VI.8) reveals the differences between the age of males and females who successfully completed the questionnaire, with males being significantly older than female (F=2.164, df=512, p<.05). An ANOVA test (Appendix VI.10) does not reveal any differences regarding age between scenarios (F=2.042, df=2, p=.131). Additionally, the age distribution of the sample fairly closely resembles the age distribution of the

entire population (Table 4-4), suggesting that the questionnaire is equally interesting and understandable for all age groups.

Table 4-4: Age characteristics of the sample.

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel
Mean (years)	49.9	46.8	49.3	-
Standard deviation (years)	14.9	15.4	15.3	-
Median (years)	52	50	52	-
14-24	14 (8.0%)	36 (19.9%)	20 (12.7%)	- (6%)
25-34	16 (9.1%)	22 (12.2%)	17 (10.8%)	- (11%)
35-44	27 (15.4%)	32 (17.7%)	35 (22.2%)	- (18%)
45-54	43 (24.6%)	51 (28.2%)	35 (22.2%)	- (25%)
55-64	42 (24.0%)	32 (17.7%)	42 (26.6%)	- (24%)
65+	33 (18.9%)	8 (4.4%)	8 (5.1%)	- (16%)

4.3.3 Place of residence

The entire Q&A panel – hence, the respondents of this survey as well – live in all parts of the Netherlands. Figures 4-4 and 4-5 shows the distribution of the respondents in the Netherlands.
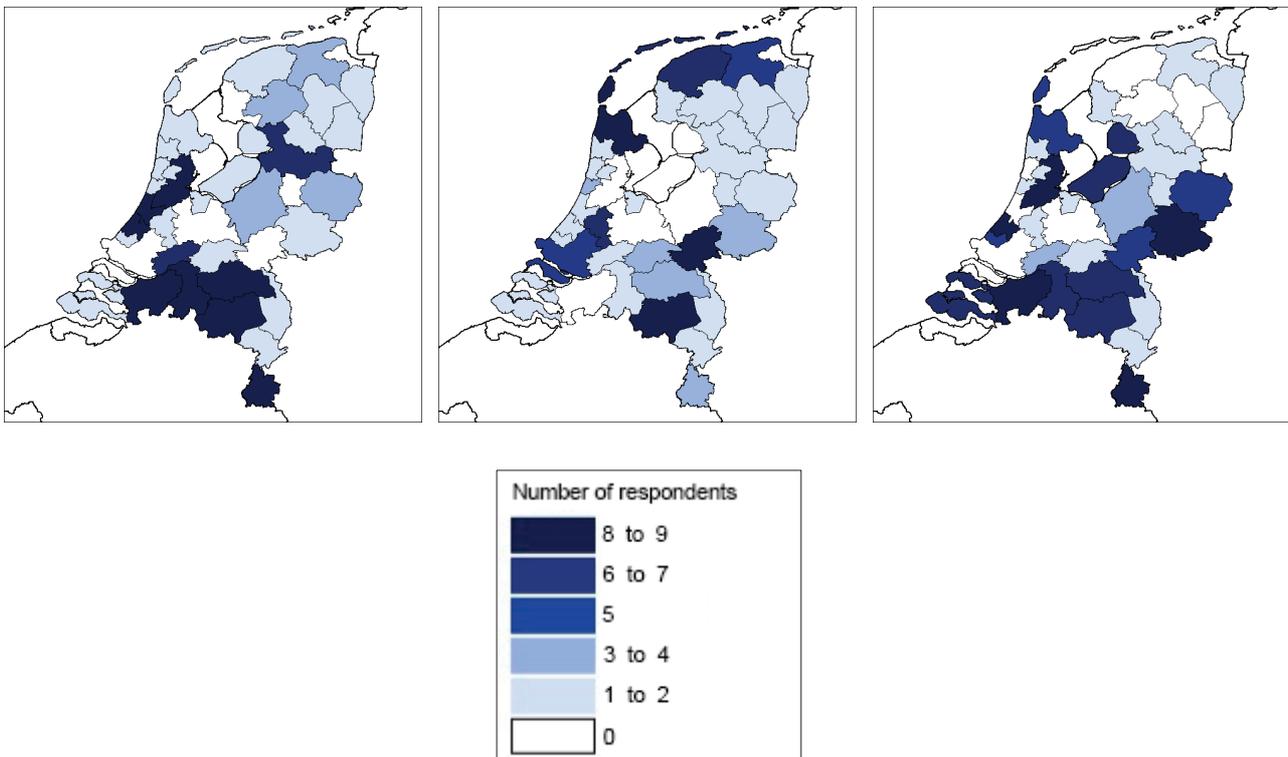
Figure 4-4: Distribution of respondents over the Netherlands (from left to right: Place attachment scenario, place identity scenario, place dependence scenario) and accompanying legend.
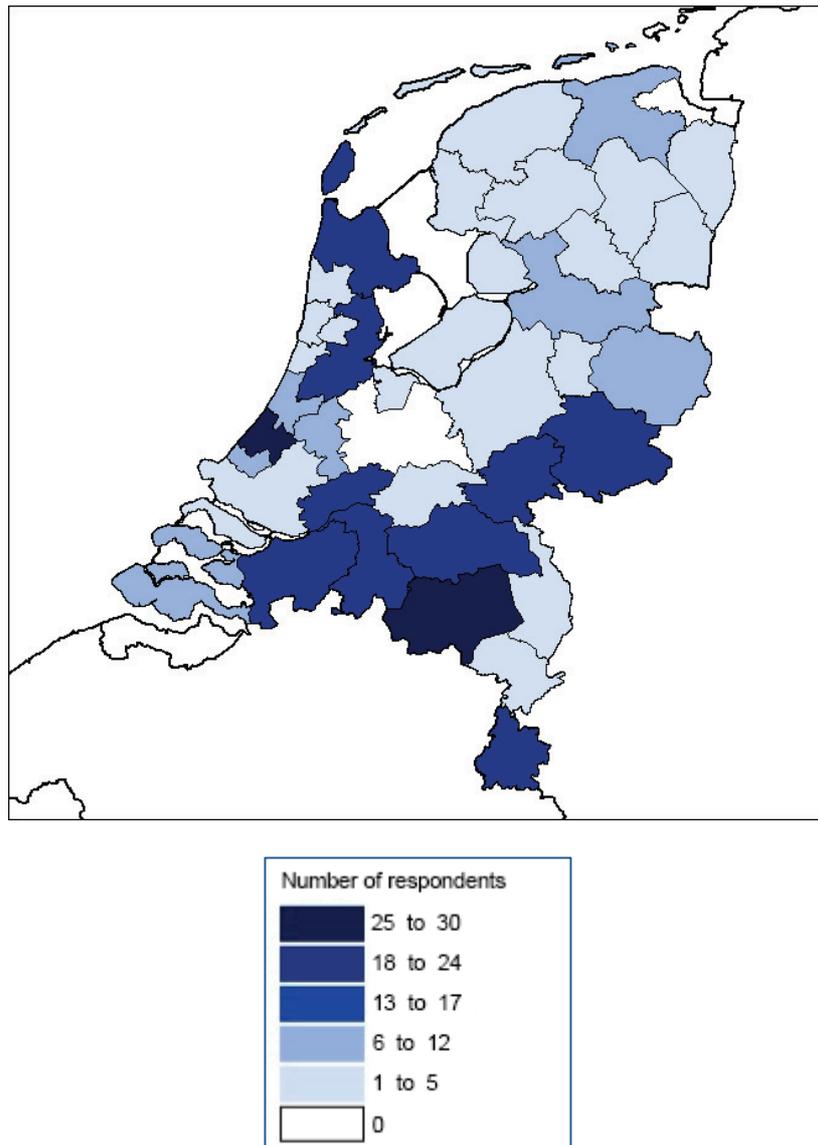
Figure 4-5: Distribution of respondents over the Netherlands (all scenarios) and accompanying legend.

The respondents are primarily confined to the south-eastern/south-western parts of the Netherlands, in the provinces Gelderland, North-Brabant and South-Holland. In addition, each scenario contains a reasonable amount of respondents in North-Holland. This distribution matches to the distribution of respondents in the entire population (Appendix VI.11). Differences in distribution are apparent as well; the place identity scenario for example contains a large portion of respondents in the northern part of the Netherlands. A Chi-square test reveals significant differences in the distribution of respondents between the scenarios (χ^2=23.584, df=8, p<.01) (Appendix VI.13). However, these differences cancel each other out when regarding the whole sample, as is shown in Figure 4-5. The map clearly shows that most respondents in the sample originate from the southern part of the Netherlands plus North-Holland.

Appendices VI.14 to VI.18 contain statistical tests to describe possible differences and associations regarding the population of the places in which the respondents reside. An ANOVA between scenarios regarding the size of the places of residence of all respondents shows no significant differences (F=1.679, df=2, p=.188). The same may be concluded when comparing different genders using a T-test (t=.743, df=512, p=.458). To measure the strength of association between the population of the place of residence and the age of the respondents, a Spearman's correlation test is conducted. Again, no significant results are revealed (ρ=-.085, N=514, p=.054).

Besides their place of residence, respondents were also asked how many years they have been living at that place. Appendices VI.19 to VI.24 show results of the performed statistical tests regarding the time respondents have been living at their current place of residence. A significant correlation can be detected between years respondents have been living at the current place of residence and age (ρ=-.445, N=514, p<0.001). This result is not unexpected, since elder people obviously tend to have lived longer at a certain place than younger people. No significant differences are found between scenarios (F=1.233, df=2, p=.292) or genders (t=.671, df=512, p=.502). A Spearman's rho correlation test showed no association between the number of years the respondents lived in their current place of residence and the population of that place (ρ=-.077, N=514, p=.081).

4.3.4 Family status

Several categories are set up to examine the family status of all respondents. Six categories are distinguished, including: couples with children, childless couples, single parents with children, childless singles, and other. Table 4-5 shows the distribution of these categories regarding the scenarios. Over two thirds of the sample lives together, with or without children. No significant differences are found between scenarios (χ^2=4.483, df=10, p=.923) (Appendix VI.26). Significant differences are found between family status and gender (χ^2=11.211, df=5, p<.05) (Appendix VI.28) and family status and age (F=37.288, df=5, p<.001) (Appendix VI.30). The latter observation is obvious; students for example (μ=21.71 years) are younger than the other social groups. Single parents (with children μ=51.13 years; childless μ=53.06) are roughly the same age, while childless couples (μ=54.50 years) are much older than couples with children (μ=45.87 years). The last observation may easily be explained by the fact that the children of older couples moved out of their parental home, leaving just the parents behind.

Furthermore, ANOVA's between family status and the population of the place of residence, and between family status and the time respondents have been living at their current place of residence show significant differences (F=2.810, df=5, p<.05; F=2.476, df=5, p<.05, respectively) (Appendices VI.32 and VI.34). Couples tend to live in places with relatively small populations, while singles reside in much larger places. Childless singles live in the most populous places on average. Regarding the time respondents have spend living in their current place of residence, students obviously average the least years. Respondents without children – both couples and singles – tend to have lived longer in their current place of residence than respondents with children, corresponding to the results regarding age and family status (Appendix VI.33).

Additionally, Table 4-5 shows the distribution of Q&A panel members regarding their family status. Q&A uses other categories to describe their panel, namely: living together/married, single/divorced, and several other small categories. Despite the different manner of labelling, the distribution of the sample and the total population still matches.

Table 4-5: Family status of the sample.

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel**
Living together/ married with children	59 (33.7%)	53 (29.3%)	54 (34.2%)	- (69%)
Living together/ married without children	56 (32.0%)	66 (36.5%)	57 (36.1%)	
Single parent with children	8 (4.6%)	7 (3.9%)	8 (5.1%)	- (24%)
Single without children	32 (18.3%)	35 (19.3%)	23 (14.6%)	
Student	8 (4.6%)	10 (5.5%)	6 (3.8%)	- (7%)
Other	11 (6.3%)	7 (3.9%)	9 (5.7%)	
I'd rather not say*	1 (0.6%)	3 (1.7%)	1 (0.6%)	-

* Excluded from the statistical analyses
** Q&A uses other categories to describe their panel

4.3.5 Education level

Table 4-6 represents the education level for the whole sample. Since the pilot study was mainly filled in by employees at the Redevco B.V. – who all enjoyed a high level of education – this marks the first time this questionnaire is tested among people with a lower level of education. Even though the share of higher educated people in the sample is still higher than the Dutch national average (CBS Statline, 2013[b]), it is satisfying to observe that the questionnaire was well understandable for all educational groups. Kruskal-Wallis tests (Appendix VI.36 and VI.38) between education level and scenarios and between education level and family status show no significant differences (χ^2=4.866, df=2, p=.088; χ^2=2.821, df=5, p=.728, respectively). A Mann-Whitney U-test showed significant results between genders; male respondents – on average – enjoyed a higher level of education than their female counterparts (Z=-2.711, p<.01) (Appendix VI.40). ANOVA's revealed no statistically significant differences between education level and age (F=1.454, df=4, p=.215) (Appendix VI.42), or between education level and population (F=1.454, df=4, p=.215) (Appendix VI.44). A significant difference is found by an ANOVA between education level and the time a respondent has lived in their current place of residence (F=2.920, df=4, p<.05) (Appendix VI.46). This may be explained by a relatively high score of respondents who merely attended elementary school. These respondents are five years older (μ=54.60 years) and have been living in the same place ten years longer (μ=23.50 years) than other groups. The means of the other levels of education are relatively similar – between 45.84 to 49.58 years for age, and between 14.99 and 12.72 years for living at their current place of residence.

Additionally, Table 4-6 shows the education levels of the Q&A panel. The fact that the sample contains a higher share of higher educated people than the entire population may indicate a greater appeal of scientific online surveys to higher educated people and a stronger interest in participation among this group. Horeni (2012) observed the same tendency in his pilot test.

Table 4-6: Education level of the sample.

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel
University	18 (10.3%)	25 (13.8%)	14 (8.9%)	- (8%)
HBO[1]	61 (34.9%)	66 (36.5%)	53 (33.5%)	- (26%)
MBO[2]	60 (34.3%)	60 (33.1%)	53 (33.5%)	- (40%)
Secondary school	30 (17.1%)	26 (14.4%)	33 (20.9%)	- (23%)
Elementary school	5 (2.9%)	1 (0.6%)	4 (2.5%)	- (3%)
I'd rather not say*	1 (0.6%)	3 (1.7%)	1 (0.6%)	-

[1] HBO = Hoger beroepsonderwijs = Higher professional education
[2] MBO = Middelbaar beroepsonderwijs = Vocational training school
* Excluded from the statistical analyse

4.3.6 Working situation

The working situation of respondents in the sample was examined by looking at their employment status and income per month. Table 4-7 shows the employment status for all scenarios. Approximately half of the respondents are in paid employment. A Chi-Square test (Appendix VI.48) reveals no statistical differences between scenarios (χ^2=17.578, df=12, p=.129).

Table 4-7: Working situation of the sample.

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel
Entrepreneur	4 (2.3%)	11 (6.1%)	12 (7.6%)	-
Full-time in paid employment	50 (28.6%)	49 (27.1%)	37 (23.4%)	- (26%)
Part-time in paid employment	38 (21.7%)	44 (24.3%)	37 (23.4%)	- (26%)
Student	11 (6.3%)	13 (7.2%)	9 (5.7%)	- (4%)
Unemployed	32 (18.3%)	25 (13.8%)	23 (14.6%)	- (13%)
Retired	36 (20.6%)	22 (12.2%)	26 (16.5%)	- (21%)
Other	4 (2.3%)	15 (8.3%)	12 (7.6%)	- (10%)
I'd rather not say*	0 (0.0%)	2 (1.1%)	2 (1.3%)	-

* Excluded from the statistical analyses

However, the unemployment rate of the sample is surprisingly high; 15.6% of all respondents indicated to be unemployed. This may include people seeking employment as well. Nevertheless, it still is considerately more than the Dutch national average, which is 8,7% of the labour force (CBS, 2013). Additional tests show that males and females differ significantly considering their working situation (χ^2=95.543, df=6, p<.001) (Appendix VI.50), and that female respondents are primarily responsible for the bump in unemployment rate. Additionally, females more often work part-time in paid employment. Male respondents generally work full-time in paid employment, or are retired. This observation is discussed further in section 4.6. The significant difference found in an ANOVA (Appendix VI.52) between working situation and age is easily explained; naturally, students are the youngest (μ=22.39 years), while retired people are the oldest (μ=67.65 years). The other groups are between 43.36 and 54.96 years of age. Adjusted cross tables between working situation and family status, and a Kruskal-Wallis test between working situation and education level show significant differences as well ($\chi2$=153.254, df=16, p<.001; χ^2=40.384, df=6, p<.001, respectively) (Appendix VI.53 to VI.56). Respondents with full-time jobs tend to be higher educated couples and singles with children, who obviously have full-time jobs to support their families. Retired respondents are typically older couples and singles whose children already moved out of their parental home. The cell 'Other (Working situation)-Other (Family status)' consists mainly of students (Appendix VI.53). Lastly, ANOVA's between both working situation and population, and working situation and the time a respondent has lived in their current place of residence are significant as well (F=2.316, df=6. p<.05; F=10.521, df=6, p<.001, respectively) (Appendices VI.57 to VI.60). Retired respondents live in small places, but have lived there the longest of all respondents. Respondents in part-time paid employment tend to live in small places as well. Unemployed respondents and full-time employees live in the largest places on average. Comparing the numbers with the total population characteristics reveals no remarkable differences.

The gross income per month is asked for as well (Table 4-8). Many respondents apparently dislike this question, as an average of 33.9% of all respondents indicate to rather keep this fact to their own. Table 4-8 reveals that the sample share of higher income groups is notably lower compared to the population, indicating that primarily higher income groups chose to not unveil their income. A Kruskal-Wallis H-test (Appendix VI.62) reveals no statistical differences between scenarios regarding income ($\chi2$=2.399, df=2, p=.301). Significant differences are found between genders (Z=-3.150, p<.01), age (F=3.838, df=5, p<0.05), family status ($\chi2$=88.996, df=5, p=<.001), education level ($\chi2$=32.079, df=4, p<.001), and working situation ($\chi2$=42.116, df=6, p<.001) (Appendices VI.63 to VI.72). A closer inspection of the data reveals no surprising results;

- Males earn significantly more than females;
- Couples earn more than singles, with students earning the least of all. This observation is in line with the observed average age of income groups. The fact that couples earn more than singles may be explained by two income households;
- A higher education level results in higher income, with respondents who have attended HBO or university earning significantly more;

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- Full-time employees have the highest income on average, closely followed by entrepreneurs and retired people. Part-time employees form the middle class, while students and unemployed respondents earn the least.

All these findings correspond to the findings regarding working situation and gender. Additionally, statistical tests are conducted regarding income and a respondent's place of residence characteristics. An ANOVA between income and population revealed significant differences (F=4.097, df=5, p<0.01) (Appendix VI.74). The higher the income, the smaller the population of the place of residence. However, the highest income groups live in much more populous places. These results may be biased because of the small number of respondents in these groups. An ANOVA regarding differences in time a respondent has lived in their current place of residence is not significant (F=.740, df=5, p=.594) (Appendix VI.76).

Table 4-8: Income characteristics of the sample (gross income per month).

Experimental group	Place attachment	Place identity	Place dependence	Q&A panel
1,200 euro or less	18 (10.3%)	22 (12.2%)	17 (10.8%)	- (20%)
1,200 – 2,000 euro	38 (21.7%)	26 (14.4%)	36 (22.8%)	- (21%)
2,000 – 4,000 euro	46 (26.3%)	64 (35.4%)	35 (22.2%)	- (34%)
4,000 – 6,000 euro	10 (5.7%)	10 (5.5%)	9 (5.7%)	- (15%)
6,000 – 8,000 euro	3 (1.7%)	3 (1.7%)	2 (1.3%)	- (6%)
8,000 euro or more	0 (0.0%)	1 (0.6%)	0 (0.0%)	- (4%)
I'd rather not say*	60 (34.3%)	55 (30.4%)	59 (37.3%)	-

* Excluded from the statistical analyses

4.4 Conclusion

In order to reveal the role that sense of place plays in mental representations concerning various shopping scenarios by consumers, the MentreQe online interview system is used. Three shopping scenarios are developed to examine which variables are activated in mental representations of respondents, with regard to the three place constructs. It is of utmost importance for the three shopping scenarios to be comparable with regard to various socio-demographic characteristics; this way general statements can be made about the sample, each of the three place constructs, and sense of place as a whole.

A total number of 1,184 respondents started the online questionnaire, with 514 respondents finishing it successfully and properly. Except for the geographic distribution, no significant differences between the three shopping scenarios are revealed in the sample. The effect of differences in geographic distribution between scenarios is discussed in section 7.2. Nevertheless, the large number of similarities between scenarios means that mental representations of all three scenarios may be compared validly, and that conclusions with regard to the role of sense of place in different shopping situations may be drawn.

Furthermore, some interesting conclusions can be drawn from further analyses. The data suggests that the vast majority of the sample is part of a traditional household. Both males and females in the sample have a relatively high average age, and most respondents indicate to be married or living together. In addition, male respondents typically enjoyed a higher level of education, work full-time in paid employment or are already retired, and earn more than the females. The female respondents are typically lower educated, work part-time in paid employment or are unemployed, and earn significantly less than the males. This perfectly suits the picture of a traditional household, in which the husband works to support the family, and the wife is a homemaker.

5 Eliciting mental representations

As stated in section 2.3.4, mental representations consist of several components such as attributes, benefits, situational variables, decision variables and causal links between them (also known as cognitive subsets). Attribute variables refer to physically observable states of the choice options, while benefits variables describe outcomes that are more abstract and represent more fundamental needs. Situational (or contextual) variables are not directly or indirectly influenced by the decision maker. Cognitive subsets describe causal links between variables. The goal of this chapter is to analyse and describe the complexity and content of the elicited mental representations, in order to gain insight into important aspects of various sorts of shopping trips. The complexity of the mental representations is covered first in section 5.1, using various statistics to compare the three shopping scenarios. In section 5.2, the content of the mental representations is discussed by analysing the frequencies of the elicited attributes, benefits and cognitive subsets. In section 5.3, the relational properties of variables are examined by identifying regularities and patterns in their relationships. These relational properties are described using measures of centrality or prominence. Lastly, in section 5.4, the respondents' final choice outcomes are analysed.

5.1 Complexity of mental representations

The complexity of the elicited mental representations can be described in terms of number of attributes, number of benefits, number of benefits per attribute, and number of cognitive links, which are dealt with in this section in that order. Various statistics are used to examine the comparability of the three shopping scenarios.

5.1.1 Number of attributes

Statistics describing the number of attributes entered per respondent are reported in Table 5-1. These attributes also include situational variables. It is evident that the three scenarios do not differ much regarding the mean number of attributes, which is confirmed by an one-way ANOVA (F=.107, df=2, p=.898) (Appendix VII.1). The columns describing the minimum and maximum number of attributes per respondent reveal two interesting matters. A minimum of 0 indicates that some respondents considered only benefits without the intervention of an attribute. Additionally, the maximum number of attributes entered is 10. However, respondents could only list eight considerations at most. This may be explained by the fact that respondents could indicate

additional links to selected benefits in step 6 of the online questionnaire (section 3.3.1). Respondents could either select an attribute they already selected in step 3, or write down additional considerations. These additional considerations explain the maximum number of attributes larger than eight.

Table 5-1: Statistics describing the number of attributes.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	3.61	1.745	.132	3.35	3.87	0	9
Place identity	181	3.66	1.709	.127	3.42	3.92	1	9
Place dependence	158	3.69	1.902	.151	3.39	3.99	0	10
Total	514	3.66	1.779	.078	3.50	3.81	0	10

5.1.2 Number of benefits

Statistics for the number of benefits per respondent are presented in Table 5-2. Respondents of all three scenarios selected around five to six benefits on average. An one-way ANOVA does not show any significant differences between the scenarios (F=1.551, df=2, p=.213) (Appendix VII.2). The maximum number of 24 benefits is relatively high, considering that 37 benefits exist in the database in total.

Table 5-2: Statistics describing the number of benefits.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	5.71	4.022	.304	5.11	6.31	1	24
Place identity	181	6.09	4.083	.303	5.49	6.69	1	22
Place dependence	158	5.35	3.291	.262	4.84	5.87	1	18
Total	514	5.73	3.839	.169	5.40	6.07	1	24

5.1.3 Number of recalled benefits

Recalled benefits are benefits that are selected by the respondents after stating their original considerations. Recalled benefits are interesting, because these are truly recalled by the respondents, instead of recognized in further steps of the survey. Statistics describing the number of recalled benefits are shown in Table 5-3. Between 0.21 and 0.41 benefits are recalled by the respondents on average. An one-way ANOVA shows that these differences are significant (F=5.783, df=2, p<.01) (Appendix VII.3). Respondents that are presented the place dependence scenario recalled the most benefits. Practical reasons are recalled primarily, such as *the choice options in the area* or *the shopping area guarantees you a successful shopping trip.*

Table 5-3: Statistics describing the number of recalled benefits.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	.34	.574	.043	.26	.43	0	3
Place identity	181	.21	.460	.034	.14	.28	0	2
Place dependence	158	.41	.640	.051	.31	.51	0	2
Total	514	.32	.564	.025	.27	.37	0	3

5.1.4 Benefits per attribute

In Table 5-4 statistics are presented for the ratio of benefits that are selected per attribute. The ratios are fairly similar and lay between 1.54 and 1.73. Consequently, an ANOVA shows no significant differences between the three scenarios (F=1.597, df=2, p=.204) (Appendix VII.4).

Table 5-4: Statistics describing the number of benefits per attribute.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	1.64	.986	.076	1.49	1.79	.50	7.00
Place identity	181	1.73	1.005	.075	1.58	1.87	.50	7.00
Place dependence	158	1.55	.764	.061	1.42	1.67	.50	7.00
Total	514	1.64	.932	.041	1.56	1.72	.50	7.00

5.1.5 Number of cognitive subsets

Lastly, the number of cognitive subsets is used to compare the elicited mental representations of the three shopping scenarios (Table 5-5). Horeni (2012) describes that cognitive subsets may present themselves in two forms. The most common form of cognitive subsets is decision variable – attribute – benefit, which counts for one cognitive subset. Situational variables are treated as attributes as well. Horeni (2012) notes that the link between decision variables and situational variables is not a causal link, but rather a mental association. The second form presents itself as decision variable – benefit. Note that only one decision variable is used in the survey; hence, the number of cognitive subsets is determined by the elicited attributes and benefits. Between 11.81 and 14.98 cognitive links are elicited per respondent on average. An ANOVA reveals no significant differences (F=2.211, df=2, p=.111) (Appendix VII.5).

Table 5-5: Statistics describing the number of cognitive subsets.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	13.34	13.497	1.020	11.33	15.36	1	83
Place identity	181	14.98	16.354	1.216	12.58	17.38	1	109
Place dependence	158	11.81	10.798	.859	10.11	13.51	1	85
Total	514	13.45	13.891	.613	12.24	14.65	1	109

5.2 Content of mental representations

The following section discusses the content of the mental representations by analysing the frequencies of the elicited attributes, benefits and cognitive subsets. Please note that the goal is to find differences in the content components of the mental representations by varying the shopping task with reference to the place constructs.

The respondents are given the option to use their own statement if they could not find a matching variable after stating their original considerations on page 3 of the survey (the survey structure may be found in section 3.3.1). These statements are analysed and assigned to an attribute wherever possible. Several considerations could not be assigned to existing attributes and are consequently added as new attributes. These newly added attributes are shown in Table 5-6.

Table 5-6: Description and frequencies of newly added variables.

Newly added variable	Dutch translation	Frequency		
		Place attachment	Place identity	Place dependence
The presence of a companion	De aanwezigheid van een metgezel	1	3	0
The presence of terraces	De aanwezigheid van terrassen	6	3	0
The presence of an ATM	De aanwezigheid van een pinautomaat	0	0	2
Diversity of shops	Diversiteit van winkels	6	3	3
The possibility to reside outdoor in the shopping area	De mogelijkheid buiten te verblijven in het winkelgebied	6	3	0
Safety in general	Veiligheid in het algemeen	4	1	2
Options for utilitarian shopping	Doelgericht kunnen winkelen	0	2	8
The tangibility of the products	De tastbaarheid van het assortiment	1	0	7

This section starts with general expectations regarding the elicited variables. The remainder of this section discusses – in succeeding order – the frequencies of elicited attributes, benefits and cognitive links.

5.2.1 Expectations

Before discussing the content of the elicited mental representations, it is interesting to review the expectations of this research. The expectations regarding the way that sense of place affects decision-making by consumers – discussed in Chapter 1 – is reviewed shortly in this section.

The place attachment scenario is expected to activate emotional feelings towards a certain shopping location. Since a situation is sketched in which the respondent is shopping alone, it is expected that attributes regarding other consumers in the area are considered often. Additionally, the focus on emotional bonds with a place should give rise to a preference towards (positive) atmosphere in general. These attributes are expected because of an assumed high level of place attachment, and a need for social contact. Atmospherics in general may be considered as an important benefit.

The place identity scenario is expected to activate attributes and benefits regarding personal expression and social aspects. Since respondents are asked to express themselves by choosing a personally fitting shopping area, attributes relating to atmosphere in general and the appearance of the physical environment should be activated. Moments of rest – such as parks, squares, bars and restaurants – are extremely important with regard to the social aspects. These attributes should provide a high level of place identity. Experiencing a pleasant shopping trip could be an often-considered benefit as well.

Lastly, the place dependence scenario focuses strongly on succeeding during the shopping trip and satisfying one's (practical) needs. The imposed time pressure should activate attributes that concern time saving, for example acquaintance with the area. Additionally, the price level and the assortment (originality/width) are expected to be considered often due to the strong focus on the product (the birthday gift). Underlying reasons are high levels of place dependence, as well as time and financial savings.

5.2.2 Frequency of elicited attributes

Figure 5-1 presents frequencies for elicited attributes and situational variables of all scenarios. For the sake of clarity, only attributes are presented that are part of more than 5% of the respondents' mental representations in any scenario. A cross table consisting of all attributes with at least one observations (126 attributes) and scenarios contains too many cells with expected values less than five (74.9%; Appendix VII.6) to do statistical statements. However, only including attributes that are part of more than 5% of the respondents' mental representations in any scenario

allows for a statistically sound Chi-square test, which reveals that the shopping scenarios differ significantly with regard to elicited attributes (χ^2=302.834, df=66, p<.001) (Appendix VII.7). Figures containing attributes and situational variables that exceed the threshold of 5% are presented in Appendices VII.8 to VII.10 for each scenario separately.
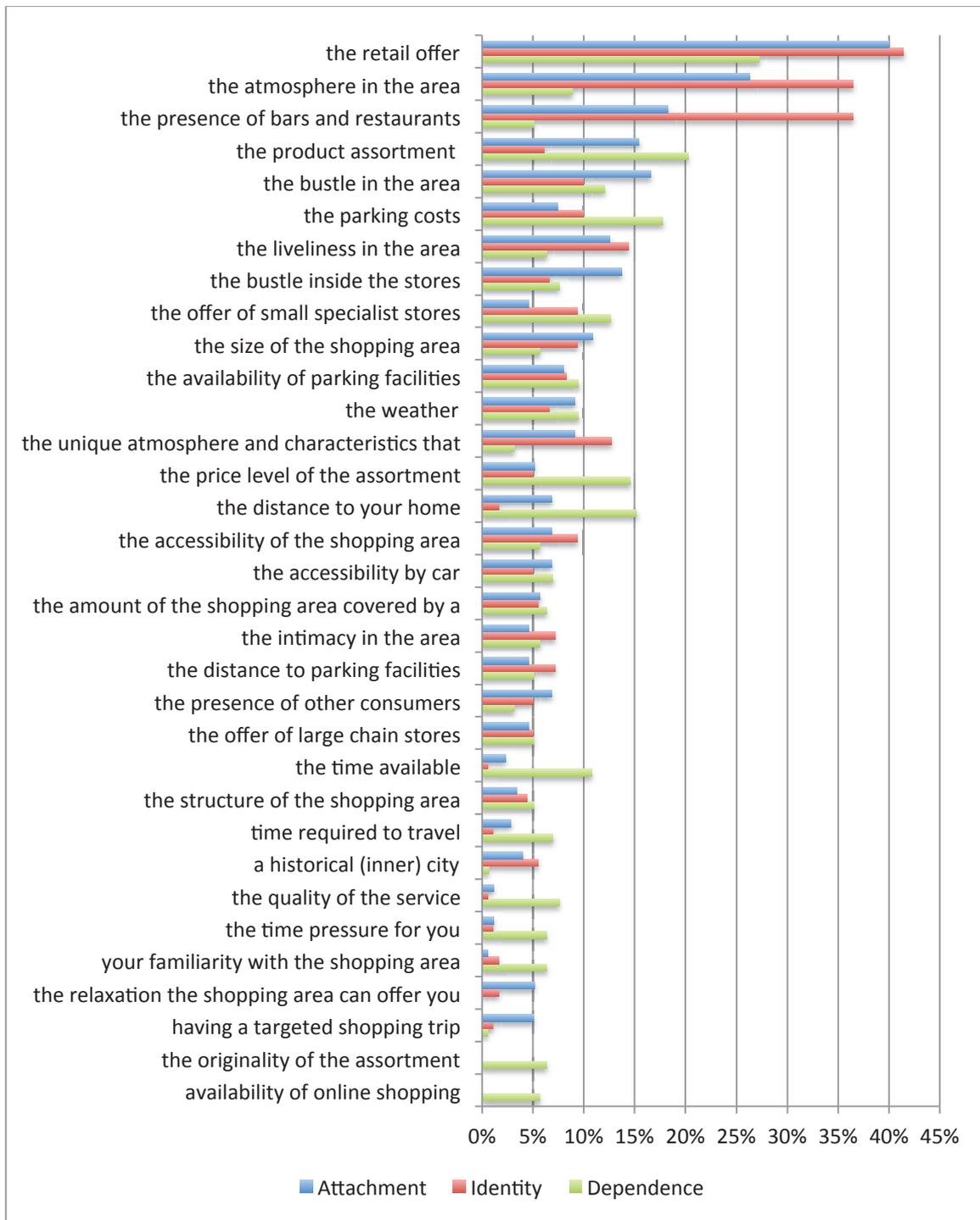
Figure 5-1: Frequency of elicited attributes (5% or more) of all shopping scenarios.

