Aalto University
School of Economics

The Effects of Retail Design on Customer Perceived Value

Marketing

Master's thesis

Juho Ullakonoja

2011

Department of Marketing
Aalto University
School of Economics

AALTO UNIVERSITY SCHOOL OF ECONOMICS
Department of Marketing
Master's Thesis
Juho Ullakonoja

ABSTRACT
August 22, 2011

THE EFFECTS OF RETAIL DESIGN ON CUSTOMER PERCEIVED VALUE

Objectives of the study

This thesis attempts to increase understanding about how retail design affects customer perceived value. Customer value, which is directly related to customer loyalty and therefore sales, is measured through price perceptions. First, the study seeks to find out what are the different elements of retail environments and how they affect consumer behavior. Second, this paper looks into measuring consumer perceived value in store environments. Finally, the empirical part will test how changes in retail environments affect customers' price and value perceptions.

Methodology

An experiment was conducted in a Finnish convenience store chain, R-kioski, which was undergoing a retail environment redesign process. The data was gathered from two different stores in order to increase the reliability of the results. A sample of 100 responses was collected by asking customers to fill out a survey after shopping in the store. 50 of the responses were collected before the redesign project had started and 50 after the project was completed. To measure the effect that the changes to the store environment had, the quantitative data was analyzed by using Student's t-test, multivariate regression analysis and price sensitivity calculations.

Results of the study

This study strenghtened some of the earlier findings about the relationship between pleasant store environments and increased customer value. The results suggest that consumers evaluate prices based on retail environment design and accept a higher price level in store environments, which are perceived favorable. Investing in retail design can therefore offer a lucrative way for retailers to increase sales and customer satisfaction and to build a sustainable competitive advantage over competitors. The results also support the earlier findings in behavioral economics and psychology about the irrationality of consumer behavior in complex psychophysical phenomena. However, some results are controversial with earlier findings and thus indicate the need for additional research.

Keywords

Retail design, store environments, customer perceived value, price perceptions, consumer behaviour, environmental psychology, psychophysics, behavioral economics

AALTO YLIOPISTON KAUPPAKORKEAKOULU
Markkinoinnin laitos
Pro Gradu -tutkielma
Juho Ullakonoja

TIIVISTELMÄ
22.8.2011

MYYMÄLÄSUUNNITTELUN VAIKUTUS ASIAKASARVOON

Tutkimuksen tavoitteet

Tämän tutkimuksen tavoitteena on lisätä ymmärrystä myymäläsuunnittelun ja asiakasarvon välisestä yhteydestä. Asiakasarvo, jota mitataan tässä tutkimuksessa hintamielikuvien kautta, vaikuttaa suoraan asiakasuskollisuuteen ja sitä kautta myyntiin. Tämä työ pyrkii aluksi selvittämään myymäläympäristön eri elementit ja niiden vaikutuksen kuluttajakäyttäytymiseen. Tämän jälkeen tavoitteena on löytää keino mitata asiakasarvoa myymäläympäristössä. Tutkielman lopuksi pyritään empiirisesti todentamaan miten muutokset myymäläympäristössä vaikuttavat asiakkaiden arvonmuodostukseen ja hintamielikuviin.

Tutkimusmenetelmät

Tutkimuksen empiiristä osaa varten suoritettiin koeasetelma kahdessa Rautakirjan R-kioskissa, joiden myymäläympäristö uusittiin. Aineisto kerättiin kahdesta eri kioskista tutkimuksen luotettavuuden lisäämiseksi. Sadan vastaajan otos kerättiin pyytämällä myymälässä asioineita henkilöitä täyttämään kyselylomake asioinnin päätteeksi. 50 vastauksista kerättiin ennen myymäläympäristön uudistamista ja toiset 50 remontin valmistuttua. Vaikutussuhteiden tarkastelemiseksi kvantitatiivinen aineisto analysoitiin käyttämällä *t*-testiä, regressioanalyysiä ja hintaherkkyyslaskelmia.

Tutkimuksen tulokset

Tämä tutkimus vahvisti joitakin aikaisempia tuloksia miellyttäväksi koettujen myymäläympäristöjen suhteesta korkeampaan asiakasarvoon. Tulosten perusteella myymäläympäristö vaikuttaa kuluttajien arvioon tuotteiden hinnoista siten, että kuluttajat hyväksyvät miellyttävissä ympäristöissä korkeamman hintatason. Täten myymäläsuunnitteluun panostaminen voi tarjota yrityksille kannattavan keinon lisätä myyntiä ja asiakastyytyväisyyttä sekä rakentaa kestävän kilpailuedun kilpailijoihin nähden. Lisäksi tulokset tukevat behavioristisen taloustieteen ja psykologian löydöksiä kuluttajakäyttäytymisen irrationaalisuudesta monimutkaisissa psykofyysisissä valintatilanteissa. Osa tuloksista on kuitenkin ristiriitaisia aikaisempien tutkimusten kanssa ja täten ympäristön ja kuluttajien käyttäytymisen välisiä vaikutussuhteita tulisi tutkia lisää.

Avainsanat

Myymäläsuunnittelu, myymäläympäristö, asiakasarvo, hintamielikuvat, kuluttajakäyttäytyminen, ympäristöpsykologia, psykofysiikka, behavioristinen taloustiede

Table of Contents

Index of Tables:

Index of Figures:

1. Introduction

Every industrial era has had its own philosophies about how to find a competitive edge over competitors. Essentially, this race has been about creating value in ways that competitors have yet to utilize. In the 18th and 19th centuries, value was added to raw materials through manufacturing and by the beginning of the 20th century, we saw the emergence of industrial revolution and mass-production (Vargo & Lusch 2004). Marketing, then, was a field concerned mostly with distribution. Only in the 1950s, marketing started to become known as it is today, understanding and fulfilling the needs of consumers. (Wilkie & Moore 2003)

What has changed radically since the 1950s, however, is how we understand the needs of a consumer and the nature of products. Until the 1970s, the predominant business thinking was that people make their purchase decisions purely based on the tangible product (Kotler 1973-74). This was largely in line with the prevailing view of consumers in economics, *homo economicus*, stating that consumers act rationally and maximize their utility in relation to their income (Campus 1987). This assumption has been key to modeling the world with mathematical methods. Psychologists and marketers, however, have long seen that this assumption doesn't always hold true in real decision-making situations, because homo economicus neglects the existence of human emotions in decision making (Anttila 1990, 13-14).

In 1973, Kotler was the first to suggest that buyers, in fact, respond to the total product rather than just the tangible product. Hence, services, warranties, packaging, advertising, financing, pleasantries, images and other features that accompany the product also affect consumer decision-making. This was also the first scientific article stating that store atmosphere has an effect on consumer behavior. (Kotler 1973-74) Kotler's view was fundamentally different with what we had been taught to since the born of economics as a discipline: exchange is about trading things to other things (Smith 1776). This view, by large, neglects the possibility that services or experiences could be something people are willing to pay for (Lusch et al. 2007). The increased understanding of consumer value has slowly also raised questions about the validity of the rational economic theory. At the same time as behavioral economics has slowly picked up in popularity in economics, Service-Dominant logic has changed the way what we considered a product in marketing.

While research and understanding about customer value perceptions and retail environments has increased, standing out from the crowd with traditional tools of marketing, such as pricing, marketing communications and distribution has become more and more difficult (Solomon et al. 2002, 284-286). As a result, retail design and the service level of the staff have become increasingly important sources of competitive advantage. The importance of these two factors is especially critical in service settings, where the actual product cannot be assessed based on physical qualities. Therefore, the store where the service is sold at can be said to be the packaging of the product (Zeithaml et al. 2006, 324).

In grocery and specialty retailing, store environments impact the perceived quality and value of products sold in the store (Baker et al. 2002). Even more, consumers' beliefs about the physical attractiveness of a store has a higher correlation with patronage intentions than does merchandise quality, general price level, selection, and six other store or product beliefs (Darden et al. 1983). Thus, if retail design is one of the key competitive factors in the modern era, as Solomon et al. (2002, 284-286) suggest, it is necessary to understand where customer value in store environments stems from. This study will provide an overview of the theoretical discussion around the topic and finally examine the phenomenon empirically.

1.1. Background

"Why do people shop?" is a question first academically intrigued by Edward Tauber in 1972. Before the discussion that Tauber started, the common answer was "because they need something." In his study, Tauber found out that peoples' motives for shopping are much more numerous and only some are related to obtaining a product. To simplify, all motives can be divided to two distinct segments: hedonic and utilitarian[1]. (Tauber 1972)

Consumers' motives to purchase goods or services have changed significantly over time. In times, when money was limited, shopping was more of an utilitarian activity, which means that people shopped to obtain goods. Recently, however, some consumers have mentioned that shopping to them is rather a fun way to spend their time than a task one has to do. Hence, the term hedonic consumption was invented to describe the people

[1] Tauber uses a slightly different terminology, but the words hedonic and utilitarian are used here for consistency.

who are seeking experiences while shopping. (Babin et al. 1994) Hedonic and utilitarian motives are also tied to the type of goods or services being purchased. Groceries and household goods are mostly purchased based on the economic utility or function, whereas leisure activities and recreational services are purchased more based on their hedonic or emotional value (Hirschman & Holbrook 1982).

Today, more and more people consider shopping as an experience and entertainment, the same way as going to a circus once was. Since it has become more difficult to stand out from competitors during the last couple of decades, the focus of companies has turned from developing the image of products also to creating an outstanding store image. Store image is composed of many different factors, such as store design, location, merchandise, and the knowledge and congeniality of the sales staff. All of these factors affect consumer behavior and the image of the company. (Solomon et al. 2002, 284-286)

Retail design is the function of developing the store image, or more exactly, store environment. Retail design has five main objectives: (1) to implement the retailer's strategy, (2) to build loyalty by providing a rewarding shopping experience, (3) to increase sales on a visit, (4) to control costs, and finally (5) to meet legal requirements. (Levy & Weitz 2012, 468-471)

The interest of this study is mainly to see if it is possible to build loyalty and increase sales by modifying the store environment. When consumers are satisfied with the environment where they shop, they have been examined, for example, to be more likely to enter the store, buy more and be more satisfied with both the store and the products bought (e.g. Baker et al. 2002, Areni & Kim 1993 and Michon et al. 2005). In order to build loyalty and increase sales, retailers need to constantly develop their offering by reacting to rapidly changing customer needs. Currently, demonstrated environmental and social responsibility are two of the key qualities for a retailer that are likely to lead to greater trust and brand loyalty from consumers. (KPMG 2009)

Although customer needs change faster than ever, there has also been a more fundamental shift in how customer value is created. Not too long a go, value was seen as product-centric and something that companies can control. Today, however, value is seen to be co-created by the firm and the customer and therefore customers expect retailers to create experiences that consumers can engage into. (Prahalad & Ramaswamy 2004)

Another reason for the growing interest in crafting customer experiences lies in the boom of electronic commerce. E-tailers have seen a surge in demand since their emergence and many retailers have been forced out of business due to their inability to compete with price. The Internet has quickly changed the way consumers shop, and especially some categories (e.g. travel, books and videos) have seen dramatic changes in their purchasing patterns. (Grewal & Levy 2009) Retailers have slowly began to realize that in order to stay competitive, the store, which is a cost that e-tailers don't have, must offer some additional value to the customer in order to justify the higher price. Retail design offers one potential source of value in comparison to the e-tailers.

The interest of this thesis is to find out if and how much consumers are willing to pay more for products sold in a high-image store environment compared to discount-image environments. If there are notable differences in price perceptions, this would suggest that designing a high-image store is not simply an additional cost for the retailer, but something that can generate additional revenue. This topic touches two of the four "emerging issues in retailing research", named by the editors of Journal of Retailing in 2009, store image and behavioral issues in pricing (Grewal & Levy 2009).

1.2. Research Problem and Limitations

This thesis attempts to find out if there is a link between retail design and customer perceived value, or more exactly, consumers' price perceptions. If consumer perceived value can be increased through retail design, consumer satisfaction and willingness to pay should also increase. If a retail company were able to charge higher prices for products by altering the retail environment, this would mean that when the cost of investment on design is less than the additional revenue, a company should favor investments in retail design.

A number of researchers have studied the influence of a retail store's environment on customer behavior (e.g. Donovan & Rossiter 1982; Baker et al. 1994). However, most of these studies have focused on only one or two individual factors in the store environment, such as music or scent. All researchers in the field have stated the need for additional studies about the effect of holistic retail environments on consumer behavior. This, nevertheless, is complicated due to the nature of retail design projects. The outcome of design is always unique and projects can often take several months or even years to complete. Therefore, the source of increased revenue is difficult to measure. For this reason, the focus of this thesis will be on consumer perceived value rather than in

pure revenue, as the link between these two, in any case, has been considered very strong in literature.

Therefore, the main research question is:
What is the effect of retail design on customer perceived value?

Sub-questions are as follows:

1. What are the sources of customer value in retail environments?
2. How can customer perceived value be measured in retail environments?
3. How do changes in retail environments affect price and value perceptions?
4. How do price perceptions vary in
    a. *Hedonic vs. functional consumption situations?*
    b. *Social vs. non-social consumption situations?*
    c. *Low-income vs. High-income consumer segments?*

To answer these questions, I will look at both the different elements in retail environments and customer value formation. First, these subjects will be discussed on a theoretical level by reviewing earlier studies about the subject, after which an empirical study will be conducted with Rautakirja Oy, who operates the largest chain of convenience stores in Finland, R-kioski. In the empirical study, price perceptions and customer evaluations about the store will be measured quantitatively by conducting a survey to customers before and after remodeling the store environment. To increase the reliability of the study, the same experiment will be done in two stores of the same chain.