When looking in depth at the elicited attributes, it is clear that *the retail offer* is the most considered attribute in all scenarios (Figure 5-1). In addition, respondents of the place attachment scenario frequently considered attributes related to the presence of other consumers in the area, such as *the liveliness in the area, the bustle in the area* and *the bustle inside the stores*, confirming the expectations. The selection of these attributes may be contributed to the fact that the scenario describes a situation in which the person goes shopping alone. Overall, the frequencies of the

elicited attributes in the place attachment scenario tend to be in between the frequencies of the other two scenarios.

Larger differences may be detected regarding other attributes than *the retail offer*: *the atmosphere in the area* for example is considered by almost 30% more respondents in the place identity scenario than in the place dependence scenario. The same can be stated for *the presence of bars and restaurants*, which is extremely important in the place identity scenario compared to the other scenarios. However, no other than these three attributes are considered by more than 15% of the respondents in the place identity scenario. Remarkably – and contradictory to the expectations – the appearance of the physical environment does not seem to be an important item; only occasionally do respondents consider items directly related to the physical environment, such as *the unique atmosphere and characteristics that define the shopping area* (12.7%) and *a historical (inner) city* (5.5%).

Lastly, the considered attributes are vastly different for the place dependence scenario compared to the other two scenarios. The utilitarian nature of this scenario is reflected through attributes such as *the retail offer, the product assortment* and *the parking costs*. Additionally, *the price level of the assortment*, *the distance* (from the shopping area) *to the home* and *the time available* are more often considered in the place dependence scenario, and almost never in the other scenarios. *The originality of the assortment*, and *the quality of the service* pass the minimum threshold only in this scenario. This confirms the expectation that the place dependence scenario reveals more practical and product-oriented attributes because of its utilitarian nature.

5.2.3 Frequency of elicited benefits

Appendices VII.11 to VII.13 contains figures that describe the frequency of elicited benefits of all scenarios. An overview, containing only benefits elicited in more than 10% of the interviews, is shown in Figure 5-2. The overview reveals clear differences between scenarios. A Chi-Square test confirms the differences in benefits between the scenarios (χ^2=243.772, df=72, p<.001) (Appendix VII.14).
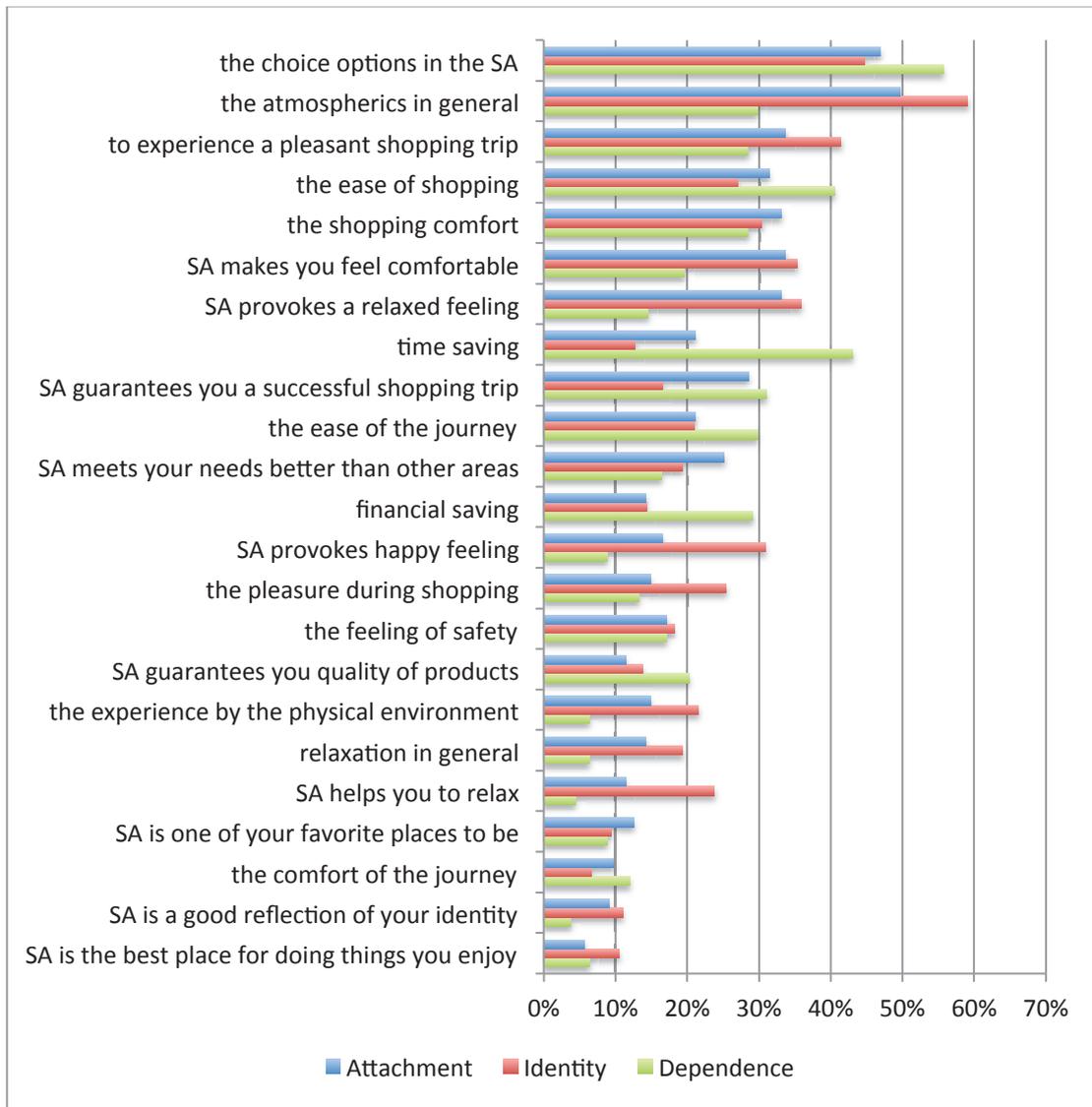
Figure 5-2: Frequency of elicited benefits of all shopping scenarios.

Again, the frequencies of the elicited variables in the place attachment scenario tend to be in between the frequencies of the other two scenarios. Considering that *the retail offer* and *the atmosphere in the* area are the most commonly considered attributes, the two mostly mentioned benefits – *the choice options in the area* and *the atmospherics in general* – are no real surprise. In general, *shopping comfort* and *feeling comfortable/relaxed while being in the shopping area* are important underlying reasons, confirming that positive emotional feelings are important in this scenario. These benefits also confirm that a certain sense of place exists. Unexpectedly, no social aspects are considered by the respondents.

The frequencies of elicited benefits of the place identity scenario reveal that many respondents consider *the choice options in the area*, *the atmospherics in general* and *experiencing a pleasant shopping trip* as most important benefits. This corresponds to the expectations. Surprisingly, benefits regarding the identification with a certain place are considered in just 10% of the mental representations. Instead, benefits that express happiness and relaxation while residing in a place (place attachment) produce frequencies between 30 and 35% of the mental representations. Having a positive emotional bond with a place apparently is more important than being able to identify with a place.

Just like the attributes, the elicited benefits of the place dependence scenario are quite different from the other two scenarios. Considerable differences can especially be found for *time saving* and *financial saving*, mentioned in 15 to 30% more mental representations. Additionally,

benefits concerning the ease and successfulness of the shopping trip – such as *the ease of shopping*, *the choice options in the shopping area*, and *the shopping area guarantees you quality of product* – are considered in approximately 10% more mental representations than the other scenarios. Other interesting mentioned benefits are *the shopping area guarantees you a successful shopping* trip, *the shopping area meets your needs better than other shopping areas*, and *the shopping area guarantees you quality of products*. These benefits point towards the existence of a certain degree of sense of place. The found benefits confirm the strong focus on shopping success, as well as satisfying one's practical needs.

5.2.4 Frequency of elicited cognitive subsets

Figure 5-3 to 5-5 show the cognitive subsets that are elicited by a minimum of 10% of the respondents in all three scenarios. The place attachment, place identity and place dependence scenario yield eight, eleven and fourteen cognitive subsets, respectively. In total, twenty different cognitive subsets are considered by a minimum of 10% of the respondents in one of the scenarios.

Eleven subsets pass the threshold in the place attachment scenario. One subset is considered particularly often (almost 30% versus approximately 15% for the next subset), namely *location - retail offer - choice options in the shopping area*. Hence, the number and selection of retailers greatly influence a respondent's attachment to a shopping area. Except for one subset, all the cognitive subsets include either the attribute *the retail offer* or the attribute *the atmosphere in the area*, confirming their importance in the mental representation of this scenario.
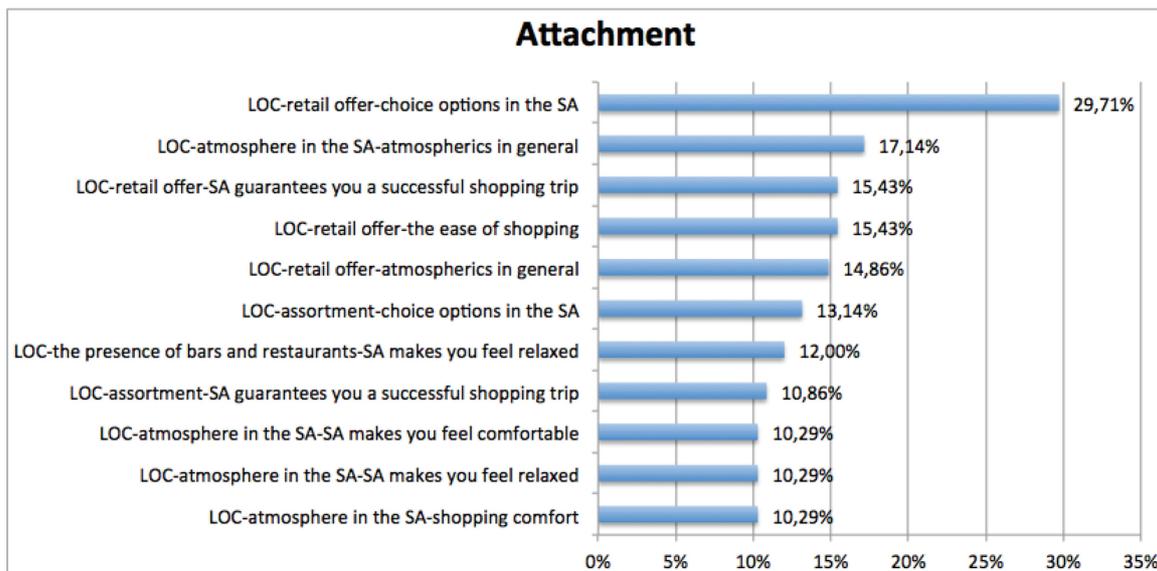
Figure 5-3: Frequency of elicited cognitive subsets of the place attachment scenario.

In the place identity scenario, a total of fourteen subsets are considered by at least 10% of the respondents. The most commonly considered subset again is *location - retail offer - choice option in the shopping area*, which may seem surprising due to the strong focus on social aspects. However, *the retail offer* may as well be seen as an expression of personal preference. Respondents may identify with the type of stores that can be found in a shopping area. Other cognitive subsets include links between attributes *the atmosphere in the area* and *the presence of bars and restaurants*, and benefits that describe a feeling of happiness and relaxation.

Identity

LOC-retail offer-choice options in the SA	27,62%
LOC-atmosphere in the SA-atmospherics in general	27,07%
LOC-atmosphere in the SA-SA makes you feel comfortable	18,78%
LOC-the presence of bars and restaurants-atmospherics in general	18,23%
LOC-retail offer-atmospherics in general	16,57%
LOC-retail offer-the ease of shopping	16,02%
LOC-atmosphere in the SA-SA makes me feel relaxed	16,02%
LOC-the presence of bars and restaurants-relaxation in general	13,81%
LOC-atmosphere in the SA-SA makes you feel happy	13,81%
LOC-atmosphere in the area-shopping comfort	13,81%
LOC-the presence of bars and restaurants-pleasure during shopping	13,26%
LOC-the presence of bars and restaurants-SA helps you to relax	13,26%
LOC-retail offer-SA area guarantees you a successful shopping trip	12,71%
LOC-the presence of bars and restaurants-SA makes you feel relaxed	12,15%

Figure 5-4: Frequency of elicited cognitive subsets of the place identity scenario.

Lastly, the place dependence scenario yields only eight cognitive subsets that surpass the threshold. Subsets *location-retail offer-choice option in the shopping area* and *location-assortment-choice option in the shopping area* are most commonly mentioned, revealing the desire of the respondents to fulfil their practical needs. As expected, other often-considered subsets are *location-the parking costs-financial savings* and *location-distance to your home-time saving*. Even though the scenario states that all choice options have equal accessibility, the potential time and financial saving are still important to the respondents. In contrast to the other two scenarios, no cognitive subsets pass the threshold containing attributes *atmosphere in the area* and *the presence of bars and restaurants*.

Dependence

LOC-retail offer-choice options in the SA	20,25%
LOC-assortment-choice options in the SA	19,62%
LOC-the parking costs-financial saving	17,72%
LOC-retail offer-SA guarantees you a successful shopping trip	14,56%
LOC-choice options in the SA	12,03%
LOC-retail offer-the ease of shopping	10,76%
LOC-distance to your home-time saving	10,76%
LOC-price level of the assortment-financial saving	10,76%
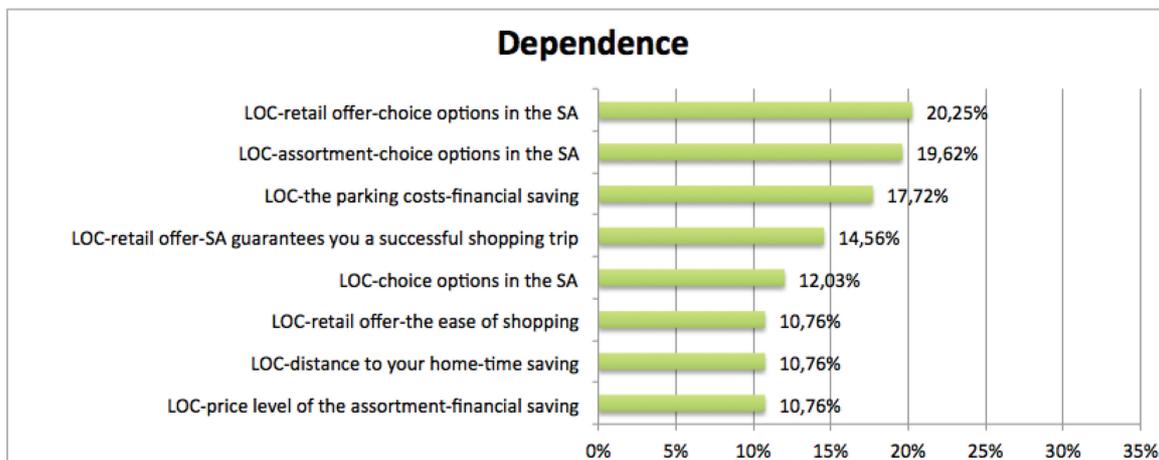
Figure 5-5: Frequency of elicited cognitive subsets of the place dependence scenario.

A comparison of the frequencies of the elicited cognitive subsets of the three scenarios (Figure 5-6) indicate that the scenarios differ severely. These differences are confirmed by a Chi-Square test (χ^2=206.236, df=38, p<.001) (Appendix VII.15). The frequencies of the cognitive subsets of the place attachment and place identity scenario are fairly similar, but show interesting differences nonetheless. *The retail offer* and *the product assortment* are considered more often in the place attachment scenario, demonstrating the importance of the shopping trip itself. These findings are confirmed by the benefits found in the respective subsets (*the choice options in the shopping area/the shopping area guarantees you a successful shopping trip*). On the other hand, the cognitive subsets of the place identity scenario more frequently include links between attributes

the atmosphere in the area and *the presence of bars and restaurants* and benefits that describe a feeling of happiness and relaxation, suggesting that social aspects play a larger role in this scenario. As stated before, the elicited cognitive subsets of the place dependence scenario are quite different from the other two scenarios. Cognitive subsets *location-parking costs-financial savings, location-price level of the assortment-financial* savings and *location-distance to your home-time saving* only surpass the threshold in the place dependence scenario, confirming the utilitarian nature of the scenario. Additionally, the cognitive subset *location-choice options in the area* (without intermediary attribute) surpasses the threshold as well.
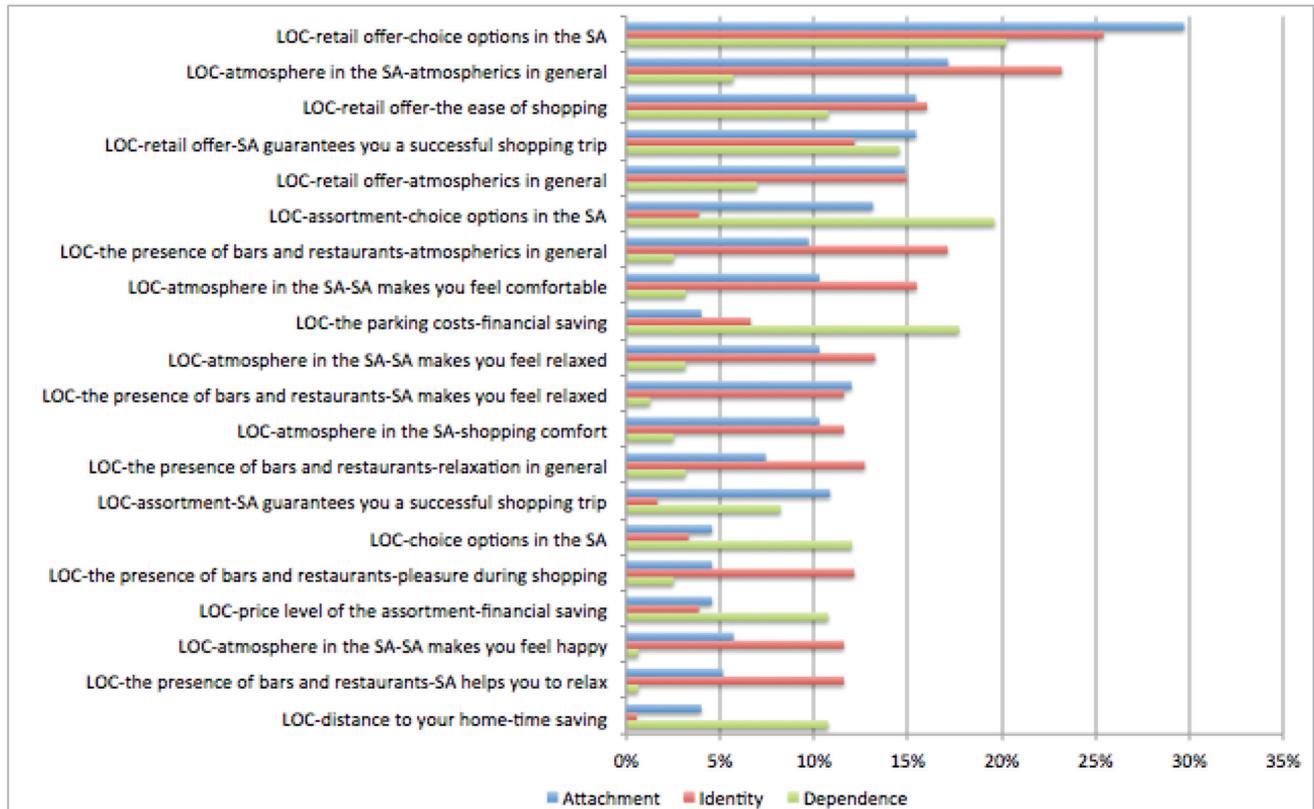
Figure 5-6: Frequency of elicited cognitive subsets of all shopping scenarios.

5.3 Prominence of variables

Sections 5.2.2 to 5.2.4 analysed the mental representations of the respondents regarding the frequencies of attributes, benefits, and cognitive subsets. These statistics provide insight in the preference of these components in each scenario. However, the relationships between the variables in a scenario remain relatively unclear. For this reason, this section examines the relational properties of variables by identifying regularities and patterns in their relationships. The measurement of choice is called prominence, centrality or prestige. While measures of prominence commonly focus on the structure of social networks, they are applicable to mental representations as well. For undirected relations, prominence measures are typically referred to as centrality. For directed relations, prominence measures are typically referred to as prestige (Kitts and Torfason, 2010).

In general, four different measures of prominence exist: degree, closeness, betweenness, and eigenvector (Kitts and Torfason, 2010). Kitts and Torfason (2010) focus on the structure of social networks – that is, the number and strength of ties of actors in a certain social network. The most straightforward measure of prominence is degree centrality, which simply is the number of ties that an actor has to others in the network. An actor with a high number of ties has a high degree centrality. A more sophisticated measure is eigenvector centrality. Eigenvector centrality describes an actor's connectedness to highly connected peers by weighting each actor's prominence by the prominence of his peers, which is in turn weighted by the prominence of its peers, and so on. Network analysis software is commonly used to compute this recursive measure. Closeness

centrality is constructed by summing the shortest paths from one actor to other distinct actors. It is a measure of the shortness of the network paths connecting an actor to all others. Lastly, betweenness centrality is computed by finding the proportion of the shortest paths among all other actors that contain a specific actor. All measures are usable for undirected as well as directed relations, provided that care is taken to allow for the directionality of the network (Kitts and Torfason, 2010). The degree centrality is chosen to examine the prominence of variables, because of the simplicity of the links in mental representation (merely three types of link: decision-attribute, attribute- benefit, and decision-benefit).

Since mental representations may be modelled as causal networks – thus being directed models – the connection between two variables is asymmetric or directional (Kitts and Torfason, 2010). The prominence of one variable in the mental representation of one respondent may be measured by breaking down the degree count for incoming and outgoing ties for that variable (Kitts and Torfason, 2010; Marsden, 2004). A matrix is formed, in which parent nodes – decision variables, situational variables and attributes – are represented as rows, and variables that may serve as child node – attributes and benefits – are represented as columns. For each respondent, a causal link is coded as 1, and all other cells as 0. Adding the column and/or row sum of a variable results in the total number of links for that respondent. This number is divided by the total matrix sum, to come up with a variable's degree centrality value between 0 and 1. In conclusion, the centrality of c of a variable V is the sum of k incoming (X,V) and l outgoing (V,Y) links over the sum of m occurring (X,Y) links in the mental representation of respondent j (Horeni, 2012). The resulting formula is shown in Equation 5-1.

$$c_{Vj} = \frac{\sum_k (X,V)_k + \sum_l (V,Y)_l}{\sum_m (X,Y)_m} \qquad \textit{(Equation 5-1)}$$

Tables 5-7 to 5-9 show the centrality values of the top ten central variables per scenario. For the sake of clarity the different variable types are coloured. Decision variables are coloured yellow, benefits are coloured blue, and attributes are shown in normal style. Unsurprisingly, the decision variable *location* is the number one variable in all scenarios. Since *location* is the only decision variable, each cognitive subset has to originate from this decision variable. As a result it owns the highest centrality value in each scenario by a long shot. Attributes and benefits make up the remainder of the lists. Attributes profit from having both incoming and outgoing links, while the smaller number of benefits may increase their respective centrality values. This, at least partly, explains the mixed pattern of attributes and benefits.

Table 5-7: Top ten central variables for the place attachment scenario.

Variable	Centrality
Location	0.182
The retail offer	0.067
The atmosphere in the area	0.045
The atmospherics in general	0.031
The presence of bars and restaurants	0.028
The choice options in the shopping area	0.025
To experience a pleasant shopping trip	0.023
The product assortment	0.022
The shopping area makes you feel relaxed	0.022
The shopping comfort	0.021

Table 5-8: Top ten central variables for the place identity scenario.

Variable	Centrality
Location	0.184
The atmosphere in the area	0.055
The retail offer	0.053
The presence of bars and restaurants	0.049
The atmospherics in general	0.037
To experience a pleasant shopping trip	0.026
The unique characteristics that define an area	0.022
The choice options in the shopping area	0.022
The offer of small specialist stores	0.021
The shopping area makes you feel relaxed	0.020

Table 5-9: Top ten central variables for the place dependence scenario.

Variable	Centrality
Location	0.186
The retail offer	0.055
The choice options in the shopping area	0.035
Time saving	0.026
The product assortment	0.025
The ease of shopping	0.025
To experience a pleasant shopping trip	0.020
The atmosphere in the area	0.019
The shopping area guarantees you a successful shopping trip	0.019
The atmospherics in general	0.019

The top ten central variables do not differ much between the place attachment and place identity scenario. Eight variables out of both top tens are the same, with the top five being identical (not regarding the order). *The retail offer, the atmosphere in the area,* and *the presence of bars and restaurants* are most central attributes in both scenarios. In both scenarios the benefits *the atmospherics in general, the choice options in the shopping area, to experience a pleasant shopping trip* and *the shopping area makes you feel relaxed* are among the top ten. This is in accordance with the results from the frequency tests, conforming the importance of these variables in the mental representations of the respondents.

Similar to the results from the frequencies tests, the top ten central variables of the place dependence scenario differ moderately from the other scenarios. Similar to the other scenarios, the top central variables are *location* and *the retail offer*. *The choice options in the shopping area* is fairly central, and the atmosphere as well to a lower amount. However, benefits *time saving, the ease of shopping* and *the shopping area guarantees you a successful shopping trip* are also amongst the most central variables in the place dependence scenario. Looking back at the frequencies of sections 5.2.2 to 5.2.4, it is surprising to not observe items of the cognitive subset *location-the parking costs-financial saving* (frequently considered by respondents) amongst most central variables. Apparently, these variables are frequently considered, but almost exclusively in relation to each other.

Additionally, the total centrality of each scenario – also defined as the centralization – is determined. This centralization is high if relationships within the scenario are concentrated on a few variables, and low if they are distributed evenly. A group-level measure of centralization based on degree centrality as given by Marsden (2005) is shown in Equation 5-2. $C_D(max)$ is the maximum degree centrality of any unit in the network, $C_D(i)$ represents the degree centrality of variable i, and N represents the number of units (in this case variables) per group (scenario). The resulting centrality values for all scenarios are displayed in Table 5-10.

$$C_D = \sum_{i=1}^{N} \frac{C_D(max) - C_D(i)}{(N-1)(N-2)}$$

(Equation 5-2)

Table 5-10: Group level centrality for all shopping scenarios.

	Place attachment	Place identity	Place dependence
Group-level centrality	5.780	6.455	4.740

What does this tell us? Respondents who are presented the place identity scenario have greater conformity in considered variables than respondents of the other scenario. This is already observable in section 5.2.2; regarding place identity, the attributes *the retail offer*, *the atmosphere in the area* and *the presence of bars and restaurants* are each considered by more than 35% of all respondents, while no other attribute surpasses 15%. These two findings confirm the importance of these attributes in mental representations of this scenario. Respondents in the other scenarios show less coherence with regard to the links they put between variables.

5.4 The choice outcomes

Table 5-11 shows the preferred choice alternatives of the respondents for the three shopping scenarios. Respondents are asked to state their final choice at the end of the questionnaire, after expressing their considerations regarding the shopping task. Please note that the online shopping alternative could only be selected in the place dependence scenario. Even though 14.6% of the respondents in that scenario chose to do their shopping online, the choice alternative is still ranked last and left out of a Chi-Square test for comparative reasons. The test does not show any significant differences between scenarios ($\chi2=3.212$, df=4, p=.523) (Appendix VIII.2).

Table 5-11: Chosen alternatives for the decision variable.

	Place attachment	Place identity	Place dependence
A small inner city	77 (44.0%)	76 (42.0%)	55 (34.8%*) (40.7%)
A large inner city	63 (36.0%)	76 (42.0%)	49 (31.0%*) (36.3%)
A peripheral shopping center	35 (20.0%)	29 (16.0%)	31 (19.6%*) (23.0%)
Online shopping	-	-	23 (14.6%*)

* The choice alternative *online shopping* was only available in the place dependence scenario, and was therefore left out of further comparative analyses.

Statistical tests in Appendix VIII.3 to VIII.18 barely show significant differences between the choice outcomes and general sample characteristics. The only significant differences is observed between age and the choice outcomes (F=4.821, df=3, p<.01) and between the population of the place of residence and the choice outcomes (F=3.798, df=3, p<.01). Regarding significant differences between choice outcomes, shopping in a large inner city ($\mu=46.29$ years), as well as online shopping ($\mu=42.04$ years) is clearly favoured by younger people. Respondents who choose to shop at a small inner city are at least five years older on average ($\mu=50.91$). Respondents who opted to shop in *a peripheral shopping center* are older as well ($\mu=49.98$), but ages in this group are less evenly distributed, revealed by the high standard deviation. In addition, shopping in a smaller inner city is preferred by respondents from smaller places of residence ($\mu=67,614.80$ inhabitants) compared to shopping in a bigger inner city ($\mu=109,788.09$ inhabitants). All other statistical tests reveal no significant differences between the choice outcomes.

In addition, a multinomial logistic regression model is used to analyse relationships between a dependent variable –the choice outcomes – and various independent variables. Independent non-metric variables (factors) of this model are gender, marital status, education level, working situation, and scenario. Independent metric variables (covariates) are age, the population of the place of residence, and the years the respondent has been living at its current place of residence. The low number of relevant variables is confirmed, even though the resulting

model is fitting (χ^2=160.494, df=63, p<.001) (Appendix VIII.19). Taking all choice outcomes into account, age (χ^2=10.603, df=3, p<.05) the population of the place of residence (χ^2=16.184, df=3, p<.01), the education level (χ^2=24.425, df=12, p<.05), and the scenario (χ^2=54.572, df=6, p<.001) contribute significantly to the model (Appendix VIII.20). Even when omitting the choice outcome *online shopping* from the multinomial logistic model – this choice alternative was only available in the place dependence scenario – the model is still fitting (χ^2=59.185, df=42, p<.05) (Appendix VIII.21). However, the number of relevant variables drops notably; only the population of the place of residence (χ^2=14.020, df=2, p<.01) remains to contribute significantly to the model. The income level of the respondents is left out of the multinomial logistic models, since over one third of the respondents (34.4%) declined to answer this question.

The fact that the population of the place of residence yields significant differences between choice outcomes, and the fact that it contributes significantly to the multinomial logistic models, indirectly signals towards the existence of sense of place regarding shopping areas. Respondents tend to favour the type of place they reside in.

5.5 Preliminary conclusions regarding the sense of place in shopping areas

This research's primary aim is to shed light on the role that sense of place plays in shopping trip decision problems by consumers, as well as the manner in which sense of place affects decision-making by consumers. Since sense of place may be seen as a multidimensional concept consisting of three different place constructs, three scenarios are developed to examine the role of sense of place. Analysing the components that make up the mental representations of respondents, and combining these results with knowledge from other studies, enables us to not only measure the degree of sense of place, but also to point out influential items.

For the most part, the scenarios show no significant results regarding their complexity. The only significant difference is observed in recalled benefits; respondents in the place dependence scenario more frequently selected benefits as primary considerations. These recalled benefits are generally practical reasons, such as the choice options in the area or the fact that the shopping area guarantees them a successful shopping trip. This suggests that the place dependence scenario activates significant different considerations in the mental representations of the respondents. All in all, the contents of the mental representations may be compared validly.

The frequency analyses and measure of prominence show interesting results regarding the content of elicited mental representations. The place attachment scenario is expected to activate an emotional feeling towards a shopping location, as well as a preference towards other consumers and atmosphere in general. The analyses show that respondents frequently considered attributes such as *the atmosphere in the area, the liveliness in the area, the bustle in the area* and *the bustle inside the stores*. Additionally, *shopping comfort* and *feeling comfortable/relaxed while being in the shopping area* are important underlying reasons, confirming the expectations. Interestingly however, the most commonly mentioned attribute is *the retail offer*, which also dominates the frequency tests of cognitive links and centrality analyses. So while expectations are met and a certain sense of place is detected when respondents are asked envision doing recreational shopping on their own, the most important consideration to visit a shopping area is *the retail offer*.

The second scenario – the place identity scenario – is expected to activate considerations regarding the atmosphere in general, the appearance of the physical environment in order to express their preference for a certain shopping center. Also social aspects are expected to be of great importance, because in the hypothetical scenario the respondent goes shopping with a friend. Three attributes dominate the considerations: *the retail offer, the atmosphere in the area* and *the presence of bars and restaurants*, where *the retail offer* may be seen as an expression of personal preference. Remarkably, only occasionally do respondents consider items directly related to the physical environment. Sense of place is observed in the scenario, however not in benefits regarding the identification with a certain place, but rather in benefits that express happiness and relaxation. Having a positive emotional bond with a place – which essentially is place attachment – apparently is more important than being able to identify with a place.

Lastly, the place dependence scenario focuses strongly on succeeding during the shopping trip. Considerations regarding time and financial savings are expected due to an imposed time pressure and strong focus on the product. It turns out that respondents in the place dependence scenario reveal more practical and product-oriented attributes, such as *the retail offer*, *the product assortment, the price level of the assortment, the distance to* (from the shopping area) *to your home, the quality of the service* and *the parking costs*. These attributes are very rarely considered in the other scenarios. Relating benefits are *time saving*, *financial saving*, *the ease of shopping*, and *the shopping area guarantees you quality of product*. In contrast to the other two scenarios, almost no cognitive subsets contained attributes *atmosphere in the area* and *the presence of bars and restaurants*. These findings confirm the strong focus on shopping success, and point towards the existence of a certain degree of sense of place.

All in all, a certain sense of place is observed in all scenarios. Using the attributes and benefits in the elicited mental representations, the next chapter distinguishes different clusters of respondents. The role of sense of place in the different shopping situations – and its most important/influential items – is discussed more elaborately as well.

6 Measuring sense of place in MRs

Chapter 5 ends with the conclusion that a certain level of sense of place may be observed in all scenarios of the questionnaire. However, this preliminary conclusion leads to more questions itself. Do all respondents experience a sense of place? What variables influence this sense of place? And does sense of place influence the actual choice of a shopping location? With the help of a cluster analysis, this chapter distinguishes four groups of respondents, each with a unique profile regarding their mental representations and level of sense of place. Firstly, general information about clustering techniques is provided in section 6.1. New attributes and benefits are formed in section 6.2 in order to correctly perform the cluster analysis. Next, these newly formed variables are combined in section 6.3 with the scale that was able to distinguish various level of sense of place (derived from section 3.1.2). After performing the analysis and selecting the optimal number of clusters, section 6.4 deals with general cluster characteristics and their respective levels of sense of place. Lastly, section 6.5 discusses the most influential items on the choice behaviour of the respondents.