The research in the empirical part of this study will be limited to the Finnish retail market. This is of an interest, because, to my knowledge, there has been no similar academic research done on the topic empirically in Finland. Furthermore, whereas many other countries have seen fierce competition in the retail sector for several decades, the Finnish market has been largely dominated by few domestic players until the very recent years. In saturated markets, companies have been forced to create value by developing both operational efficiency and the customer experience. In Finland, however, retail chains have traditionally focused on competing mostly with operational efficiency and lowest price. According to an empirical study by Takkinen (2009), only 55.7% of Finnish female consumers choose their store dominantly based on utilitarian shopping motives. The rest, 44.3%, prefer stores with a high-level of customer service or exciting customer experience (ibid 2009).

In the recent years, Finnish companies have slowly began to see the customer experience as a driver for additional sales. This development is mainly a result of increasing competion from foreign retail chains entering the Finnish market with their customer-centric retail concepts. Due to increased competition from foreign chains, the topic has become also very acute in Finland, and therefore it's worth looking deeper into. The results of this thesis are expected to be of great importance for management in both operational and strategic levels in the retail sector as well as to retail design companies and consultants.

1.3. Methodology and Scope

This study will examine value formation in retail environments from the customer's perspective. The second and third chapters form the theoretical part and fourth and fifth the empirical part of the study.

Chapter two looks at retail design on a general level. Retail design, in this case, will be limited to the visual, ambient and social stimuli present in the store environment. Retail design includes also other factors, such as architecture, but these will be left outside the scope of this study. The third chapter will review the discussion about customer perceived value. The concept of value is first described and then the chapter will focus on measuring value in retailing. Further emphasis will be given to price as an element of value, since it will be studied more in detail in the empirical part. However, price, here, will be only discussed from the value formation point of view. Therefore, this study will not go deeper into retail pricing strategies.

The empirical part of this study is focused on measuring consumer perceptions before and after redesigning a store. Chapter four will first introduce the statistical methods used in analysis and describe the data. The environments under examination are two convenience stores located in Helsinki, Finland. Samples were collected from both stores before and after redesigning the retail environment. The redesign process in this case was focused solely on design elements, which limits the scope of the empirical part to examining the effect of only certain elements in store environment on customer perceived value. However, design elements have been studied to have the greatest impact on value perceptions (Baker et al. 2002).

In chapter five, the data is analyzed by using *t*-tests, multivariate regression analysis and price sensitivity calculations. The data is collected only from the Finnish market and

thus the scope of the empirical part is limited to Finland. The literature review in chapters 2 and 3, however, can be seen as universally applicable.

1.4. Key Concepts

Store image

Store image is the reputation a certain store or chain has in its customers minds. Store image is composed of the store environment, location, merchandise, and the knowledge and congeniality of the sales staff (Solomon et al. 2002, 284-286).

Store environment / Retail environment

Store environment, a key component of store image, includes all ambient, design and social factors outside and inside a store. A company has almost unlimited power to affect how the store looks inside, but laws and regulations concerning façades of buildings limit modifing the external looks of a store. (Baker et al. 1992) The term store environment is used in conjunction with the term retail environment in this study.

Customer Perceived Value (CPV)

Customer Perceived Value represents the "consumer's overall assesment of the utility of a product based on perceptions of what is received and what is given" (Zeithaml 1988). In addition to a single episode value, some researchers take into account the relationship value, which grows during a series of episodes (Grönroos & Ravald 1996).

Hedonic and Functional Consumption

Hedonic consumption happens in situations when the consumption is predominantly valued in terms of experiential affect. Functional consumption, in turn, describes the utilitarian nature of consumption situations. Often consumption situations cannot be totally separated but include aspects of both. (Wakefield & Inman 2003)

Social and Non-Social Consumption

Social consumption happens when two or more people are shopping together. Social consumption is suggested to lead to decreased price sensitivity, meaning that people are willing to pay more when shopping with someone else. (Wakefield & Inman 2003)

Objective Price (P)

The list price for a product or the amount of money the merchant receives from a consumer to purchase a product. (Anttila 1990, 95)

Reference Price (P_{ref})

A reasonable price for a product, defined by the consumer. Can sometimes be the lowest price a consumer is willing to purchase the product (lower price limit). (Anttila 1990, 95)

Maximum Price (P_{max})

The maximum price a consumer is willing to pay for a product. It is possible to affect the maximum limit by the means of branding and design. (Thaler 1985)

Price Sensitivity

Price Sensitivity is the awareness of the consumer to what they perceive to be the window of cost within which they will buy a particular product or service. Each consumer has a minimum and maximum price limit at which they are willing to buy a product or service. (Anttila 1990, 77-78) In other words, price sensitivity determines how many units will be sold at different price levels (Levy & Weitz 2012, 373-375).

Statistical abbreviations used:

N = Total sample size
M = Mean
Mdn = Median
SD = Standard deviation
r = Correlation coefficient
R^2 = Multiple correlation coefficient
p = Significance level
F = F-value
PS = Price sensitivity

2. Elements of Store Environment

In this chapter, I will look at the different elements of store environment. The research of store environments is originally based on environmental psychology, and therefore I will first briefly describe how environments affect human behavior. Second, I will introduce different classification methods to categorize the different factors in a store environment. Finally, I will choose the best classification method for the purposes of this work and look at the different elements of the store environment in more detail.

2.1. A look at environmental psychology

The research about store environments and consumer behavior is widely based on environmental psychology. Environmental psychology is an interdisciplinary field that has produced a wide body of knowledge about the interaction between the physical environments and human behavior. However, most of this research has been conducted in hospitals, offices and schools, whereas only a trace of the research has focused on studying the effect of store environments on consumer behavior. (Baker et al. 1992)

One of the earliest and still most recognized studies in environmental psychology witnessed that changes in a physical environment can have a positive influence on human behavior and health. The study was conducted in a mental hospital, where a common room was painted and furnished. Researchers observed how much patients socialized with each other before and after making changes to the environment. Their findings showed clearly that patients socialized much more with each other and got more involved in group-conversations in the new environment. In the long term, the results showed that the alterations in the physical environment affected positively to the patients' health. (Aura et al. 1997, 10; ref. Proshansky et al. 1970)

Thus, environmental psychology is interested in people's preferences with places. People get more out of an experience in a place they prefer and are more likely to enter there in the first place. Typically people prefer places that feel safe and familiar, but in some situations also places that are novel or feel interesting. (Kaplan 1998, 31) People's preference with places has direct implications also on retail design, since retailers' target

is naturally to build places that consumers prefer over their competitors. Whether preference has any influence on monetary spending will be discussed later in this study.

Environmental psychology also deals with how people perceive places. The most influential theory of perception, favored especially by architects and other design professionals, is Gestalt psychology[2]. Hailing from the Berlin School of Experimental Psychology, Gestaltism has been the main rallying point for psychologists and designers since the early 20th century. Gestaltism is interested in creating rules about how people organize small parts into cohesive wholes and why some of these objects become the center of our attention. (Bell et al. 2001, 61-63)

One of the founding principles of Gestalt psychology is that when there is some ambiquity in the visual array, the viewer will perceive the simplest shape consistent with the information available (see Figure 1). Gestaltism also states that the whole is different than the sum of different elements. (Bell et al. 2001, 62-63) For example, most people consider the interplay of several musicians greater than sum of the notes being played by the musicians separately.

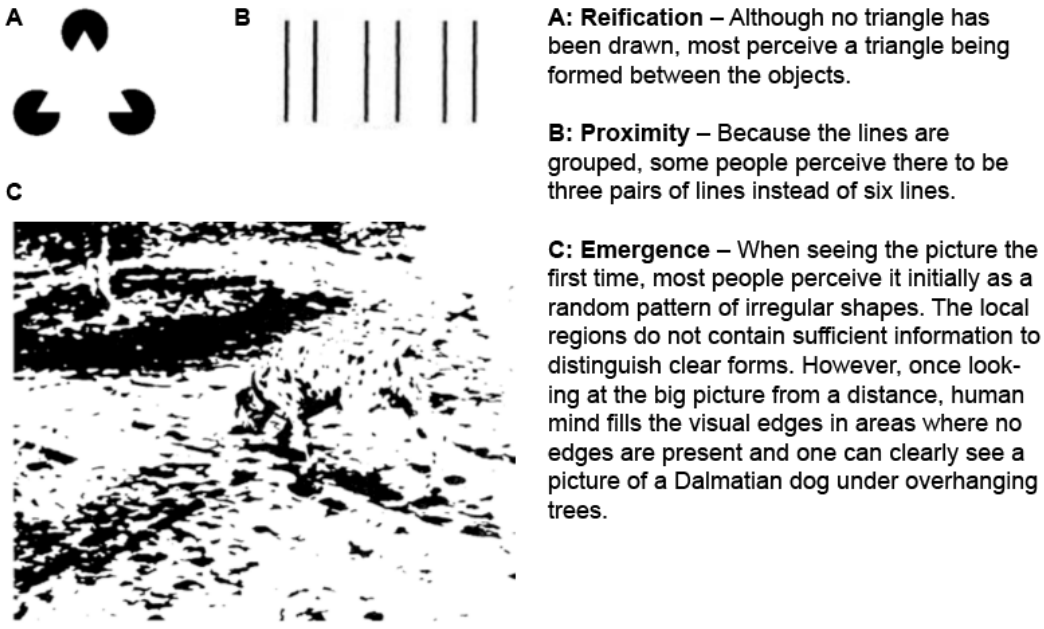

Figure 1: Examples of Gestalt psychology's laws of perception and organization (Adapted from Lehar 2003 and Bell et al. 2001)

[2] *Gestalt* is German for "essence or shape of an entity's complete form"

In retail, or any other design setting, Gestalt laws essentially mean that people respond to their environments holistically. In other words, although people might notice individual stimuli, such as background music, it is the total configuration of all the different stimuli that determines people's response to the environment. (Mattila & Wirtz 2001)

The difficulty of environmental psychology is that every person experiences an environment individually. Therefore, what is good for one person is not necessarily good for everyone. Research has to rely on making conclusions based on what the majority feels pleasant. (Kaplan 1998, 13) In retail context this means that companies should adopt designs that communicate best with their targeted consumer segments.

Now that we have a general understanding about how people perceive places according to environmental psychology, we can move on to look at psychophysics, that is, the relationship between stimulus and sensation (Gescheider 1997, ix).

2.2. Stimulus-Organism-Response –model

In marketing literature, the dominant approach to study consumer behavior in a store environment has been the Stimulus-Organism-Response –model (also known as the M-R –model, named after the creators) developed by Mehrabian and Russell (1974, 18-26). As no competing frameworks seemingly exist, I, also, will use this framework to assess the influence of store environments on consumers. This model describes how people react to stimuli in the environment by using three steps: Stimulus, Organism and Response (S-O-R). The model was originally designed for general environmental psychology, but has been adapted and verified to work in a retail setting by several later studies (e.g. Donovan & Rossiter 1982 and Spangenberg et al. 1996). In this model, environmental stimuli (S) are said to cause two contrasting forms of responses (R) in the consumer: approach or avoidance. These behaviors are generated by the people's internal evaluations (O) of the different cues in the environment (see Figure 2) (Mehrabian & Russell 1974, 18-26).

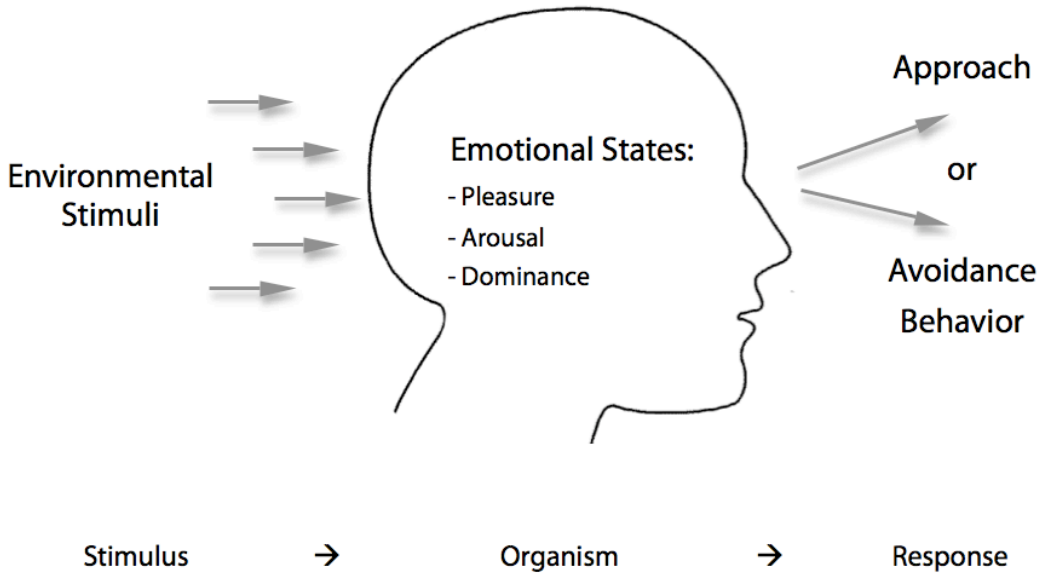

Figure 2: S-O-R model (adapted from Donovan & Rossiter 1982)

Furthermore, the model suggests that any environment will produce an emotional state in an individual that can be characterized in terms of three different dimensions, known by the acronym PAD: (Donovan & Rossiter 1982)

Pleasure – Displeasure
Arousal – Avoidance
Dominance – Submissiveness

Pleasure refers to whether a person feels good, joyful, happy and satisfied or not in the situation. Arousal refers to whether the person feels excited, stimulated, alert and active or not. (Donovan & Rossiter 1982) In environmental psychology literature, the construct of arousal is often referred to as load. A high-load (arousing) pleasant environment is said to produce approach behaviors, whereas a high-load unpleasant environment is said to produce avoidance behaviors. A low-load environment, in turn, is not activating enough to motivate any measurable approach/avoidance behavior. (Spangenberg et al. 1996) Finally, dominance refers to whether the person feels in control of and free to act in the situation or not (ibid 1982).

The optimal level of stimulation also depends on personal preferences. An individual can experience a store environment as too arousing, too un-arousing or optimal. Therefore the arousal level follows an inverted U-shaped curve (see Figure 3). The higher the preferred arousal level of an individual is, the more environmental stimuli the customer will tolerate and seek. (Boedeker 1997, 80-81) Thus, there is no optimal level of stimuli that would work for each and every customer but rather one should find a level, which is tolerated and preferred by the majority of customers.

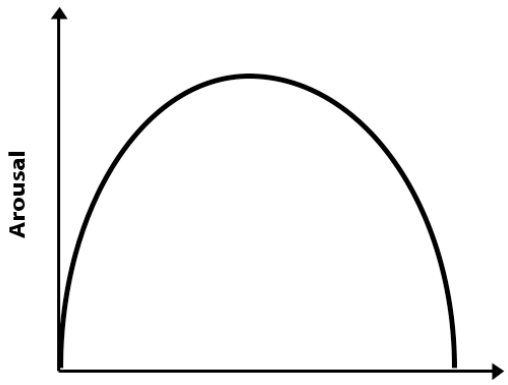

Figure 3: Inverted U-shaped curve (adapted from Spangenberg et al. 1996)

In conclusion, the S-O-R –model represents the relationship between the stimuli in the environment, people's emotional states and the approach or avoidance behavior that results from the interaction of stimuli and emotion. For retailers, the most important part in the model is to understand if and how different stimuli affect to consumers' responses. Most retailers naturally want to increase the number of approach behaviors in their customers. Thus, it's important to understand what factors in the environment generate pleasure and arousal in the targeted consumers, since stores that elicit feelings of pleasure are likely to be the ones where people want to spend their time and money.

2.3. Classification of the elements of store environment

To identify the factors that generate approach behaviors in customers, it is necessary to classify the various elements of a store environment. There is no single, widely used method for dividing the different elements of a retail store and not many researchers have even attempted to create one. Baker (1986, 79-84), divided the store into three critical dimensions: ambient, social and design factors. Ambient factors are background conditions in the environment, which are typically not noticed by the customer. These

include background music, noise, scent, lighting and room temperature. Social factors include the people that are present in the environment. That is, staff and other customers. Finally, design factors include physical and visible elements of the store environment, such as architecture, layout and materials used in the decoration.

Another, more recent classification of the store environment was created by Berman and Evans (Turley & Milliman 2000; ref. Berman & Evans 1995). They suggest that the atmospheric variables are divided into four different categories:

1. External variables (e.g. exterior display windows, color of building, and location)
2. General interior variables (e.g. color schemes, lighting, music, scents, and temperature)
3. Layout and design variables (e.g. space design and allocation, placement of merchandise, placement of cash registers, waiting queues, and furniture)
4. Point-of-purchase and decoration variables (e.g. artwork, point-of-purchase displays, and price displays)

As can be seen, the latter classification is much more accurate than the one made by Baker. Nevertheless, some researchers have noted that a fifth element, human variables (e.g. employee characteristics, uniforms and privacy), is missing from the Berman and Evans classification (e.g. Turley and Milliman 2000). Other similar classifications have been made by Bitner (1992), Castaldo and Botti (1999) and Zaghi (2003) (Markkanen 2008, 100).

For the purposes of this work, I have used the division to ambient, social and design factors (see Figure 4), as presented by Baker (1986, 79-84), because the smaller number of elements in this model is more suitable for the purposes of this study as a holistic representation of the store environment.

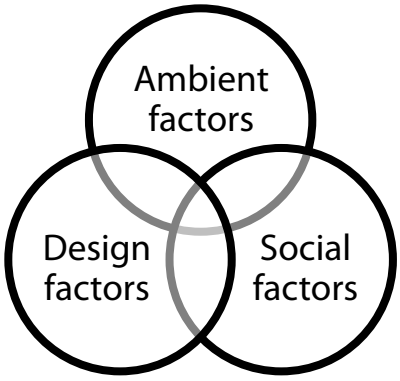

Figure 4: Factors of store environment (adapted from Baker 1986, 79-84)

2.4. Ambient factors

Ambient factors are typically described as background conditions in the environment (Baker et al. 1992). These include ambient music, scent, temperature, noise, and lighting. Generally, customers don't even notice these factors unless they exceed an acceptable range, such as when the music becomes too loud. Normally these factors are used congruently, which elicits the best results. If these factors are used alone and, above all, without taking into account the other factors in the store environment, the result might be even worse than a situation where ambient stimuli don't exist. Ambient factors can also be used, although they rarely are, to demarket[3]. An example of demarketing is playing classical music around mall entrances to discourage teenagers and gangs to loiter in front of the doors. (Kotler 1973-74) Next, I will briefly look at the main factors of ambient stimuli: music, lighting and scent.

2.4.1. Music

Ambient music is the most researched element of the store environment (Bailey & Areni 2006). According to Jäätmaa (2007), there are 20 journal articles written about the empirical experiments of using background music in different retail store environments. These environments include wine stores, supermarkets, malls and various specialty retail stores. In addition, some research has been done in restaurants, coffee shops, bars, schools and hospitals. (ibid. 2007) Ambient music can be either played rather loudly in the foreground or unnoticeably in the background. Thus, the terms "foreground music" and "background music" are generally used in literature to distinct these two forms from each other. (Yalch & Spangenberg 1990) Furthermore, background music is typically called an ambient factor whereas foreground music is often classified as a design factor, since its purpose is more than simply to create the atmosphere. The genre of background music is typically described as easy listening, mood music or beautiful music, where the artist is often unknown. In comparison, foreground music is usually popular- or hit music performed by famous artists. (ibid. 2007)

The main components of music, which can be modified, are tempo, volume and style. Tempo is the most researched feature, probably because it is relatively easy to measure

[3] Demarketing means applying marketing methods to reduce demand

quantitatively. (Jäätmaa 2007) There have been somewhat contradictory results whether a slow tempo makes people to stay longer in a store and further to buy more or not. Some researchers (e.g. Oakes 2003) have separated geometric time and psychological time from each other. Geometric time is the actual time spent in the store, which doesn't necessarily change when the tempo is modified. Psychological time, in turn, is the time the customer perceives to have spent in the store. The latest research suggests that tempo affects primarily to the psychological time and only occasionally to the geometrical time. Furthermore, a slow tempo makes people more satisfied and relaxed. (ibid. 2003)

There has also been some debate about whether the volume of music affects the time customers spend in the store. Some suggest that louder music makes people usually stay a shorter period of time in the store (Smith & Curnow 1966). However, at the same time others say that volume has no effect to the time spent in the store (Herrington & Capella 1996). Thus, one should probably always consider the situation where the music is played and adjust the volume accordingly.

The last major component of music is its style, or genre. The style of music that should be played is strongly related to the targeted consumers (Yalch & Spangenberg 1993). Proof for this statement can be found from several studies. For example, Areni and Kim (1993) tested the effects of playing classical and pop-music in a wine store. They concluded that when classical music was played, people bought more expensive wines. North and Hargreaves (1999) made an important addition to Areni and Kim's research by observing that playing French music where the French wines were sold made people buy more French wines. At the same time, however, when German music was played where the French wines were sold, the effects were the opposite (ibid 1999). These findings suggest that the style or genre of the music must fit into the store environment and also to the products sold. Otherwise the results may be even worse than in a situation where no music exists.

In conclusion, the most important consideration when selecting music to a retail store is its congruency with the rest of the store environment. Fast tempo and loudly played pop-music can be the best choice for a clothing store targeted at teenagers but a better combination certainly exists for a store that sells expensive antique furniture.

2.4.2. Lighting

Lighting remains the least researched part of the ambient store environment. I was able to find only two scientific field studies conducted about the effect of lighting on consumer behavior: One by Areni and Kim (1994) and another by Summers and Hebert (2001). In 1974, Mehrabian and Russell suggested that lighting was a major factor in the environment's impact on individuals because "brightly lit rooms are more arousing than dimly lit ones". He related this to his theory that people like to remain in environments that are both pleasant and arousing.

Areni and Kim (1994) studied how in-store lighting in a wine store affects shopping behavior. They used a convenience sample of 171 wine store consumers over a 16-night period. On some evenings they used soft lighting by using low wattages and on other evenings they replaced the lamps with high wattage lamps making the environment bright. The authors found that consumers examined and handled significantly more items under bright lighting than they did under soft lighting. However, it is possible that too bright lighting on the other hand could over-stimulate consumers and thus lead to avoidance behavior. Summers and Hebert (2001) found similar results as Kim and Areni. Summers' and Hebert's research was conducted in a hardware store and a western apparel store and they used video cameras to monitor customers' actions under different lighting schemes. They found out that under bright lighting consumers touched and picked-up more items than under soft lighting.

Based on these two studies the relationship between the brightness of the lighting and consumer behavior seems rather clear. However, it should be noted, that once again lighting is a part of the total atmosphere, which the consumer feels as a whole, as suggested by gestalt psychology. For example, Baker et al. (1994) suggest that classical music combined with soft lighting is an indicator of high prices. Thus, this kind of setting might work better in certain types of stores. Also, with the latest spot- and led-light technology it is possible to make the general store environment almost unlit but to have very bright spotlights under the shelves to make the actual products very visible.

2.4.3. Scent

It has been said that of all human senses, the sense of smell has the greatest impact on emotions. This is because the nose is directly connected with the olfactory lobe, which is part of the limbic system, the area of brain considered the seat of emotions. (Hirsch,

1995) Even though customers may not be able to vocalize or elaborate what smells they are exposed to, their brain might still associate smells with prior life-events and evoke feelings. (Ward et al., 2003)

Scent is an ambient factor similarly as music and lighting, but has also received very little attention among scholars. Until the 1990s, scent was a widely unknown tool for marketers, except in stores where it naturally existed, such as bakeries or coffee shops. From the early 1990s, retailers have slowly begun to utilize scents also as a tool for marketing. The first reports in the popular press came from the United States in 1990, when it was reported that two identical pairs of Nike athletic shoes were evaluated more positively in a scented than in an unscented environment. Moreover, people estimated that the pair in the scented store cost more. (Miller, 1991) Spangenberg et al. (1996) found that subjects evaluated a scented store environment better than an unscented store environment, and that the perceived time they had spent in the store was smaller in a scented store environment.

Perhaps the most objective scientific experiment made about the effect of scent on customer spending was conducted in a casino in Las Vegas. Casino was chosen as a place for the research because the amount of money spent could be easily measured and tracked. The results in this experiment were remarkably clear. The amount of money gambled in the area of odorant one increased by 45.11% compared to the overall amounts for the weekends before and after. The amounts gambled in the area where odorant two was dispensed and in the control area were not significantly different from the amounts gambled in normal weekends. (Hirsch, 1995) This study, among others, shows that scents certainly have an affect to the holistic atmosphere, but once again, it is critical to choose the scent in accordance with the rest of the environment.

2.5. Design factors

Design factors are elements of the store environment that are more visual in nature than ambient factors. Typically design factors are further divided to functional and aesthetic elements. Functional elements include layout, comfort and privacy whereas aesthetic elements include architecture, colors, materials and style. (Baker et al. 1994)

Of all the elements in a store environment, design factors have the largest number of different components. Research has been conducted about several different components, but it is very difficult to draw any general conclusions because one

research typically examines only a single variable, such as floor covering. Furthermore, some studies that were done decades a go can hardly be applied to today's store environment planning because trends in interior design change over time. For example, in 1986 researchers found that peach and green color schemes were considered to evoke feelings of high-image (Golden & Zimmerman 1986). This might not, however, be the case anymore today.

Baker et al. (1994) have reviewed the literature about factors that define a high-image and a discount-image store environment. Table 1 presents these factors.