6.1 Cluster analysis

The identification of groups of individuals that are similar to each other – regarding a predefined set of characteristics – but different from individuals in other groups is often crucial in order to draw meaningful conclusions. In essence, a cluster analysis groups data objects based on information found in the selected data that describes the objects, by minimizing the intra-cluster distances and maximizing the inter-cluster distances (Norušis, 2010; Tao, 2012). The main reason to perform a cluster analysis in this research is to identify groups of respondents whose mental representations contain similar contents. This section provides general information about cluster analyses, as well as a motivation for the final choice of a clustering technique. In addition, the optimal number of clusters – with respect to the content of all mental representations – is determined.

6.1.1 Clustering techniques

Tan, Steinbach and Kumar (2005) distinguish three "*simple, but important techniques*" regarding cluster analysis in their book 'Introduction to Data Mining'. These three techniques are shown in Table 6-1.

Table 6-1: Three important clustering techniques (Tan et al., 2005).

Clustering technique	Description
K-means	One of the most widely used clustering techniques, and revolves around a user-specified desired number of clusters (k). A set of k initial centroids is set up, which usually are the means of a group of points. Next, cases are assigned to the closest centroids and form prototype clusters. The centroids of each cluster are then updated, based on the points assigned to the cluster. These steps are repeated until the centroids remain the same (Tan et al., 2005). K-means is a partitional clustering technique, meaning that the data is divided into non-overlapping subsets (clusters) such that each data object is in exactly one subset (Figure 6-1).
Agglomerative hierarchical clustering	Hierarchical clustering is one of the most straightforward methods for clustering, and can be either agglomerative or divisive. The agglomerative hierarchical clustering approach refers to techniques that begin with as many clusters as individual cases. In successive steps, the two closest clusters are repeatedly merged until the algorithm ends in one big cluster. It is important to note that hierarchical clustering does not let cases separate from clusters that they have joined already. Divisive clustering is the exact opposite – all individual cases begin in one cluster, which is split up in successive steps until only individual clusters remain (Norušis, 2010; Tan et al., 2005). The result of this technique is a hierarchical tree in which the clusters are organized (Figure 6-2).
DBSCAN	DBSCAN stands for "*Density-Based Spatial Clustering of Applications with Noise*" (Tan et al., 2005). In this method the algorithm itself automatically determines the optimal number of clusters. A case is considered a core point if it has more than a specified number of other cases within a specified radius. Cases that do not meet this criterion, but are in the neighbourhood of a core point are considered border points. Points of low-density regions that are not considered core or border points are classified as noise and omitted. DBSCAN produces a partitional clustering as well (Tan et al., 2005).
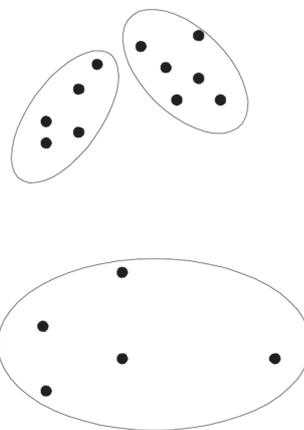
Figure 6-1: An example of partitional clustering (Tao, 2012).
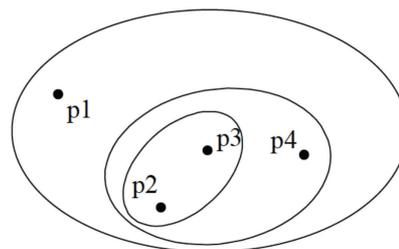
Figure 6-2: An example of hierarchical clustering (Tao, 2012).

The choice of technique depends on the characteristics of the input data and the research goals (Norušis, 2010; Tao, 2012). This research focuses on finding groups of respondents who have similar mental representations given certain situations. In other words, each group of respondents could be described by a certain 'central person', whose mental representation should closely resemble the average mental representation of the other cluster members. This central person may or may not actually exist in the data set. The K-means clustering technique distinguishes clusters by means of clusters centres and is conceptually close to the nearest neighbour classification (Tan et al., 2005), and distinguishes clusters of respondents with relatively similar mental representations. In conclusion, the K-means clustering technique is the most appropriate clustering technique for this research.

6.1.2 K-means cluster analysis

As stated in the previous section, the K-means clustering analysis is developed as a method in which the number of clusters is pre-specified. Each cluster is associated with a centroid, and all points are assigned to the cluster with the closest centroid. The K-means clustering algorithm is presented in Figure 6-3, and is relatively easy.

1:	Select *K* points as the initial centroids.
2:	**repeat**
3:	Form *K* clusters by assigning all points to the closest centroid.
4:	Recompute the centroid of each cluster.
5:	**until** the centroids don't change.

Figure 6-3: An example of hierarchical clustering (Tao, 2012).

The closeness of points to the centroid is generally measured by the Euclidean distance. The Euclidean distance between two items is defined in Equation 6-1.

$$d(p,q) = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2 + \cdots + (q_n - p_n)^2}$$

(Equation 6-1)

$$= \sqrt{\sum_{i=1}^{n} (q_i - p_i)^2}$$

In Equation 6-1 q is the first data point, p is the second data point, n is the number of variables in the database and $d(p,q)$ is the distance between data point q and data point p using a mathematical calculation known as the Euclidean distance. Conclusively, Equation 6-1 defines the Euclidean distance between two rows of data or two points/items/objects in a dataset/database or in space, where each data point is defined using n variables (Tagbo, 2007).

6.2 Performing the cluster analysis

Before the K-means cluster analysis could be performed with data from the surveys, the original classification of attributes, benefits and situational variables had to be revised. The K-means clustering is very sensitive to outliers, since they are usually selected as initial centroids. As the observed frequencies among many of the original variables are too little, this would have caused the outliers to form clusters with a small number of cases. From the 178 original attributes and situational variables 19 new variables are formed, with the new category *other* summarizing several rarely observed attributes that could not be matched to other attributes. Similarly, the 37 original benefits are shrunk down to 15 new ones. Tables 6-2 and 6-3 show the observed frequencies of these newly formed variables. The composition of the newly formed variables is presented in Appendices IX.1 and IX.2.

Table 6-2: Frequencies of newly formed attributes by scenario.

New attribute	Scenarios			
	Attachment	Identity	Dependence	Total
The time available	13	9	40	62
The weather	17	13	15	45
The accessibility of the shopping area	60	48	71	179
Personal characteristics	14	19	38	71
The product assortment	44	27	82	153
The service level inside the stores	7	6	26	39
The atmosphere inside the stores	13	18	32	63
The costs in general	35	18	16	69
The parking facilities	23	31	26	80
The functional characteristics of the shopping area	44	40	30	114
The retail offer	103	110	77	290
The presence of bars and restaurants	38	69	8	115
The structure of the shopping area	31	28	27	86
The atmosphere in the shopping area	85	109	31	225
The liveliness in the shopping area	52	44	30	126
The appearance of the physical environment	27	43	14	84
The facilities in the area in general	12	13	5	30
Other people in the shopping area	14	13	6	33
Other	2	4	10	16
	634	662	584	1880

Table 6-3: Frequencies of newly formed benefits by scenario.

New benefit	Scenarios			
	Attachment	Identity	Dependence	Total
The atmospherics	168	214	94	476
To experience a pleasant shopping trip	198	225	175	598
The choice options in the shopping area	82	81	88	251
The journey	63	62	74	199
Savings – time	37	23	68	128
Savings – financially	25	26	46	97
Mental condition	25	25	31	81
Social contact	14	16	10	40
New experiences	9	16	7	32
Attachment – low	78	108	30	216
Attachment – high	119	150	70	339
Identity – low	4	1	2	7
Identity – high	18	27	12	57
Dependence – low	70	55	81	206
Dependence - high	65	65	43	173
	975	1094	831	2900

The fact that the number of clusters derived from the K-means cluster analysis is specified by the user inevitably leads to an important question; what is the optimal number of clusters regarding a given data set? An established method for assessing the optimal number of clusters in K-means clustering employs measuring the sum of squares within the clusters. The 'elbow' rule is applied to determine the optimum number of clusters: a certain number of clusters should be chosen so that adding another cluster would not increase the quality of the model substantially. Figure 6-3 results from plotting the within-cluster sum of squares of various k-means cluster analyses, with k ranging from two to ten clusters (respective data set is presented in Appendix IX.3). The within-cluster sums of squares drop drastically with the first clusters ($k=2$, $k=3$, and

$k=4$), thus adding much information by increasing the number of clusters. The gain of explanatory power decreases substantially around four to five clusters, but unfortunately no clear elbow can be detected. Hence, another heuristic is used to determine the optimal number of clusters, namely the Hartigan's index.
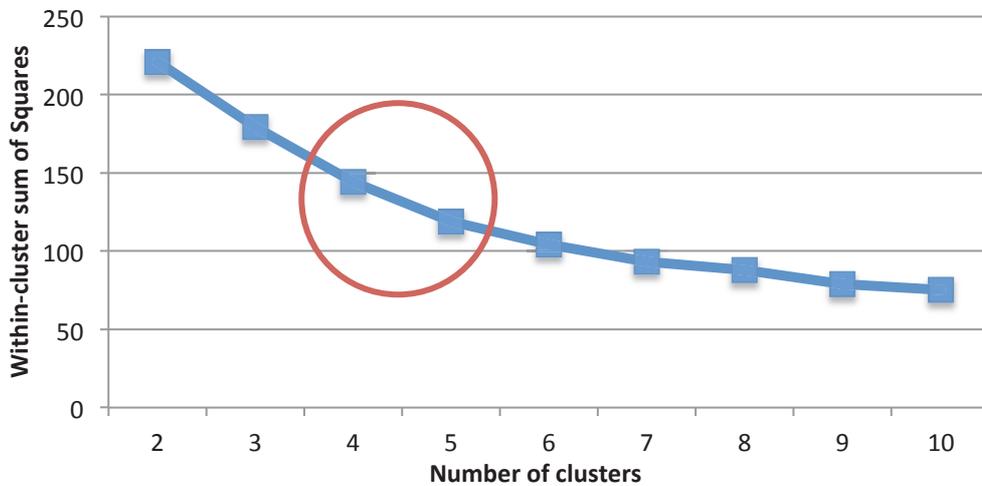
Figure 6-3: Within-cluster sum of squares of various k-means cluster analyses (k=2, 3, …, 10).

The Hartigan's index was developed by John A. Hartigan in 1975, and represents a ratio of successive within-cluster sum of squares, divided by constants determined by the number of observations and number of clusters. The exact equation is presented in Equation 6-2. $W(C^k)$ represents the within-cluster sum of squares with k clusters, k is the number of clusters, and n the number of entities in the data matrix. The resulting graph is displayed in Figure 6-4.

$$Har(k) = \left(\frac{W(C^k)}{W(C^{k+1})} - 1 \right) / (n - k - 1)$$ (Equation 6-2)
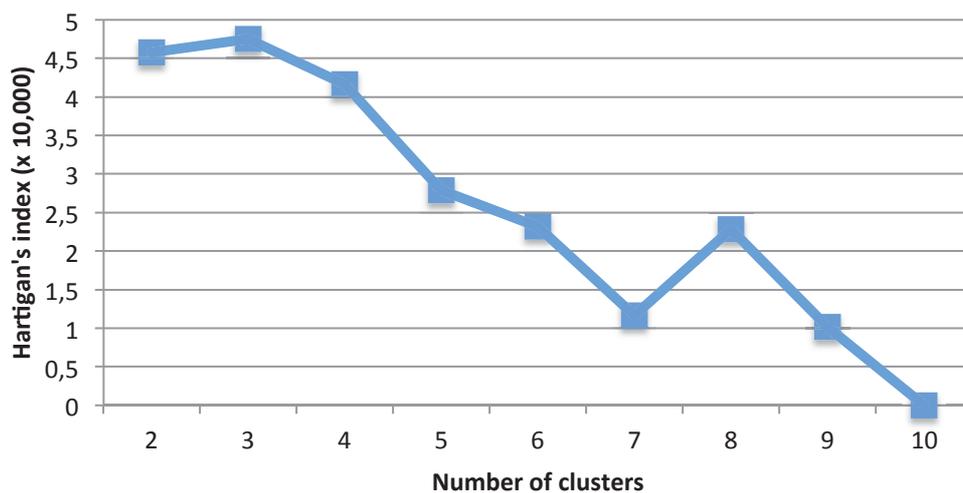
Figure 6-4: Hartigan's index of various k-means clusters analyses (k=2, 3, …, 10).

The idea behind the Hartigan's index is to add clusters as long as the index is sufficiently large. Whenever the Hartigan's index drops below a certain threshold, the optimal number of clusters has been reached (Chiang and Mirkin, 2007). Since the threshold is picked subjectively and is hard to determine, another rule of thumb may be used: k should be picked just after the maximum value has been reached (Business Forecast, 2012). Figure 6-4 shows that four is the optimal number of clusters to be used (respective data set is presented in Appendix IX.3). A quick review of the elicited mental representation confirms that more conformity is achieved regarding

the chosen attributes and benefits in each cluster with $k=4$ compared to $k=5$. Next section discusses how the level of sense of place for all clusters is determined.

6.3 Determination of sense of place scores

As stated before, the sense of place scores for each cluster are subjective measures determined by examining the frequencies of the elicited benefits in a cluster with the respective 'sense of place-scores' of the benefits. To clarify the method of determination, an example is given in this section.

Imagine a cluster of ten respondents. Frequencies of this cluster's elicited benefits are presented in Table 6-4. Attributes are omitted in this example, since they are not included in the sense of place scales. The percentages are obtained by comparing the number of times a benefit is selected with the total number of elicited benefits.

Table 6-4: Frequencies of elicited benefits (example).

Benefit	Sense of place score	Frequency	Frequency (%)
The atmospherics	1	7	28.0%
The journey	0	2	8.0%
To experience a pleasant shopping trip	0	5	20.0%
Attachment – low	3	5	20.0%
Attachment – high	5	3	12.0%
Dependence – low	3	2	8.0%
Dependence – high	5	1	4.0%
		25	100.0%

The next step is to multiply the percentages of the benefits with their sense of place score. The sense of place scores of the newly formed variables are shown in Appendix IX.4, and are based on the scores of Table 3-8 in section 3.2.4. For a more convenient comparison, the outcomes are compared with scores that emerge when all benefits would have been picked evenly, and consequently would have the same frequencies. Since fifteen new benefits have been formed, each benefits would have a share of 6,7%. Lastly, the outcomes are indexed. Table 6-5 shows the entire calculation of the place attachment index for the example cluster.

Table 6-5: Calculation of place attachment index (example).

Action	Example cluster	Equal frequencies
→ **Multiply frequency (%) and sense of place score**		
Attachment – low	20.0% * 3 = 0.6	6.7% * 3 = 0.2
Attachment – high	12.0% * 5 = 0.6	6.7% * 5 = 0.33
→ **Add outcomes of each place constructs**		
Place attachment	1.2	.53
→ **Index (equal frequencies' index = 100)**		
Place attachment index	225	100

These steps may be repeated to produce a place identity index (0), place dependence index (83), and sense of place index (111) for the example cluster, using the frequencies in Table 6-4 and the respective sense of place scores in Appendix IX.4. For the determination of the place construct scores, only two benefits are used (e.g. *Attachment – low, Attachment – high*), while the total sense of place score is determined by using all benefits. The resulting indices are then compared to frequencies of the original elicited attributes and benefits to draw conclusions regarding the role of sense of place in shopping trip decision problems of this group of respondents.

The next section reviews the place attachment, place identity, place dependence, and sense of place score of the four clusters.

6.4 Clusters and sense of place

After revising the original classification of variables and identifying four different clusters, this section reviews the content of the mental representations and the level of sense of place of each cluster in detail. Please remember that these clusters are the result of a K-means analysis ($k=4$) in which the adjusted attributes and benefits are input variables.

General cluster characteristics and corresponding statistical tests to analyse the differences between clusters are shown in Appendices IX.5 to IX.24. Statistically significant differences are observed between clusters regarding the scenario ($\chi^2=69.605$, df=6, p<.001), the years the respondents are living in their current place of residence (F=1461.664, df=3, p<.01), and the final choice of shopping location ($\chi^2=36.537$, df=9, p<.001). The significant differences between clusters regarding the scenarios indicate that the shopping context plays a crucial role in the activation of different attributes and benefits. For example, the group of respondents who possess the highest level of place dependence emerged regularly from the place dependence scenario (54.2%). The fact that not all respondents from this scenario finished with a high level of place dependence is on its turn a testimony to the individual variability.

Additionally, a multinomial logistic model is estimated with the clusters as dependence variable. It includes data of the final choices, the scenarios, and all socio-demographic characteristics except income, and is fitting ($\chi^2=152.482$, df=72, p<.001) (Appendices IX.25 and IX.26). It is confirmed that just the scenario ($\chi^2=58.421$, df=6, p<.001) and final choice ($\chi2=20.952$, df=9, p<.05) contribute significantly to the model. Again, the income level of the respondents is left out of the multinomial logistic model because of a large number of missing values for this variable.

Descriptions of the final clusters are found in sections 6.3.2 t 6.3.5. The content of the mental representations of respondents in each cluster is discussed first, together with the respondents' level of sense of place. The general socio-demographic characteristics of each cluster – that are examined after the K-means cluster analysis – are discussed at the end of each section as well.

For support, Figures 6-5 to 6-8 provide overviews of the relevant information concerning each cluster. The upper half of these infographics provides general cluster information such as socio-demographic characteristics, a brief cluster description and an illustrative impression of typical cluster members. The socio-demographic characteristics are presented using – from left to right – the cluster characteristics, the sample characteristics, and a visual comparison of the differences between the respective cluster and the entire sample. The bottom half presents research outcomes. Two lists are presented that describe the attributes and benefits that have been mentioned most frequently by the respective cluster members. Next, scales are presented that describe the level of place attachment/place identity/place dependence/sense of place each clusters has. Lastly, the preference of cluster members towards shopping locations is displayed in the bottom right corner of each infographic.

6.4.1 Absolutely Attached

Figure 6-5 contains an infographic that summarizes all information regarding respondents in Absolutely Attached. The respondents in this cluster were mainly presented the place attachment (38.9%) and place identity scenario (47.2%). Only a small portion was presented the place dependence scenario (13.9%).
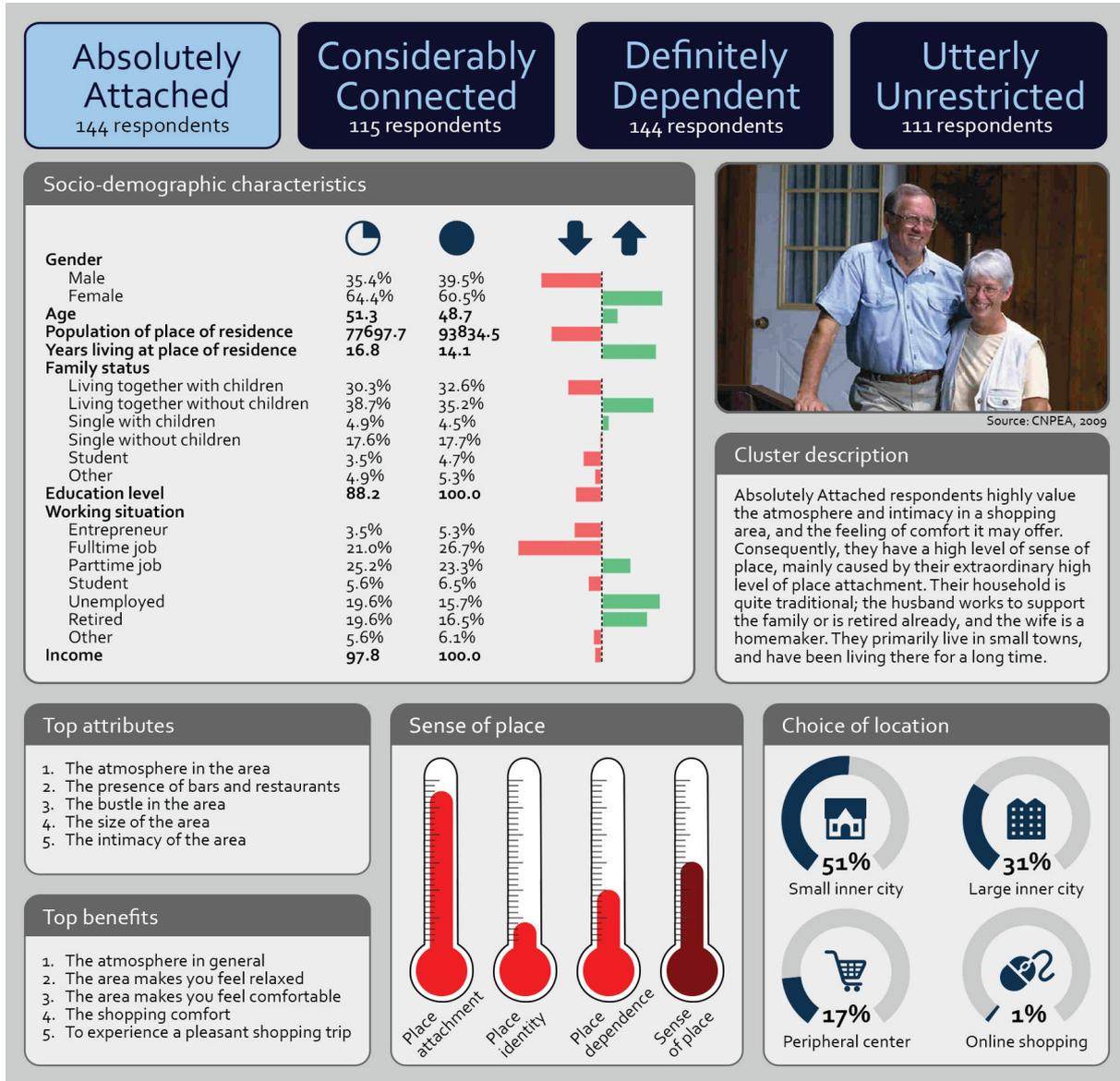
Figure 6-5: Infographic – Absolutely Attached.

Frequencies of elicited attributes and benefits in the mental representations of the respondents in Absolutely Attached are presented in Appendices IX.27 and IX.28. The elicited attributes include mostly variables regarding the atmosphere and liveliness/other consumers in the shopping area. Other often considered attributes are *the structure of the shopping area* and *the weather in general.* Clearly, the frequencies of the elicited benefits reflect this preference to experience a pleasant shopping trip, as these respondents repeatedly considered benefits like *the atmospherics in general, the shopping area makes you feel relaxed, the shopping area makes you comfortable,* and *the shopping comfort.* Consequently, the respondents in Absolutely Attached have an extraordinary high level of place attachment and the highest level of sense of place of all types of respondents, despite the fact that their levels of place identity and place dependence are quite low. This finding is surprising, considering that most respondents in this cluster were presented the place identity scenario. Apparently the place attachment and place identity scenario activate relatively similar mental representations, which mainly contain benefits concerning place

attachment. The respondents in this cluster favour shopping in a small inner city. The remainder of this section discusses the socio-demographic characteristics of the cluster.

Respondents in Absolutely Attached have been living at their current place of residence significantly longer than other clusters; 16.8 years compared to the sample average of 14.1 years. In addition, the places they live in are often small. It is probable that living is not expensive, even though these areas are becoming increasingly popular (Experian, 2012). Please note that the difference in population compared to other clusters is not significant.

More differences are observable with regard to other socio-demographic characteristics. Again, these differences are not statistically significant. Respondents in Absolutely Attached are considerably older than other clusters; they tend to be at least 50 years of age (μ=51.25). They are married, but their children no longer live at home. Regarding work and education, Established Elderly are quite traditional. They tend to have a relatively low level of education, most probably because working used to be more valued when they were young. The male respondents in this cluster are nearing the end phase of their work or are retired already. The women predominantly have a part-time job or are unemployed. This confirms the picture of a traditional household for the respondents in Absolutely Attached, in which the husband works to support the family, and the wife is a homemaker.

6.4.2 Considerably Connected

Figure 6-6 contains an infographic that summarizes all information regarding respondents in Considerably Connected. Similar to previous cluster, the respondents in this cluster were mainly presented the place attachment (39.1%) and place identity scenario (43.5%). Only a small portion was presented the place dependence scenario (17.4%).

Absolutely Attached — 144 respondents
Considerably Connected — 115 respondents
Definitely Dependent — 144 respondents
Utterly Unrestricted — 111 respondents

Socio-demographic characteristics

	◔	●	↓ ↑
Gender			
Male	39.1%	39.5%	
Female	60.9%	60.5%	
Age	**47.2**	**48.7**	
Population of place of residence	**85055.0**	**93834.5**	
Years living at place of residence	**13.5**	**14.1**	
Family status			
Living together with children	37.7%	32.6%	
Living together without children	31.6%	35.2%	
Single with children	2.6%	4.5%	
Single without children	17.5%	17.7%	
Student	3.5%	4.7%	
Other	7.0%	5.3%	
Education level	**108.4**	**100.0**	
Working situation			
Entrepreneur	5.2%	5.3%	
Fulltime job	30.4%	26.7%	
Parttime job	22.6%	23.3%	
Student	7.0%	6.5%	
Unemployed	14.8%	15.7%	
Retired	15.7%	16.5%	
Other	4.3%	6.1%	
Income	**103.8**	**100.0**	

Source: The Birchtree Center, 2012

Cluster description

Considerately Connected respondents have a high level of place attachment, as they favour to go to shopping area that gives them a relaxed or comfortable feeling. Additionally, they highly value having choice options and shopping success, giving rise to a moderate level of place dependence. Their lifes are stable; they are successful at their work, and have an above average income. Most of them live together and have children.

Top attributes

1. The retail offer
2. The atmosphere in the area
3. The presence of bars and restaurants
4. The unique characteristics that define the area
5. The liveliness in the area

Top benefits

1. The choice options in the area
2. The atmospherics in general
3. To experience a pleasant shopping trip
4. The area makes you feel happy
5. The area guarantees you a successful shopping trip

Sense of place

Place attachment — Place identity — Place dependence — Sense of place

Choice of location

- 38% Small inner city
- 51% Large inner city
- 10% Peripheral center
- 1% Online shopping

Figure 6-6: Infographic – Considerably Connected.

Appendices IX.29 and IX.30 present frequencies of elicited attributes and benefits in the mental representations of Considerately Connected. Respondents in Considerably Connected often consider attributes that describe a unique and pleasant atmosphere in the shopping area, such as *the atmosphere in the shopping area, the unique characteristics that define the shopping area*, *the liveliness in the shopping area, the kindness of the employees*, and *the intimacy in the shopping area*. In addition, *the retail offer, the product assortment*, and *the price level of the assortment* are often mentioned as well. These attributes indicate that they have a decent level of place attachment as well as place dependence. The elicited benefits confirm this expectation. Besides often-mentioned benefits like *the choice options in the shopping area, the atmospherics in general*, and *to experience a pleasant shopping trip*, respondents repeatedly considered benefits related to place attachment (*the shopping area makes you feel happy/comfortable/relaxed*) and place dependence (*the shopping area guarantees you a successful shopping trip/quality of products, the shopping area meets your needs better than other areas*). As a result, respondents in Considerably

Connected have a high level of place attachment and an average level of place dependence. However, the majority of the respondents in this cluster were presented the place attachment and identity scenarios, instead of the place dependence scenario. Additionally, the fact that this cluster highly values *the retail offer* and *the choice options in the shopping area* explains their preferences to go shopping in a large inner city. They want to visit large inner cities, in order to expand their choice options and purchase exactly the products they want. This suggests that for this cluster the shopping location contributes considerably in determining the content of the mental representations. From this point onwards, the socio-demographic characteristics of the cluster are discussed.

Respondents in Considerably Connected are part of relatively young households, often comprising parents with children. They live in medium-sized towns, and have been living there for 13.5 years on average, which is considered average. Respondents in the Considerably Connected cluster have the drive to succeed in their professional life. In general, they enjoyed high education, and use this to be successful at their work. As a result, they earn an above average salary. Respondents in Considerably Connected have the security that comes with full-time jobs, and have a family with children. Security and social involvement are values preached by this cluster. This is reflected in their level of sense of place, and considered attributes and benefits. Please remember that differences in these socio-demographic characteristics are not significant, except for the time respondents have been living at their current place of residence.

6.4.3 Definitely Dependent

Figure 6-7 contains an infographic that summarizes all information regarding respondents in Definitely Dependent. The respondents in this cluster were mainly presented the place dependence scenario (54.2%). The portion of respondents in the place attachment (25.7%) and place identity (20.1%) scenarios is substantially smaller.

Absolutely Attached	Considerably Connected	Definitely Dependent	Utterly Unrestricted
144 respondents	115 respondents	144 respondents	111 respondents

Socio-demographic characteristics

	◔	●	↓ ↑
Gender			
Male	43.1%	39.5%	
Female	56.9%	60.5%	
Age	**48.6**	**48.7**	
Population of place of residence	**113966.39**	**93834.5**	
Years living at place of residence	**12.9**	**14.1**	
Family status			
Living together with children	32.2%	32.6%	
Living together without children	36.4%	35.2%	
Single with children	6.3%	4.5%	
Single without children	18.2%	17.7%	
Student	2.8%	4.7%	
Other	4.2%	5.3%	
Education level	**97.0**	**100.0**	
Working situation			
Entrepreneur	7.7%	5.3%	
Fulltime job	30.8%	26.7%	
Parttime job	21.0%	23.3%	
Student	4.9%	6.5%	
Unemployed	15.4%	15.7%	
Retired	14.0%	16.5%	
Other	6.3%	6.1%	
Income	**99.7**	**100.0**	

Source: IS, 2013

Cluster description

Definitely Dependent respondents have a busy lifestyle; time is very valuable to them. They are heavily focussed on shopping success, and financial and time saving. This results in a fairly high level of place dependence, as it is important to them to have an effective and successful shopping trip. Consequently, Busy Bees live in large cities; the proximity of all practical needs saves them precious time. They have full-time jobs and a constant drive to be successful.

Top attributes

1. The retail offer
2. The product assortment
3. The parking costs
4. The time available
5. The bustle inside the stores

Top benefits

1. The choice options in the area
2. Time saving
3. The ease of shopping
4. To experience a pleasant shopping trip
5. The area guarantees you a successful shopping trip

Sense of place

Place attachment | Place identity | Place dependence | Sense of place

Choice of location

32% Small inner city
35% Large inner city
24% Peripheral center
9% Online shopping

Figure 6-7: Infographic – Definitely Dependent.

In Appendices IX.31 and IX.32, frequencies of elicited attributes and benefits in the mental representations of respondents in Definitely Dependent are shown. It is obvious that time and financial savings are on the mind of these respondents; seven of the top ten attributes relate to costs, travel time, or the bustle in the area. Additionally, the top two items are *the retail offer* and *the product assortment,* suggesting that respondents in this cluster are heavily focused on shopping success. This finding is reflected in the frequencies of elicited benefits; as frequently elicited benefits are *the shopping area guarantees you a successful shopping trip, the shopping area meets your needs better than other areas*, and *the shopping area guarantees you quality of products.* Naturally, *time saving* and *financial saving* are often mentioned as well. As a result, the respondents in Definitely Dependent have a high level of place dependence. Their busy life style forces them to think and act practically. The levels of place attachment and place identity are low. The distribution of respondents among the scenarios reflects the outcomes regarding the levels of sense of place. This finding confirms that the place dependence scenario properly activates mental

representations that contain benefits regarding place dependence. Besides, the portion of respondents considering the peripheral shopping centre and online shopping as their final choice of shopping location is the largest of all clusters. Apparently, the peripheral shopping centre is associated with items that enhance the time saving, financial saving, and overall pleasantness of the shopping experience. The relatively high preference for online shopping may be explained by the considerable portion of respondents in this cluster that was presented the place dependence scenario (54.2%), which exclusively contained the online shopping option.

With respect to the socio-demographic characteristics, a number of interesting – but not significant – differences may be observed. Respondents in Definitely Dependent are averagely aged and tend to live in large cities. This cluster contains a remarkably large portion of male respondents. Additionally, a large portion of them has a full-time job or own their own company. The male respondents are responsible for the large portion of full-time employees in this cluster, as over half of the males are in full-time paid employment. The fact that the respondents in Definitely Dependent live in large cities and primarily have full-time jobs indicates that their lifestyle revolves around success, and that as a result, they are very busy. This could be a reason they primarily live in large cities; the proximity of all practical needs potentially saves them precious time. The only statistically significant difference with other clusters is the fact that respondents in this cluster have lived shorter in their place of residence.

6.4.4 Utterly Unrestricted

Figure 6-8 contains an infographic that summarizes all information regarding respondents in Utterly Unrestricted. Respondents in this cluster are evenly distributed across the place attachment (33.3%), place identity (30.6%), and place dependence (36.0%) scenarios.

	Absolutely Attached	Considerably Connected	Definitely Dependent	Utterly Unrestricted
	144 respondents	115 respondents	144 respondents	111 respondents

Socio-demographic characteristics

Gender		
Male	40.5%	39.5%
Female	59.5%	60.5%
Age	46.9	48.7
Population of place of residence	97747.7	93834.5
Years living at place of residence	12.8	14.1
Family status		
Living together with children	30.9%	32.6%
Living together without children	32.7%	35.2%
Single with children	3.6%	4.5%
Single without children	17.3%	17.7%
Student	10.0%	4.7%
Other	5.5%	5.3%
Education level	103.3	100.0
Working situation		
Entrepreneur	4.6%	5.3%
Fulltime job	24.8%	26.7%
Parttime job	24.8%	23.3%
Student	9.2%	6.5%
Unemployed	11.9%	15.7%
Retired	16.5%	16.5%
Other	8.3%	6.1%
Income	98.7	100.0

Source: Effective Attraction, 2012

Cluster description

Utterly Unrestricted respondents highly value the retail offer and accessibility of a shopping area, and wish to maximize the pleasantness and easiness of their shopping trip. Since these are very general considerations, they have a very low level of sense of place; they do not favour a shopping area itself, but merely the fact that it offers a pleasant and easy shopping trip. They live in medium to large-sized cities and are still working on their careers.

Top attributes

1. The retail offer
2. The atmosphere in the area
3. The accessibility of the area
4. The parking costs
5. The accessibility by car

Top benefits

1. The ease of the journey
2. The choice options in the area
3. The atmospherics in general
4. Time saving
5. The ease of shopping

Sense of place

Place attachment — Place identity — Place dependence — Sense of place

Choice of location

- 40% Small inner city
- 32% Large inner city
- 22% Peripheral center
- 6% Online shopping

Figure 6-8: Infographic – Utterly Unrestricted.