	Discount-image	**High-image**
Floors	Linoleum or vinyl	Hardwood or carpeted
Walls	Painted	Textured
Displays	Exposed	Decorated
Colors	Dated	Up-to-date
Cleanliness	Dirty	Clean
Aisles	Narrow	Wide
Layout	Grid	Free-form
Signs	Apparent	Discreet
Dressing rooms	Small and semi-private	Large and private

Table 1: Factors that define a discount-image and a high-image store environment (adapted from several sources in Baker et al. 1994)

2.5.1. Aesthetic elements

Colors are perhaps the most discussed element of the design factors. This might be because they have a greater influence on the look of the entire store than some physically smaller factors, such as signs. Another feature that colors have is their tendency to be in fashion only short periods of time. There are, however, some theories that are not affected by trends. Bellizzi et al. (1983) describe the findings of physiological color research and found that red light increases blood pressure whereas blue light decreases it. Thus, it can be said that using cool colors (blue, green) in the design of a store environment creates a relaxing environment whereas using warm colors (red, yellow) creates an impulsive and eye-catching environment.

It is important to note, however, that the psychological responses to different colors vary in different cultures. For example, white is the symbolic color of funerals in China but a whole different association arouses in the United States. (Bellizzi et al. 1983) Table 2 represents the different associations colors have in the United States and China. One study has also suggested that orange color combined with bright ligthing is perceived as the cheapest combination, where also people's shopping intensions were examined to be the lowest. Blue interiors, on the other hand, received better evaluations, higher store patronage and purchase intentions. (Babin et al. 2003).

	United States	**China**
Grey	Expensive, High quality, Dependable	Inexpensive
Blue	High quality, Dependable, Trustworthy, Expensive, Sincere, Powerful	High quality
Green	Good-tasting, adventurous	Pure, Dependable
Red	Love, Happy, Adventurous, Inexpensive	Happy, Love, Adventurous
Yellow	Happy, Pure, Good-tasting	Happy, Pure, Progressive
Purple	Progressive, Inexpensive, Love	Expensive, Love
Brown	Inexpensive	Good-tasting
Black	Powerful, Expensive	Powerful, Expensive, High quality, Dependable

Table 2: Meaning of colors in the United States and China (Jacobs et al. 1991)

Some have suggested that warm colors, such as red, should be used near the entrace to draw people's attention and cooler colors inside the store because they make people stay longer (Markkanen 2008, 112). Kaltcheva and Weitz (2006), in turn, propose that retailers should create a high-arousal environment for hedonistic (or recreational) consumers and a low-arousal environment for utilitarian (or task-oriented) consumers. For example, if a grocery store chain finds out that its customers are predominantly task-oriented, it should use store designs with cooler colors (e.g. light blues). (Kaltcheva & Weitz 2006)

Other aesthetic factors include style and materials used in the store. It is more difficult to draw any general conclusions about these since they are always part of the total design, and thus, research about these factors is scarce. However, as was presented in Table 1, people generally consider hardwood or carpeted floor-covering a high-image

cue whereas linoleum or vinyl floors are considered low-image (Baker et al. 1994). Style of a store is even more difficult, because it is something very subjective and apt to very frequent changes.

2.5.2. Functional elements

Display and layout of the store are the main factors of functional elements. However, also small details, such as plastic bags or sanitary facilities have an effect on the overall image of the store, and should thus be considered when designing an environment. (Markkanen 2008, 125)

Display includes everything from display windows and point-of-sale displays to signage and other fixtures of the store, but also the display of products. Research has been made about, for example, whether products should be displayed vertically or horizontally. Horizontal display (see Figure 5) triggers more impulsive purchases but may leave products in the lower levels without notice. Since the shelves, which are at the level of eyes and hands draw most attention, everyday products, such as salt and sugar, have been suggested to be placed in the lower levels, since people are likely to find them in any case. (Markkanen 2008, 125-127)

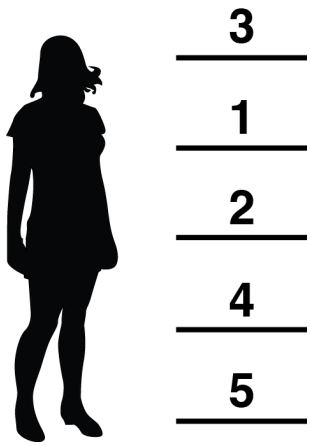

Figure 5: Levels of importance in horizontal display (adapted from Markkanen 2008, ref. Melotto 2007)

Layout of the store influences both the customer experience and the speed of shopping (Markkanen 2008, 139). There are three main types of layouts: grid, racetrack and free-form (Levy & Weitz 2012, 473). Retailers, whose clientele is mainly functional in their needs, such as grocery stores, should favor simple layouts, such as the grid (Kaltcheva &

Weitz 2006). The racetrack layout is typically used in department stores with several product categories. The racetrack, which is wider than other aisles, guides customers to walk through the whole store, and therefore it works best in stores, whose customers seek more hedonic benefits. Finally, the free-form layout is typically used in boutique stores or for very hedonic product categories, such as clothes. The free-form is the most costly layout, but if done right, it can trigger customers to explore more merchandise and spend long periods of time in the store. (ibid. 2012, 473-476)

Functional elements, such as layout and display have a major impact on what people will buy. For example, placing hedonic products near the entrance or to heavily trafficked areas of the store can increase impulsive purchases (Levy & Weitz 2012, 483). Also organizing products to Point-Of-Purchase displays can increase purchase likelihood (Areni et al. 1999). Aesthetic factors, in turn, affect store-image perceptions. When these factors are geared towards high-image, as classified by Baker et al. (1994), I suggest that customer evaluations of the overall store environment will increase. Thus, I propose that:

H_1: Changes in design elements towards high-image store environments lead to better evaluations of the store

2.6. Social factors

Social factors include all the people who are within a store's environment (Baker et al. 1994). Typically, this area deals with the number, type and behavior of other customers and sales personnel in the environment. Most research on this area has focused on crowding and staffing issues. Many studies have shown that crowded conditions in a retail store affect negatively to customers' conception of the store (e.g. Eroglu & Harrell 1986; Hui & Bateson 1991).

Recently, however, it has been suggested that in some situations (e.g. amusement parks, nightclubs and concerts), crowds might actually positively influence consumers' service experience (Pons et al. 2006). This seems rather obvious when thinking about the nature of these services. Moreover, Pons et al. studied the perceptions to crowds on different cultures and found that Canadians had a much lower tolerance for crowds than Lebanese consumers. Although not verified empirically, this would suggest that cultures with preference for large personal space, such as Finns, would prefer spacious stores with little crowding.

The number of sales people is also a critical cue in evaluating service quality. More salespeople are typically present in a high-image social environment than in a discount-image environment (Mazursky & Jacoby 1986). Baker et al. (1994) have also found researches suggesting that a high-image store has typically cooperative and nicely dressed salespeople whereas a discount-image store has the opposite. All of these elements are important when customers are evaluating the store and merchandise price and quality.

This chapter has briefly introduced the field of environmental psychology and described the different factors of retail environments. Next, it is possible to look at how the store environment affects customer-perceived value.

3. Measuring Customer Value and Price Perceptions in Retailing

With the rise of customer-focus in the recent decades, it has become obvious that in order to compete in the market, companies need to understand where customer value stems from, or in other words, what is customer value. (Wilkie & Moore 2003) If companies are able to understand what their customers value, they are able to increase sales and satisfaction, since perceived value is positively related to, for example, willingness to buy (Monroe & Dodds 1985).

This chapter will look into the concept of customer value and explore how it can be measured in a retail environment. I will begin with defining the complex concept of value and proceed to looking at how it can be quantified in a retail environment. The chocen method to measure customer value, price perceptions, will be then discussed further.

3.1. Defining customer value

In this chapter, I will have a look at the different research streams about customer perceived value. First, I will describe the brief history of the value concept, which will explain why value is so difficult to define even today. Then, I will explain the various definitions for customer perceived value and look into how value can be dimensionalized and constructed.

3.1.1. Evolution of the value concept

The history of value dates back to the times of ancient Greeks, for whom value was both a moral and an economic concept. The word *value* comes from Latin's *valor*, which meant both (a) the esteem a person receives according to merit and qualities and (b) an assessment of the quality and interest of things. In the 13th century, the modern notion of exchange value was born. However, only in the 17th century was value linked to price and with the born of economics as a discipline in the 18th century, value, as we understand it today, became a central concept. With the emergence of the industrial era

in the 20th century, managers became interested in the structural and sequential process of "adding" value to a product. Central to this thinking was that value is seen as something that companies produce and consumers destroy. The most famous theory supporting this view was the value chain model by Michael Porter (1985), which viewed value equal to the money paid for the product. (Ramírez 1999)

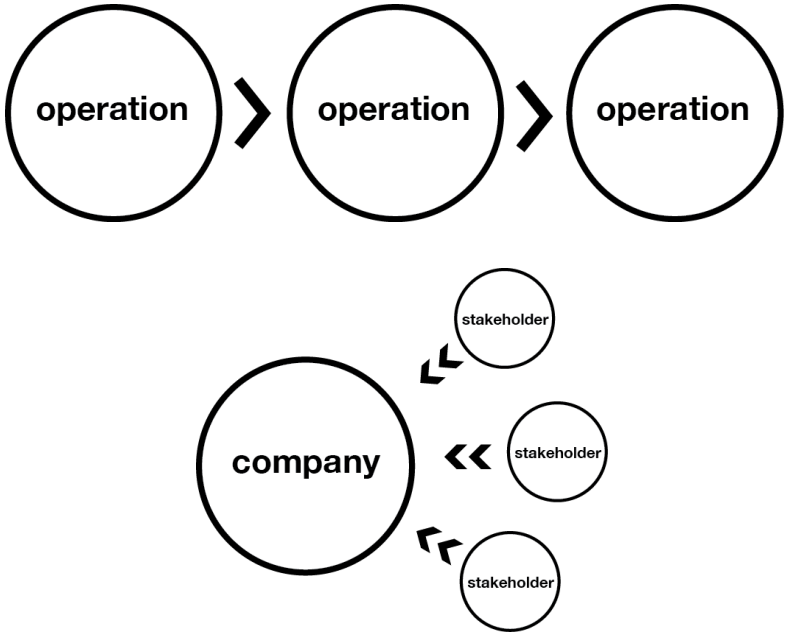

Figure 6: Value chain (above) and value network (below) models (Adapted from Porter 1985 and Kotler & Keller 2006)

Although Porter's value chain model is still widely used today, it has been criticized for its one-dimensional view of company's processes as a linear flow and always ending to the "final customer". (Ramírez 1999) An alternative view, called the value network, began to emerge in the late 20th century, viewing value as something co-created by the consumer and the company (see Figure 6 for a comparison). In this model, the company operates in the middle of a value network, which consists of various partners producing, delivering and using the product, including the customers. The companies that are able to orchestrate the different parties in a network best are able to create superior value. (Kotler & Keller 2006)

The shift from value chain -thinking to value networks is in line with the shift from goods-dominant logic to service-dominant logic, which suggests that being simply customer oriented is not enough, but companies must collaborate with customers to create value (Vargo & Lusch 2004). Also Porter himself has admitted that the original

value chain -model is outdated. As a result, Porter and Kramer recently introduced a shared value -model, which also takes into account the demand for Corporate Social Responsibility and thus suggests that companies should not only create value for the customer and the company, but also for the society. (Porter & Kramer 2011)

3.1.2. Definitions of Customer Perceived Value

Now that we have an understanding about how value is created according to modern management literature, it is time to define customer perceived value. This is not an easy task, to say the least, when the only thing that scholars agree is that there is no universal definition for the term (e.g. Khalifa 2004 and Ramsay 2005). Generally, the term value is used in three different contexts in management literature – shareholder value, stakeholder value and customer value (Reichheld 1994). Although maximizing shareholder value is often considered to be the purpose of business, profitable customer relationships are ultimately the source for all other value dimensions (Grönroos 2000). As Kaplan and Norton (1996) present in their often cited Balanced Scorecard -model, shareholder value is merely the result, not the source of competitive advantage. Advocates of stakeholder value, in turn, suggest that in addition to customers and shareholders, companies should also create value for employees and even for the society (Heskett 2003).

Let alone there be various meanings for the term *value* within management literature, there are also several definitions for the term *customer value*[4] (Vargo et al. 2008). The main reason why customer value is so difficult to define is its subjective and dynamic nature. When every person has their own opinion about what is valuable and when value perceptions differ in the different stages of the consumption process, forming a universal definition is near to impossible. Today, one thing that scholars generally agree is that customer value is determined by the customers in the marketplace and cannot be pre-determined by the suppliers. Therefore, the term *customer perceived value* emphasizes that value is a combination of what customers, not suppliers, receive and sacrifice. (Khalifa 2004)

[4] The words *customer* and *consumer* are often used simultaneously with 'perceived value' and essentially mean the same thing. Generally, a 'customer' is someone, who is already doing business with a company whereas a 'consumer' is someone, who is not currently doing business with the company.

Some of the most commonly used definitions for customer value can be seen in Table 3. Of these, the first, and perhaps the most used, is the one by Zeithaml (1988), who defined customer value as "Consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given." However, several researchers (e.g. Bolton & Drew 1991, Sweeney & Soutar 2001, Sánchez & Iniesta 2007) have argued that mere quality and cost are not enough to explain the various aspects of customer value. Sánchez and Iniesta (2007), who have reviewed the literature and different definitions of customer value, found two major research streams: Uni-dimensional and multidimensional approach. (Sánchez & Iniesta 2007)

Zeithaml (1988)	"Perceived value is a customer's overall assessment of the utility of a product based on perceptions of what is received and what is given."
Gale (1994)	"Customer value is market perceived quality adjusted for the relative price of your product. [It is] your customer's opinion of your products (or services) as compared to that of your competitors."
Holbrook (1994)	Customer value is "a relativistic (comparative, personal, situational) preference characterizing a subject's [consumer's] experience of interacting with some object... i.e., any good, service, person, place, thing, event, or idea."
Woodruff (1997)	Customer value is a "customer's perceived preference for and evaluation of those product attributes, attribute performance, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations."

Table 3: Definitions of Customer Value (Graf & Maas 2008)

The uni-dimensional approach, which has been traditionally prevalent among marketers and also advocated by Zeithaml (1988), views value as a trade-off between benefits (quality) and sacrifices (price) (Sánchez & Iniesta 2007). The second approach views consumer value as a multidimensional construct. This approach, mostly based on the value typology by Holbrook (1999, 1-29), views value as something constructed of several elements (see Table 4). Proponents of the multi-dimensional approach often state that the one-dimensional approach simplifies the world too much and neglects the affect of hedonistic and emotional factors. On the other hand, proponents of the one-dimensional approach say that multi-dimensional models explain less variance than when the dimensions are measured collectively. (Sánchez & Iniesta 2007) For the

purposes of this work, I will use the uni-dimensional definition by Zeithaml, because it offers a simple enough formula to be used in quantitative calculations.

		Extrinsic	**Intrinsic**
Self-oriented	Active	Efficiency (output/input, convenience)	Play (fun)
	Reactive	Excellence (quality)	Aesthetics (beauty)
Other-oriented	Active	Status (success, impression, management)	Ethics (virtue, justice, morality)
	Reactive	Esteem (reputation, materialism, possessions)	Spirituality (faith, ecstasy, rapture, sacredness, magic)

Table 4: Typology of consumer value (Holbrook 1999, 12)

Zeithaml's definition can further be divided to product-oriented perceived value and relationship-oriented perceived value. The product-oriented value is related to the Goods-Dominant Logic in that it limits the value trade-off to the transaction. The relationship-oriented value widens the view to include relationships and processes. The relationship-oriented value should be taken into account especially when creating long-lasting customer relationships, or in other words, when maximizing Customer Lifetime Value (CLV). (Graf & Maas 2008)

Finally, definitions of customer perceived value differ slightly depending on the way how the relationship between benefits and sacrifices is measured. First, customer value can be measured as the difference between benefits and sacrifices. This model is close to the original idea of Zeithaml (1988) and offers a clear figure that is the difference between total sum of benefits achieved and costs incurred:

$$\text{CPV} = \text{Customer benefits} - \text{Customer sacrifices}$$

More recently, customer value has also been measured in some studies as a ratio between benefits and sacrifices. This implies that whenever the ratio is more than one, more customer value is created than destroyed. As an equation, this can be written as: (Grönroos & Ravald 1996)

$$\text{CPV} = \frac{\text{Perceived benefits}}{\text{Perceived sacrifices}}$$

Grönroos (2000) has later elaborated this formula by adding the relationship-value component:

$$\text{CPV} = \frac{\text{Episode benefits} + \text{Relationship benefits}}{\text{Episode sacrifices} + \text{Relationship sacrifices}}$$

If increasing customer loyalty is the most profitable strategy in retailing, as suggested by Zeithaml (2000), the latter formula would seem more appropriate for measuring customer value. In retail context, the latter formula encourages on building store environments that not only create value for a single shopping episode, but create value that lasts over several episodes.

3.1.3. Construction of value

In addition to classifying different approaches to value in terms of dimensionality, some researchers have also reviewed the literature from the perspective of value construction. In his extensive literature review, Khalifa (2004) found three different aspects to view value construction: the value exchange model, the value buildup model, and the dynamics of customer value. None of these is able to capture all the different dimensions of value independently, but together they form a comprehensive picture.

First, the value exchange model (see Figure 7) is based on the trade-off thinking by Zeithaml (1988). According to this model, customers will purchase something only if the net customer value is greater or equal to zero. In other words, the benefits that the customer receives must be greater than the different costs associated with the purchase. Costs are not necessarily monetary, but include time and effort spent obtaining the product and risks involved in choosing a certain brand. (Khalifa 2004) This is one of the reasons why people choose to shop in a highly priced convenience store near to their home or choose to buy branded versions of a product over private labels.

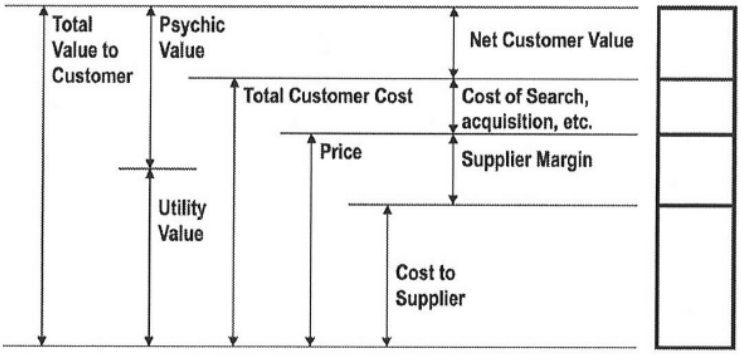

Figure 7: Value exchange model (Khalifa 2004)

Second, the value buildup model (see Figure 8), which focuses only on the customer benefits and not the costs, suggests that value builds up when more psychic and intangible needs are satisfied. When business is made of only exchanging tangible products for money to satisfy utilitarian needs, the consumer is merely doing a transaction with the company. However, when the product satisfies intangible hedonic motives, the consumer is interacting with the company. In the latter situation, much more customer value is accumulated and therefore, the customer is also willing to pay more for the product or service. (Khalifa 2004)

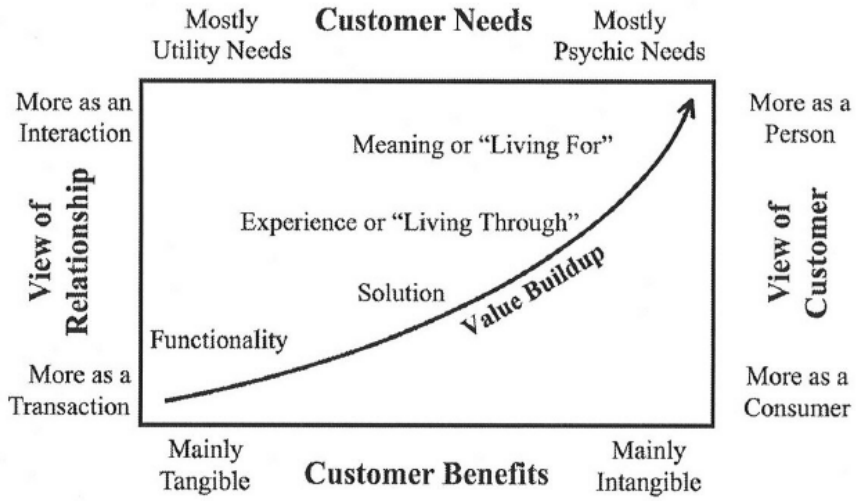

Figure 8: Value buildup model (Khalifa 2004)

Finally, the value dynamics model (see Figure 9) breaks down the gross customer value in the value exchange model to two fundamental dimensions: customer as a consumer and customer as a person. The first dimension focuses on the basic product or service delivery features, which are expected from every product. These are, for example, the cleanliness of a store and suitable layout. The existence of such basic feature makes the

customer neutral, but their absence, however, leads to dissatisfaction. Satisfaction can only be achieved by offering something innovative and unexpected. The second dimension focuses on the core personal needs that every customer as a person has. By satisfying these deeper needs, companies can make people delighted, but if they fail in their attempts people might get outraged. (Khalifa 2004)

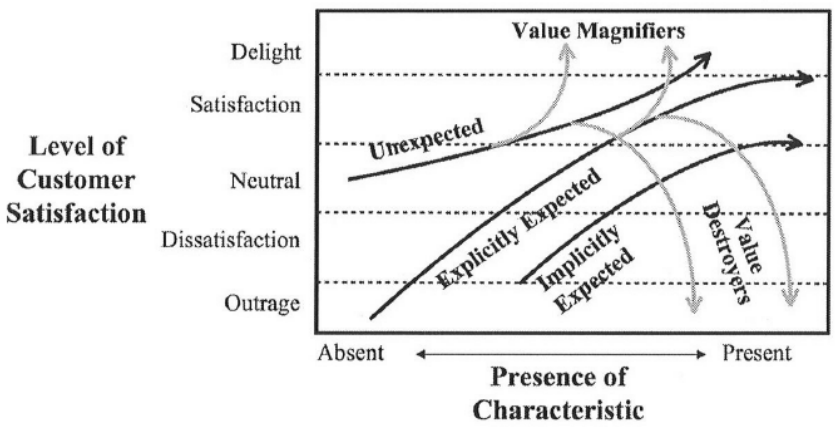

Figure 9: Value dynamics model (Khalifa 2004)

3.1.4. The difference between customer value, loyalty and satisfation

It is also important to note that customer value is different from customer loyalty and satisfaction. Customer satisfaction or dissatisfaction can be defined as a positive or negative experience of the perceived value (Woodruff 1997). Satisfaction is an important indicator of repeat purchase and word-of-mouth referrals, but has no direct connection with financial performance (Khalifa 2004). For example, Reichheld (1994) reported that 60-80% of quiting customers had been "satisfied" or "very satisfied" just before becoming ex-customers. Therefore, customer satisfaction is a good measure of past performance but incapable of forecasting what customers expect in the future.

Customer loyalty, in turn, means the strength of a relationship between an individual's relative attitude and repeat patronage (Dick & Basu 1994). An increased customer value leads to increased customer loyalty, which is essentially the real driver of financial performance (Reichheld et al. 2000). In an earlier study, Reichheld and Sasser (1990) showed that a 5% increase in customer retention leads to 40-50% increase in net present value profits. The same study also indicated that "completely satisfied" customers are six times more likely to repurchase a product than merely "satisfied" customers

(Reichheld & Sasser 1990). Therefore, satisfaction is an important indicator of loyalty, but does not necessarily explain good financial performance.

In conclusion, both customer satisfaction and loyalty are good and necessary measures of company perfomance. However, both are a result of customers' perception of the value they receive. In order to maintain or improve satisfaction and loyalty in the future, a company must understand what its customers perceive valuable and what not.

3.2. Measuring customer perceived value in retailing

The same way as there is no universal definition for customer value, there is also no generally accepted framework for measuring it (Smith & Colgate 2007). Nevertheless, there have been several attempts to create a model for measuring perceived value in retail setting. The main difference between the models is related to their complexity and dimensionality. I will first introduce three multidimensional models and then two unidimensional models, which are among the most cited. The models also have some other minor variations in their focus. Some are more focused on measuring product value and others store value in retail setting. Further, some measure value in the pre-purchase stage when assessing a retail store and others measure value in the purchase stage.

Next, I will explain the different uni- and multidimensional scales in more detail and choose the best scale for the purposes of this study.

3.2.1. Multidimensional models

Several researchers have attempted to develop comprehensive and multidimensional scales to measure customer perceived value. Sheth et al. (1991) began by discovering five value dimensions that affect consumer choice. A decade later, Sweeney and Soutar (2001) developed a 19-item PERVAL-scale, which consists of four different dimensions: emotional perceptions, social perceptions, quality/performance perceptions and price/value for money. In addition to the five value dimensions and PERVAL, Babin et al. (1994) developed a simplified scale that is based on only two dimensions: hedonic and utilitarian value. However, they acknowledged that their scale doesn't measure the consumption experience as extensively as, for example, the model by Sheth et al. Their main target was to develop a scale that can be used across all kinds of consumption phenomena.

Sheth et al.'s (1991) model consists five different value dimensions that affect consumer choice: functional, social, emotional, epistemic and conditional value. These are consistent with the theory of human motivation, presented by Maslow (1943). Maslow suggested that people are motivated by satisfying their need for physiology, safety, love, esteem and self-actualization. Sheth et al.'s value dimensions were also validated to be in line with all disciplines, where the concept of value has been discussed, such as economics and social and clinical psychology (Sweeney & Soutar 2001).

First, functional value is based on the utility acquired by satisfying a simple physiological need. Functional value was long considered the only value dimension since it is the basis for the standard economic theory and therefore for the rational economic man or *homo economicus*. Sheth et al. view reliability, durability and price as components of functional value. (Sheth et al. 1991) However, Sweeney and Soutar (2001) have argued, that since reliability and durability are components of quality and thus have a positive effect on perceived value, they should be measured separately from price, which has a negative effect on perceived value.

Social value is the perceived utility acquired, when the good is associated with a social group. Social value is typically highest in product categories that have high visibility (e.g. clothing, cars) or that are to be shared with others (e.g. gifts). (Sheth et al. 1991)

Emotional value represents the perceived utility acquired, when the good arouses feelings or other affective states. Nearly all kind of products arouse emotional responses. For example, seemingly utilitarian products such as foods, are often associated with childhood experiences and memories of their taste. In more hedonistic categories, such as cars, the emotional value elicited by different brands is usually even greater. (Sheth et al. 1991)

Epistemic value stands for the perceived utility acquired, when the good satisfies a desire for knowledge, novelty or curiosity. It has been suggested that consumers seek to maintain a certain level of stimulation. If an old brand cannot keep the consumer enough excited, a consumer might engage in switching behavior, assuming that competing brands can provide emotions of novelty. (Sheth et al. 1991) Furthermore, a consumer might simply be curious to try competing brands, or in this case, stores. This is why retailers should give enough emphasis on adding innovative elements and products to their stores constantly to keep the store exciting even for regular customers.