Frequencies of elicited attributes and benefits in the mental representations of the respondents in Utterly Unrestricted are presented in Appendices IX.33 and IX.34. The respondents are clearly focused on maximizing the pleasantness and easiness of their shopping trips. Besides a great number of respondents who consider *the retail offer*, other attributes like *the accessibility of the shopping area (in general and by car)*, *the parking costs, the distance to your home*, and *the availability of parking facilities* are mentioned frequently as well. The elicited benefits correspond to these findings, as most respondents in this cluster consider *the ease of the journey*, *the ease of shopping* and *the shopping comfort*. Other frequently considered benefits are *the choice options in the shopping area* and *the atmospherics in general*. However, the content of these mental representations do not result in a high level of sense of place. The highly valued benefits of this cluster are very general considerations (e.g. *the ease of the journey, the shopping comfort*), not mentally assigned to a specific shopping location (e.g. *the shopping area helps you to relax*). This results in a low level of sense of place, regarding the three place constructs as well as sense of place

in general. The even distribution of respondents across scenarios suggests that respondents in Utterly Unrestricted do not own any level of sense of place, regardless the situation.

Additionally, the choice of shopping location of the respondents in Utterly Unrestricted does not show interesting deviations. In fact, the distribution of the respondents regarding the final choice closely resembles the general sample average. The small inner city is the number one choice option (40%), followed by the large inner city (32%), and the peripheral shopping centre (22%). Just 6% chooses to do their shopping online.

Lastly, with respect to socio-demographic characteristics, respondents in Utterly Unrestricted are relatively young respondents who live in medium to large-sized cities. They are well-educated, but a considerable portion of this cluster is still studying. Since respondents in Utterly Unrestricted are still working on their career, their income is relatively low considering their high level of education. Compared to other clusters, few respondents in this cluster have decided to live together. Note, however, that these differences are not statistically significant. The only statistically significant difference with other clusters is the fact that respondents in this cluster have lived shorter in their place of residence.

6.5 The choice outcomes and influential items

After examining differences in the intensity of level of sense of place between various groups of respondents in the previous section, this section deals with the influence of the attributes and benefits on the choice behaviour of the respondents. More specifically, a multinomial logistic regression model is used to examine whether the shopping location choice may be predicted by the content of the mental representations (the attributes and benefits). The adjusted lists of attributes and benefits presented in Table 6-2 and 6-3 in section 6.2 are used as independent variables for this analysis.

The resulting model is fitting (χ^2=240.699, df=102, p<.001) (Appendix X.1), indicating that the choice outcomes may be predicted by the content of the mental representations. A closer inspection of the likelihood ratio tests reveals significantly influential variables (Appendix X.2). Regarding the attributes, *the weather* (χ^2=11.520, df=3, p<.01), *parking facilities* (χ^2=12.160, df=3, p<.01), and *the presence of bars and restaurants* (χ^2=9.197, df=3, p<.05) contribute significantly to the regression model. Regarding the benefits, *the choice options in the shopping area* (χ^2=13.417, df=3, p<.005), *saving – time* (χ^2=11.823, df=3, p<.01), and *attachment – high* (χ^2=9.436, df=3, p<.05) are variables that contribute significantly.

The list of items that are significantly influential regarding shopping location choice greatly corresponds to the most commonly considered attributes and benefits in the mental representations of the respondents. *The presence of bars and restaurants* is often considered by Absolutely Attached (Appendix IX.27) and Considerably Connected (Appendix IX.29), while items relating to *parking facilities* are often considered by clusters Definitely Dependent (Appendix IX.31) and Utterly Unrestricted (Appendix IX.33). However, weather-related items – that contribute significantly to the model as well – are only observed in small frequencies in the mental representations of the respondents. The contribution to the multinomial logistic model of these weather-related items signifies their importance to the actual choice behaviour.

Regarding the benefits, the most influential items reflect the commonly considered benefits in the mental representations of the respondents. Except for the Absolute Attached cluster, all clusters very regularly considered *the choice options in the area*. *Time saving* is often observed in the mental representations of Definitely Dependent and Utterly Unrestricted. And lastly, and most interestingly, items relating to a *high level of place attachment* – such as *the shopping area makes you feel relaxed/happy* – are often observed in the mental representations of respondents with a high level of place attachment (Absolutely Attached and Considerably Connected). The fact that items relating to a high level of place attachment are on the one hand observed frequently in the mental representations of the respondents, and on the other hand indicated as influential items on the final shopping location choice, confirms the influence of sense of place on shopping trip decision problems.

Note, however, that this research only observed the preferred shopping location choice, and not the actual choice behaviour. The content of the mental representations and the multinomial logistic regression model indicate that sense of place – and particularly place attachment – plays an important role in decision-making between shopping locations; however, it does not prove that the actual shopping behaviour is influenced by it.

6.6 Conclusions

In Chapter 5, a certain level of sense of place is already observed in all scenarios of the questionnaire. To determine the workings of sense of place, a cluster analysis is performed in order to discriminate different groups of respondents regarding the content of their mental representations. Various cluster techniques exist to identify groups of individuals that are similar to each other.

In this research, the K-means cluster technique is chosen to classify different groups regarding the content of their mental representations. Since K-means clustering is very sensitive to outliers, the original classification of attributes, benefits and situational variables had to be revised, as the observed frequencies were too little among many of them. From the 178 original attributes and situational variables 19 new attribute variables are formed. Similarly, the 37 original benefits are shrunk down to 15 new ones. Eventually, four clusters are distinguished:

- Respondents in Absolutely Attached highly value the atmosphere and intimacy of a shopping area, and the feeling of comfort or relaxation it may offer. Consequently, these respondents have a high level of sense of place, mainly caused by their extraordinary high level of place attachment.
- Respondents in Considerately Connected have a stable lifestyle. This stable lifestyle results in a high level of place attachment, as they favour to go to shopping area that gives them a relaxed or comfortable feeling. Additionally, they highly value having choice options and shopping success, giving rise to a moderate level of place dependence.
- Respondents in Definitely Dependent have a busy lifestyle; time is very valuable to them. They are heavily focussed on shopping success, and financial and time saving. This results in a fairly high level of place dependence, as it is important to them to have an effective and successful shopping trip.
- Respondents in Utterly Unrestricted highly value the retail offer and accessibility of a shopping area, and wish to maximize the pleasantness and easiness of their shopping trip. As a consequence, they have a very low level of sense of place; they do not favour a shopping area itself, but merely the fact that it offers a pleasant and easy shopping trip.

In addition, the newly formed variables are used to examine the influence of the attributes and benefits on the choice behaviour of the respondents. A multinomial logistic regression model is used to examine whether the shopping location choice may be predicted by the content of the mental representations. Regarding the attributes, *the weather, parking facilities,* and *the presence of bars and restaurants* contribute significantly to the regression model. Regarding the benefits, *the choice options in the shopping area, saving – time*, and *attachment – high* are variables that contribute significantly. The fact that items relating to a high level of place attachment are on the one hand observed frequently in the mental representations of the respondents, and on the other hand indicated as influential items on the final shopping location choice, confirms the influence of sense of place on shopping trip decision problems.

All in all, the MentreQe online interview questionnaire is able to accurately extract the mental representations of different consumers groups, and consequently determine the role of sense of place in their decision process.

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7 Conclusions and discussion

This thesis examines the role of sense of place in complex shopping trip decisions. More specifically, mental representations are used to model the creation of consumer experiences, and the role of sense of place in this process is analysed. Mental representations are chosen, since they are able to model unconscious thinking processes – such as consumer experiences and sense of place – while maintaining individual and context variability.

To examine the role of sense of place, three shopping scenarios are developed and tested among members of a Dutch online survey panel. Each shopping scenario focuses on one aspect of sense of place. The collected mental representations are analysed in complexity and content. The three shopping scenarios are expected to activate different mental representations.

After completion of the online survey, a cluster analysis is performed to distinguish clusters of respondents who have relatively similar contents of their mental representations. The goal is to isolate respondents with a high level of sense of place, and examine which (locational) conditions contribute to the positive relationship between the respondent and spatial settings. The content of the mental representations is combined with sense of place scales obtained from previous literature to determine the levels of sense of place of respondents.

In the next section (7.1), the expectations of the research are highlighted, and the most important findings are summarized. In section 7.2, a discussion of the findings and the limitations of the research method are presented. Lastly, section 7.3 closes with recommendations for future research and possible applications of the obtained knowledge regarding sense of place in shopping areas.

7.1 Conclusions

As stated, the objective of this research is to determine the role of sense of place in shopping trip decisions by consumers. Various techniques exist to measure sense of place, such as the measurement of responses to statements, or the usage of proxy measures. In this research, mental representations are chosen to measure sense of place, since they are able to model unconscious thinking processes like consumer experiences and sense of place, while maintaining individual and context variability. Three different scenarios are developed to examine the applicability of the three place constructs of sense of place, namely the place attachment scenario, the place identity and the place dependence scenario. Regarding the place attachment scenario, emotional feelings towards a certain shopping location are expected. The place identity scenario is expected to activate

considerations with respect to personal expression and social aspects. Lastly, the place dependence scenario should let respondents focus strongly on the success during the shopping trip and satisfying one's (practical) needs. Analysing the components that make up the mental representations of respondents, and combining these results with knowledge from other studies, enables us to not only measure the intensity of sense of place, but also to point out influential items. Sections 7.1.1 and 7.1.12 deal with the content of the mental representations, while discriminating for different shopping scenarios, and for different groups of respondents. Lastly, section 7.1.3 discusses the theoretical and practical implication of this research.

7.1.1 Sense of place and shopping scenarios

This section deals with the content of the mental representations of the respondents in each shopping scenario. The scenarios do not show a lot of significant difference regarding their complexity. The only significant difference is observed in recalled benefits; respondents in the place dependence scenario more frequently selected benefits as primary considerations. These recalled benefits are generally practical reasons, such as *the choice options in the area* or the fact that *the shopping area guarantees you a successful shopping trip*. This suggests that the place dependence scenario activates significantly different considerations in the mental representations of the respondents. This sections deals with

Place attachment represents the emotional bonding between a person and a particular place, and it helps to give people a feeling of well-being and security. Similar to previous research, the benefits indicate that the feeling of comfort or relaxation is highly important for the feeling of place attachment. These findings confirm the expectations. Additionally, this feeling of attachment is heavily connected to the other customers and liveliness in the shopping area. Nevertheless, while expectations are met and a certain level of place attachment is detected when respondents are asked to envision doing recreational shopping on their own, the most important consideration to visit a shopping area is the retail offer. In conclusion, the findings indicate that shopping locations help to give people a feeling of well-being during fun-shopping, and that this feeling is mainly caused by the presence of other consumers. The physical environment plays a subordinate role in attachment to shopping locations.

Place identity is defined as the belief that a place is reflected in the self and it may enhance the self-esteem, increase feelings of belonging to one's community. Place identity is an important component of communications about general beliefs and even political statements. In this scenario (shopping with friend), three attributes dominate the considerations: *the retail offer*, *the atmosphere in the area* and *the presence of bars and restaurants*, where *the retail offer* may be seen as an expression of personal preference. Remarkably, only occasionally do respondents consider items directly related to the physical environment, contrary to the expectations. Benefits regarding place identity are rarely observed. Sense of place is observed in the scenario, however not in benefits regarding the identification with a certain place, but rather in benefits that express happiness and relaxation. Having a positive emotional bond with a place – which essentially is place attachment – apparently is more important than being able to identify with a place.

Even though the content of the mental representations in the place attachment and place identity scenario are fairly similar, several differences may be observed as well. The place attachment scenario activated a larger variety of attributes, while the place identity scenario essentially activated three items. *The presence of bars and restaurants* is extremely important in the place identity scenario, possibly because of the presence of a companion. The place attachment scenario activated more attributes relating to the other consumer in the area. In short, place attachment is primarily observed in the scenarios, contrary to place identity. It seems that persons tend to bond emotionally with shopping locations, without connecting to the identity of that location. This contrasts findings regarding other spatial situations, where place identity does play an important role (Williams et al., 1992; Williams and Vaske, 2003). A possible explanation is that consumers communicate their general beliefs not by the shopping location they choose, but by the products they favour.

Lastly, place dependence is referred to as a form of attachment associated with the potential of a particular place to satisfy the needs and goals of an individual. This includes a comparison

between the satisfaction of the current place to other currently available settings that satisfy the same set of needs. It turns out that respondents in the place dependence scenario primarily consider attributes that relate to parking, the product assortment, or the variety in retailers. These attributes are very rarely considered in the other scenarios. In contrast to the other two scenarios, almost no cognitive subsets contained attributes *atmosphere in the area* and *the presence of bars and restaurants*. Considered benefits relate to saving of time and finances, guaranteed quality of products, and the ease of the shopping trip. These findings confirm the strong focus on shopping success during run-shopping, and point towards the existence of a certain degree of place dependence for shopping location. Continuous positive experiences with regard to shopping success in a certain shopping location may thus develop into a certain form of attachment to that location. This indicates the importance of retail locations (and individual retailers) to consistently satisfy the practical needs of the consumers, since it would lead to more returning visits.

In conclusion, the shopping scenarios result in significantly different mental representations. The elicited benefits suggest that sense of place contributes to customer experience. Differences are observed between run- and fun-shopping; run-shopping activates items of place dependence, while fun-shopping activates items of place attachment. This research shows that proper adjustments to a shopping area should evoke a form of attachment to the shopping location, because of which consumer prefer to visit that location. Nevertheless, clearly not all respondents own the same sense of place. The next section discriminates various groups of respondents, each with their own level of sense of place. Most influential items regarding the different place constructs are discussed as well.

7.1.2 Sense of place and customer groups

Using a K-means cluster analysis ($k=4$), four clusters are distinguished whose mental representations different significantly. The main reason to perform a cluster analysis in this research is to identify groups of respondents whose mental representations contain similar contents. The clusters have varying levels of sense of place, and are discusses shortly in this section.

Respondents of the cluster 'Absolutely Attached' have an extraordinary high level of place attachment, and consequently a relatively high level of sense of place. These respondents highly value the atmosphere and intimacy of a shopping location, because of the feeling of comfort and relaxation they may offer. While some variables are abstract, it is clear that these respondents enjoy a relaxed, comfortable shopping trip to a shopping area they have become attached to. The shopping area is intimate and gives them a feeling of comfort and relaxation. More often than not, this is a small inner city. Since these respondents prefer to return to the same shopping location over and over, the potential revenue of these consumers is high. (Small) shopping locations that focus on fun-shopping should create an intimate place for this kind of consumers, to stimulate returning visits.

Respondents of the cluster 'Considerably Connected' have a high level of place attachment, a moderate level of place dependence, and a moderate level of sense of place. These respondents also value the atmosphere and intimacy of a shopping location, because of the feeling of comfort/relaxation/happiness a shopping area may offer. Nevertheless, the most-considered item is *the retail offer*. The respondents highly value having choice options in the area, because they want to succeed on their shopping trip. All in all, the mix of high place attachment and moderate place dependence these respondents have is clearly reflected in their elicited mental representations. The shopping area should be lively and full of atmosphere, but the retailers in the area – and their product assortments – are just as important. The fact that *a large inner city* is the preferred choice of shopping location, suggests that for this cluster the shopping location (large inner city) contributes considerably in determining the content of the mental representations (retail offer and choice options in the area). It seems that the retailers in the area mainly evoke the sense of place of these respondents. This finding confirms the importance of consumer segmentation, and further research should examine the relationships between consumer types and different retailers.

Respondents of the cluster 'Definitely Dependent' are heavily focused on shopping success, and time and financial saving, which result in a high level of place dependence. Their overall level of sense of place, however, is relatively low. The respondents of this cluster desire variety in retailers and product, and are heavily focused on shopping success and product quality. Besides, seven of the top ten attributes relate to costs, travel time, and the bustle in the area; and naturally, *time saving* and *financial saving* are often mentioned as well. These respondents value practical characteristics of a shopping area, and probably have a busy lifestyle to support it. Whenever a shopping location consistently meets the needs of these respondents, they develop a high level op place dependence. For shopping locations focussed on run-shoppers, it is important to realize that these consumers develop a sense of place as well, because of which they should prefer to return to that shopping location.

Lastly, respondents of the cluster 'Utterly Unrestricted' have low scores regarding place attachment, place identity, and place dependence. Consequently, their level of sense of place is low. These respondents focus on maximizing the pleasantness and easiness of the shopping trips. As a result, they desire highly accessible shopping areas with a high variety of retailers and products. Not surprisingly, these respondents value benefits like *the ease of the journey, the choice options in the area, the ease of shopping,* and *the shopping comfort.* These highly valued benefits are not mentally assigned to a specific shopping location (such as *the shopping area helps you to relax*), which results in a low level of sense of place. It is interesting to note that these respondents are evenly distributed across scenarios, suggesting that they do not own any level of sense of place, regardless the situation. So while a low level of sense of place indicates that these consumers will not become attached to a shopping location, the right set of locational characteristics should assure returning visits.

7.1.3 Implications

This section discusses the theoretical and practical implications of the findings that were discussed in the last two sections. Firstly, the main research question and research goals are discussed. Secondly, the research outcomes are compared to the findings in contemplated literature. Lastly, theoretical and practical implications are dealt with.

This research served multiple goals, such as revealing the role of sense of place in shopping trip decisions by consumers, and the implication of a new research methodology: an online version of the CNET method called MentreQe. The CNET interview protocol has been designed by Arentze et al. (2008) to measure mental representations of consumers, which essentially are visual representations of mental processes. The content of the mental representations should shed light on the decision-making process by consumers regarding shopping location choices. More specifically, the main research question, as found in Chapter 1, is:

"What is the role that sense of place plays in shopping trip decision problems by consumers?"

The research outcomes indicate that sense of place does play a role in the activated mental representations of the respondents. Additionally, sense of place influences the shopping location people prefer. Various groups of respondents are distinguished that value different levels of sense of place, and consequently value the characteristics of a shopping area differently. The content of the mental representations of the scenarios shows great conformity with that of the respondent groups. The place attachment scenario activates variables related to place attachment, and similarly, respondents who highly value place attachment consider these variables as well. The same can be said for place dependence. Any significant level of place identity, however, is not observed in this research. The resulting mental representations match the expected outcomes with regard to the three place constructs. Hence, the research outcomes correspond with the contemplated literature (Relph, 1976; Giuliani, 2003; Nielsen-Pincus et al., 2001; Williams et al., 1992; Williams and Vaske, 2003; Stokols and Shumakers, 1981; Jorgensen and Stedman; 2001; Scannell and Gifford, 2010). Place attachment in shopping areas relates to the feeling of well-being and security, while place dependence in shopping areas concerns goal achievement and other practical considerations. These finding match the expectations. However, place identity is not

observed in this research. Shamsuddin and Ujang (2008) also conclude that location choices for shopping trips are influenced by emotional attachment (place attachment) and functional attachment (place dependence). As stated before, a possible explanation of the absence of place identity is that consumers communicate their general beliefs not by the shopping location they choose, but by the products they favour.

These findings have several theoretical and practical implications. Firstly, Horeni (2012) already reports that the online instrument MentreQe is able to properly collect data on mental representations, and that the data collected by MentreQe is more concise and precise than data collected by other comparable methods. However, the scenarios presented by Horeni (2012) were purely fictional, in order to adequately measure the complexity and content of the mental representations. The fact that this research successfully examined the role of sense of place, while incorporating scenarios with real life choice options – the presented scenarios did not include a fictional map, thus forcing respondents to relate the choice options to shopping locations they are familiar with – proves the viability of MentreQe to investigate unconscious thinking processes regarding real world situations. This opens up a world of possibilities to further develop the MentreQe instrument, and expand its database with relevant attributes, benefits, and ignore words.

Secondly, this research confirms that the elicited mental representations are able to very accurately measure the mental thinking processes of consumers. Possible answers are omitted from respondents – hence, the survey is recall-based instead of recognition-based – which ensures genuine mental representations. The respondents are not influenced by, for example, a list of physical characteristics of a shopping location, which could bias their answers. This resulted in a list of 'soft' characteristics of shopping locations (liveliness, atmosphere, bustle in the area) that are frequently considered by the respondents, implying the importance of these items in decision-making by consumers.

Lastly, the fact that the elicited mental representations appear to be genuine stimulates follow-up studies to utilize additional features of mental representations for further analysis and prediction of human behaviour. As stated in section 2.3.4, mental representations may be modelled as Bayesian Belief Networks to enable forward reasoning, whenever the directed acyclic graph (DAG) of a mental representation and the conditional probability distributions for each node are known. By adding utility values to decision choices, behaviour for a given context may be predicted.

Practically, this knowledge of sense of place regarding retail locations could help all sorts of people in the retail real estate. If the target audience of a certain shopping location is known, information about their shopping motivation, level of sense of place, and highly valued characteristics may be used by retailers, real estate managers, developers and investors to determine what kind of shopping locations are preferred. A clear distinction between run- and fun-shopping may be made; consumers that go on a recreational shopping trip generally value place attachment. These consumers appreciate atmosphere, liveliness and bustle in the area. Consumers that go runshopping generally value place dependence, and appreciate very different items, such as variety in retailers and product, shopping success and product quality. It is important to note that a person can be a run- or a funshopper, depending on the context and shopping trip. These preferred characteristics may be used by to create or redevelop more favourable shopping locations. However, since this research did not examine the actual shopping behaviour, no conclusions can be drawn with regard to the actual results of such adjustments.

Creating or redeveloping favourable shopping locations should lead to an increase in the number of customers, their satisfaction of the location, potentially higher revenues, less vacancy, and lower risks. Consequently, less risky retail real estate investments are beneficial for real estate investors. The return on investment is not higher per se, but the risk profile of a shopping location may be estimated more accurately. The recent declining purchasing power of consumers, declining consumer confidence and increased vacancy in many shopping areas only increase the importance of this kind of information (Yerex, 2011). Investors could utilize the information regarding level of sense of place, the preferred shopping location, and highly valued characteristics to improve investment strategies. Investors – in cooperation with the retailers – have to concur for the consumers.

7.2 Discussion

The research outcomes reveal the importance of sense of place in the activated mental representations of the respondents. In this section, several points of discussion are raised with regard to the research methodology in general, specific research and questionnaire items, and the final outcomes.

First of all, it may be hard for respondents to properly elicit their mental representations for a given situation. Mental representations are temporal results of individual perception, postulated to arise unconsciously through individual's experiences and long-term knowledge from which relevant information about the situation is retrieved. The key is the word 'unconsciously', as it remains very challenging both for respondents to elicit their mental representations consciously, as well as for researchers to correctly measure them. Besides, there is no objective way of evaluating an elicited mental representation as right or wrong or complete or incomplete. Nonetheless, the CNET method used in the MentreQe online survey instrument is specially developed to measure mental representations. MentreQe explicitly asks for the benefits that underlie the attributes, and checks all causal links afterwards. This should produce optimal results regarding the elicited mental representations.

Additionally, the necessity of expressing considerations linguistically is another burden related to validity of measuring mental representations. The survey task includes recalling considerations and expressing them briefly and concisely, so the algorithm is able to understand them and link them to the respective attribute or benefit. This gives rise to two problems. Firstly, the expression of considerations could be a challenge, because respondents may use common or general wordings. This would result in less complex and homogeneous mental representations. Secondly, the algorithm may not understand the description of a consideration at all. In this case, the respondents could opt to not select any of the presented considerations. The solution is to review and evaluate the respondents' considerations post-experimentally, and check for any obscurities.

However, the last-mentioned solution proposes another point of discussion. One of the original goals of the MentreQe is to minimize the bias caused by the interviewer. The online nature of the instrument serves this goal. Even though no interviewer is physically present when the respondents are asked to fill in the questionnaire, the respondent could still be influenced by the description of the shopping task, the description of the presented attributes and benefits, and the proposed causal links. Using only the considerations originally entered by the respondents would produce more unbiased and qualitatively better mental representations; however, this would make the data analysis very inefficient and extremely time consuming, as the considerations would hardly be comparable. Generalizing responses guarantees comparability of mental representations between respondents. Unfortunately, the post-experimental task of interpreting uninterpreted responses is surprisingly large; this is considered undesirable but inevitable.

Using an online survey does cause other limitations as well. Certain populations are less likely to have Internet access. Even though this seems increasingly unlikely in current time, it may still limit the extent to which the questionnaire is distributed. Additionally, the lack of a trained interviewer to clarify questions and probe the respondents' answers can possibly lead to less reliable data. Much care is taken to develop clear and unambiguous instructions, which should help to enhance the clarity of the survey, and consequently the reliability of the data. The fact that almost 150 respondents still had to be deleted because of faulty answers indicates that the methodology is still not perfect. However, it did drastically improve the reliability of the data.

The online questionnaire, and the three shopping scenarios, is based on previous research on sense of place. The conceptual Process-Place-Person framework, proposed by Scannell and Gifford (2010) to model sense of place, is chosen because of its comprehensiveness to describe all bonds between a person and a place. In order to detect and measure the intensity of the responses regarding sense of place quantitatively, several statements regarding sense of place (Jorgensen and Stedman, 2001; Deutch and Goulias, 2009; Nielsen-Pincus et al., 2010) are combined with a scale that distinguishes different levels of sense of place (Shamai, 1991). These models and statements are chosen after an extensive literature study and careful examination of options, because they play

an important role in the determination of shopping scenarios, variables, and sense of place scores. Yet, certain contradictions concerning sense of place still exist today. Because most of these contradictions are merely definitional differences, it is assumed that a different choice of models would not result in significantly different results. Nonetheless, the existence of other literature and models cannot be forgotten.

Regarding the structure of the online questionnaires, the choice of atmospheric images to complement the choice alternatives is naturally of great importance. All images of a choice alternative are chosen to activate a certain impression regarding that choice alternative. These atmospheric images, combined with the exclusion of concrete examples of the choice alternatives, should evoke relatively similar impressions of the alternatives (not regarding any individual variability). On the other hand, the atmospheric images may cause a bias with regard to the variables they activate in the mental representations. Careful selection of images – to include all sorts of characteristics, without emphasising a specific one – should minimize this bias.

Contrary to the other scenarios, the place dependence scenario includes a fourth choice option: online shopping. This option is added because of the spectacular growth of online shopping in recent years. Online retailing is expected to continue growing as a result of new technology and further growth of mobile Internet. The choice to omit this fourth choice option from the place attachment and place identity scenarios may be explained by the fact that the online shopping option simply does not fit the shopping tasks of these scenarios (shopping on a free afternoon, and recreational shopping with a companion). However, this fourth choice option could unwantedly activate additional items in the mental representations of respondents in the place dependence scenario, even though this alternative is least chosen of all choice options.

The respondent recruitment and data collection is carried out by Q&A, a research and consultancy agency, which holds an independent consumer panel in the Netherlands. The resulting sample shows practically no differences between scenarios regarding socio-demographic characteristics. Despite careful monitoring by Q&A, a significant difference between scenarios is observed in the origin of the respondents. While all respondents are Dutch citizens, small cultural differences could actually cause other items to be activated in the mental representations of the respondents. It is assumed that the impact of these differences is small compared to possible differences in gender, age, population size of the place of residence, etc.

After respondents are selected who successfully and correctly completed the survey, the content of the mental representations is examined. This includes a cluster analysis to identify groups of respondents whose mental representations contain similar contents. As the observed frequencies among many of the original variables are too little to include in a cluster analysis, the original classification of attributes, benefits and situational variables had to be revised. For this reason, several overarching variables are distinguished. Even though great care is taken to group variables within similar themes (e.g. *The parking facilities* and *The structure of the shopping area*), this inevitably meant that information of the original data set is disregarded.

Lastly, four groups of respondents are distinguished after the cluster analysis. The scales used to determine their level of intensity of sense of place are derived from previous literature (Jorgensen and Stedman, 2001; Deutch and Goulias, 2009; Nielsen-Pincus et al., 2010; Shamai, 1991). Naturally, this literature examines sense of place as well, only with regard to various types of places. Jorgensen and Stedman (2001) developed statements to measure sense of place regarding lakeshore properties, Deutsch and Goulias (2009 with regard to shopping malls, and Nielsen-Pincus et al. (2010) with regard to rural countries. In addition, the allocation of benefits to the levels of sense of place is done subjectively. Nevertheless, this scale proves to be very useful to draw conclusions with regard to the level of intensity of sense of place.

7.3 Future research

Having reported the development of research with respect to sense of place – from the first studies on place of Relph (1976) and Tuan (1979) to this research on the role of sense of place in shopping areas – it remains to say which scientific steps should be done in future research.

As stated in Chapter 3, this research marks the first time that the MentreQe online interview instrument is implemented on a larger scale. Horeni (2012) already reported that the online CNET protocol is able to collect data on mental representations, and this kind of open-ended elicitation interviews prove to be very useful to shed light on individual decision making. Many other choice situations from all sorts of domains would provide interesting approaches for deeper investigation of mental representations. Consumer experience, for example, is a complex and unconscious process that includes all sorts of responses to the retail environment. The effect of other moderators of consumer experience, such as the social environment, the service interface, the retail atmosphere, the assortment and the price (and promotion), the retail brands, and today's multi-channel environment may very well be tested as well using mental representations. These researches could investigate the influence of age, gender, education levels, cultures, lifestyles, etc. on the way individuals image a decision problem as well.

An aspect of mental representations that is not utilized in this research is the fact that mental representations – if modelled as Bayesian Belief Networks – may be used for forward reasoning. Since this research focused on the diagnosis of a phenomenon (sense of place), this aspect is not utilized. Hence, a research using mental representation to predict (consumer) behaviour would expand the knowledge and understanding of mental representations even further.

Besides, this research proves the existence and importance of sense of place in shopping trip decision problems by consumers. Attributes that were often mentioned by consumers with a high level of sense of place were, amongst other things, *the retail offer, the atmosphere in the area,* and *the liveliness in the area*. These are relatively abstract variables; additional studies could examine exactly which elements of the retail offer/the atmosphere/the liveliness have a positive effect on sense of place. In that case, the database of variables and synonyms needs to be expanded. Furthermore, this could include an extension of the MentreQe instrument to ask additional questions whenever abstract attributes are considered.

Contrary to place attachment and place dependence, no level of place identity is observed in this research. A possible explanation given in this thesis is that consumers communicate their general beliefs not by the shopping location they choose, but by the products they favour. However, further research is needed to confirm this statement. In addition, the sample of respondents from the Q&A panel could have unwantedly excluded groups of consumers that do value place identity with regard to shopping trip decisions. Again, additional research needs to be performed to determine the existence of these groups of consumers.

The next step – now that the existence and importance of sense of place in shopping trip decisions by consumers is proved – is to explore exactly in what manner shopping behaviour is influenced by sense of place. For example, in what manner does sense of place affect the frequency or duration of shopping trips, and how does it affect the type and amount of spending on such a shopping trip.

Lastly, as Horeni (2012) states as well, it can be announced that CNET is also available for other researchers. The CNET code has been professionally programmed by LaQuSo, Eindhoven, and on their website scientists can download the source code and an installation program which guides the interested research through the construction of the database, the definition of variables and the set up of a survey. This hopefully expands CNET as a valuable tool for the investigation of mental representations.

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Appendices

Appendix I   A hypothetical mental representation modelled as decision network

Appendix I.1: Example of a decision network model of a hypothetical mental representation (Arentze et al., 2008).
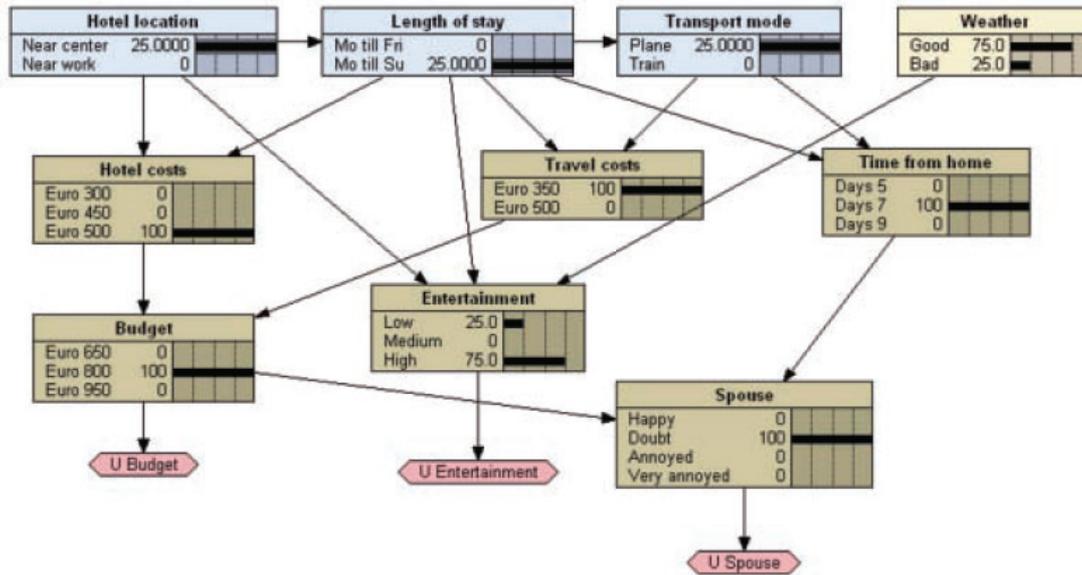
Appendix I.2: Example of a conditional probability table (CPT) for the node 'Time from home' in the example network in Appendix I.1.

Length of Stay	Transport Mode	Time From Home		
		Days 5	Days 7	Days 9
Monday till Friday	Plane	1	0	0
	Train	0	1	0
Monday till Sunday	Plane	0	1	0
	Train	0	0	1

Appendix I.3: Example of conditional utility tables (CUTs) in the example network in Appendix I.1.

Budget	U	Entertainment	U	Spouse	U
Euro 650	25	Low	−50	Happy	50
Euro 800	0	Medium	0	Doubt	0
Euro 950	−25	High	50	Annoyed	−50
				Very annoyed	−100

Appendix II   Redevco B.V. brainstorming session

Appendix II.1: Redevco B.V. brainstorming session - Instructions.

Deze gehele brainstormsessie duurt ongeveer een uur. Het bestaat uit twee delen: het eerste deel zal ingaan op overwegingen van consumenten met betrekking tot hun winkel(locatie)keuze; het tweede deel zal ingaan op mogelijke interessante scenario's die ik kan gebruiken als probleemstelling voor de consumenten.