Finally, conditional value means the good's utility's dependence on the situation. For example, some products only have value during a certain season, such as christmas decorations, whereas others are related to once in a lifetime situations, such as weddings. (Sheth et al. 1991)

Furthermore, it is important to note, that the value dimensions vary substantially in different situations and decision levels. Sheth et al. (1991) identify three different choice situations: decision to buy level (buy or not buy), product level (product type A or B) and brand level (brand A or B). For example, when investigating the values that affect to cigarette purchases, the authors found that emotional value was the key to the decision whether to smoke or not, whereas functional and social value were most important when making the decision between buying filtered or unfiltered cigarettes. (Sheth et al. 1991)

Although Sheth et al.'s work has been recognized for setting the ground for more detailed value analysis, some researchers have felt the need for an even more precise value mapping. In addition, whereas Sheth et al. argued that value dimensions are independent, some other researchers, including Sweeney and Soutar (2001), have argued that value dimensions are inter-related. Therefore, Sweeney and Soutar (2001) developed a 19-item PERVAL-scale to measure the different dimension of customer-perceived value better, especially in a retail setting. The PERVAL-scale presents four distinctly different dimensions to measure customer-perceived value that are termed emotional, social, quality/performance and price/value for money. (Sweeney & Soutar 2001)

More recently, the PERVAL-scale has also been verified to work across international populations. Although consumers' valuations between different dimensions seems to differ across countries, the same scale is valid. The same study also concluded that a 12-item scale instead of 19-items delivers the same results. (Walsh et al. 2008) The different dimension of the PERVAL-model have similar descriptions as those described in Sheth et al.'s model, with the exception of having more factors inside each dimension, and thus they will not be discussed further here.

Finally, the value scale by Babin et al. (1994) simplifies all the different factors affecting value perceptions to two dimensions, hedonic and utilitarian value. Their scale is not to compete with complexity but rather by simplifying things to create a scale that is capable of measuring all consumption phenomena. Babin et al. (1994) argue that e.g. Zeithaml's (1988) view of value simply as a trade-off between quality and price is too

narrow. Thus, value can be said to be the result of the experiences of both *homo economicus* and *homo ludens*[5]. However, they admit that whereas utilitarian value is relatively easy to measure, hedonic value is not. (Babin et al. 1994) This is because hedonic value is more subjective and personal in nature (Holbrook & Hirschman 1982). As Babin et al. (1994) conclude, gathering from several sources, an important notion about hedonic value is that unlike utilitarian value, it can be derived even when nothing is purchased. For many people, shopping is just about enjoying the atmosphere of different stores and dreaming about what one could buy if he had the money for it. A comparison of different multidimensional value measurement models can be seen in Table 5.

Author	Value dimensions
Sheth et al. (1991)	Functional Social Emotional Epistemic Conditional
Babin et al. (1994)	Hedonic Utilitarian
Sweeney & Soutar (2001)	Emotional Social Quality Price/Value

Table 5: A comparison of multidimensional value measurement models

3.2.2. Uni-dimensional models

The uni-dimensional models are mostly based on the value typology by Zeithaml (1988). Some of the most notable ones are by Kerin et al. (1992) and Baker et al. (2002). Although these models are classified as uni-dimensional by Sánchez and Iniesta (2007), they do also take into account emotional factors to some extent in addition to quality and price.

The model by Kerin et al. (1992) emphasizes shopping experience as the determinant of consumer perceived value. They propose that shopping experience is a function of store atmosphere and customer service. The shopping experience, in turn, affects both directly and indirectly to store value perceptions (see Figure 10). The indirect effect

[5] Homo Ludens or "playing man", means the play element in culture and society

happens through merchandise price and quality perceptions. The most important implications of Kerin et al.'s model and it's empirical verification were that non-product related signals in a store environment do have an influence on perceptions of merchandise price and quality, and therefore to perceived value. Furthermore, they found that the direct effect of store shopping experience is relatively stronger on value perceptions than merchandise price or quality. In other words, this would suggest that the investments in store atmosphere would add more value to consumers than merchandise price or quality. (Kerin et al. 1992)

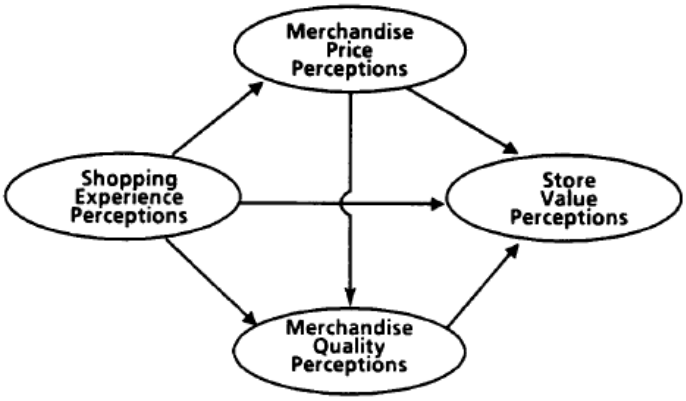

Figure 10: Value perception model (Kerin et al. 1992)

Finally, Baker et al. (2002) went through several earlier studies to come up with a model to assess the influence of multiple store environment cues on perceived merchandise value and patronage intentions. As can be seen from Figure 11, their model is based on social, design and ambient factors of the store environment, as was presented in chapter 2. These are followed by five factors that affect consumers store choice: service quality, merchandise quality, monetary price, time/effort cost and psychic cost perceptions. Of these, only merchandise quality and monetary price were verified empirically to affect merchandise value perceptions and therefore they were chosen as the focus of this study. Furthermore, only design elements in the store environment had a fully supported structural path with merchandise quality and monetary price perceptions, although social and ambient factors were originally also hypothised to affect these factors. (Baker et al. 2002)

Although Baker et al.'s model might be over-simplified compared to the multidimensional models presented in chapter 3.2.1., it was the first, and to my knowledge still the only model to assess the retail environment holistically. As the authors admit, the main limitation of their study is that the empirical part was conducted as a classroom

simulation showing videotapes to the participants. This method limits the reliability especially of the ambient dimension of the study. (Baker et al. 2002) To overcome this limitation, the empirical study of this paper, presented in chapters 4 and 5, will be conducted in a real store environment.

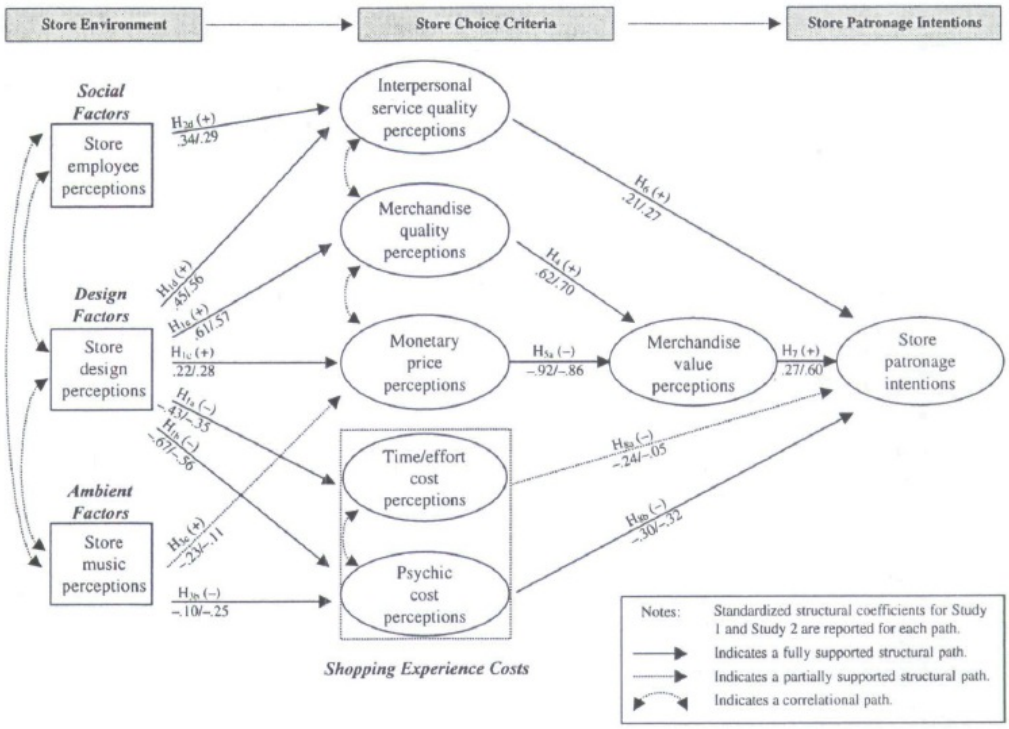

Figure 11: Pre-purchase process of assessing a retail outlet on the basis of environmental perceptions (Baker et al. 2002)

As has probably become clear by now, the literature about customer value measurement in retail settings is dispersed. Proponents of both multidimensional and unidimensional models have well-established reasons to believe that their model is better. Multidimensional models offer a better way to explain value formation in store environments but they are too complex to be used in quantitative calculations. Unidimensional models, in turn, lack some features, but are necessary to simplify the reality so that theories can be formed and tested.

Since the goal of this study was to quantitatively show the relationship between store environments and customer value, I will use Baker et al.'s (2002) model as the basis for my framework.

3.3. Price perceptions

As presented by Baker et al. (2002), quality and price have the strongest influence on merchandise value perceptions. Although many researchers have suggested that also other factors should be taken into account (e.g. Sweeney & Soutar 2001 and Sheth et al. 1991), to my knowledge, no empirical studies in retail environments have been made where these relationships could have been verified. Of price and quality, price perceptions have been said to have a stronger effect on customer value perceptions than merchandise quality, as will be justified later in this chapter. (Varki & Colgate 2001) This is why this study will focus on the effect of price perceptions on consumer perceived value.

3.3.1. Price information in retailing

Pricing is one of the key decisions in retailing and should be always based on the targeted consumer segment and their price awareness. Consumers can typically only remember a very limited number of prices and therefore the prices of products that are frequently purchased or that are important to a customer affect the customer's decision making the most. In grocery stores, this means products such as milk, bread, beer and coffee. Price perceptions can also be affected by using psychological pricing. This means, for instance, using 9 as the last digit of prices (e.g. €2.99), which makes the customer think that the price is lower than it actually is. (Finne & Sivonen 2009, 75-77)

Price as an extrinsic cue can be further divided to objective price and psychological price. Objective price is the literal amount of money needed to purchase the product. Psychological price, in turn, is each consumer's internal perception of price. (Anttila 1990, 12-13) The difference between objective and psychological price is of an interest in this study.

3.3.2. Theories of consumer choice

To justify why price is such an important factor in consumer choice situations, we must look deeper into economics and consumer choice theories. Standard economic theory, advocated by the neoclassical school of thought, states that people make their decisions ultimately based on rational choice (Campus 1987). This theory is based on the idea

that consumers maximize their utility with the constrains of wealth and price of goods. In mathematical form, this can be written as:

$$\max \mathrm{U(z)} - \lambda(\sum \mathrm{p_1 z_1} - \mathrm{I})$$

where $z = \{z_1, \dots, z_n\}$ is the vector of goods available in the economy at prices $p = \{p_1, \dots, p_n\}$.
$U(z)$ = the consumer's utility function
I = the consumer's wealth. (Thaler 1985)

Standard economic theory makes several assumptions about how consumers response to price information, such as:

- Consumers have perfect information about prices
- Consumers make rational decisions
- The slope of the demand curve for products is always negative, meaning that consumers always prefer lower priced goods. (Anttila 1990, 13)

Marketing and business practitioners have long recognized that these assumptions don't often hold true in real markets (Anttila 1990, 13). Although the standard economic theory has remained dominant in economic research until today, mainly because of the works by Milton Friedman (Nobel 1976) and Gary Becker (Nobel 1992), several economists and psychologists, most notably Kahneman and Tversky (Nobel 2002), have recognized the need to develop the standard economic theory in order to explain anomalities in consumer behavior (Thaler 1985).

The most eminent derivation from standard economic theory is prospect theory, which states that "losses loom larger than gains," (see Figure 12) (Kahneman & Tversky 1979). If price is considered a loss and quality a gain, prospect theory would suggest that people react more to variations in price than in quality (Varki & Colgate 2001). In addition, price is often considered an extrinsic cue that can be easily observed and compared with other products in the store, whereas quality is often intrinsic and therefore not as easy to evaluate (Parasuraman et al. 1988).

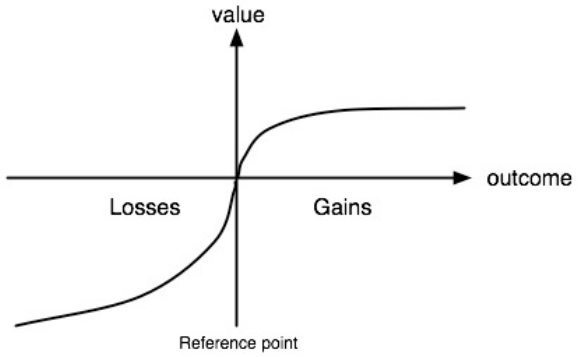

Figure 12: Prospect theory (adapted from Kahneman & Tversky 1979)

Based on prospect theory, it is possible to also see how people react to surcharges and discounts, that is, increases and decreases in prices. People consider it easier to forego a discount than accept a surcharge on normal price, although they are rationally the same thing. This is why retailers should, for example, rather give a cash discount than to ask for a credit surcharge. If people were completely rational, the result for the retailer should be monetarily the same, but prospect theory suggests that people are mentally more willing to accept a discount when paying with cash than a surcharge when paying with a credit card. (Thaler 1980)

If high-image store design leads to high expected prices, as suggested by Baker et al. (2002), this means that consumer perceptions of price should be in line with the store design elements. This was also supported by the findings of Thaler (1985), who conducted an experiment in which consumers were asked to estimate how much they would be willing to pay for a bottle of beer that they would drink on a beach. One group was told that the beer would be bought from a resort hotel nearby whereas the second group was told that the beer would be bought from a small grocery store. The median estimated price for the hotel was $2.65 and for the grocery store $1.50. Based on standard economic theory, the "atmosphere consumed" could account for the difference in prices, but in this case the beer is to be consumed at the same location, the beach. Therefore, this would suggest that there is link between retail environments and price perceptions. (Thaler 1985) Therefore, I suggest that:

H_2: Consumers will perceive expected prices to be higher in a convenience store compared to a supermarket nearby.

H_3: Consumers who evaluate the redesigned store environment better than average are willing to pay more for products.

The study by Thaler (1985) shows well why standard economic theory often doesn't work with marketing problems. In a completely rational world, the groups should have been willing to pay exactly the same price for the product, no matter where they were buying it from. This is why marketing calls for a theory that takes into account other factors than barely price and product characteristics. These more emotional factors that cause the standard economic theory to fail are often referred as *framing* in economic literature. (Thaler 1985)

Framing is a cognitive bias, which means that presenting the same options in different formats can alter people's decisions. (Tversky & Kahneman 1981) For example, people tend to prefer gains over losses as presented by Thaler (1980), although the outcome would be exactly the same. In practice, this often means that consumers pay attention to sunk costs when it is unnecessary and underweight opportunity costs.

3.3.3. Measuring perceived value by utilizing prospect theory

As has been presented earlier in this paper, perceived value can be simplified as the tradeoff between benefits and sacrifices (Zeithaml 1988). By applying price to this formula, we can say that benefits are a positive and sacrifices a negative function of price (Anttila 1990, 60). Since price is a subjective concept, as suggested by prospect theory, we need to break it down further to reference price (p_{ref}) and maximum price (p_{max}). Reference price has no universal definition, but in this study it is defined as a fair price for a product, as defined by Thaler (1985). Consumers generally use their memory of prices and anchoring[6] to come up with a reference price. Maximum price, naturally, is the largest amount of money a consumer is willing to pay for a good. (Anttila 1990, 61)

By utilizing prospect theory, the perceived value of buying a good or service can be calculated as a sum of acquisition value and transaction value. The acquisition value means "the perceived benefits inherent in the product compared to the outlay." Transaction value, in turn, means "the perceived merits of the offer." (Anttila 1990, 61) Thus, perceived value can be written in mathematical form as:

[6] Anchoring means using the price information of other products to come up with a price

$$pv = v(p_{max} - p) + (p_{ref} - p).$$

, where p = the actual (objective) price of a product,
p_{max} = the maximum price a consumer is willing to pay for a product p_{ref} = the consumer perceived reference price of a good.
(Anttila 1990, 61)

Based on this formula, we can see that in order to maximize customer perceived value we must either depreciate p or increase p_{max} or p_{ref}. Depreciating p is naturally easy, but at the same time it often results in reduced profitability. Increasing psychological price, in this case p_{max} or p_{ref}, certainly requires more effort but can also pay larger dividends. Whether retail design can increase either of these factors will be examined empirically in chapter 5. Thus, I propose that:

H_4: As perceptions of store design cues become more favorable, consumer value increases by:
H_{4a}: Increasing consumer perceived reference price
H_{4b}: Increasing consumer perceived maximum price

Now that we understand why price is more important than quality in consumer choice situations, as prospect theory suggested, it is easier to understand how consumers perceive price information.

3.3.4. Price acceptability

Price acceptability is based on price expectations. Consumers form expectations of a price of a product or store based on environmental stimuli (Thaler 1985, Grewal & Baker 1994). A bottle of beer selling for 2 euros might seem expensive at a grocery store but at the same time it seems perfectly acceptable at a hotel, as wittnessed by Thaler (1985).

It is important to understand that the relationship between retail design and price perceptions is bidirectional. Stores with a high image might lead consumers to perceive a store expensive before even looking at prices. This might forestall some consumers entering the store already in the pre-purchase stage. On the other hand, high-image store design can also lead to increased price acceptability in the purchase and post-

purchase stages (Grewal & Baker 1994). Therefore, the retail environment acts as a cue about prices but also as a cue for inferring value (Varki & Colgate 2001).

While Thaler (1985) helped in understanding that store environments, as a whole, do have an influence on price expectations, his study did not provide insight about what elements in a store lead to greater price acceptability. Grewal and Baker (1994) tested people's price acceptability by varying the different dimensions of a store environment, as presented by Baker (1986) and as discussed in chapter 2. Their findings showed that store environments that have high-image design and ambient cues have higher price acceptability. Therefore, retailers who want to increase customers' price acceptability need to make sure that design and ambient cues are both high-image and congruent, because more acceptable prices lead to more purchases. (Grewal & Baker 1994)

H_5: As consumers' perceptions of store design cues become more favorable, consumers will perceive monetary prices to be more acceptable.

3.3.5. Price sensitivity

Customer price sensitivity means how consumers perceive and respond to changes in prices (Monroe 1973). In other words, price sensitivity shows how many units will be sold at different price levels. For retailers, it is important to understand its customers' price sensitivity because if customers are really price sensitive, even small increases in prices can lead to quitting customers. (Levy & Weitz 2012, 373) Generally, consumers are more sensitive to changes in functional (e.g. purchasing bread) compared to hedonic (e.g. purchasing chocolate) purchasing situations. Also, several situational variables such as income and social setting affect price sensitivity. (Wakefield & Inman 2003)

Price sensitivity is closely related to price elasticity, which can be calculated as:

$$Elasticity = \frac{\Delta Q}{\Delta P}$$

where ΔQ = the percentage change in quantity sold
ΔP = the percentage change in price.
(Levy & Weitz 2012, 374)

Calculating price sensitivity originates from a study by Gabor and Granger (1966). They made an experiment where they asked consumers to state highest and lowest prices that they would be willing to pay certain products. This span, known as the price range, represents the area within which price can be modified by the retailer in order not to lose sales. If the item is priced below the lower limit, it might be regarded as too cheap and therefore of questionable quality. (Gabor & Granger 1966)

The idea of Gabor and Granger was further developed by Van Westerdorp to a model of price sensitivity. In his Price Sensitivity Meter (PSM), Van Westerdorp suggested a set of question that would determine the price sensitivity of each consumer. The main disadvantage with PSM is its extreme sensitivity to outliers. (Lewis & Shoemaker 1997) In the empirical part of this study, we will employ an applied version of Van Westendorp's Price Sensitivity Meter:

$$Price\ sensitivity = P_{max} - P_{ref}$$

So in other words, price sensitivity is the difference between perceived maximum price and reference price for a product.

In the interest of this thesis is to find out if retail design affects price sensitivity. This can be measured by comparing the price sensitivity between before and after –situations, as will be done in the empirical part of this study.

3.3.6. Situational factors affecting price perceptions

There are some additional factors, which affect to how consumers perceive the value of a store and its offering that haven't been covered in the models presented earlier. These include the consumption occasion, social setting, level of involvement and constrains such as income. (Wakefield & Inman 2003)

First, consumer price sensitivity depends on the type of goods. Consumers are less sensitive to price changes for goods that are perceived hedonic in nature. Second, households with lower income generally have greater price sensitivity than households with higher income. This means that lower income households' price acceptability is lower. However, this only applies to hedonic goods. For functional goods all households have been examined to have relatively similar price elasticities. (Wakefield & Inman 2003)

H_6: People in low income segments are more price sensitive than people in high income segments

Third, consumer price acceptability depends on the social setting. When people are shopping alone, they are likely to be more price sensitive than when they are shopping with someone else. This is especially true for hedonic and publicly consumed goods. (Wakefield & Inman 2003) With such "socially risky purchases" people are more likely to exert social comparison, that is, to compare their opinions and attitudes with others present in the situation (Midgley 1983). To further verify Wakefield and Inman's findings, I suggest that:

H_7: People shopping alone are more price sensitive than people shopping together with someone.

Some other situational factors that can affect price perceptions, which will not be discussed more in detail here are level of involvement (high- vs. low-involvement goods), time pressure and even a person's mood. However, to my knowledge, the effect of store atmosphere on price sensitivity has not been studied earlier, and Wakefield and Inman (2003) stated the need for more research on the area. This study will attempt to increase knowledge on this area, and therefore I suggest that:

H_8: As consumers' perceptions of store design cues become more favorable, consumers' price sensitivity will decrease.

3.4. Framework

Now that I have extensively presented the different elements of a store environment and discussed how value is formed and how it can be measured, it is time to gather the theories together. The purpose of this chapter is to present a framework to help understanding the impact of retail environments on customer value perceptions. Since there isn't any generally accepted framework of the topic present, the framework presented here is adapted from the studies discussed throughout this thesis. Unfortunately, as the phenomenon is very complex and universal definitions don't exist, the framework is far from simple.

Figure 13: Theoretical framework (adapted from several sources shown in the figure)

The framework (Figure 13) is divided to three different sections, as originally presented by Mehrabian & Russell (1974, 18-26). These sections, namely Stimulus, Organism and Response form the basis for understanding how a human perceives and reacts to its environment. In this case, as we're looking at retail environments, stimulus means all the visible and non-visible cues in the store. On a general level, this means the image of the store. Store image, here, is composed of store environment, location, merchandise and product brands, as suggested by Solomon et al. (2002, 284-286). As it was in the interest of this study to examine the impact of changes in store environment, I will leave the other factors of store image outside this framework. Store environment can be further divided to ambient, design and social elements, as suggested by Baker et al. (1986, 79-84). However, only design elements will be examined empirically in the next chapters.

From the value perspective, all of these cues or stimuli can be said to be the value drivers. In other words, these are the factors that a retailer can change in order to affect consumers value perceptions. When one of these factors doesn't match with what customers perceive valuable, they may even destroy value.

Before moving on to the next section, Organism, there are some situational factors that can affect whether people will perceive certain stimuli pleasant or unpleasant. These include social situation, level of involvement, income and seasonality (Wakefield & Inman 2003). As discussed in Chapter 3.3.6. these factors affect especially on how consumers perceive objective prices and the value of the store in general. For example, people shopping together are generally willing to pay more, thus perceiving objective prices lower than people shopping alone. Income (H_6) and social situation (H_7), as well as the overall price sensitivity (H_8) will be examined empirically in the next chapters.

If Stimuli act as value drivers, Organisms could be said to be the perception of these drivers by consumers. Organisms are divided to Quality (or Benefits) and Price (or Sacrifices), as suggested by Zeithaml (1988). Although more complex models have been presented, this model suits best for showing the relationships between the different elements in this framework. Quality or benefits refer to perceptions about interpersonal service quality, merchandise quality and shopping experience (Baker et al. 2002). The benefits received by the consumer can further be divided to utility value and psychic value, as suggested by Khalifa (2004). Especially psychic value can be increased by the means of retail design, which is what will be studied empirically in the following chapters (H_3-H_5). Price or sacrifices, in turn, refer to the perceived costs related to shopping

in a certain store. These include the objective or real price of the product and time and effort.

When consumers are making a decision about what their response to the different stimuli will be, they weight the benefits and sacrifices. This happens both at the level of choosing to enter a store but also at the level of choosing to buy a product. When benefits exceed sacrifices, as suggested by Zeithaml (1988), consumer will engage in "Approach" behavior. This can mean either choosing to enter a store, or to purchase a product.

Finally, if CPV is greater than zero, consumers can response in several ways. Approach behavior in retailing context can mean, for instance, purchase intentions, satisfaction and positive Word-Of-Mouth. Negative net customer value instead can lead to dissatisfaction and negative Word-Of-Mouth. (Grewal & Levy 2009) Customer satisfaction, in turn, leads to improved customer loyalty, as suggested by Reichheld et al. (2000), and therefore to increased profitability.

Now that I have describe the different elements that a store environment is consisted of and looked into how customer value can be calculated in retail setting, it is time to proceed to the empirical part of this study. Next, I will look at the methods that are used to collect and analyze data in order to test the hypotheses that were set in Chapters two and three (see Table 6).