Brainstormsessie – Overwegingen van consumenten m.b.t. winkel(locatie)keuze

Voor mijn afstudeeronderzoek moet ik de overwegingen die consumenten maken met betrekking tot hun winkel(locatie)keuze in kaart brengen. Uit de literatuur heb ik al een lijst met factoren die van belang zijn voor de consumer experience, en met deze brainstormsessie hoop ik de overwegingen nog beter in kaart te brengen. Het draait om *overwegingen van consumenten*, dus gebruik naast jullie professionele inzicht ook je eigen gezonde verstand en voorkeuren. Na deze brainstormsessie ben ik overigens ook nog van plan expertinterviews te houden bij andere bedrijven, om hun mening omtrent de belangrijkste overwegingen van consumenten te peilen. Dit eerste deel bestaat uit drie onderdelen:

- Een algemeen deel: Hier draait het om algemene overwegingen met betrekking tot het keuzeproces voor de eigenlijke shopping trip, de reis, fysieke kenmerken van de winkels en het winkelgebied en sociale contacten.
- Utilitair (doelgericht): Hier draait het om algemene services, en overwegingen met betrekking tot trip voor dagelijkse boodschappen en voor andere (niet-dagelijkse) noodzakelijke artikelen.
- Hedonisch (funshoppen): Hier draait het om algemene overwegingen tijdens funshoppen, de atmosfeer van het winkelgebied en de rol van andere nevenactiviteiten zoals horeca, leisure en entertainment.

Het idee is dat jullie bij elk onderdeel alle overwegingen die jullie kunnen bedenken in de eerste kolom opschrijven. Het is dus niet erg als begrippen er dubbel in komen. In de tweede kolom kunnen jullie synoniemen of verwante begrippen opschrijven. Na afloop van elk onderdeel bespreken we de resultaten.

Brainstormsessie – scenario's

Om het keuzeproces van consumenten te stimuleren, en om routinematige keuzes te voorkomen, moet ik een aantal verschillende scenario's hebben om aan de consumenten voor te leggen. Het idee is dat de scenario's interessante situaties bevatten die in de toekomst van grote waarde zijn. Denk hierbij aan vergrijzing, individualisering, globalisering, etc.

Appendix II.2: Redevco B.V. brainstorming session - Template.

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
↓	↓

Fysieke omgeving; winkelgebied en individuele winkels	
↓	↓

Sociale omgeving; andere consumenten en personeel	
↓	↓

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
↓	↓

Dagelijkse boodschappen	
↓	↓

Andere (niet-dagelijkse) noodzakelijke artikelen	
↓	↓

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
↓	↓

Atmosfeer; lay-out en architectuur	
↓	↓

Nevenactiviteiten; horeca en leisure/entertainment	
↓	↓

Appendix II.3: Redevco B.V. brainstorming session - Results.

Jeffrey

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
Doel van winkelen	Doelgericht of plezier
Tijd	Hoe lang kan ik winkelen
Reistijd	Is het in de buurt of niet
Bereikbaarheid	
Weersomstandigheden	Regen/zon
Bekendheid met locatie	

Fysieke omgeving; winkelgebied en individuele winkels	
Aantal winkels	
Soort winkels	Kleding/schoenen
Aanwezigheid van horeca	Lunch/borrel/eten/drinken
Sfeer	Historisch
Voetgangersgebied	
Dichtbij OV knooppunt	

Sociale omgeving; andere consumenten en personeel	
Alleen winkelen met vriend(in)	
Geen ontmoetingsplaats voor mij	
Mensen die bij mij passen	Mensen waar ik bij hoor

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
Snelheid van de service	
Bereikbaarheid	Bereikbaarheid van het gebied/bereikbaarheid van de winkel
Bekendheid met gebied	
Beschikbaarheid product	
Aanwezigheid bekende winkels	
Welk product heb ik nodig	Grootte van het product/gewicht van het product

Dagelijkse boodschappen	
Beschikbaarheid vervoer	
Hoeveelheid boodschappen	
Prijs van de winkel	Albert Heijn vs. Aldi
Specifieke producten	Bekendheid met winkel/aanwezigheid producten
Aanwezigheid product	
Vindbaarheid van het product	
Beschikbaarheid personeel	Vragen waar het product ligt/vriendelijkheid personeel

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
Bekende merken	
Bekende winkels	Score, Jack and Jones, Primark, H&M
Diversiteit in winkels	
Aanbod	
Clustering van winkels	
Tijd	Hoeveel tijd om te winkelen
Afstand	
Onbekende winkels	Verrassend aanbod
Openingstijden	
Reistijd	

Atmosfeer; lay-out en architectuur	
Sfeer	Historie/mooie gebouwen/sfeervolle kleuren/geen grijs/geen wit
Weersomstandigheden	
Open lucht	
1 verdieping winkel	
Kleine winkels	Menselijke maat/niet te smalle straten/niet te breed
Geen stank	
Geprikkeld worden	Impuls aankopen
Horeca faciliteiten	
Comfort	Geen hellingen/goede bestrating
Zicht in de straat	
Drukte	Niet te druk/niet te rustig/wil niet in m'n eentje in een winkel zijn

Nevenactiviteiten; horeca en leisure/entertainment	
Relax mogelijkheden	Terras/voldoende horeca tussen de winkels
Horeca op plein	
Afwisselend straten en pleinen	A en B straten/goed netwerk van straten en winkels/overzichtelijkheid van de straten
Voel ik me thuis tussen de mensen en tussen de gebouwen	

Dick

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
Beschikbaarheid vervoer	Fiets/auto/bromfiets
Nabijheid halte openbaar vervoer	Bus/tram/metro/trein
Afstand woon-winkel	
Keuze vervoermiddel	
Hoeveelheid boodschapp	
Parkeermogelijkheden	
Afstand winkel-parkeren	

Fysieke omgeving; winkelgebied en individuele winkels	
Toegankelijkheid winkelgebied	Afstand parkeren-winkelgebied
Integratie winkels-parkeren	Inpandig traject naar winkel
Parkeerfaciliteiten	Betaald/gratis; overdekt/open; veel/weinig
Locatie winkel in straat	Loopafstand (weersomstandigheden)
Tijdelement	Heb je veel of weinig tijd beschikbaar

Sociale omgeving; andere consumenten en personeel	
Veel voetvolk in straat	Gezellig/plezierig; lastig/time consuming
Verlaten winkelgebied	Uitgestorven
Passeren hangjongeren	Onplezierig
Ontmoeten	Winkelen

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
Bereikbaarheid	Openbaar vervoer/privé
Bekendheid gebied/winkel	Gemakkelijk te vinden
Combinatie bezoek	One-stop shopping
Aanbod/diversiteit winkels	
Relatie met winkeliers	
Kwaliteit service	

Dagelijkse boodschappen	
Bekend in de winkel	Niet veel zoeken
Parkeren vlakbij winkel	
Combinatie met andere winkels	One-stop shopping
Juiste ketens aanwezig	
Speciaalzaken	Kaas/wijn/vis

Andere (niet-dagelijkse noodzakelijke artikelen	
Combinatie met werken	Auto
Tijdschriften	
Services	Schoonmaker/koffie/lunch
Combinatie met andere services	Overheid

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
Weersomstandigheden	Overdekt/open
Beschikbaarheid	Tijd/lang/kort
Combinatie bezoek	Winkelen-lunchen-winkelen-eten-theater
Aanwezigheid leisure	Bioscoop
Hybride winkels (B-locaties)	Verrassen
Veel voetvolk	Ontmoeten/zien-gezien worden
Lage parkeertarieven	Funshoppen is geen tijdsdrukte

Atmosfeer; lay-out en architectuur	
	Overzichtelijk/gebogen lijnen/Amsterdamse grachten
Maatvoering	Hoogte gebouwen/breedte straat
Rustmomenten	Terrasjes/bankjes/straatmeubilair
Kwaliteit vloer	Losse tegels/gladde vloer
Schoon/opgeruimd	Vuilnisbakken/zwerfvuil/hondenpoep
Planten/plantenbakken binnen	
Diversiteit gevels/winkels	Geen eentonigheid
Afwisseling	Straat/pleintje
Menselijke maat	Pleinen
Geluid	
Straatartiesten	Clustering

Nevenactiviteiten; horeca en leisure/entertainment	
Aanwezigheid	Koffie/lunch/orrel
Kan ook storend werken	
Fonteintjes	Zoet drinken
Bioscoop	

Klaas-Jan

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
Online/offline	Thuis op de bank wordt de keuze al gemaakt
Ophalen of thuis bezorgen	
Vervoermiddel	Openbaar vervoer/auto/fiets/lopen
Netwerk/keuzemogelijkheden	Hoe beter het netwerk, hoe hoger de waardering
Tijd nodig voor bereiken doel?	Afstand/tijd

Fysieke omgeving; winkelgebied en individuele winkels	
Beleving door fysieke omgeving	Genius loci
Is het bijzonder en anders	Remarkable
Sensatie/kick	Prikkels
Diversiteit	
Prijs	Speciaalzaken/ketens

Sociale omgeving; andere consumenten en personeel	
Veilig	
Wij gevoel	
Ben ik welkom	

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
Vriendelijk personeel	
Makkelijk bereikbaar	
Ruimte/tijd	
Aanbod/prijs	
Bonuskaart/punten sparen	

Dagelijkse boodschappen	
Snelheid	
Voorraad	
Kwaliteit/prijs-verhouding	

Andere (niet-dagelijkse noodzakelijke artikelen	
Wil het nu dus moet er zijn	
Impuls aankoop	

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
Historie	Karakter/Genius loci
Kopen hoeft niet	
Diversiteit van het aanbod	
Samen winkelen	
Combinatie speciaalzaken en ketens	
Kijken en bekeken worden	
Beleving	Sensatie
Vertel mijn vrienden	
Zoeken en vinden	
Impuls aankopen	
Veilig	

Atmosfeer; lay-out en architectuur	
Schaal van openbare ruimte	
Verhouding openbaar/privé	
Aanwezigheid pleinen	
Karakteristiek	Details
Remarkable architecture	
Winkelen in tijdsblokken	Winkelen-eten-winkelen-drinken-leisure
Publieke voorzieningen	Bankjes/plantenbakken
Zichtbaarheid winkelplint	
Bezonning	

Nevenactiviteiten; horeca en leisure/entertainment	
Even rusten	
Mensen kijken	
Beleving	Kicks verzamelen

Marrit

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
Bereikbaarheid	
Gemak	
Lengte reis	
Overstappen	
Kosten parkeren	
Veiligheid	Drukte

Fysieke omgeving; winkelgebied en individuele winkels	
Inspiratie	
Mode	
Aanbod	
Sfeer	
Omgeving	
Nieuwe dingen	Trends
Winkels	
Eten en drinken	
Café	
Ontspanning	
Relaxed	
Voorzieningen voor de kinderen	
Bijzondere winkels	
Onderscheidend	
Druk	
Rustig	

Sociale omgeving; andere consumenten en personeel	
Mensen	
Ons soort mensen	
Jongen mensen	
Bruisend	
Hop publiek geweest	
Gezellig	

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
Onbelangrijk behalve kinderzorg	
Pakketten ophalen	

Dagelijkse boodschappen	
Afstand	
Aanbod	One-stop shopping
Drukte	
Prijs	
Parkeren	

Andere (niet-dagelijkse) noodzakelijke artikelen	
Snelheid	
Efficiëntie	
Zekerheid	
Aanbod	

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
Nieuwe producten	
Nieuwe trends	
Inspiratie	
Genieten	
Vrije tijd	
Bijzondere dingen	
Cadeautjes kopen	
Favoriete winkels	
Leuke herinneringen	
Advies van familie/vrienden	
Verrassing	

Atmosfeer; lay-out en architectuur	
Mooie winkels	
Mooie omgeving	
Sfeervol	
Schoon en veilig	
Voetgangersgebied	
Bruisend	
Historie	Cultuur

Nevenactiviteiten; horeca en leisure/entertainment	
Leuke cafeetjes	
Kleinschalig	
Gezellig	

Stefan

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; algemeen

Voortraject en reis	
Benzine kosten	
Reistijd	
Wat ga je kopen	Locatie/straatje/retail park/winkelcentrum
Vervoersmidde	
Tijd van de dag/week	
Internet winkelen/online	

Fysieke omgeving; winkelgebied en individuele winkels	
Aanbod	Assortiment
Looproutes	
Afstand tot openbaar vervoer	Trein/bus/tram
Cafés genoeg	
Harde wind	
Overzichtelijk gebied	
Uitstraling van winkelcentra	
Aanwezigheid favoriete winkels	
Parken/pleinen	

Sociale omgeving; andere consumenten en personeel	
Aardigheid personeel	Niet gestoord worden
(geen) handjeugd	KFC/McDonalds
straatartiesten	
Wie gaat er met mij mee	Vrienden/sociaal contact
Drukte	Niet teveel of te weinig mensen

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; utilitair (doelgericht)

Algemene services	
Afstand tot openbaar vervoer of parkeren	
Parkeermogelijkheden	
Kosten parkeren	
Route	Op weg van werk naar huis
Spaaracties	
Zekerheid	
Verwachtingspatroon	
Grootte van de winkels	

Dagelijkse boodschappen	
Hoeveelheid boodschappen	
Speciaalzaken	Slager/bakker/speciaalzaak
Prijs	
Aanbiedingen	
Wie eet mee	
Andere activiteiten	

Andere (niet-dagelijkse) noodzakelijke artikelen	
Behulpzaamheid personeel	Aardigheid/serviceniveau
Assortiment	
Welke winkel	
Tijd beschikbaar	
Vervoersmiddel	
Effectiviteit	
Mixed-use	
Weinig andere mensen	

Overwegingen van consumenten m.b.t. winkel(locatie)keuze; hedonisch (funshoppen)

Algemeen	
Drukte	
Bekende/onbekende stad	
Groen/bomen	
Niet teveel lawaai/auto's	
Menselijke maat	
Veiligheid	
Identiteit/Imago van de stad/plein	
Verrassingseffect	
Verdwaald raken	Route/routing
Knusheid	
Gevoel van beschutting	

Atmosfeer; lay-out en architectuur	
Historisch	Modern
Overzichtelijk	
Sfeervolle dagen (kerst/sinterklaas)	
(duidelijke etages/uithangborden)	
Genoeg ruimte om te lopen op straat	
Uitzicht/monumenten/kunst	
Winkelaanbod	
Bezonning	Zonlicht
Geen zicht op aanvoerwagens/bevoorrading	
Karakter	
Monotoom	Modern?

Nevenactiviteiten; horeca en leisure/entertainment	
Activiteiten (voor de kids)	
Koffietje/sapje drinken	
Aanwezigheid zitplekken	
Pleintjes	
Muziek in winkels	
restaurant	

Appendix III   Expert interviews

Appendix III.1: Expert interviews – Interview protocol.

Casebeschrijving

- Het gaat om een hypothetische situatie waar de respondent zich volledig moet inleven in de situatie van de case. Er moet een keuze worden gemaakt tussen verschillende winkellocaties. Er wordt aan de respondent gevraagd of de situatie duidelijk is, of hij/zij zich volledig kan inleven en of hij/zij nog vragen heeft.
- Na het opnoemen van de antwoordalternatieven stelt de interviewer de volgende vraag: Wat zijn de overwegingen bij het maken van de keuze? <u>Benadruk</u> hierbij dat een respondent nog geen keuze moet maken maar dat het gaat om alle overwegingen die voor de respondent bepalend zijn voor zijn/haar keuze. Wanneer een respondent een bepaalde overweging noemt is het zaak dat de interviewer het antwoord van de respondent vertaalt naar de standaard variabelen uit het model (Bedoel je hier … mee?)

Mogelijkheid: Genoemd door respondent criterium variabele uit de eerste tussenlaag

- Er zal voor dit geval de volgende vervolgvraag gesteld worden welke variabelen zoekt een niveau lager in de tweede tussenlaag. <u>Waarom</u> beïnvloedt deze overweging jou keuze?
- Wanneer het niet duidelijk is op welke manier de genoemde overweging op de eerste tussenlaag de beslissing beïnvloedt, moet nog gezocht worden naar variabelen op hetzelfde niveau. Hiervoor moet de waardoor vraag gesteld worden. <u>Waardoor</u> wordt deze overweging beïnvloed? De waardoor vraag zal alleen gesteld worden wanneer het niet duidelijk is waardoor de overweging tot stand komt.

Mogelijkheid: Genoemd door respondent criterium variabele uit de tweede tussenlaag

- Om te achterhalen hoe en welke variabelen uit de eerste tussenlaag van invloed zijn op de variabele uit de tweede tussenlaag, moet de vervolgvraag gesteld worden die dit kan weergeven. De waardoor-vraag zorgt hiervoor. <u>Waardoor</u> wordt deze overweging beïnvloed? De waardoor-vraag wordt zo lang gesteld totdat het duidelijk is hoe de verschillende verbanden liggen.
- Een beslissing kan ook direct een variabele uit de tweede tussenlaag bepalen, in dit geval worden er geen variabelen genoemd bij de waardoor vraag.

Mogelijkheid: Genoemd door respondent een situationele variabele

- Om variabelen een niveau lager te zoeken zal ook nu de waarom-vraag gesteld moeten worden. <u>Waarom</u> beïnvloedt deze overweging jou keuze?

Opvragen van de gekozen beslissing

- Als laatste zal de interviewer de respondent vragen welke beslissing deze uiteindelijk zal nemen na overweging van de alternatieven.

Scenario's

<u>Place attachment scenario</u>

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur.

De volgende dag heeft u een belangrijke afspraak met uw baas. Voor deze speciale gelegenheid wilt u een nieuwe outfit halen (eigen invulling). Aangezien u morgen graag goed voor de dag wilt komt, gaat u op zoek naar een exclusieve outfit. U moet deze dus vandaag nog ergens kopen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote outlet center aan de rand van de stad

<u>Place identity scenario</u>

Stelt u zich voor dat u dagje gaat winkelen met een oude bekende van u. Jullie hebben elkaar al lang niet meer gezien, en jullie willen er graag een speciale dag van maken. U heeft de hele dag vrij genomen, en jullie willen graag in jullie woonplaats (Utrecht) gaan winkelen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een stadsdeelcentrum dichtbij uw huis (Utrecht Overvecht)
- Een groot, perifeer winkelcentrum met diverse andere functies (bijv. The Wall)

<u>Place dependence scenario</u>

Stelt u zich een denkbeeldige situatie voor over tien jaar. U zit in uw volgende levensfase en woont ondertussen in de plaats waar u ook (geboren en) getogen bent, buiten het centrum. U heeft een dag vrij en wilt graag gaan winkelen. Er zijn drie winkellocaties in de buurt:

- De binnenstad van uw huidige woonplaats
- De binnenstad van een grote stad nabij
- Een kleiner wijkwinkelcentrum op loopafstand van uw huis

Situationele variabelen

- Weersomstandigheden (regen/droog)
- Buitentemperatuur (Aantal graden: paar graden onder 0 /paar graden boven nul/ tien graden)
- Bezit OV kortingskaart (gratis reizen/40 % korting/geen kortingskaart)
- Hoeveelheid bagage (Aantal tassen: een/twee/meer dan twee)
- Benodigde kwaliteitsbehoud bagage (geen/redelijk netjes/heel netjes)
- Benodigde houdbaarheid boodschappen (lang houdbaar/beperkt houdbaar)
- Benodigde tijd boodschappen doen (15 min/ 30 min/45 min)
- Benodigde tijd kleding kopen (25 min/ 35 min/45 min)
- Lichamelijke gesteldheid (moe/niet moe)
- Drukte op het werk (druk/redelijk druk/rustig)
- Kans op onverwachte gebeurtenissen (klein/groot)

Criterium variabelen: Attributen:

- Service (winkelniveau)
- Aankoop service (Garantie: veel/gemiddeld/geen garantie)
- Service personeel (Behulpzaamheid personeel: groot/gemiddeld/geen)
- Kwaliteit service (snelheid behandeling: snel/redelijk snel/traag behandeld)
- Aankleding/inrichting (winkelcentrumniveau)
- Overdektheid winkellocatie (Percentage opp overdekt: niet/helft/ geheel)
- Hoeveelheid straatmeubilair (Aankleding straat: goed/voldoende/slecht)
- Hoeveelheid groenvoorzieningen (straatbeeld: zeer groen/redelijk groen/niet groen)
- Aandeel voetgangers gebied (Percentage gebied: geen/50/100)Lay-out winkellocatie (zeer aantrekkelijk/redelijk aantrekkelijk/onaantrekkelijk winkellocatie)
- Staat van onderhoud (zeer verzorgd/redelijk verzorgd/onverzorgd)
- Gemak waarin een winkelcentrum kan voorzien (winkelcentrumniveau)
- Bereikbaarheid OV (geen halte nabij/bushalte 0-400 m/bushalte meer dan 400 m)
- Bereikbaarheid winkels (Compactheid winkellocatie:compact/ruim opgezet/zeer ruim opgezet)
- Bereikbaarheid horeca op winkellocatie (Loopafstand horeca: paar min /5 min/10 min)
- Toegankelijkheid voor gehandicapten (goed /redelijk /slecht)
- Bewegwijzering binnen winkellocatie (zeer duidelijk/redelijk duidelijk/ onduidelijk)
- Uitrustmogelijkheden (Aantal rustplaatsen: veel /gemiddeld/geen)
- Atmosfeer (winkellocatie)
- Sfeer winkellocatie (prettige omgeving/neutrale omgeving/onprettige omgeving)
- Drukte op straat (straatdrukte: druk/redelijk druk/rustig)
- Winkeldrukte (druk/redelijk druk/rustig)
- Verkeersdrukte (druk/redelijk druk/rustig)
- Veiligheid winkellocatie (hoeveelheid bewaking: veel /weinig /geen)
- Bereikbaarheid winkels met vvm (naast/tweehonderd/driehonderd meter)
- Variatie winkelcentrum (winkelcentrumniveau)
- Aanwezige branches (branches: een/beide)
- Aantal winkels per branche (1/paar/vijf)
- Grootte winkellocatie (vermaaktijd: half uur/uur/twee uur)
- Aanbod horeca winkellocatie (horecagelegenheden: geen/paar/vijf)
- Aanbod recreatie winkellocatie (recreatiegelegenheden: geen/paar/vijf)
- Aanwezigheid speciale evenementen (geen/enkele/meerdere evenementen)
- Bekendheid van de winkellocatie (geen/weinig/veel bekende ketens)
- Product assortiment (winkelniveau/winkelcentrumniveau)
- Kwaliteit aankoop (hoog/gemiddeld/laag)
- Prijsniveau assortiment (hoog/gemiddeld/laag)
- Breedte assortiment winkellocatie (veel producten/gemiddeld aantal producten/weinig producten)
- Diepte assortiment winkellocatie (Aantal uitvoeringen van het product : (een/vijf/tien)

- Modebewust assortiment (niet, helft assortiment, gehele assortiment)
- Bekendheid winkeltype (bekende winkel/ onbekende winkels)
- Aanwezige assortiment (volledig/onvolledig)
- Variatie winkelcentrum (winkelcentrumniveau)
- Aanwezige branches (branches: een/beiden)
- Benzinekosten (paar euro/geen)
- Reistijdbesparing
- Benodigde zoektijd parkeren (geen/vijf min/tien min)
- Benodigde wachttijd betrouwbaarheid vervoermiddel (geen/vijf min/tien min)
- Benodigde wachttijd tot freqentie vervoermiddel (geen/vijf min/tien min)
- Benodigde tijd voor,- en natransport (geen/vijf min/tien min)
- Vertragingstijd (geen/vijf min/tien min)
- Voorbereidingstijd (geen/vijf min/tien min)
- Kenmerken vervoermiddel
- Capaciteit vervoermiddel (groot/gemiddeld/klein)
- Privacy vervoermiddel (veel/weinig/geen sociaal contact)
- Regelbare faciliteiten (zelf regelbaar: niet/ helft / helemaal)
- Kans op zitplaatsen (geen/50%/zeker)
- Aanwezigheid wachthokje (wel/niet)
- Gewenning vervoermiddel (weinig gebruikt/gemiddeld gebruikt/veel gebruikt)
- Financiële kosten vervoermiddel
- Kosten vervoersbewijs (gratis/8 strippen)
- Benzine kosten (geen/paar euro)
- Parkeerkosten (paar euro/geen)
- Milieuaspecten
- Hoeveelheid uitlaatgassen (geen/weinig/veel)
- Hoeveelheid geluidsoverlast (geen/weinig/veel)
- Flexibiliteit vervoermiddel
- Flexibiliteit van het vervoermiddel in routebepaling (niet flexibel/ redelijk flexibele /zeer flexibel)
- Flexibiliteit vertrektijden vervoermiddel (weinig tijdstippen/meerdere tijdstippen)
- Flexibiliteit in snelheid vervoermiddel (veel invloed/weinig invloed/geen invloed op snelheid)
- Veiligheid vervoermiddel
- Kans op ongelukken (groot/gemiddeld/klein)
- Grootte van de schade (groot/gemiddeld/klein)

Route aspecten

- Openingstijden winkels (tot 18.00/tot 19.00/tot 20.00)
- Beschikbare tijd kleding kopen (vijftien/vijfentwintig/vijftig min)
- Beschikbare tijd boodschappen doen (vijftien/vijfentwintig/vijftig min)
- Ontspanningstijd tijdens werk (geen/vijfentwintig min/ vijfenveertig min)
- Ontspanningstijd na werk (geen/vijfentwintig min/vijfenveertig min)
- Vrije tijd na activiteiten (geen/na 20.00/hele avond)
- Tijdstip activiteit (vroeg/niet vroeg)
- Actief bezig blijven (wel/niet)
- Transporttijd boodschappen (vijf/vijftien/dertig min)
- Transporttijd kleding (tien/vijftien/dertig min)
- Bewaartijd boodschappen (tien min/dertig min/twee uur)
- Eenvoud van de route (ligt op de route/ligt redelijk op de route/ligt niet op de route)
- Voertuigtijd tijdens werk (twintig/vijfentwintig/dertig min)
- Voertuigtijd naar of vanaf een activiteit (vijf/tien/vijftien min)
- Voertuigtijd naar het werk (achttien/twintig/veertig/vijftig min)
- Voertuigtijd naar of vanaf een activiteit (veertig/vijfenveertig/zestig min)

Criterium variabelen: Benefits:

- Winkellocatie
- Gemak winkelen (geen/veel)
- Comfort winkelen (geen/veel)
- Plezier tijdens winkelen (geen/veel)
- Vermaak tijdens winkelen (geen/veel)
- Aantrekkelijkheid winkelomgeving (onaantrekkelijk/aantrekkelijk)
- Sfeer winkelen (onprettig/prettig)
- Aankoop
- Aankoopservice (geen/veel)
- Diversiteit in kledingkeuze (geen/veel)
- Diversiteit in boodschappenkeuze (geen/veel)
- Kwaliteit kledingproduct (geen/hoog)
- Kwaliteit boodschappenproduct (geen/hoog)
- Slagingskans kledingproduct (geen/hoog)
- Slagingskans boodschappenproduct (geen/hoog)
- (Financiële) kosten aankoop (heel nadelig/heel voordelig)
- Vervoermiddel
- Comfort verplaatsing (geen/veel)
- Gemak verplaatsing (geen/veel)
- Veiligheid verplaatsing (laag/hoog)
- Milieubelasting (heel nadelig/heel voordelig)
- (Financiële) kosten verplaatsing (heel nadelig/heel voordelig)
- Route aspecten
- Tijdsbesparing (heel weinig/heel veel)
- Tijdsdruk (heel nadelig/heel voordelig)
- Algemeen
- Gezondheid bevorderend (geen/veel)
- Persoonlijke verzorging (geen/veel)
- Mentaal gemak (relatief veel/relatief weinig)
- Ontspanning (geen/veel)
- Ochtendfrisheid (geen/veel)

Appendix III.2: Expert interviews – Results Dave Havermans (TU/e).

     Dave Havermans promoveert op de applicatie van branding in de revitalisering van bestaande woongebieden. Specifiek onderzoekt hij de relatie tussen de identiteit/het imago van deze bestaande woongebieden, de place attachement, en die fysieke, sociale, ruimtelijke en morfologisch van een buurt. <u>Fysieke kenmerken van (woon)gebieden</u> staan dus centraal in dit interview.

     Als basis voor dit interview werd het mondelinge CNET interview gebruikt. Drie scenario's waren gegeven, welke hieronder worden beschreven met de overwegingen die Dave opgaf als belangrijke variabelen. Dave gaf als tip om te kijken naar uitspraken of statements over place attachment/place identity/place depedence met betrekking tot winkelgebieden (bijvoorbeeld Shamsuddin, 2008) te verwerken in de scenario's om bepaald gedrag op te roepen.

Place attachment scenario

     Stelt u zich een denkbeeldige situatie voor over tien jaar. U zit in uw volgende levensfase en bent terugverhuisd naar de plek waar u bent opgegroeid. U heeft een dag vrij en wilt graag gaan winkelen.

     Dit scenario werd door Dave als tamelijk lastig ervaren. De tijdsafstand van tien jaar leek hem te lang om als respondent reëel en gemakkelijk uitspraken over te doen. Hij zei dat je namelijk heel lastig wist wat er over tien jaar speelde in je leven. Bovendien kan er een <u>verschil zijn tussen ouderen van nu en oudere van de toekomst</u>, waardoor de uitkomsten niet per se te gebruiken zijn voor toekomstige ontwikkelingen. Dave benadrukte goed te letten op het verschil tussen <u>leeftijdseffect en cohorteffect</u>. In onderstaande figuur (Lievens, 2009) is het verschil tussen het leeftijdseffect (links) en het cohorteffect (recht) aangegeven. Bij leeftijd is er sprake van aantal jaren oud, bij cohort van generatie.
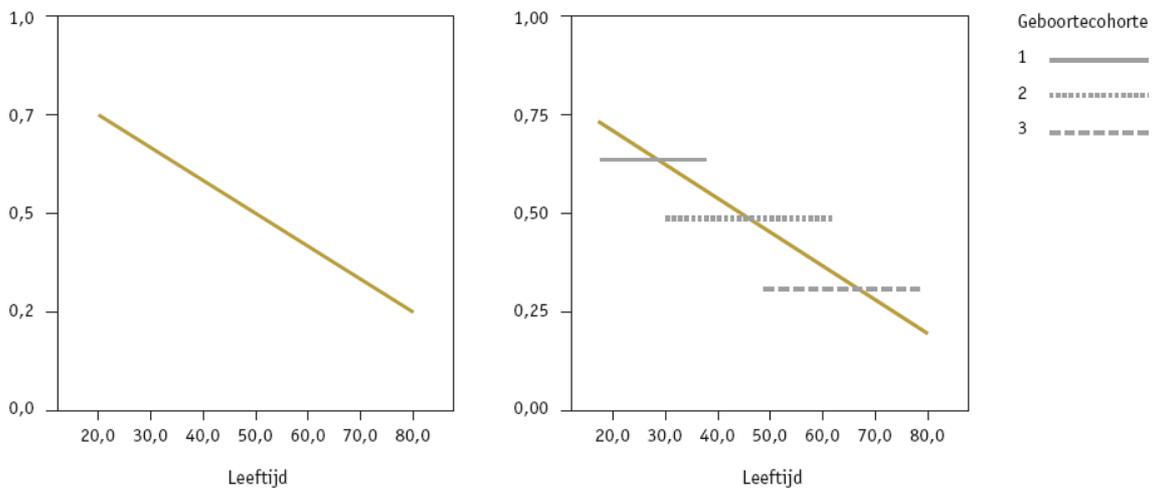
Place attachment	
Kinderen	Wat kunnen mijn kinderen/wat willen kinderen doen
Kinderen wat bijbrengen	Cultuur beleven
Mixed-activity mogelijk	
Afstand tot winkelgebied	
Gemak van verplaatsen	

Place identity scenario

Stelt u zich voor dat u een dagje gaat winkelen met een goede vriend/vriendin. Jullie willen er graag een speciale dag van maken en u heeft de hele dag vrij genomen.

Dit scenario was ontworpen om een gevoel van identiteit zoeken/third place/place identity op te roepen. Het is hier van groot belang te onderzoeken welke winkels precies de magnets/anchors zijn. Dit scenario was erg vanzelfsprekend en Dave had geen problemen met overwegingen noemen. Duidelijk het meest belangrijke voor Dave was dat er dezelfde type mensen zijn in het gebied, maar dat werd pas duidelijk nadat ik een voorzetje had gegeven.

Place identity	
Aantrekkingskracht	Mooi/historische gebouwen/ik krijg er energie van/sfeer
Variatie in beeld/zicht	
Kan ik er een broodje eten	
Rondkijken	Ervaring/beleving
Eerdere ervaring met horecaketen	
Nieuwe stad/gebied	
Opnieuw een bekend gebied verkennen	
Afstand tot je woonplaats	
Sociale contact	Met wie ga je/contacten onderhouden
Identiteit bevestigen	
Ervaringen opdoen	Ervaringen gebaseerd op verhalen van anderen
Dingen beleven	
Gemak van verplaatsing	
Succesvol winkelen	Succesvol dagje uit

Place dependence scenario

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur. U heeft uw baas uitgenodigd voor een diner bij u thuis, waarvoor u speciale ingrediënten moet halen die u niet thuis heeft. U moet deze dus vandaag halen. De keuzeopties zijn:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote supermarkt aan de rand van de stad

Dit scenario was ontworpen om reacties met betrekking tot place dependence op te roepen. Het is een utilitair scenario. Later zal blijken dat de focus op dagelijkse boodschappen ervoor zorgt dat vergelijking met andere scenario's moeilijk is en dus dat naar niet-dagelijkse artikelen moet worden geswitcht. Omdat mensen vaak gehecht zijn aan bepaalde merken of een bepaalde retailer (gebaseerd op positieve, eerdere ervaringen met het merk/de retailer), kan dit ook als overwegingen worden meegenomen. Bovendien speelt het volgens Dave erg mee of er een koopavond is of niet.

Place dependence	
Is het dichtbij	
Kan ik er snel komen	
Vervoerskeuze	
Parkeren	Parkeerkosten/afstand parkeren-winkel
Route	Routing/hoe rij je/hoe kom je er
Drukte op de weg	
Aantal stoplichten	
Aantal winkels dat open is	
Vorige ervaringen met merken	
Tijdswinst	
Kostenbesparing	
Verzekerd zijn van kwaliteit	
Succesvol winkelen	

Dave benadrukte dat aanwezigheid van koopzondagen en koopavonden ook de overwegingen van consumenten sterk kan beïnvloeden. Dit geeft mensen namelijk (qua tijd) extra opties, waardoor misschien locatieopties op een andere manier worden beoordeeld met andere overwegingen. Zijn advies: wees dus duidelijk erin of deze mee tellen of niet.

Appendix III.3: Expert interviews – Results Gerlant Lettinga (CBW Mitex).

Gerlant Lettinga is teamleider marktonderzoek bij brancheorganisatie CBW MiteIX. CBW-MITEX is de brancheorganisatie voor ondernemers in de woon-, mode-, schoenen en sportbranche. CBW Mitex geeft advies op onder andere financieel en juridisch gebied. Ook ondersteunt het leden met marktonderzoek. CBW Mitex streeft naar een ideaal winkelklimaat, waar de consument wordt verleid om te kopen en ondernemers optimaal kunnen ondernemen.

Als basis voor dit interview werd het mondelinge CNET interview gebruikt. Drie scenario's waren gegeven, welke hieronder worden beschreven met de overwegingen die Gerlant opgaf als belangrijke variabelen. Andere dingen die door Gerlant werden voorgesteld waren:

- Een scenario waarin online winkelen nog gangbaarder is. Dit omdat e-commerce voor een groot deel de keuze van consumenten bepaalt voordat ze in de fysieke winkel zijn geweest (weten welke producten waar te halen zijn).
- Een scenario om de verschillen tussen man/vrouw qua productkeuze te onderzoeken.
- Focus misschien op één productgroep, omdat per productgroep andere overwegingen van belang zijn.

Place attachment scenario

Stelt u zich een denkbeeldige situatie voor over tien jaar. U zit in uw volgende levensfase en woont ondertussen in de plaats waar u ook (geboren en) getogen bent, buiten het centrum. U heeft een dag vrij en wilt graag gaan winkelen. Er zijn drie winkellocaties in de buurt:

- De binnenstad van uw huidige woonplaats
- De binnenstad van een grote stad nabij
- Een kleiner wijkwinkelcentrum op loopafstand van uw huis

Dit scenario werd als tamelijk lastig ervaren door Gerlant. De tijdsafstand van tien jaar was groot en zij zou het 'geboren en getogen'-deel weglaten. Zelf kwam ze uit een minuscuul klein dorp zonder enige winkels, dus voor haar zou de omschrijving niet eens opgaan. Ze raadde me aan om het anders te formuleren, bijvoorbeeld door een andere stad toe te voegen. Deze stad zou het liefst ver weg liggen, omdat je dan een nieuwe ervaring kan vinden.

Place attachment	
Bekendheid winkeltype	
Aanwezige assortiment	Variatie in het assortiment/Vernieuwend assortiment/Vernieuwende collectie
Beschikbare tijd om kleding te kopen	
Kom ik bekenden tegen	
Heb ik wel/niet kinderen	
Op zoek naar nieuwe ervaringen/verrassingen	
Plezier tijdens winkelen	
Verrassingen tijdens winkelen	
Diversiteit in kledingkeuze	
Gemak van de verplaatsing	
Persoonlijke verzorging	
Mentaal gemak	
Behoeften van een ander spelen mee	
Locatie moet boeien	
Wel/niet behoefte aan bekenden/sociaal contact	
Bekendheid met het gebied	Weten wat je kan verwachten/Verbondenheid met het gebied

Place identity scenario

Stelt u zich voor dat u dagje gaat winkelen met een oude bekende van u. Jullie hebben elkaar al lang niet meer gezien, en jullie willen er graag een speciale dag van maken. U heeft de hele dag vrij genomen, en jullie willen graag in jullie woonplaats (Utrecht) gaan winkelen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een stadsdeelcentrum dichtbij uw huis (Utrecht Overvecht)
- Een groot, perifeer winkelcentrum met diverse andere functies (bijv. The Wall)

Het place identity scenario was voor Gerlant erg makkelijk en simpel om in te leven.

Place identity	
Lay-out winkellocatie	Is er water aanwezig/is het organisch opgebouwd/verrast het me
Sfeer winkellocatie	
Drukte op straat	
Winkeldrukte	
Aanbod horeca winkellocatie	
Aanwezig assortiment	Het assortiment bepaalt welke mensen daar komen en hoe ze zich gedragen/variatie in het assortiment/vernieuwende collectie
Met wie ga je shoppen	Behoeften van de ander
Vermaakt tijdens winkelen	
Sfeer winkelen	Is het prettig winkelen
Gelijkgestemden zoeken	Identiteit bevestigen
Relaxheid	Geestelijke gezondheid
Mentale gesteldheid	Onbewust identiteit zoeken of bevestigen/mensen die er rondlopen moeten me aanstaan
Behoeften van andere behartigen	
Ontspanning	
Sociaal contact	

Place dependence scenario

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur. De volgende dag heeft u een belangrijke afspraak met uw baas. Voor deze speciale gelegenheid wilt u een nieuwe outfit halen (eigen invulling). Aangezien u morgen graag goed voor de dag wilt komt, gaat u op zoek naar een exclusieve outfit. U moet deze dus vandaag nog ergens kopen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote outlet center aan de rand van de stad

Gerlant benadrukte dat de productkeuze al voor een groot deel de overwegingen bepaalt. De exclusieve outfit zou zij bijvoorbeeld niet halen in het outlet center.

Place dependence	123
Aanwezig assortiment	
Eerdere (positieve) ervaringen	
Flexibiliteit in snelheid van het vervoersmiddel	
Eenvoud van de route	
Voertuigtijd naar of vanaf een activiteit	
Zijn er parkeervoorzieningen aanwezig	
Slagingskans kledingproduct	
Gemak verplaatsing	
Tijdsbesparing	
Tijdsdruk	

Appendix III.4: Expert interviews – Results Marie-Anne Simons & Jan Guus Waldorp (AIMgen).

AIMgen is opgezet door Marie-Anne Simons en Jan Guus Waldorp als een onderzoeklaboratorium op het gebied van nieuwe ontwikkelingen en toepassingen van emotie en motivatie. Gespecialiseerd in evolutiepsychologie, marketing en communicatie doen zij al ruim 13 jaar onderzoek naar menselijke motivatie. Beiden hebben een aanstelling bij de Rijksuniversiteit Groningen (RUG) en werken aan hun promotieonderzoek over de toepassing van de methode en de test voor het verbeteren van client commitment en loyalty.

Als basis voor dit interview werd het mondelinge CNET interview gebruikt. Drie scenario's waren mondeling beschreven, waarna we hebben gediscussieerd over belangrijke overwegingen per scenario wat betreft locatiekeuze. Marie-Anne en Guus benadrukten dat het motivatieprofiel van een respondent erg bepalend is. Kenmerken als beroep, leeftijd, geslacht, opleiding, favoriete vrijetijdsbesteding, culturele achtergrond, afkomst (grote stad/platteland) zijn van groot belang voor de segmentatie van consumenten. Marie-Anne heeft de korte vragenlijst doorgestuurd waarmee AIMgen het motivatieprofiel van consumenten bepaald. Ook gaven ze de tip om beeldmateriaal toe te voegen bij de scenario's. Op deze manier zouden de respondenten (grotendeels) hetzelfde beeld vormen van de situatie, welke weer verbonden zijn met dezelfde emoties. In mijn onderzoek staan deze emotionele overwegingen centraal.

Volgens Marie-Anne en Guus zijn er enkele algemene overwegingen wat betreft locatiekeuze door consumenten. "Forging": de consumenten maakt een trade-off tussen tijd-moeite/energie-geld. Dit is allemaal sensorial. "Landscape preferences": is er water, is er hoogte (vroeger veilige plek), is de oriëntatie duidelijk, is het een beetje zigzag/verrassend (om te verstoppen vroeger). Over het algemeen ging het tijdens dit interview voornamelijk over motivatie, motivatieprofiel, en concrete doelen om ergens naartoe te gaan.

Place attachment scenario

Stelt u zich een denkbeeldige situatie voor over tien jaar. U zit in uw volgende levensfase en woont ondertussen in de plaats waar u ook (geboren en) getogen bent, buiten het centrum. U heeft een dag vrij en wilt graag gaan winkelen. Er zijn drie winkellocaties in de buurt:

- De binnenstad van uw huidige woonplaats
- De binnenstad van een grote stad nabij
- Een kleiner wijkwinkelcentrum op loopafstand van uw huis

Belangrijke aspecten waren voor hun dat het een leuke middag moest worden en of een situatie bekend was of niet.

Place attachment	
Gevoel voor verantwoordelijkheid	Gevoel voor de plaats
Levensfase waarin je je verkeert	
Doelstelling	Wat wil je die dag doen
Motivatie	Ik wil die dag … doen
Ik heb gehoord dat die locatie leuk is	Positieve verhalen van anderen
Die leuke ervaring wil ik ook delen	

Place identity scenario

Stelt u zich voor dat u dagje gaat winkelen met een oude bekende van u. Jullie hebben elkaar al lang niet meer gezien, en jullie willen er graag een speciale dag van maken. U heeft de hele dag vrij genomen, en jullie willen graag in jullie woonplaats (Utrecht) gaan winkelen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een stadsdeelcentrum dichtbij uw huis (Utrecht Overvecht)
- Een groot, perifeer winkelcentrum met diverse andere functies (bijv. The Wall)

Marie-Anne en Guus benadrukten dat de motivatie enorm kan verschillen door andere producten of het <u>persoon dat met je meegaat</u>. Dit beïnvloedt vanzelfsprekend ook dus emoties die iemand met een plaats ervaart. Vooral het persoon dat met je meegaat bepaald je emoties, en je keuze (omdat je rekening houdt met zijn/haar behoeften/wensen).

Place identity	
Service van de horeca	Ze moeten je kennen Aangename sfeer Het moet te eten zijn/hoe goed is het eten Eerlijkheid/snappen hoe jij bent De prijs moet acceptabel zijn Het personeel moet je op je gemak maken, je voel je op je gemak Iets wat je moet meenemen/unieke ervaring Je kent de mensen in de horeca
Rekening houden met de andere persoon	Hoe komt de andere persoon aan (vervoersmiddel en kosten) Hoe goed ken ik de andere persoon Zou hij/zij deze locatie leuk vinden
Kennis van de locatie	Ik kom er vaker
Kan je hier lunchen/een hapje eten	
Is het een gezellige/bijzondere tent	
Hoe bijzonder is de ontmoeting/beleving	
Prettige/sfeervolle omgeving	Het is niet te onpersoonlijk
Vorige ervaring van de locatie was prettig	Er wordt voldaan aan je verwachtingen/je komt er graag terug
Wat krijg ik terug voor de ontmoeting	Krijg ik waardering terug/wordt ik gewaardeerd
Het was/is de moeite waard	
Cost/benefit of afweging tussen kosten en opbrengsten	
Ga ik de persoon nog vaker zien	

Place dependence scenario

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur. De volgende dag heeft u een belangrijke afspraak met uw baas. Voor deze speciale gelegenheid wilt u een nieuwe outfit halen (eigen invulling). Aangezien u morgen graag goed voor de dag wilt komt, gaat u op zoek naar een exclusieve outfit. U moet deze dus vandaag nog ergens kopen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote outlet center aan de rand van de stad

Zoals verwacht noemden Marie-Anne en Guus voornamelijk praktische en rationele overwegingen

Place dependence	
Doelstelling van je gesprek	
Wat wil je bereiken met het gesprek	
Met wie spreek je af	Wat voor een gesprek/persoon wordt het
Moet/wil je indruk maken	Autoriteit uitstralen
Je beoordeling van iemand	Je mening over iemand
Je streeft een juist communicatie/ontmoeting na	
Wat moet je kleding behelzen/uitstralen	
Sociale strategie	Waarom streef je iets na/waarom doe je iets/wat wil je bereiken ermee (bewust/onbewust)

Appendix III.5: Expert interviews – Result Aiko Mein (BRO).

Als advies- en ontwerpbureau werkt BRO sinds 1962 aan de ruimtelijke inrichting van Nederland, België en Luxemburg. Wisselwerking en samenhang tussen Ruimtelijk Functioneren, Ruimtelijk Vormgeven en Ruimtelijk Ordenen zijn de uitgangspunten van de advisering. Kwaliteit van onze omgeving en duurzaamheid en leefbaarheid in stedelijke en landelijke gebieden staan centraal. De retaildeskundigen adviseren over het functioneren en ontwikkelen van publieksgerichte voorzieningen als retail, horeca, vermaak, toerisme en cultuur. De adviezen zijn soms sectoraal, vaak een combinatie van functies en richten zich zowel op lokaal, regionaal als provinciaal schaalniveau. Aiko Mein is werkzaam als <u>senior adviseur retail</u>.

Aiko Mein benadrukt het belang om consumenten te typeren en hun kenmerken te noteren (geslacht/leeftijd/inkomenstype). Dit bepaalt namelijk in grote mate de waardering die men voor een winkelcentrum heeft. De scenario's zijn goed maar misschien nog wel wat algemeen. Als de tijd van winkelen wordt vastgesteld kan je sturen op bepaalde overwegingen. Denk hierbij aan het toevoegen van "op een zaterdagmiddag" of "zondag" of "koopavond" of "koopzondag". Dan spelen namelijk andere motieven, en er komen steeds meer koopzondagen! Ook stelt hij voor een andere locatie gebruiken: de markt. Ook niet-dagelijkse artikelen kunnen hier worden gehaald, en er komen genoeg mensen op de markt voor sociaal contact/contact met bekenden.

Als laatste adviseert Aiko een proef enquête te draaien. Op die manier kan je veel fouten nog eruit halen. Belangrijk was de plaats waar ik de enquête ging afnemen (Amsterdam is anders dan Utrecht of Nijmegen). Ook is het belangrijk ook de negatieve overwegingen mee te nemen (push-pull factoren). <u>Kijken of naast positieve ook expliciet naar negatieve overwegingen moet worden gevraagd.</u>

Place attachment scenario

Stelt u zich een denkbeeldige situatie voor over tien jaar. U zit in uw volgende levensfase en woont ondertussen in de plaats waar u ook (geboren en) getogen bent, buiten het centrum. U heeft een dag vrij en wilt graag gaan winkelen. Er zijn drie winkellocaties in de buurt:

- De binnenstad van uw huidige woonplaats
- De binnenstad van een grote stad nabij
- Een kleiner wijkwinkelcentrum op loopafstand van uw huis

Bij dit scenario geeft Aiko aan dat hij geen eenduidige keuze heeft, wat het moeilijker voor hem maakt. Zoek een combinatie met de tijd van winkelen.

Place attachment	
Openingstijden winkels	
Hoeveel energie wil je erin steken	
Rijden we/lopen we naar de plaats	
Koopmotief	Wat wil je doen/zoek je iets speciaals
Nevenactiviteiten	Zijn er nog andere dingen te doen/combineren van activiteiten
Aanwezigheid rommelmarkt	
Is er muziek op straat	
Zijn er speciale evenement	Is er vermaak
Opening van een nieuwe winkel	
Bekenden tegenkomen op straat	Sociale aspect (PLACE ATTACHMENT!!!)
Vermaak tijdens winkelen	
Aantrekkelijkheid winkelomgeving	
Sfeer winkelen	
Aankoopservice (mbt markt)	
Diversiteit in assortiment (mbt markt)	
Gezelligheid	
Nieuwsgierig naar een nieuwe ervaring	
Levendigheid	

Place identity scenario

Stelt u zich voor dat u dagje gaat winkelen met een oude bekende van u. Jullie hebben elkaar al lang niet meer gezien, en jullie willen er graag een speciale dag van maken. U heeft de hele dag vrij genomen, en jullie willen graag in jullie woonplaats (Utrecht) gaan winkelen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een stadsdeelcentrum dichtbij uw huis (Utrecht Overvecht)
- Een groot, perifeer winkelcentrum met diverse andere functies (bijv. The Wall)

Dit scenario was duidelijk, maar Aiko benadrukte nogmaals om goed te kijken naar de keuzeopties.

Place identity	
Groote winkelgebied	Groter winkelgebied/meer winkels/meer keuzemogelijkheden
Historische steden	Sfeer/ambiance/moet gezellig zijn
Horeca	Aanbod horeca
Op zoek naar iets nieuws	Op zoek naar iets vernieuwends
Lay-out winkellocatie	
Aantal winkels per branche	Aantal en soort winkels
Bekendheid van de winkellocatie	
Mix/variatie van unieke winkels	
Mix van winkels (branche/grootte)	
Eenzijdige layout	
Eenzijdig aanbod	
Veel te druk	Veel mensen op straat
Routing	Kan je een rondje lopen
Sfeer winkelen	
Totale ervaring	Mensen op straat
Mentaal gemak	

Place dependence scenario

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur. De volgende dag heeft u een belangrijke afspraak met uw baas. Voor deze speciale gelegenheid wilt u een nieuwe outfit halen (eigen invulling). Aangezien u morgen graag goed voor de dag wilt komt, gaat u op zoek naar een exclusieve outfit. U moet deze dus vandaag nog ergens kopen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote outlet center aan de rand van de stad

Aiko Mein benadrukt dat het koopmotief van erg groot belang is. Wat en hoeveel geld kan je besteden, wat weer het prijs/kwaliteitsniveau bepaalt. Ook is het belangrijk goed nog eens te kijken naar de keuzeopties, aangezien sommige opties voor bepaalde mensen niet gelden (outlet center/wijkwinkelcentrum).

Place dependence scenario

Stelt u zich voor dat u een nieuwe baan heeft gekregen in de stad waar u op het moment ook woont. Uw werkplek is buiten het centrum van de stad. U werkt acht uur op een dag met flexibele werktijden en een lunchpauze van maximaal één uur. De volgende dag heeft u een belangrijke afspraak met uw baas. Voor deze speciale gelegenheid wilt u een nieuwe outfit halen (eigen invulling). Aangezien u morgen graag goed voor de dag wilt komt, gaat u op zoek naar een exclusieve outfit. U moet deze dus vandaag nog ergens kopen. Er zijn drie winkellocaties in uw woonplaats:

- De binnenstad
- Een kleine speciaalzaak dichtbij uw huis
- Een grote outlet center aan de rand van de stad

Aiko Mein benadrukt dat het koopmotief van erg groot belang is. Wat en hoeveel geld kan je besteden, wat weer het prijs/kwaliteitsniveau bepaalt. Ook is het belangrijk goed nog eens te <u>kijken naar de keuzeopties</u>, aangezien sommige opties voor bepaalde mensen niet gelden (outlet center/wijkwinkelcentrum).

Place dependence	
Je weet waar je moet zijn	
Je kent het assortiment	Prijsniveau assortiment/dure zaak/bijzonder aanbod
Je kent de prijs	Prijstelling
Je kent de service	
Je kent de route/de weg	
Je weet hoe groot de winkel is	Assortiment/aanbod van de winkel
Route/de weg	Gemak van de verplaatsing
Service kan te persoonlijk zijn	
Het is altijd druk	Onpersoonlijk
Teveel aanbod	
Parkeerkosten	
Je moet er naartoe	

Appendix IV   MentreQe survey screenshots

Appendix IV.1: Page 0 - Introduction.

Appendix IV.2: Page 1 - Personal data.

Appendix IV.3: Page 2 - The research.

Appendix IV.4: Page 3 - The situation an your considerations.

Appendix IV.5: Page 4(a) - Suggestions.

Appendix IV.6: Page 4(b) - Restating your considerations.

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Appendix IV.7: Page 4(c) - More considerations.

Appendix IV.8: Page 5 - Overview.

Appendix IV.9: Page 6 - Other considerations.

Appendix IV.10: Page 7 - Actual choice.

Appendix IV.11: Page 8 - Questionnaire completed.
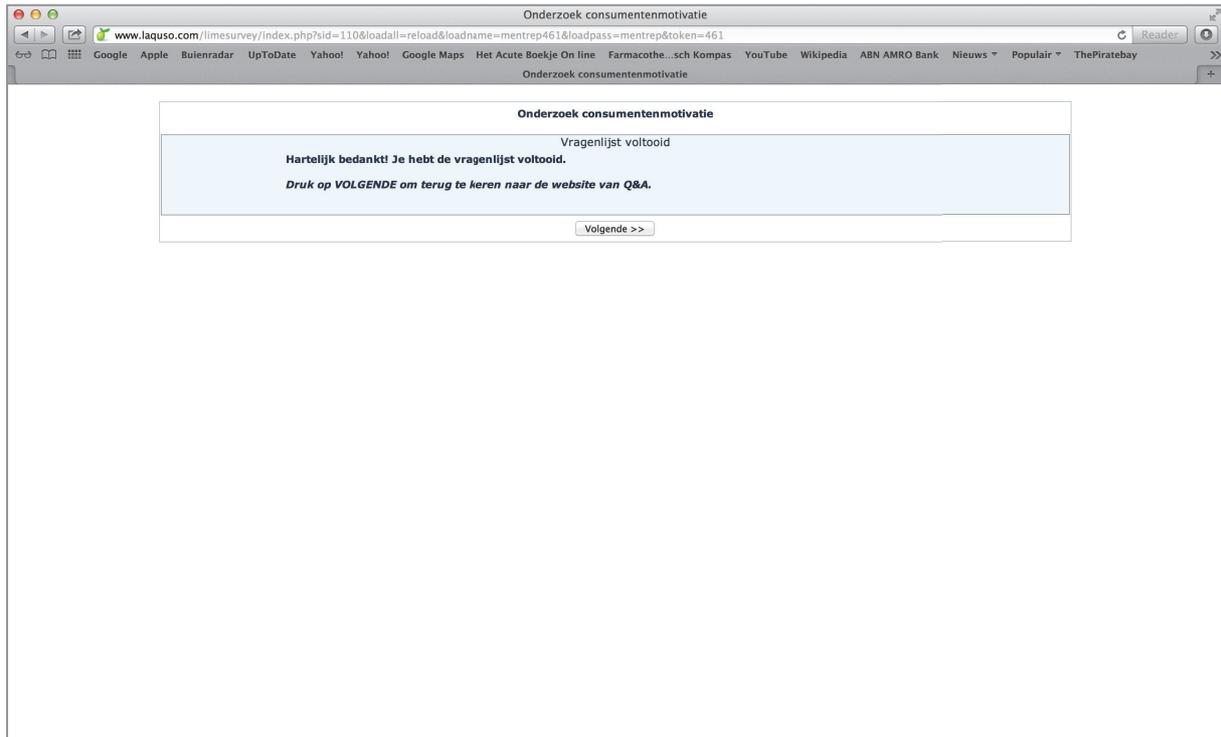
Appendix V   Comments and solutions regarding the pilot study of the MentreQe survey

Appendix V.1: Comments and solutions regarding the technical soundness and layout.

Comment	Problem	Solution
Long page loading times.	Some trigger words are too common in the database, which caused the system to be extremely slow at times.	Several words are added to the ignore list: - aanwezig (present) - aanwezigheid (presence) - winkel (store) - winkels (stores) - gebied (area)
Unclear distinction between choice options.	It is hard to appoint the displayed atmospheric images to a choice option.	The space between the atmospheric images is increased, and the choice options' labels are displayed above the images as well.

Appendix V.2: Comments and solutions concerning ambiguities in the instructions.

Comment	Problem	Solution
The questionnaire seems to be stuck/run in a loop.	It is unclear for the respondents whereabouts in the questionnaire they were, and how many questions were left.	The question pages are numbered (e.g. 'Page 5 of 7') to show the respondents how many pages are completed and how many are left.
Pressing the back button of my browser forces me to redo the entire questionnaire.	Going back in the questionnaire is not possible, because this research is recall-based (only first and genuine answers matter). This is not communicated clearly to the respondents.	Instructions are added to the introduction page, ordering not to press the back button of the browser.
The instructions on the page 'Onderzoek' (Research) are too long and unclear.	On the page 'Onderzoek', too much unnecessary information is given to the respondents. Some sentences emphasise the choice options, while the focus should be on the considerations for this choice.	The instructions are shortened. Sentences emphasising choice of shopping location – instead of considerations for this choice – are altered or removed.
The choice option 'perifeer winkelcentrum' (peripheral shopping center) may be too hard to understand.	The word 'perifeer' (peripheral) may be too hard to understand for people with a lower education level.	The label of the choice option is changed to 'een winkelcentrum aan de rand van de stad' (a shopping center on the edge of the city).
On the page 'Wat overweegt u?' (What are your considerations?), it is unclear how many considerations I should give.	It is unclear whether all text boxes should be filled with considerations.	The instructions now include that not all text boxes need to be filled.
I thought I had to state my final choice on the page 'Wat overweegt u?' (What are your considerations?).	Respondents are used to questionnaires that merely study their choice between various options.	The instructions now include that the next part will concentrate on their considerations, and that their final choice can be given at the end of the questionnaire.
After the page 'Wat overweegt u?' (What are your considerations?), it is unclear where the questionnaire is heading towards.	A description of the goal of the research and a short explanation of the next steps in the questionnaire are missing.	The page title is changed to '3 van 7. De situatie en uw overwegingen' (3 of 7. The situation and your considerations). Also, a short explanation of the next steps in the questionnaire is added.

I want to choose more than one suggestion on the page 'Suggesties' (Suggestions).	Only one suggestion could be selected because of the recall-based methodology. The fact that other suggestions are shown could activate other mental representations; this is why only one suggestion can be chosen. The respondent does not know this.	The instructions now include that only one suggestion can be selected.
The instructions on the page 'Meer overwegingen' (More considerations) are too long and too compleIX.	The instructions may not be understood by people with a lower education level.	The instructions are shortened and the words are changed to make the instructions easier to understand. A note that multiple answers are possible on this page is added.
The instructions on the page 'Andere overwegingen' (Other considerations) are unclear. I thought I already did this during the previous questions.	The selection of attributes relating to certain benefits the actions required in the previous question (selection of benefits relating to attributes). This distinction is not made clear.	The instructions are shortened and simplified.

Appendix V.3: Comments and solutions regarding the attributes, benefits and causal links.

Comment	Problem	Solution
The list of provided suggestions of attributes is extremely long.	Some trigger words are too common in the database, resulting in an abundance of suggestions of attributes.	Several words are added to the ignore list: - aanwezig (present) - aanwezigheid (presence) - winkel (store) - winkels (stores) - gebied (area)
A benefit concerning relaxation in general (important with regard to attributes like the presence of bars and restaurants) is missing.	No benefit is added to describe relaxation in general.	A benefit is added with the label 'Ontspanning in het algemeen' (Relaxation in general).
The attribute 'de behoefte aan sociaal contact' (the necessity for social contact) seems like an underlying reason to me.	The attribute 'de behoefte aan sociaal contact' is actually a benefit.	This attribute is changed and now serves as a benefit.
Several benefits do not relate at all to the previously mentioned attribute.	The preliminary version of the database is not double checked yet. The pilot study helps to check all attributes/benefits/causal links.	The causal links are run over again to remove vague links.
Some suggestions seem really similar, and it is difficult to select only one.	The database includes many attributes with only marginal differences.	The database is double-checked and attributes that seemed too similar were combined. The number of attributes is decreased from 200 to 178.
The spelling of some words is incorrect and their description vague.	The spelling of some words is incorrect and their description vague.	The incorrect spelling of these words is changed, and vague descriptions are revised.

Appendix VI   General sample characteristics

Appendix VI.1: Cross table Questionnaire completion - Scenario.

| | | | Scenario | | | |
			Place attachment	Place identity	Place dependence	Total
Questionnaire completion	Completed	Count	175	181	158	514
		% within Scenario	46.4%	44.6%	39.4%	43.4%
	Dropouts	Count	162	180	183	525
		% within Scenario	43.0%	44.3%	45.6%	44.4%
	Deleted	Count	40	45	60	145
		% within Scenario	10.6%	11.1%	15.0%	12.2%
Total		Count	377	406	401	1184
		% within Scenario	100.0%	100.0%	100.0%	100.0%

Appendix VI.2: Chi-Square tests Questionnaire completion - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.398[a]	4	.171
Likelihood Ratio	6.321	4	.176
Linear-by-Linear Association	2.090	1	.148
N of Valid Cases	1184		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 46.17.

Appendix VI.3: Descriptives Interview durations - Scenario.

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
					Lower bound	Upper bound		
Place attachment	175	0:13:25	0:10:06	0:00:45	0:11:55	0:14:55	0:01:17	1:15:12
Place identity	181	0:11:53	0:06:39	0:00:29	0:10:54	0:12:51	0:01:29	0:35:37
Place dependence	158	0:12:57	0:07:56	0:00:37	0:11:42	0:14:12	0:02:56	0:50:38
Total	514	0:12:44	0:08:21	0:00:22	0:12:00	0:13:27	0:01:17	1:15:12

Appendix VI.4: ANOVA Interview durations - Scenario.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	799772.305	2	399886.152	1.593	.204
Within Groups	128310092	511	251096.070		
Total	129109864	513			

Appendix VI.5: Cross table Gender - Scenario.

| | | | Scenario | | | |
			Place attachment	Place identity	Place dependence	Total
Gender	Male	Count	71	72	60	203
		% within Scenario	40.6%	39.8%	38.0%	39.5%
	Female	Count	104	109	98	311
		% within Scenario	59.4%	60.2%	62.0%	60.5%
Total		Count	175	181	158	514
		% within Scenario	100.0%	100.0%	100.0%	100.0%

Appendix VI.6: Chi-Square tests Gender - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.244[a]	2	.885
Likelihood Ratio	.244	2	.885
Linear-by-Linear Association	.231	1	.631
N of Valid Cases	514		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 62.40.

Appendix VI.7: Group statistics Age - Gender.

		N	Mean	Std. Deviation	Std. Error Mean
Age	Male	203	50.44	14.639	1.027
	Female	311	47.48	15.501	.879

Appendix VI.8: Independent Samples T-Test Age - Gender.

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Age	Equal variances assumed	2.292	.131	2.164	512	.031	2.961	1.369	0.272	5.650
	Equal variances not assumed			2.190	449.122	.029	2.961	1.352	0.304	5.618

Appendix VI.9: Descriptives Age - Scenario.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	49.90	14.866	1.124	47.68	52.12	16	78
Place identity	181	46.84	15.424	1.146	44.58	49.10	17	79
Place dependence	158	49.35	15.276	1.215	46.95	51.75	14	88
Total	514	48.65	15.221	.671	47.33	49.97	14	88

Appendix VI.10: ANOVA Age - Scenario.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	942.307	2	471.153	2.042	.131
Within Groups	117910.357	511	230.744		
Total	118852.663	513			

Appendix VI.11: Geographic distribution of the Q&A panel over the Netherlands.

Province	Geographic distribution
Noord-Holland	16%
Utrecht	7%
Zuid-Holland	21%
Zeeland	2%
Noord-Brabant	15%
Limburg	7%
Gelderland	11%
Flevoland	3%
Overijssel	6%
Drenthe	3%
Friesland	4%
Groningen	3%

Appendix VI.12: Cross table Geographic distribution of sample - Scenario.

			Scenario			
			Place attachment	Place identity	Place dependence	Total
Geographic distribution	North	Count	24	36	9	69
		% within Scenario	13.7%	19.9%	5.7%	13.4%
	East	Count	28	37	40	105
		% within Scenario	16.0%	20.4%	25.3%	20.4%
	South	Count	60	37	50	147
		% within Scenario	34.3%	20.4%	31.6%	28.6%
	North-West	Count	25	32	26	83
		% within Scenario	14.3%	17.7%	16.5%	16.1%
	South-West	Count	38	39	33	110
		% within Scenario	21.7%	21.5%	20.9%	21.4%
Total		Count	175	181	158	514
		% within Scenario	100.0%	100.0%	100.0%	100.0%

Appendix VI.13 Chi-Square tests Geographic distribution of sample - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.584[a]	8	.003
Likelihood Ratio	25.155	8	.001
Linear-by-Linear Association	.208	1	.649
N of Valid Cases	514		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 21.21.

Appendix VI.14: Descriptives Population of place of residence - Scenario.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	96250.33	159510.589	12057.867	72451.82	120048.84	370	790110
Place identity	181	78362.46	129148.093	9599.502	59420.43	97304.49	250	790110
Place dependence	158	108883.10	174167.911	13856.055	81514.77	136251.43	350	790110
Total	514	93834.52	154668.064	6822.116	80431.80	107237.24	250	790110

Appendix VI.15: ANOVA Population of place of residence - Scenario.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.013E+10	2	4.007E+10	1.679	.188
Within Groups	1.219E+13	511	2.386E+10		
Total	1.227E+13	513			

Appendix VI.16: Group statistics Population of place of residence - Gender.

		N	Mean	Std. Deviation	Std. Error Mean
Population	Male	203	100109.58	154890.173	10871.159
	Female	311	89738.58	154634.925	8768.542

Appendix VI.17: Independent Samples T-Test Population of place of residence - Gender.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Population	Equal variances assumed	.397	.529	.743	512	.458	10370.994	13961.877	-17058.623	37800.611
	Equal variances not assumed			.743	431.364	.458	10370.994	13966.726	-17080.307	37822.296

Appendix VI.18: Correlations Population of place of residence - Age.

			Population	Age
Spearman's rho	Population	Correlation Coefficient	1.000	-.085
		Sig. (2-tailed)	.	.054
		N	514	514
	Age	Correlation Coefficient	-.085	1.000
		Sig. (2-tailed)	.054	.
		N	514	514

Appendix VI.19: Descriptives Years living in current place of residence - Scenario.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Place attachment	175	15.08	10.533	.796	13.51	16.65	0	53
Place identity	181	13.24	11.322	.842	11.58	14.90	0	49
Place dependence	158	14.05	11.294	.899	12.28	15.83	0	52
Total	514	14.12	11.056	.488	13.16	15.07	0	53

Appendix VI.20: ANOVA Years living in current place of residence - Scenario.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	301.217	2	150.609	1.233	.292
Within Groups	62405.779	511	122.125		
Total	62706.996	513			

Appendix VI.21: Group statistics Years living in current place of residence - Gender.

		N	Mean	Std. Deviation	Std. Error Mean
Years at current place	Male	203	14.52	10.440	.733
	Female	311	13.85	11.449	.649

Appendix VI.22: Independent Samples T-Test Years living in current place of residence - Gender.

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Years at current place	Equal variances assumed	2.073	.151	.671	512	.502	.670	.998	-1.291	2.631
	Equal variances not assumed			.684	459.243	.494	.670	.979	-1.254	2.594

Appendix VI.23: Correlations Years living in current place of residence - Age.

			Years at current place	Age
Spearman's rho	Years at current place	Correlation Coefficient	1.000	.445**
		Sig. (2-tailed)	.	.000
		N	514	514
	Age	Correlation Coefficient	.445**	1.000
		Sig. (2-tailed)	.000	.
		N	514	514

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

Appendix VI.24: Correlations Years living in current place of residence - Population.

			Years at current place	Population
Spearman's rho	Years at current place	Correlation Coefficient	1.000	-.077
		Sig. (2-tailed)	.	.081
		N	514	514
	Population	Correlation Coefficient	-.077	1.000
		Sig. (2-tailed)	.081	.
		N	514	514

Appendix VI.25: Cross table Family status - Scenario.

			Scenario			
			Place attachment	Place identity	Place dependence	Total
Family status	Living together/married with children	Count	59	53	54	166
		% within Scenario	33.7%	29.3%	34.2%	32.3%
	Living together/married without children	Count	56	66	57	179
		% within Scenario	32.0%	36.5%	36.1%	34.8%
	Single parent with children	Count	8	7	8	23
		% within Scenario	4.6%	3.9%	5.1%	4.5%
	Single childless adult	Count	32	35	23	90
		% within Scenario	18.3%	19.3%	14.6%	17.5%
	Student	Count	8	10	6	24
		% within Scenario	4.6%	5.5%	3.8%	4.7%
	Other	Count	11	7	9	27
		% within Scenario	6.3%	11.1%	5.7%	5.3%
	I'd rather not say*	Count	1	3	1	5
		% within Scenario	0.6%	1.7%	0.6%	1.0%
Total		Count	175	181	158	514
		% within Scenario	100.0%	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VI.26: Chi-Square tests Family status - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.483[a]	10	.923
Likelihood Ratio	4.582	10	.917
Linear-by-Linear Association	.543	1	.461
N of Valid Cases	509		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.09.

Appendix VI.27: Cross table Family status - Gender.

			Gender		Total
			Male	Female	
Family status	Living together/married with children	Count	66	100	166
		% within Gender	32.5%	32.2%	32.3%
	Living together/married without children	Count	77	102	179
		% within Gender	37.9%	32.8%	34.8%
	Single parent with children	Count	4	19	23
		% within Gender	2.0%	6.1%	4.5%
	Single childless adult	Count	41	49	90
		% within Gender	20.2%	15.8%	17.5%
	Student	Count	6	18	24
		% within Gender	3.0%	5.8%	4.7%
	Other	Count	7	20	27
		% within Gender	3.4%	6.4%	5.3%
	I'd rather not say*	Count	2	3	5
		% within Gender	1.0%	1.0%	1.0%
Total		Count	203	311	514
		% within Gender	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VI.28: Chi-Square tests Family status - Gender.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.211[a]	5	.047
Likelihood Ratio	12.004	5	.035
Linear-by-Linear Association	1.466	1	.226
N of Valid Cases	509		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.08.

Appendix VI.29: Descriptives Family status - Age.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Living together/ married with children	166	45.87	11.012	.855	44.18	47.56	16	82
Living together/ married without children	179	54.50	14.625	1.093	52.35	56.66	20	88
Single parent with children	23	51.13	10.424	2.174	46.62	55.64	28	70
Single without children	90	53.06	13.252	1.397	50.28	55.83	24	80
Student	24	21.71	3.342	.682	20.30	23.12	17	31
Other	27	35.07	18.778	3.614	27.65	42.50	14	68
Total	509	48.70	15.191	.673	47.38	50.02	14	88

Appendix VI.30: ANOVA Family status - Age.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31700.635	5	6340.127	37.288	.000
Within Groups	85525.974	503	170.032		
Total	117226.609	508			

Appendix VI.31: Descriptives Family status - Population of place of residence.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Living together/ married with children	166	80131.05	137786.990	10694.344	59015.65	101246.46	370	790110
Living together/ married without children	179	78366.09	141990.812	10612.892	57422.81	99309.37	250	790110
Single parent with children	23	131306.09	213264.655	44468.755	39083.53	223528.64	3715	790110
Single without children	90	140922.31	188700.587	19890.788	101399.74	180444.88	505	790110
Student	24	95137.50	86452.268	17646.995	58631.91	131643.09	540	316275
Other	27	70529.63	123186.733	23707.298	21798.58	119260.68	350	616260
Total	509	92770.01	152262.646	6748.923	79510.77	106029.24	250	790110

Appendix VI.32: ANOVA Family status - Population of place of residence.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.200E+11	5	6.400E+10	2.810	.016
Within Groups	1.146E+13	503	2.278E+10		
Total	1.178E+13	508			

Appendix VI.33: Descriptives Family status - Years living in current place of residence.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Living together/ married with children	166	13.08	8.173	.634	11.83	14.34	0	41
Living together/ married without children	179	15.86	12.742	.952	13.98	17.74	0	48
Single parent with children	23	12.13	8.406	1.753	8.50	15.77	1	33
Single without children	90	14.07	12.107	1.276	11.53	16.60	0	52
Student	24	8.96	8.317	1.698	5.45	12.47	1	21
Other	27	13.93	10.288	1.980	9.86	18.00	1	35
Total	509	14.04	10.896	.483	13.09	14.99	0	52

Appendix VI.34: ANOVA Family status - Years living in current place of residence.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1448.787	5	289.757	2.476	.031
Within Groups	58867.347	503	117.032		
Total	60316.134	508			

Appendix VI.35: Ranks Education level - Scenario.

	Scenario	N	Mean rank
Education level	Place attachment	174	250.62
	Place identity	178	272.73
	Place dependence	157	239.75
	Total	509	

Appendix VI.36: Kruskal-Wallis test Education level - Scenario[a].

	Value
Chi-Square	4.866
df	2
Asymp. Sig.	.088

a. Grouping variable: Scenario.

Appendix VI.37: Ranks Education level - Family status.

	Family status	N	Mean rank
Education level	Living together/married with children	166	259.81
	Living together/married without children	177	259.66
	Single parent with children	23	249.96
	Single childless adult	90	239.82
	Student	24	221.71
	Other	26	251.17
	Total	506	

Appendix VI.38: Kruskal-Wallis test Education level - Family status[a].

	Value
Chi-Square	2.821
df	5
Asymp. Sig.	.728

a. Grouping variable: Family status.

Appendix VI.39: Ranks Education level - Gender.

	Gender	N	Mean rank
Education level	Male	199	276.04
	Female	310	241.49
	Total	514	

Appendix VI.40: Mann-Whitney U-test Education level - Gender[a].

	Value
Mann-Whitney U	26658.000
Wilcoxon W	74863.000
Z	-2.711
Asymp. Sig. (2-tailed)	.007

a. Grouping variable: Gender.

Appendix VI.41: Descriptives Education level - Age.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Elementary school	10	54.60	21.879	6.919	38.95	70.25	14	78
Secondary school	89	46.90	18.040	1.912	43.10	50.70	16	80
MBO	173	49.58	13.035	.991	47.63	51.54	17	82
HBO	180	49.45	14.690	1.095	47.21	51.61	21	88
University	57	45.84	16.435	2.177	41.48	50.20	20	78
Total	509	48.75	15.193	.673	47.42	50.07	14	88

Appendix VI.42: ANOVA Education level - Age.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1337.653	4	334.413	1.454	.215
Within Groups	115926.654	504	230.013		
Total	117264.306	508			

Appendix VI.43: Descriptives Education level - Population.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Elementary school	10	100080.00	243608.209	77035.680	-74186.81	274346.81	1205	790110
Secondary school	89	90842.91	139526.613	14789.791	61451.31	120234.51	540	790110
MBO	173	82892.63	137282.152	10437.369	62290.81	103494.45	250	790110
HBO	180	98566.03	154548.987	11519.401	75834.73	121297.33	350	790110
University	57	106436.82	186795.739	24741.700	56873.24	156000.41	725	790110
Total	509	92799.66	152103.028	6741.848	79554.33	106045.00	250	790110

Appendix VI.44: ANOVA Education level - Population.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1337.653	4	334.413	1.454	.215
Within Groups	115926.654	504	230.013		
Total	117264.306	508			

Appendix VI.45: Descriptives Education level - Years living in current place of residence.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Elementary school	10	23.50	14.230	4.500	13.32	33.68	9	53
Secondary school	89	14.99	11.597	1.229	12.55	17.43	1	52
MBO	173	14.83	11.474	.872	13.11	16.55	0	49
HBO	180	12.72	9.729	.725	11.29	14.15	0	39
University	57	13.67	11.226	1.487	10.69	16.65	0	48
Total	509	14.15	11.021	.488	13.19	13.19	0	53

Appendix VI.46: ANOVA Education level - Years living in current place of residence.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1397.642	4	349.410	2.920	.021
Within Groups	60302.405	504	119.648		
Total	61700.047	508			

Appendix VI.47: Cross table Working situation - Scenario.

			Scenario			
			Place attachment	Place identity	Place dependence	Total
Working situation	Entrepreneur	Count	4	11	12	27
		% within Scenario	2.3%	6.1%	7.6%	5.3%
	Full-time in paid employment	Count	50	49	37	136
		% within Scenario	28.6%	27.1%	23.4%	26.5%
	Part-time in paid employment	Count	38	44	37	119
		% within Scenario	21.7%	24.3%	23.4%	23.2%
	Student	Count	11	13	9	33
		% within Scenario	6.3%	7.2%	5.7%	6.4%
	Unemployed	Count	32	25	23	80
		% within Scenario	18.3%	13.8%	14.6%	15.6%
	Retired	Count	36	22	26	84
		% within Scenario	20.6%	12.2%	16.5%	16.3%
	Other	Count	4	15	12	31
		% within Scenario	2.3%	8.3%	7.6%	6.0%
	I'd rather not say*	Count	0	2	2	4
		% within Scenario	0.0%	1.1%	1.3%	0.8%
Total		Count	175	181	158	514
		% within Scenario	100.0%	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VI.48: Chi-Square tests Working situation - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.578[a]	1	.129
Likelihood Ratio	19.307	2	.081
Linear-by-Linear Association	.047	12	.829
N of Valid Cases	510	1	

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.26.

Appendix VI.49: Cross table Working situation - Gender.

			Gender		Total
			Male	Female	
Working situation	Entrepreneur	Count	9	18	27
		% within Gender	4.4%	5.8%	5.3%
	Full-time in paid employment	Count	94	42	136
		% within Gender	46.3%	13.5%	26.5%
	Part-time in paid employment	Count	18	101	119
		% within Gender	8.9%	32.5%	23.2%
	Student	Count	8	25	33
		% within Gender	3.9%	8.0%	6.4%
	Unemployed	Count	19	61	80
		% within Gender	9.4%	19.6%	15.6%
	Retired	Count	41	43	84
		% within Gender	20.2%	13.8%	16.3%
	Other	Count	10	21	31
		% within Gender	4.9%	6.8%	6.0%
	I'd rather not say*	Count	4	0	4
		% within Gender	2.0%	0.0%	0.8%
Total		Count	203	311	514
		% within Gender	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VI.50: Chi-Square tests Working situation - Gender.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	95.543[a]	6	.000
Likelihood Ratio	98.928	6	.000
Linear-by-Linear Association	6.929	1	.008
N of Valid Cases	510		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.54.

Appendix VI.51: Descriptives Working situation - Age.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Entrepreneur	27	54.96	12.531	2.412	50.01	59.92	27	76
Full-time in paid employment	136	45.72	10.559	.905	43.93	47.51	22	63
Part-time in paid employment	119	43.36	12.698	1.164	41.06	45.67	14	66
Student	33	22.39	5.994	1.044	20.27	24.52	16	42
Unemployed	80	52.05	11.620	1.299	49.46	54.64	20	79
Retired	84	67.65	5.327	.581	66.50	68.81	48	88
Other	31	44.52	13.839	2.486	39.44	49.59	17	63
Total	510	48.68	15.238	.675	47.36	50.01	14	88

Appendix VI.52: ANOVA Working situation - Age.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60114.325	6	10019.054	86.769	.000
Within Groups	58080.216	503	115.468		
Total	118194.541	509			

Appendix VI.53: Adjusted cross table Working situation - Family status.

			Family status					Total
			Living together with children	Living together without children	Single parent with children	Single parent without children	Other	
Working situation	Full-time in paid employment	Count	55	39	9	29	4	136
		% within Family status	33.3%	21.9%	39.1%	32.6%	7.8%	26.8%
	Part-time in paid employment	Count	53	40	3	14	9	119
		% within Family status	32.1%	22.5%	13.0%	15.7%	17.6%	23.5%
	Unemployed	Count	29	21	9	15	4	78
		% within Family status	17.6%	11.8%	39.1%	16.9%	7.8%	15.4%
	Retired	Count	4	59	0	17	3	83
		% within Family status	2.4%	33.1%	0.0%	19.1%	5.9%	16.4%
	Other	Count	24	19	2	14	31	90
		% within Family status	14.5%	10.7%	8.7%	15.7%	60.8%	17.8%
Total		Count	165	181	23	89	51	506
		% within Family status	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VI.54: Chi-Square tests Working situation - Family status.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	153.254[a]	1	.000
Likelihood Ratio	143.238	6	.000
Linear-by-Linear Association	25.965	16	.000
N of Valid Cases	506	1	

a. 3 cells (12.0%) have expected count less than 5. The minimum expected count is 3.55.

Appendix VI.55: Ranks Working situation - Education level.

	Working situation	N	Mean rank
Education level	Entrepreneur	27	298.43
	Full-time in paid employment	136	300.22
	Part-time in paid employment	119	250.88
	Student	33	215.36
	Unemployed	78	189.56
	Retired	83	258.09
	Other	30	207.12
	Total	506	

Appendix VI.56: Kruskal-Wallis test Working situation - Education level[a].

	Value
Chi-Square	40.384
df	6
Asymp. Sig.	.000

a. Grouping variable: Working situation.

Appendix VI.57: Descriptives Working situation - Population.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Entrepreneur	27	106266.30	205438.435	39536.645	24997.56	187535.03	550	790110
Full-time in paid employment	136	122230.96	170631.746	14631.552	93294.25	151167.66	780	790110
Part-time in paid employment	119	72230.59	128808.258	11807.834	48847.86	95613.31	350	790110
Student	33	85893.79	90950.710	15832.486	53644.07	118143.51	540	316275
Unemployed	80	113517.86	185750.460	20767.533	72181.12	154854.60	505	790110
Retired	84	57688.74	96366.100	10514.404	36776.01	78601.46	250	616260
Other	31	81531.94	153440.676	27558.759	25249.44	137814.43	725	790110
Total	510	92896.68	152062.987	6733.462	79667.88	106125.48	250	790110

Appendix VI.58: ANOVA Working situation - Population.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.164E+11	6	5.274E+10	2.316	.032
Within Groups	1.145E+13	503	2.277E+10		
Total	1.177E+13	509			

Appendix VI.59: Descriptives Working situation - Years living in current place of residence.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Entrepreneur	27	15.22	9.974	1.920	11.28	19.17	0	40
Full-time in paid employment	136	11.81	8.909	.764	10.30	13.32	0	39
Part-time in paid employment	119	12.87	10.247	.939	11.01	14.73	0	52
Student	33	9.45	7.878	1.371	6.66	12.25	1	24
Unemployed	80	14.90	11.082	1.239	12.43	17.37	0	45
Retired	84	21.79	13.579	1.482	18.84	24.73	1	53
Other	31	10.97	9.541	1.714	7.47	14.47	0	36
Total	510	14.16	11.069	.490	13.20	15.13	0	53

Appendix VI.60: ANOVA Working situation - Years living in current place of residence.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6954.194	6	1159.032	10.521	.000
Within Groups	5514.298	503	110.166		
Total	62367.492	509			

Appendix VI.61: Ranks Income - Scenario.

	Scenario	N	Mean rank
Income	Place attachment	115	168.38
	Place identity	126	179.92
	Place dependence	99	160.98
	Total	340	

Appendix VI.62: Kruskal-Wallis test Income - Scenario[a].

	Value
Chi-Square	2.399
df	2
Asymp. Sig.	.301

a. Grouping variable: Scenario.

Appendix VI.63: Ranks Income - Gender.

	Gender	N	Mean rank
Income	Male	159	187.42
	Female	181	155.64
	Total	340	

Appendix VI.64: Mann-Whitney U-test Income - Gender[a].

	Value
Mann-Whitney U	11699.500
Wilcoxon W	28170.500
Z	-3.150
Asymp. Sig. (2-tailed)	.002

a. Grouping variable: Gender.

Appendix VI.65: Descriptives Income - Age.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
1,200 euro or less	57	41.95	16.373	2.169	37.60	46.29	18	79
1,200 – 2,000 euro	100	52.16	13.391	1.339	49.50	54.82	24	82
2,000 – 4,000 euro	145	50.06	15.297	1.270	47.54	52.57	14	78
4,000 – 6,000 euro	29	46.62	14.980	2.782	40.92	52.32	17	70
6,000 – 8,000 euro	8	49.75	14.410	5.095	37.70	61.80	23	69
8,000 euro or more	1	59.00	.	.	.	.	59	59
Total	340	49.04	15.213	.825	47.42	50.66	14	82

Appendix VI.66: ANOVA Income - Age.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4263.255	5	852.651	3.838	.002
Within Groups	74198.168	334	222.150		
Total	78461.424	339			

Appendix VI.67: Ranks Income - Family status.

	Family status	N	Mean rank
Income	Living together/married with children	111	212.70
	Living together/married without children	112	192.55
	Single parent with children	18	105.25
	Single childless adult	68	105.47
	Student	17	78.71
	Other	13	157.73
	Total	339	

Appendix VI.68: Kruskal-Wallis test Income - Family status[a].

	Value
Chi-Square	88.996
df	5
Asymp. Sig.	.000

a. Grouping variable: Family status.

Appendix VI.69: Ranks Income - Education level.

	Family status	N	Mean rank
Income	Elementary school	6	133.42
	Secondary school	56	125.35
	MBO	120	155.18
	HBO	119	194.15
	University	37	209.35
	Total	338	

Appendix VI.70: Kruskal-Wallis test Income - Education level[a].

	Value
Chi-Square	32.079
df	4
Asymp. Sig.	.000

a. Grouping variable: Education level.

Appendix VI.71: Ranks Income – Working situation.

	Family status	N	Mean rank
Income	Entrepreneur	18	195.44
	Full-time in paid employment	96	205.96
	Part-time in paid employment	72	165.01
	Student	21	107.60
	Unemployed	59	130.25
	Retired	58	184.41
	Other	15	121.27
	Total	339	121.27

Appendix VI.72: Kruskal-Wallis test Income - Working situation[a].

	Value
Chi-Square	42.116
df	6
Asymp. Sig.	.000

a. Grouping variable: Working situation.

Appendix VI.73: Descriptives Income - Population.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower bound	Upper bound	Minimum	Maximum
1,200 euro or less	57	108551.56	128263.950	16988.975	74518.55	142584.57	930	616260
1,200 – 2,000 euro	100	97992.60	166096.373	16609.673	65035.48	130949.72	350	790110
2,000 – 4,000 euro	145	75290.44	135389.295	11243.469	53066.88	97514.00	250	790110
4,000 – 6,000 euro	29	71772.41	65178.371	12103.320	46979.89	96564.94	730	193165
6,000 – 8,000 euro	8	305813.75	349134.587	123473.72	13929.93	597697.57	725	790110
8,000 euro or more	1	725.00	.	.	.	.	725	725
Total	340	92448.38	150807.341	8178.676	76361.03	1085353.72	250	790110

Appendix VI.74: ANOVA Income - Population.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.456E+11	5	8.911E+10	4.097	.001
Within Groups	7.264E+12	334	2.175E+10		
Total	7.710E+12	339			

Appendix VI.75: Descriptives Income - Years living in current place of residence.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower bound	Upper bound	Minimum	Maximum
1,200 euro or less	57	11.58	12.477	1.653	8.27	14.89	1	52
1,200 – 2,000 euro	100	13.76	10.720	1.072	11.63	15.89	0	45
2,000 – 4,000 euro	145	13.97	10.417	.865	12.26	15.68	0	41
4,000 – 6,000 euro	29	11.24	8.651	1.606	7.95	14.53	1	33
6,000 – 8,000 euro	8	10.88	6.621	2.341	5.34	16.41	0	21
8,000 euro or more	1	12.00	.	.	.	.	12	12
Total	340	13.19	10.663	.578	12.06	14.33	0	52

Appendix VI.76: ANOVA Income - Years living in current place of residence.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	422.041	5	84.408	.740	.594
Within Groups	38121.148	334	114.135		
Total	38543.188	339			

Appendix VII   Complexity   and   content   of   mental representations

Appendix VII.1: ANOVA Number of attributes.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.683	2	.341	.107	.898
Within Groups	1623.366	511	3.177		
Total	1624.049	513			

Appendix VII.2: ANOVA Number of benefits.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	45.610	2	22.805	1.551	.213
Within Groups	7514.875	511	14.706		
Total	7560.484	513			

Appendix VII.3: ANOVA Number of recalled benefits.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.599	2	1.800	5.783	.003
Within Groups	159.710	511	.313		
Total	163.309	513			

Appendix VII.4: ANOVA Number of benefits per attribute.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.767	2	1.383	1.597	.204
Within Groups	436.524	504	.866		
Total	439.290	506			

Appendix VII.5: ANOVA Number of benefits per attribute.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	849.438	2	424.719	2.211	.111
Within Groups	98141.644	511	192.058		
Total	98991.082	513			

Appendix VII.6: Chi-Square tests* Attributes frequencies - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	572.558[a]	250	.000
Likelihood Ratio	625.165	250	.000
Linear-by-Linear Association	50.766	1	.000
N of Valid Cases	1879		

a. 283 cells (74.9%) have expected count less than 5. The minimum expected count is .31.

* All attributes with at least 1 observation are included (126 attributes).

Appendix VII.7: Chi-Square tests* Attributes frequencies - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	304.743[a]	64	.000
Likelihood Ratio	319.076	64	.000
Linear-by-Linear Association	47.159	1	.000
N of Valid Cases	1397		

a. 18 cells (18.2%) have expected count less than 5. The minimum expected count is 2.79.

* Only attributes observed in 5% or more of the respondents' mental representations are included (33 attributes).

Appendix VII.8: Frequency of attributes* in mental representations of the place attachment scenario (N=19).

Attribute	Frequency
the retail offer	40,00%
the atmosphere in the SA	26,29%
the presence of bars and restaurants	18,29%
the bustle in the SA	16,57%
the product assortment	15,43%
the bustle inside the stores	13,71%
the liveliness in the SA	12,57%
the size of the SA	10,86%
the unique characteristics that define the SA	9,14%
the weather in general	9,14%
the availability of parking facilities	8,00%
the parking costs	7,43%
the presence of other consumers	6,86%
the distance to your home	6,86%
the accessibility by car	6,86%
the accessibility of the SA	6,86%
the amount of the indoor shopping area	5,71%
the relaxation the area can offer you	5,14%
the price level of the assortment	5,14%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix VII.9: Frequency of attributes* in mental representations of the place identity scenario (N=18).

Attribute	Frequency
the retail offer	41,44%
the atmosphere in the SA	36,46%
the presence of bars and restaurants	36,46%
the liveliness in the SA	14,36%
the unique characteristics that define the SA	12,71%
the bustle in the SA	9,94%
the parking costs	9,94%
the offer of small specialist stores	9,39%
the size of the SA	9,39%
the accessibility of the SA	9,39%
the availability of parking facilities	8,29%
the intimacy in the SA	7,18%
the distance to parking facilities	7,18%
the bustle inside the stores	6,63%
the weather in general	6,63%
the product assortment	6,08%
a historical (inner) city	5,52%
the amount of the indoor shopping area	5,52%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix VII.10: Frequency of attributes* in mental representations of the place dependence scenario (N=29).

Attribute	Frequency
the retail offer	27,22%
the product assortment	20,25%
the parking costs	17,72%
the distance to your home	15,19%
the price level of the assortment	14,56%
the offer of small specialist stores	12,66%
the bustle in the SA	12,03%
the time available	10,76%
the availability of parking facilities	9,49%
the weather in general	9,49%
the atmosphere in the SA	8,86%
the bustle inside the stores	7,59%
the quality of the service	7,59%
the accessibility by car	6,96%
time required to travel	6,96%
the liveliness in the SA	6,33%
the amount of the indoor shopping area	6,33%
the originality of the assortment	6,33%
your familiarity with the SA	6,33%
the time pressure for you	6,33%
the intimacy in the SA	5,70%
the size of the SA	5,70%
the accessibility of the SA	5,70%
availability of online shopping	5,70%
options for utilitarian shopping	5,06%
the structure of the SA	5,06%
the presence of bars and restaurants	5,06%
the offer of large chain stores	5,06%
the distance to parking facilities	5,06%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix VII.11: Frequency of benefits in mental representations of the place attachment scenario (N=37).

Benefit	Percentage
the atmospherics in general	49,71%
the choice options in the SA	46,86%
SA makes you feel comfortable	33,71%
to experience a pleasant shopping trip	33,71%
SA provokes a relaxed feeling	33,14%
the shopping comfort	33,14%
the ease of shopping	31,43%
SA guarantees you a successful shopping trip	28,57%
SA meets your needs better than other areas	25,14%
time saving	21,14%
the ease of the journey	21,14%
the feeling of safety	17,14%
SA provokes happy feeling	16,57%
the pleasure during shopping	14,86%
the experience by the physical environment	14,86%
relaxation in general	14,29%
financial saving	14,29%
SA is one of your favorite places to be	12,57%
SA guarantees you quality of products	11,43%
SA helps you to relax	11,43%
the comfort of the journey	9,71%
SA is a good reflection of your identity	9,14%
the need for social contact	8,00%
SA is a good place to do the things you most like to do	6,29%
SA is the best place for doing things you enjoy most	5,71%
SA and you share a special connection	5,14%
your curiosity for new experiences	5,14%
how healthy do you feel	4,57%
health enhancement	4,00%
the safety of the journey	3,43%
the environmental load	2,86%
SA gives you a feeling that you can be yourself	2,29%
mental ease	1,71%
the pleasure of the journey	1,71%
SA reflects the type of person your are	1,14%
your life becomes more predictable	1,14%
SA says a lot about who you are	0,00%

Appendix VII.12: Frequency of benefits in mental representations of the place identity scenario.

Benefit	Percentage
the atmospherics in general	59,12%
the choice options in the SA	44,75%
to experience a pleasant shopping trip	41,44%
SA provokes a relaxed feeling	35,91%
SA makes you feel comfortable	35,36%
SA provokes happy feeling	30,94%
the shopping comfort	30,39%
the ease of shopping	27,07%
the pleasure during shopping	25,41%
SA helps you to relax	23,76%
the experience by the physical environment	21,55%
the ease of the journey	20,99%
relaxation in general	19,34%
SA meets your needs better than other areas	19,34%
the feeling of safety	18,23%
SA guarantees you a successful shopping trip	16,57%
financial saving	14,36%
SA guarantees you quality of products	13,81%
time saving	12,71%
SA is a good reflection of your identity	11,05%
SA is the best place for doing things you enjoy most	10,50%
SA is one of your favorite places to be	9,39%
the need for social contact	8,84%
your curiosity for new experiences	8,84%
SA and you share a special connection	7,18%
the comfort of the journey	6,63%
SA is a good place to do the things you most like to do	6,08%
mental ease	6,08%
the pleasure of the journey	4,42%
the environmental load	3,87%
SA reflects the type of person your are	2,21%
how healthy do you feel	2,21%
the safety of the journey	2,21%
SA says a lot about who you are	1,66%
your life becomes more predictable	1,10%
SA gives you a feeling that you can be yourself	0,55%
health enhancement	0,55%

Appendix VII.13: Frequency of benefits in mental representations of the place dependence scenario.

Benefit	Percentage
the choice options in the SA	55,70%
time saving	43,04%
the ease of shopping	40,51%
SA guarantees you a successful shopping trip	31,01%
the ease of the journey	29,75%
the atmospherics in general	29,75%
financial saving	29,11%
to experience a pleasant shopping trip	28,48%
the shopping comfort	28,48%
SA guarantees you quality of products	20,25%
SA makes you feel comfortable	19,62%
the feeling of safety	17,09%
SA meets your needs better than other areas	16,46%
SA provokes a relaxed feeling	14,56%
the pleasure during shopping	13,29%
the comfort of the journey	12,03%
SA is one of your favorite places to be	8,86%
SA provokes happy feeling	8,86%
SA and you share a special connection	6,96%
how healthy do you feel	6,96%
mental ease	6,96%
the need for social contact	6,33%
relaxation in general	6,33%
SA is the best place for doing things you enjoy most	6,33%
the experience by the physical environment	6,33%
SA is a good place to do the things you most like to do	4,43%
SA helps you to relax	4,43%
your curiosity for new experiences	4,43%
your life becomes more predictable	4,43%
SA is a good reflection of your identity	3,80%
the pleasure of the journey	3,16%
SA reflects the type of person your are	2,53%
the safety of the journey	1,90%
SA gives you a feeling that you can be yourself	1,27%
SA says a lot about who you are	1,27%
the environmental load	1,27%
health enhancement	0,00%

Appendix VII.14: Chi-Square tests* Benefits frequencies - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	243.772[a]	72	.000
Likelihood Ratio	249.172	72	.000
Linear-by-Linear Association	.771	1	.380
N of Valid Cases	2900		

a. 21 cells (18.9%) have expected count less than 5. The minimum expected count is 1.43.
 * All benefits with at least 1 observation are included (37 benefits).

Appendix VII.15: Chi-Square tests* Cognitive subsets frequencies - Scenario.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	206.236[a]	38	.000
Likelihood Ratio	211.049	38	.000
Linear-by-Linear Association	7.914	1	.005
N of Valid Cases	1022		

a. 1 cell (1.7%) has expected count less than 5. The minimum expected count is 3.55.
 * Only cognitive subsets observed in 10% or more of the respondents' mental representations are included (20 cognitive subsets).

Appendix VIII Final choice and sample characteristics

Appendix VIII.1: Cross table Scenario - Final choice.

			Final choice			
			Small inner city	Large inner city	Peripheral shopping center	Total
Number of completions	Place attachment	Count	77	63	35	175
		% within Scenario	37.0%	33.5%	36.8%	35.6%
	Place identity	Count	76	76	29	181
		% within Scenario	36.5%	40.4%	30.5%	36.9%
	Place dependence*	Count	55	49	31	135
		% within Scenario	26.4%	26.1%	32.6%	27.5%
Total		Count	208	188	95	491
		% within Scenario	100.0%	100.0%	100.0%	100.0%

* The choice option *online shopping* is excluded from the Chi-Square test.

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Final choice - Scenario	491	95.5%	23	4.5%	514	100.0%

Appendix VIII.2: Chi-Square tests Scenario - Final choice

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.212[a]	4	.523
Likelihood Ratio	3.212	4	.523
Linear-by-Linear Association	.446	1	.504
N of Valid Cases	491		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 26.12.

Appendix VIII.3: Cross table Gender - Final choice.

			Final choice				
			Small inner city	Large inner city	Peripheral shopping center	Online shopping	Total
Gender	Male	Count	42	80	42	10	203
		% within Final choice	44.2%	42.6%	44.2%	43.5%	39.3%
	Female	Count	53	108	53	13	311
		% within Final choice	55.8%	57.4%	55.8%	56.5%	60.7%
Total		Count	208	95	95	23	514
		% within Final choice	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix VIII.4: Chi-Square tests Gender - Final choice.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.274[a]	3	.233
Likelihood Ratio	4.301	3	.231
Linear-by-Linear Association	3.297	1	.069
N of Valid Cases	514		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.08.

Appendix VIII.5: Descriptives Age - Final choice.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Small inner city	208	50.91	14.634	1.015	48.91	52.91	17	88
Large inner city	188	46.29	15.214	1.110	44.10	48.48	17	78
Peripheral shopping center	95	49.98	15.309	1.571	46.86	53.10	16	79
Online shopping	23	42.04	16.422	3.424	34.94	49.10	14	70
Total	514	48.65	15.221	.671	47.33	49.97	14	88
Total	514	48.65	15.221	.671	47.33	49.97	14	88

Appendix VIII.6.21: ANOVA Age - Final choice.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3277.575	3	1092.525	4.812	.003
Within Groups	115575.088	510	226.618		
Total	118852.663	513			

Appendix VIII.7: Cross table Family status - Final choice.

			Final choice				
			Small inner city	Large inner city	Peripheral shopping center	Online shopping	Total
Family status	Living together/married with children	Count	64	59	33	10	166
		% within Final choice	31.4%	31.6%	34.7%	43.5%	32.6%
	Living together/married without children	Count	72	66	36	5	179
		% within Final choice	35.3%	35.3%	37.9%	21.7%	35.2%
	Single parent with children	Count	11	8	3	1	23
		% within Final choice	5.4%	4.3%	3.2%	4.3%	4.5%
	Single parent without children	Count	39	32	15	4	90
		% within Final choice	19.1%	17.1%	15.8%	17.4%	17.7%
	Student	Count	8	14	1	1	24
		% within Final choice	3.9%	7.5%	1.1%	4.3%	4.7%
	Other	Count	10	8	7	2	27
		% within Final choice	4.9%	4.3%	7.4%	8.7%	5.3%
	I'd rather not say*	Count	4	1	0	0	5
		% within Final choice	1.9%	0.5%	0.0%	0.0%	1.0%
Total		Count	204	187	95	23	509
		% within Final choice	100.0%	100.0%	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VIII.8: Chi-Square tests Family status - Final choice.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.455[a]	15	.720
Likelihood Ratio	12.257	15	.660
Linear-by-Linear Association	.149	1	.700
N of Valid Cases	509		

a. 3 cells (16.7%) have expected count less than 5. The minimum expected count is 4.30.

Appendix VIII.9: Ranks Education level - Final choice.

	Final choice	N	Mean rank
Education level	Small inner city	203	259.76
	Large inner city	188	254.86
	Peripheral shopping center	95	247.49
	Online shopping	23	245.13
	Total	509	

Appendix VIII.10: Kruskal-Wallis test Education level - Final choice[a].

	Value
Chi-Square	.602
df	3
Asymp. Sig.	.892

a. Grouping variable: Final choice.

Appendix VIII.11: Cross table Working situation - Final choice.

			Final choice				
			Small inner city	Large inner city	Peripheral shopping center	Online shopping	Total
Working situation	Entrepreneur	Count	11	8	7	10	166
		% within Final choice	5.4%	4.3%	7.4%	43.5%	32.6%
	Full-time in paid employment	Count	42	62	25	5	179
		% within Final choice	20.5%	33.2%	26.3%	21.7%	35.2%
	Part-time in paid employment	Count	51	43	21	1	23
		% within Final choice	24.9%	23.0%	22.1%	4.3%	4.5%
	Student	Count	12	15	5	4	90
		% within Final choice	5.9%	8.0%	5.3%	17.4%	17.7%
	Unemployed	Count	37	28	15	1	24
		% within Final choice	18.0%	15.0%	15.8%	4.3%	4.7%
	Retired	Count	39	24	17	4	84
		% within Scenario	19.0%	12.8%	17.9%	17.4%	16.3%
	Other	Count	13	7	5	6	31
		% within Scenario	6.3%	3.7%	5.3%	26.1%	6.0%
	I'd rather not say*	Count	3	1	0	0	4
		% within Final choice	1.4%	0.5%	0.0%	0.0%	0.8%
Total		Count	204	187	95	23	509
		% within Final choice	100.0%	100.0%	100.0%	100.0%	100.0%

* Excluded from the statistical analyses

Appendix VIII.12: Chi-Square tests Working situation - Final choice.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.638[a]	12	.396
Likelihood Ratio	12.683	12	.392
Linear-by-Linear Association	2.433	1	.119
N of Valid Cases	487		

a. 1 cell (4.8%) has expected count less than 5. The minimum expected count is 4.88.

Appendix VIII.13: Ranks Income - Final choice.

	Final choice	N	Mean rank
Income	Small inner city	138	165.87
	Large inner city	129	171.13
	Peripheral shopping center	61	181.27
	Online shopping	12	162.21
	Total	340	

Appendix VIII.14: Kruskal-Wallis test Income - Final choice[a].

	Value
Chi-Square	1.267
df	3
Asymp. Sig.	.737

a. Grouping variable: Final choice.

Appendix VIII.15: Descriptives Population of place of residence - Final choice.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Small inner city	208	67614.80	124547.431	8635.811	50589.39	84640.22	350	790110
Large inner city	188	109788.09	166233.290	12123.809	85871.07	133705.10	250	790110
Peripheral shopping center	95	121981.09	189032.568	19394.332	83473.19	160489.00	525	790110
Online shopping	23	84291.30	110061.892	22949.491	36696.97	131885.64	1205	502055
Total	514	93834.52	154668.064	6822.116	80431.80	107237.24	250	790110

Appendix VIII.16: ANOVA Population of place of residence - Final choice.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.682E+11	3	8.940E+10	3.798	.010
Within Groups	1.200E+13	510	2.354E+10		
Total	1.227E+13	513			

Appendix VIII.17: Descriptives Years living in current place of residence - Final choice.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Small inner city	208	14.83	11.304	.784	13.28	16.37	0	49
Large inner city	188	13.28	10.679	.779	11.75	14.82	0	53
Peripheral shopping center	95	15.06	11.735	1.204	12.67	17.45	0	52
Online shopping	23	10.61	7.924	1.652	7.18	14.04	2	33
Total	514	14.12	11.056	.488	13.16	15.07	0	53

Appendix VIII.18: ANOVA Years living in current place of residence - Final choice.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	604.069	3	201.356	1.654	.176
Within Groups	62102.927	510	121.770		
Total	62706.996	513			

Appendix VIII.19: Model Fitting Information - Final choice.

Model	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept only	1197.731			
Final	1037.237	160.494	63	.000

Appendix VIII.20: Likelihood Ratio Tests - Final choice*.

Effect	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1037.237[a]	.000	0	.
Age	1047.841[b]	10.603	3	.014
Population of place of residence	1053.421	16.184	3	.001
Years living in current place of residence	1039.302[b]	2.064	3	.559
Gender	1041.778[b]	4.540	3	.209
Family status	1050.583[b]	13.345	15	.576
Education level	1061.662	24.425	12	.018
Working situation	1059.453[b]	22.216	18	.223
Scenario	1091.810[b]	54.572	6	.000

The chi-square statistic is the differences in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final form. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

b. Unexpected singularities in the Hessian matrix are encountered. This indicates that either some predictor variables should be excluded or some categories should be merged.

* The variable 'Income' is left out this multinomial logistic model, since 177 respondents (34.4%) declined to answer this question.

Appendix VIII.21: Model Fitting Information - Final choice**.

Model	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept only	1010.885			
Final	951.700	59.185	42	.041

** The choice outcome *online shopping* is left out this multinomial logistic model, since it was only available in the place dependence scenario.

Appendix VIII.22: Likelihood Ratio Tests - Final choice*/.**

Effect	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	951.700[a]	.000	0	.
Age	956.458	4.758	2	.093
Population of place of residence	965.720	14.020	2	.001
Years living in current place of residence	951.811	.110	2	.946
Gender	955.949	4.249	2	.119
Family status	962.119	10.418	10	.405
Education level	962.511	10.811	8	.213
Working situation	959.229	7.529	12	.821
Scenario	954.073	2.372	4	.668

The chi-square statistic is the differences in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final form. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

* The variable 'Income' is left out this multinomial logistic model, since 177 respondents (34.4%) declined to answer this question.

** The choice outcome *online shopping* is left out this multinomial logistic model, since it was only available in the place dependence scenario.

Appendix IX   Cluster analysis

Appendix IX.1: Composition and frequencies of newly formed attributes from original attributes.

Attributes	Attachment	Identity	Dependence
time	13	9	40
the opening hours	4	1	4
the time available	4	1	17
the time pressure for you	2	2	10
the moment of the activity	2	3	4
combining the visit with other activities	1	2	5
the weather	17	13	15
the weather in general	16	12	15
warm weather	1	0	0
cold weather	0	1	0
the accessibility of the SA	60	48	71
the traffic density	3	1	0
the accessibility of the SA	12	17	9
time required to travel	5	2	11
the availability of the means of transportation	2	1	1
the accessibility by car	12	9	11
the accessibility by scooter	8	8	4
the accessibility by bike	2	2	6
the accessibility when walking	2	4	5
the distance to a public transport stop	1	1	0
the distance to your workplace	1	0	0
the distance to your home	12	3	24
personal characteristics	14	19	38
children	0	0	2
advice of family or friends	0	0	2
urgency of the product	2	0	7
being in contact with acquaintances	4	0	2
your mood	1	1	2
your familiarity with the SA	3	3	14
the needs of your friend	0	5	0
the notability of the meeting	0	3	0
past experiences with the SA	1	2	1
you are searching for new experiences	1	0	0
the presence of a companion	1	3	0
options for utilitarian shopping	1	2	8
the product assortment	44	27	82
the product assortment	27	11	32
the presence of well-known brands	1	2	0
the originality of the assortment	0	0	10
the price level of the assortment	9	9	23
are there any special offers	5	3	5
the product quality	2	1	4
the size and weight of the product	0	1	1
the tangibility of the products	0	0	7

the service level inside the shops	7	6	26
the quality of the service	2	1	12
the kindness of the employees	5	4	6
the reliability of the delivery service	0	0	3
the options for delivery	0	1	5
atmosphere inside the stores	35	18	16
the bustle inside the stores	24	12	12
music inside the stores	1	0	0
atmosphere inside the stores in general	8	4	3
the decoration inside the stores	2	1	1
the shop windows of the stores	0	1	0
costs in general	13	18	32
the costs for delivery	0	0	2
the travel costs in general	0	0	2
the parking costs	13	18	28
parking facilities	23	31	26
the distance to parking facilities	8	13	8
the availability of parking facilities	14	15	15
the time needed to find a parking spot	1	3	2
the maximum parking duration	0	0	1
functional characteristics of the SA	44	40	30
the accessibility for disabled persons	2	5	3
the size of the SA	19	17	9
changes to the retailing landscape	0	1	0
the size of the stores themselves	0	0	2
variation in size of the stores	2	2	1
the size of the indoor shopping area	10	10	10
the presence of crime	1	1	3
the possibility to reside outdoor in the SA	6	3	0
safety in general	4	1	2
the retail offer	103	110	77
the retail offer	70	75	43
the offer of large chain stores	8	9	8
the offer of small specialist stores	8	17	20
the presence of a Hema	1	0	0
the presence of a book shop	2	0	0
the presence of an electronics store	0	1	0
the presence of a men's fashion store	0	1	0
the presence of a sports store	0	1	0
the presence of a department store	4	0	0
the presence of your favourite shop	4	3	3
diversity of stores	6	3	3
the presence of bars and restaurants	38	69	8
the presence of bars and restaurants	32	66	8
the presence of terraces	6	3	0

the structure of the SA	31	28	27
you can walk around pleasantly in the SA	3	0	1
the clustering of stores	6	1	2
the structure of the SA	6	8	8
the walking distances in the SA	7	2	6
the distance between stores	3	9	7
the compactness of the SA	6	8	3
the atmosphere in the SA	85	109	31
the atmosphere in the SA	46	66	14
the intimacy in the SA	8	13	9
the image of the place	1	2	0
the unique characteristics that define the SA	16	23	5
the relative size of things	0	0	3
the music in the SA	1	0	0
the noise nuisance	4	2	0
the relaxation the area can offer you	9	3	0
the liveliness in the SA	52	44	30
the liveliness in the SA	22	26	10
the bustle in the SA	29	18	19
the amount of excitement in the SA	1	0	1
the appearance of the physical environment	27	43	14
a historical (inner) city	7	10	1
the architecture	0	7	0
the appearance of the physical environment	5	4	3
the appearance of the public space	3	7	2
the appearance of the shop windows	2	0	0
the size of the streets	3	2	2
the neatness of the SA	3	3	4
the maintenance condition	1	1	1
the quality and appearance of the pavement	0	1	0
the lighting in the SA	0	3	0
the amount of plants and trees	3	5	1
facilities in general	12	13	5
the presence of seating spots	6	6	1
the presence of meeting points	0	1	0
the presence of a cinema	0	1	0
the presence of a theatre	1	0	0
the presence of cultural facilities	0	1	0
the presence of leisure facilities	1	2	1
the presence of public toilets	4	2	0
a baby care room	0	0	1
the presence of an ATM	0	0	2
other people in the SA	14	13	6
the presence of similar persons	1	2	1
the presence of other consumers	12	9	5
the nuisance of loitering kids	0	1	0
to watch other people	1	1	0

other	2	4	10
availability of online shopping	0	0	9
the presence of parks	0	1	0
the presence of a flee market	0	1	0
the presence of street artists	1	0	0
the presence of squares	1	1	0
the presence of street activities	0	1	1

Appendix IX.2: Composition and frequencies of newly formed benefits from original benefits.

Benefits	Attachment	Identity	Dependence
the atmospherics	168	214	94
the experience by the physical environment	26	39	10
the atmospherics in general	87	107	47
the feeling of safety	30	33	27
relaxation in general	25	35	10
to experience a pleasant shopping trip	198	225	175
the ease of shopping	55	49	64
the shopping comfort	58	55	45
the pleasure during shopping	26	46	21
to experience a pleasant shopping trip	59	75	45
the choice options in the SA	82	81	88
the choice options in the SA	82	81	88
the journey	63	62	74
the pleasure of the journey	3	8	5
the comfort of the journey	17	12	19
the ease of the journey	37	38	47
the safety of the journey	6	4	3
saving - time	37	23	68
time saving	37	23	68
saving - financially	25	26	46
financial saving	25	26	46
mental condition	25	25	31
health enhancement	7	1	0
mental ease	3	11	11
your life becomes more predictable	2	2	7
to reduce your impact on the environment	5	7	2
how healthy do you feel	8	4	11
social contact	14	16	10
the need for social contact	14	16	10
new experiences	9	16	7
your curiosity for new experiences	9	16	7
attachment - low	78	108	30
SA makes you feel relaxed	58	65	23
SA helps you to relax	20	43	7

attachment - high	**119**	**150**	**70**
SA makes you feel happy	29	56	14
SA is one of your favorite places to be	22	17	14
SA and you share a special connection	9	13	11
SA makes you feel comfortable	59	64	31
identity - low	**4**	**1**	**2**
SA gives you a feeling that you can be yourself	4	1	2
identity - high	**18**	**27**	**12**
SA reflects the type of person your are	2	4	4
SA says a lot about who you are	0	3	2
SA is a good reflection of your identity	16	20	6
dependence - low	**70**	**55**	**81**
SA guarantees you a successful shopping trip	50	30	49
SA guarantees you quality of products	20	25	32
dependence - high	**65**	**65**	**43**
SA meets your needs better than other areas	44	35	26
SA is the best place for doing things you enjoy most	10	19	10
SA is a good place to do the things you most like to do	11	11	7

Appendix IX.3: K-means cluster comparison.

k	1	2	3	4	5	6	7	8	9	10
n	514	514	514	514	514	514	514	514	514	514
$W(C^k)$	0	221,088	179,192	144,251	119,051	104,275	93,324	88,116	79,015	75,172
$Har(k)$	0	0.00046	0.00047	0.00042	0.00028	0.00023	0.00012	0.00023	0.00010	-

Appendix IX.4: Sense of place scores of newly formed variables.

Benefits	Used for index	SoP Score
the atmospherics	General	1
to experience a pleasant shopping trip	-	0
the choice options in the SA	-	0
the journey	-	0
saving - time	-	0
saving - financially	-	0
mental condition	-	0
social contact	-	0
new experiences	General	1
attachment - low	General/Place Attachment	3
attachment - high	General/Place Attachment	5
identity - low	General/Place Identity	3
identity - high	General/Place Identity	5
dependence - low	General/Place Dependence	3
dependence - high	General/Place Dependence	5

Appendix IX.5: Cross table Scenario - Clusters.

			Clusters				
			Absolutely Attached	Considerately Connected	Definitely Dependent	Utterly Unrestricted	Total
Scenario	Place attachment	Count % within Clusters	56 38.9%	45 39.1%	37 25.7%	37 33.3%	175 34.0%
	Place identity	Count % within Clusters	68 47.2%	50 43.5%	29 20.1%	34 30.6%	181 35.2%
	Place dependence	Count % within Clusters	20 13.9%	20 17.4%	78 54.2%	40 36.0%	158 30.7%
Total		Count % within Clusters	144 100.0%	115 100.0%	144 100.0%	111 100.0%	514 100.0%

Appendix IX.6: Chi-Square tests Scenario - Clusters.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	69.605[a]	6	.000
Likelihood Ratio	70.653	6	.000
Linear-by-Linear Association	2.865	1	.091
N of Valid Cases	514		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 34.12.

Appendix IX.7: Cross table Gender - Clusters.

			Clusters				
			Absolutely Attached	Considerately Connected	Definitely Dependent	Utterly Unrestricted	Total
Gender	Male	Count % within Clusters	51 35.4%	45 39.1%	62 43.1%	45 40.5%	203 39.5%
	Female	Count % within Clusters	93 64.6%	70 60.9%	82 56.9%	66 59.5%	311 60.5%
Total		Count % within Clusters	144 100.0%	115 100.0%	144 100.0%	111 100.0%	514 100.0%

Appendix IX.8: Chi-Square tests Scenario - Clusters.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.823[a]	3	.610
Likelihood Ratio	1.829	3	.609
Linear-by-Linear Association	.669	1	.413
N of Valid Cases	514		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 43.84.

Appendix IX.9: Descriptives Age - Clusters.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Absolutely Attached	144	51.25	15.200	1.267	48.75	53.75	16	79
Considerately Connected	115	47.18	14.869	1.387	44.44	49.93	17	75
Definitely Dependent	144	48.60	14.207	1.184	46.26	50.94	14	78
Utterly Unrestricted	111	46.86	16.561	1.572	43.75	49.98	16	88
Total	514	48.65	15.221	.671	47.33	49.97	14	88

Appendix IX.10: ANOVA Age - Clusters.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1575.008	3	525.029	2.283	.078
Within Groups	117277.576	510	229.956		
Total	118852.663	513			

Appendix IX.11: Descriptives Population of place of residence - Scenario.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Absolutely Attached	144	77697.67	133658.668	11138.222	55680.83	99714.50	370	790110
Considerately Connected	115	85055.04	121669.538	11345.743	62579.21	107530.87	605	790110
Definitely Dependent	144	113966.39	185025.742	15418.812	83488.14	144444.63	250	790110
Utterly Unrestricted	111	97747.65	165910.535	15747.531	66539.74	128955.56	350	790110
Total	514	93834.52	154668.064	6822.116	80431.80	107237.24	250	790110

Appendix IX.12: ANOVA Population of place of residence - Scenario.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.064E+11	3	3.547E+10	1.487	.217
Within Groups	1.217E+13	510	2.385E+10		
Total	1.227E+13	513			

Appendix IX.13: Descriptives Years living in current place of residence - Clusters.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower bound	Upper bound		
Absolutely Attached	144	16.79	12.84	1.024	14.77	18.82	0	52
Considerately Connected	115	13.50	10.567	.985	11.54	15.45	0	53
Definitely Dependent	144	12.94	10.118	.843	11.27	14.60	0	41
Utterly Unrestricted	111	12.82	10.574	1.004	10.83	14.81	0	41
Total	514	14.12	11.056	.488	13.16	15.07	0	53

Appendix IX.14: ANOVA Years living in current place of residence - Clusters.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1461.664	3	487.221	4.057	.007
Within Groups	61245.332	510	120.089		
Total	62706.996	513			

Appendix IX.15: Cross table Family status - Clusters.

			Clusters				
			Absolutely Attached	Considerately Connected	Definitely Dependent	Utterly Unrestricted	Total
Family status	Living together/married with children	Count % within Clusters	43 29.9%	43 37.4%	46 31.9%	34 30.6%	166 32.6%
	Living together/married without children	Count % within Clusters	55 38.2%	36 31.3%	52 36.1%	36 32.4%	179 35.2%
	Single parent with children	Count % within Clusters	7 4.9%	3 2.6%	9 6.3%	4 3.6%	23 4.5%
	Single childless adult	Count % within Clusters	25 17.4%	20 17.4%	26 18.1%	19 17.1%	90 17.7%
	Student	Count % within Clusters	5 3.5%	4 3.5%	4 2.8%	11 9.9%	24 4.7%
	Other	Count % within Clusters	7 4.9%	8 7.0%	6 4.2%	6 5.4%	27 5.3%
	I'd rather not say*	Count % within Clusters	2 1.4%	1 0.9%	1 0.7%	1 0.9%	5 1.0%
Total		Count % within Clusters	144 100.0%	115 100.0%	144 100.0%	111 100.0%	514 100.0%

* Excluded from the statistical analyses

Appendix IX.16: Chi-Square tests Family status - Clusters.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.017[a]	15	.524
Likelihood Ratio	12.679	15	.627
Linear-by-Linear Association	.176	1	.675
N of Valid Cases	509		

a. 1 cell (4.2%) has expected count less than 5. The minimum expected count is 4.97.

Appendix IX.17: Ranks Education level - Clusters.

	Scenario	N	Mean rank
Education level	Absolutely Attached	142	234.33
	Considerately Connected	115	278.22
	Definitely Dependent	143	249.06
	Utterly Unrestricted	109	265.22
	Total	509	

Appendix IX.18: Kruskal-Wallis test Education level - Clusters[a].

	Value
Chi-Square	7.069
df	3
Asymp. Sig.	.070

a. Grouping variable: Clusters.

Appendix IX.19: Cross table Working situation - Clusters.

			Clusters				
			Absolutely Attached	Considerately Connected	Definitely Dependent	Utterly Unrestricted	Total
Working situation	Entrepreneur	Count % within Clusters	5 3.5%	6 5.2%	11 7.6%	5 4.5%	27 5.3%
	Full-time in paid employment	Count % within Clusters	30 20.8%	35 30.4%	44 30.6%	27 24.3%	136 26.5%
	Part-time in paid employment	Count % within Clusters	36 25.0%	26 22.6%	30 20.8%	27 24.3%	119 23.2%
	Student	Count % within Clusters	8 5.6%	8 7.0%	7 4.9%	10 9.0%	33 6.4%
	Unemployed	Count % within Clusters	28 19.4%	17 14.8%	22 15.3%	13 11.7%	80 15.6%
	Retired	Count % within Clusters	28 19.4%	18 15.7%	20 13.9%	18 16.2%	84 16.3%
	Other	Count % within Clusters	8 5.6%	5 4.3%	9 6.3%	9 8.1%	31 6.0%
	I'd rather not say*	Count % within Clusters	1 0.7%	0 0.0%	1 0.7%	2 1.8%	4 0.8%
Total		Count % within Clusters	144 100.0%	115 100.0%	144 100.0%	111 100.0%	514 100.0%

* Excluded from the statistical analyses

Appendix IX.20: Chi-Square tests Working situation - Clusters.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.928[a]	18	.734
Likelihood Ratio	13.801	18	.742
Linear-by-Linear Association	4.272	1	.039
N of Valid Cases	510		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.77.

Appendix IX.21: Ranks Income - Clusters.

	Scenario	N	Mean rank
Income	Absolutely Attached	93	167.06
	Considerately Connected	74	177.26
	Definitely Dependent	95	170.21
	Utterly Unrestricted	78	168.54
	Total	340	

Appendix IX.22: Kruskal-Wallis test Income - Clusters[a].

	Value
Chi-Square	.556
df	3
Asymp. Sig.	.906

a. Grouping variable: Clusters.

Appendix IX.23: Cross table Final choice - Clusters.

			Clusters				
			Absolutely Attached	Considerately Connected	Definitely Dependent	Utterly Unrestricted	Total
Final choice	Small inner city	Count % within Clusters	74 51.4%	44 38.3%	46 31.9%	44 39.6%	208 40.5%
	Large inner city	Count % within Clusters	44 30.6%	58 50.4%	50 34.7%	36 32.4%	188 36.6%
	Peripheral shopping center	Count % within Clusters	24 16.7%	12 10.4%	35 24.3%	24 21.6%	95 18.5%
	Online shopping	Count % within Clusters	2 1.4%	1 0.9%	13 9.0%	7 6.3%	23 4.5%
Total		Count % within Clusters	144 100.0%	115 100.0%	144 100.0%	111 100.0%	514 100.0%

Appendix IX.24: Chi-Square tests Final choice - Clusters.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36.537[a]	9	.000
Likelihood Ratio	37.555	9	.000
Linear-by-Linear Association	1.976	1	.160
N of Valid Cases	514		

a. 1 cell (6.3%) has expected count less than 5. The minimum expected count is 4.97.

Appendix IX.25: Model Fitting Information - Clusters.

	Model Fitting Criteria	Likelihood Ratio Test		
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept only	1384.992			
Final	1253.510	152.482	72	.000

Appendix IX.26: Likelihood Ratio Tests - Clusters*.

	Model Fitting Criteria	Likelihood Ratio Test		
Effect	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1232.510[a]	.000	0	.
Age	1235.043	2.533	3	.469
Population of place of residence	1233.146	.636	3	.888
Years living in current place of residence	1237.398	4.888	3	.180
Gender	1232.854	.344	3	.951
Family status	1247.745	15.235	15	.435
Education level	1252.429	19.919	12	.069
Working situation	1240.726	8.216	18	.975
Scenario	1290.931	58.421	6	.000
Final choice	1253.461	20.952	9	.013

The chi-square statistic is the differences in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final form. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

* The variable 'Income' is left out this multinomial logistic model, since 177 respondents (34.4%) declined to answer this question.

Appendix IX.27: Frequencies of elicited attributes – Absolutely Attached.

Attribute	Percentage
the atmosphere in the SA	32,64%
the presence of bars and restaurants	25,00%
the bustle in the SA	14,58%
the size of the SA	14,58%
the intimacy in the SA	13,89%
the liveliness in the SA	13,19%
the retail offer	13,19%
the bustle inside the stores	10,42%
the size of the indoor shopping area	9,03%
the unique characteristics that define the SA	6,94%
the weather in general	6,94%
the structure of the SA	6,25%
the appearance of the public space	6,25%
the presence of other consumers	5,56%
the parking costs	5,56%
atmosphere inside the stores in general	5,56%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix IX.28: Frequencies of elicited benefits – Absolutely Attached.

Benefit	Percentage
the atmospherics in general	61,81%
SA makes you feel relaxed	40,28%
SA makes you feel comfortable	38,89%
the shopping comfort	31,94%
to experience a pleasant shopping trip	24,31%
the feeling of safety	23,61%
SA makes you feel happy	17,36%
the ease of shopping	17,36%
relaxation in general	15,97%
the experience by the physical environment	15,97%
SA helps you to relax	15,28%
the pleasure during shopping	14,58%
the choice options in the SA	13,89%
SA meets your needs better than other areas	11,11%
SA is the best place for doing things you enjoy most	10,42%
SA is one of your favorite places to be	9,03%
the ease of the journey	9,03%
the need for social contact	8,33%
SA and you share a special connection	6,94%
SA is a good reflection of your identity	6,25%
time saving	5,56%
SA is a good place to do the things you most like to do	4,86%
financial saving	4,86%
to reduce your impact on the environment	3,47%
mental ease	3,47%
SA guarantees you quality of products	2,78%
SA guarantees you a successful shopping trip	2,78%
the comfort of the journey	2,78%
SA reflects the type of person your are	2,08%
your curiosity for new experiences	2,08%
health enhancement	2,08%
SA says a lot about who you are	1,39%
how healthy do you feel	1,39%
your life becomes more predictable	1,39%
the safety of the journey	1,39%
the pleasure of the journey	1,39%
SA gives you a feeling that you can be yourself	0,69%

Appendix IX.29: Frequencies of elicited attributes – Considerately Connected.

Attribute	Percentage
the retail offer	61,74%
the atmosphere in the SA	43,48%
the presence of bars and restaurants	35,65%
the unique characteristics that define the SA	23,48%
the liveliness in the SA	16,52%
the offer of small specialist stores	16,52%
the product assortment	15,65%
the bustle in the SA	13,91%
the presence of other consumers	11,30%
the price level of the assortment	9,57%
the offer of large chain stores	7,83%
a historical (inner) city	6,96%
the availability of parking facilities	6,96%
the weather in general	6,96%
the kindness of the employees	6,09%
the intimacy in the SA	5,22%
the size of the indoor shopping area	5,22%
the size of the SA	5,22%
the bustle inside the stores	5,22%
the quality of the service	5,22%
your familiarity with the SA	5,22%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix IX.30: Frequencies of elicited benefits – Considerately Connected.

Benefit	Percentage
the choice options in the SA	80,00%
the atmospherics in general	71,30%
to experience a pleasant shopping trip	51,30%
SA guarantees you a successful shopping trip	44,35%
SA makes you feel happy	44,35%
SA makes you feel comfortable	43,48%
SA makes you feel relaxed	43,48%
the pleasure during shopping	35,65%
the shopping comfort	33,91%
the ease of shopping	33,91%
the experience by the physical environment	30,43%
relaxation in general	29,57%
SA helps you to relax	29,57%
SA guarantees you quality of products	26,96%
SA meets your needs better than other areas	25,22%
the feeling of safety	25,22%
SA is one of your favorite places to be	20,87%
your curiosity for new experiences	17,39%
financial saving	15,65%
SA is a good reflection of your identity	14,78%
SA and you share a special connection	13,91%
the need for social contact	9,57%
time saving	8,70%
SA is the best place for doing things you enjoy most	6,96%
SA is a good place to do the things you most like to do	5,22%
SA gives you a feeling that you can be yourself	4,35%
mental ease	4,35%
SA reflects the type of person your are	2,61%
how healthy do you feel	2,61%
health enhancement	2,61%
the ease of the journey	2,61%
the safety of the journey	1,74%
the comfort of the journey	1,74%
the pleasure of the journey	1,74%
SA says a lot about who you are	0,87%
your life becomes more predictable	0,87%
to reduce your impact on the environment	0,00%

Appendix IX.31: Frequencies of elicited attributes – Definitely Dependent.

Attribute	Percentage
the retail offer	22,22%
the product assortment	21,53%
the parking costs	15,97%
the time available	11,81%
the bustle inside the stores	11,11%
the bustle in the SA	10,42%
the distance to parking facilities	9,72%
the distance to your home	9,72%
the price level of the assortment	9,72%
the weather in general	9,03%
the walking distances in the SA	6,94%
the availability of parking facilities	6,94%
the offer of large chain stores	6,25%
the distance between stores	6,25%
the liveliness in the SA	5,56%
the presence of bars and restaurants	5,56%
the size of the SA	5,56%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix IX.32: Frequencies of elicited benefits – Definitely Dependent.

Benefit	Percentage
the choice options in the SA	42,36%
time saving	38,19%
the ease of shopping	38,19%
to experience a pleasant shopping trip	28,47%
SA guarantees you a successful shopping trip	25,69%
financial saving	22,22%
SA meets your needs better than other areas	19,44%
the shopping comfort	19,44%
SA guarantees you quality of products	14,58%
the ease of the journey	9,72%
SA makes you feel comfortable	9,03%
SA makes you feel relaxed	8,33%
the pleasure during shopping	8,33%
the need for social contact	6,25%
the atmospherics in general	6,25%
SA is a good reflection of your identity	5,56%
how healthy do you feel	4,86%
mental ease	4,86%
the comfort of the journey	4,86%
SA is a good place to do the things you most like to do	4,17%
your life becomes more predictable	3,47%
SA is the best place for doing things you enjoy most	2,78%
SA is one of your favorite places to be	2,78%
the environmental load	2,08%
relaxation in general	1,39%
SA and you share a special connection	1,39%
SA makes you feel happy	1,39%
the feeling of safety	1,39%
SA says a lot about who you are	0,69%
SA reflects the type of person your are	0,69%
SA helps you to relax	0,69%
health enhancement	0,69%
the pleasure of the journey	0,69%
the experience by the physical environment	0,69%
SA gives you a feeling that you can be yourself	0,00%
your curiosity for new experiences	0,00%
the safety of the journey	0,00%

Appendix IX.33: Frequencies of elicited attributes – Utterly Unrestricted.

| Attribute	Percentage
the retail offer	59,46%
the atmosphere in the SA	22,52%
the accessibility of the SA	21,62%
the parking costs	20,72%
the accessibility by car	20,72%
the presence of bars and restaurants	18,92%
the distance to your home	18,02%
the availability of parking facilities	17,12%
the product assortment	17,12%
the price level of the assortment	13,51%
the bustle in the SA	12,61%
the liveliness in the SA	10,81%
time required to travel	10,81%
the weather in general	10,81%
the offer of small specialist stores	9,91%
the accessibility by scooter	9,91%
the bustle inside the stores	9,91%
the size of the SA	9,01%
the distance to parking facilities	9,01%
the size of the indoor shopping area	8,11%
the accessibility when walking	7,21%
the accessibility by bike	7,21%
the time pressure for you	5,41%

* Only attributes observed in 5% or more of the respondents' mental representations.

Appendix IX.34: Frequencies of elicited benefits – Utterly Unrestricted.

| Benefit	Frequency
the ease of the journey	82,88%
the choice options in the SA	70,27%
the atmospherics in general	54,95%
time saving	49,55%
the ease of shopping	44,14%
the shopping comfort	40,54%
to experience a pleasant shopping trip	39,64%
financial saving	36,04%
SA guarantees you a successful shopping trip	33,33%
SA makes you feel comfortable	31,53%
the comfort of the journey	31,53%
SA meets your needs better than other areas	28,83%
SA makes you feel relaxed	23,42%
the feeling of safety	22,52%
SA guarantees you quality of products	18,92%
SA makes you feel happy	18,92%
the pleasure during shopping	17,12%
the experience by the physical environment	14,41%
SA helps you to relax	11,71%
SA is the best place for doing things you enjoy most	10,81%
SA is one of your favorite places to be	10,81%
relaxation in general	9,91%
how healthy do you feel	9,91%
the pleasure of the journey	9,91%
SA is a good place to do the things you most like to do	9,01%
your curiosity for new experiences	8,11%
the safety of the journey	8,11%
the need for social contact	7,21%
SA is a good reflection of your identity	7,21%
mental ease	7,21%
to reduce your impact on the environment	5,41%
SA and you share a special connection	4,50%
SA reflects the type of person your are	2,70%
your life becomes more predictable	2,70%
SA gives you a feeling that you can be yourself	0,90%
SA says a lot about who you are	0,90%
health enhancement	0,90%

Appendix X Choice outcomes and influential items

Appendix X.1: Model Fitting Information - Final choice.

Model	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept only	1209.089			
Final	968.391	240.699	102	.000

Appendix X.2: Likelihood Ratio Tests - Final choice*.

Effect	Model Fitting Criteria	Likelihood Ratio Test		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Attributes				
Intercept	968.391[a]	.000	0	.
The time available	971.245[b]	2.854	3	.415
The weather	979.911[b]	11.520	3	.009
The accessibility of the shopping area	973.696[b]	5.305	3	.151
Personal characteristics	975.364	6.973	3	.073
Product assortment	969.632[b]	1.242	3	.743
The service level inside the stores	973.394[b]	5.003	3	.172
Atmosphere inside the stores	973.609	5.218	3	.157
Costs in general	969.621[b]	1.230	3	.746
Parking facilities	980.551[b]	12.160	3	.007
Functional characteristics of the shopping area	975.435	7.044	3	.070
Retail offer	970.405	2.014	3	.569
The presence of bars and restaurants	977.588	9.197	3	.027
The structure of the shopping area	976.014	7.623	3	.054
The atmosphere in the shopping area	970.806[b]	2.415	3	.491
The liveliness in the shopping area	972.554	4.163	3	.244
The appearance of the physical environment	968.933[b]	.542	3	.910
Facilities in general	969.806[b]	1.415	3	.702
Other people in the shopping area	969.964[b]	1.573	3	.666
Other	972.257[b]	3.866	3	.276
Benefits				
The atmospherics	969.789[b]	1.398	3	.706
To experience a pleasant shopping trip	973.533[b]	5.142	3	.162
The choice options in the shopping area	981.808	13.417	3	.004
The journey	969.146[b]	.755	3	.860
Saving – time	980.214[b]	11.823	3	.008
Saving – financially	969.857[b]	1.466	3	.690
Mental condition	972.580	4.189	3	.242
Social contact	968.774	.383	3	.944
New experiences	972.905[b]	4.514	3	.211
Attachment – low	975.328[b]	6.937	3	.074
Attachment – high	977.827	9.436	3	.024
Identity – low	969.188	.797	3	.850
Identity – high	970.931	2.540	3	.468
Dependence – low	971.144[b]	2.753	3	.431
Dependence – high	972.597[b]	4.207	3	.240

The chi-square statistic is the differences in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final form. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

b. Unexpected singularities in the Hessian matrix are encountered. This indicates that either some predictor variables should be excluded or some categories should be merged.