Hypothesis
H_1: Changes in design elements towards high-image store environments lead to better evaluations of the store
H_2: Consumers will perceive expected prices to be higher in a convenience store compared to a supermarket nearby.
H_3: Consumers who evaluate the redesigned store environment better than average are willing to pay more for products.
H_4: As perceptions of store design cues become more favorable, consumer value increases by: H_{4a}: Increasing consumer perceived reference price H_{4b}: Increasing consumer perceived maximum price
H_5: As consumers' perceptions of store design cues become more favorable, consumers will perceive monetary prices to be more acceptable.
H_6: People in low income segments are more price sensitive than people in high income segments
H_7: People shopping alone are more price sensitive than people shopping together with someone.
H_8: As consumers' perceptions of store design cues become more favorable, consumers' price sensitivity will decrease.

Table 6: Compilation of hypotheses

4. Research design and methods

This chapter will describe the research methods employed in the empirical part of this study to find answers for the set hypotheses. An experiment will be conducted by asking customers of two convenience stores to fill a survey after shopping in the store. A convenience sample is collected before and after the store environment is redesigned. The survey is distributed in two different stores under the redesign process in order to increase reliability. Data is collected quantitatively and analyzed by using a statistics software.

This chapter begins with a brief description of the of the convenience store market in Finland. Second, I will explain how the research was designed and data collected, after which the data is described. Third, I will operationalize the variables in order to show, which questions are used to test hypotheses. Finally, I will introduce the methods employed in analyzing the data and discuss about the validity and reliability of this study.

4.1. Convenience store market in Finland

Convenience stores are defined in this study as retail outlets, whose selling area is less than 100 m^2, and who sell mostly groceries or other goods, whose value is less than 170 euros. This definition is based on the Finnish Law (1297/2000, 5 §) about convenience stores. Convenience stores are generally considered as places where people make supplementary purchases or purchases of small hedonistic goods, such as candies, cigarettes or magazines. As the name suggests, convenience stores are often conveniently located near to people's daily routes and enable fast shopping with long opening hours.

The Finnish convenience store market is largely dominated by one chain, R-kioski, which is owned by Rautakirja, a division of Sanoma Company. R-kioski has 680 stores around Finland, of which 60 percent are owned and operated by the chain itself, the rest being franchisees. As much as 89% of Finnish people are estimated to make purchases from one of the chain's stores every year. (Sanoma 2011) R-Kioski has a turnover of 389.4 million euros, which has been estimated to represent about 60 percent of the total

turnover of the convenience store category in Finland, making the overall market size about 650 million euros (PTY 2011).

Other than R-Kioski, there are numerous local companies that can be categorized as convenience stores, ranging from small kiosks to shops in gas stations and highly specialized delis. R-Kioski was chosen as the subject of this study because they had an ongoing retail design process in their stores and therefore data from before and after situations was easily collectable.

4.2. Research design

The nature of this research is conclusive and descriptive, meaning that I attempt to test the pre-defined hypotheses by measuring different factors in a structured manner. The design of the study is cross-sectional, since we look at four different samples of respondents, one before and one after the re-design process in two different retail stores. Each of the samples is measured only once during the study.

Since the purpose of this study was to increase understanding by testing theories about holistic retail environments and consumer perceived value, quantitative methods were chosen as the main approach of this study. Generally, quantitative methods are considered the most appropriate when one should describe the causality between variables. Qualitative methods, in turn, are preferred when additional understanding about a phenomenon is needed and when a new theory is being created. (Malhotra & Birks 2006, 132-133)

Experiment was a natural choice of approach for this study, as the aim was to find out how changes in retail environments influence consumers' value perceptions. The main difference between correlational and experimental methods is the manipulation of variables. Whereas correlational research simply observes what naturally happens, experimental research deliberately changes some variables in order to see if there are significant changes in the variables kept constant. (Field & Hole 2003, 10)

In this study, we wanted to see how consumers react when the store environment is modified. Therefore, the different variables measuring the retail environment are independent variables and the consumer response, price perceptions in this case, are dependent variables.

There are several ways to design experiments. These include time-series design, pre-test/post-test design, group comparisons, Latin Squares etc. Each of these methods has its strengths and weaknesses. For the purposes of this work, a pre-test/post-test design will be applied (see Figure 14). The advantages of this design include that we can compare results after treatment to the baseline, i.e. before treatment. However, we are not able to know what happens if no alterations are made, since we don't have a control group. To overcome this limitation we will use a group comparison design to see if the results are similar across stores. (Field & Hole 2003, 66-85)

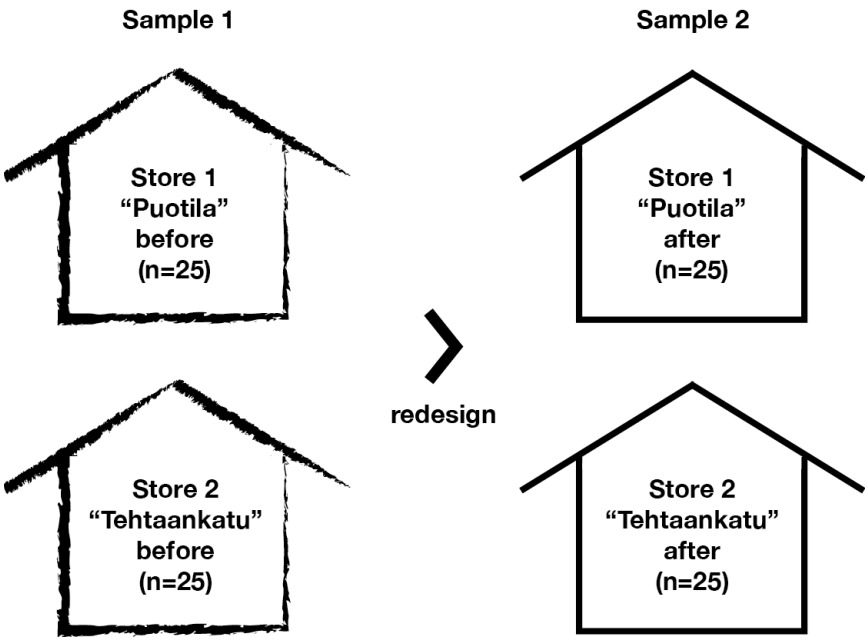

Figure 14: Representation of the experiment design

A natural way to collect data was by making a survey to customers of a store under a redesign process. The survey was designed together with R-kioski and design agency Mozo, who made the new concept design for R-kioski. This enabled to understand what has been actually changed in the environment and what has been the purpose of each change. The survey was kept as short as possible because it was known that customers of convenience stores don't usually have much time, which makes it a highly challenging place for doing research. The survey was designed only in Finnish, which rules out non-Finnish speakers from the sample.

The final survey (see Appendix A) was divided to three different sections. Section 1 consists of questions measuring the characteristics of the store environment and price acceptability. The goal of this section is to measure whether there has been a change in

consumer attitudes after the re-design process. The first question is to test whether consumers think something has changed in stage one, when the environment has not been modified. Measuring in this section is done by using a seven-point Likert-scale, which has been also used in several earlier studies of the same topic. (e.g. Mattila & Wirtz 2001 and Chebat & Michon 2003) The seven-point scale was chosen over five-point scale because it was thought that it would give more precise answers.

Section 2 consists of questions measuring price sensitivity and perceptions. This was done by asking people to assess the price of a bar of chocolate. The product was chosen because the bar of chocolate in question is one of the best-known brands in Finland and sold in almost every store. Finally, section 3 measures certain background factors, such as demographics, income level and whether the person was shopping alone or together with someone.

4.3. Data collection

Previous studies about retail environments have mostly been done by using videotaped scenarios in a laboratory setting (e.g. Baker et al. 1994 and Spangenberg et al. 1996) or simply by studying individual factors in store environments, such as background music (e.g. Areni & Kim 1993 and North & Hargreaves 1999). Although these studies have been important in creating the foundation for store environment research, they lack certain basic qualities stated in the theory of environmental psychology.

First, using videotaped scenarios, people can only experience factors visual in nature. Thus, this method leaves mostly out the ambient and social factors of the environment. The researchers who have employed this method have also recognized this clear limitation. Second, Proshansky et al. (1987) argue that problems related to environmental psychology should only be studied in their actual environments, not laboratories. This also argues for taking the experiments into actual store environment. Third, as Gestalt psychology states, people respond to their environments holistically. Therefore, studying the influence of individual factors is questionable. As a response to these limitations in the earlier studies, some more recent studies have examined the congruency between factors in their natural settings. (e.g. Mattila & Wirtz 2001 and Michon et al. 2005).

For the aforementioned reasons, this experiment was conducted in a real store environment by measuring the holistic customer experience. Thus, questions about individual factors, such as the color scheme, do not influence the results of this study by

themselves, but only in conjunction with the other factors measuring the store environment.

The data was collected by distributing a survey (Appendix A) to customers of two different R-Kioski stores before and after the re-design process. The stores were selected based on the schedule of their redesign process at the time of this study. Both of the stores are located in Helsinki, but in very different kind of areas. The first store is located in a suburban area, Puotila, about 10 kilometers from the center of Helsinki. The area is mostly comprised of residential blocks of flats. The store is situated at a small outdoor shopping center built in 1961. There is one small supermarket located in the same shopping center, but no other grocery stores nearby. The median income of the area was 24 126 euros in 2009 (Statistics Finland 2011).

The second store is located in a densely populated urban area located close to the center of Helsinki. There are several small supermarkets in the area and the area is comprised of both small businesses and wealthy residential buildings. The median income of the area was 47 383 euros in 2009 (Statistics Finland 2011).

All the data collecting was done on Thursday afternoons in consecutive weeks between 12 am and 6 pm. Since the renovation of the stores took about one week to complete, the same store was studied two weeks after the first data collection. Since the population of our study is comprised of thousands of consumers, a sample instead of a census was considered more appropriate for the purposes of this experiment. Since we wanted to examine people in their natural settings, that is, the store environment, convenience sample and systematic sampling were the only suitable sampling methods. Of these, convenience sampling was selected because of its easy applicability in a convenience store setting.

In addition to collecting data only from Finnish speakers, there were also some other groups of people who were left out of the sample. Some very young and very old people were left out of the sample, because of their incapability to read or understand the questions. A few respondents were ruled out because of being strongly intoxicated. Forms, which were missing answers to several questions, were also left out from the final results.

4.4. Describing the data

A sample of 100 was collected, which included 50 respondents before and 50 after the redesign process. As the samples were collected from two different stores, the sample size per store was 25. The convenience store environment proved to be a difficult environment for conducting a survey study, which explains the rather small sample size per store. Since most people go to a convenience store in order to get in and out as fast as possible, many people were unwilling to participate in a survey.

In the first question, the simple question was whether the subject had noticed any change in the environment. This was a test question to see that people would answer "no" in the "Before" stage of the design process. However, it turned out that 27% of the respondents thought that something had changed before there were any changes made to the actual store environment. The reason for this was that some respondents had noticed that the owner in "Puotila" store had changed and thus answered "yes". In the "After" situation results were very good. Only 9% of the respondents had not noticed any changes in the store environment.

Although demographics are not necessarily the most important variables what comes to opinions about store environments, we'll have a look at them next to see what the sample is constructed of. When looking at the respondents' age (Figure 15), we can see that the sample is relatively evenly distributed, with the exception of the youngest age group. This group is smaller because people under 16 did not always understand what the questions meant. Despite the generally even distribution, there are some differences between "before" and "after" groups. Whether this affects the findings remains unclear, but offers a potential limitation for the generalizability of the results.

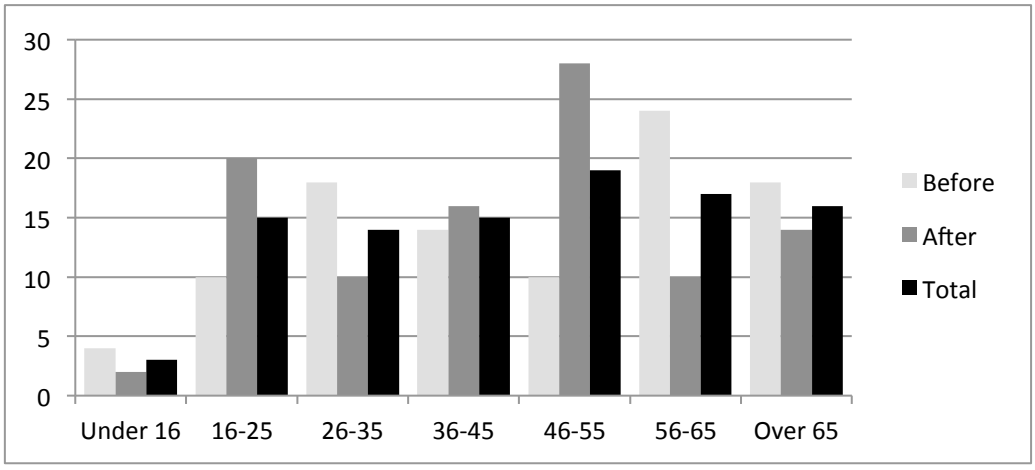

Figure 15: Percentage of respondents by age group (N=100)

Respondents' sex was not quite as evenly distributed as was their age. As can be seen from Figure 16, majority of the respondents were male although the general statistics from these areas show the same number of male and female. The male dominance can possibly be explained by the large amount of customers who come to play slot machines or do sports betting. An earlier study made in the same convenience store chain (N=400) resulted in similar statistics, and would thus suggest that the sample represents the population well.

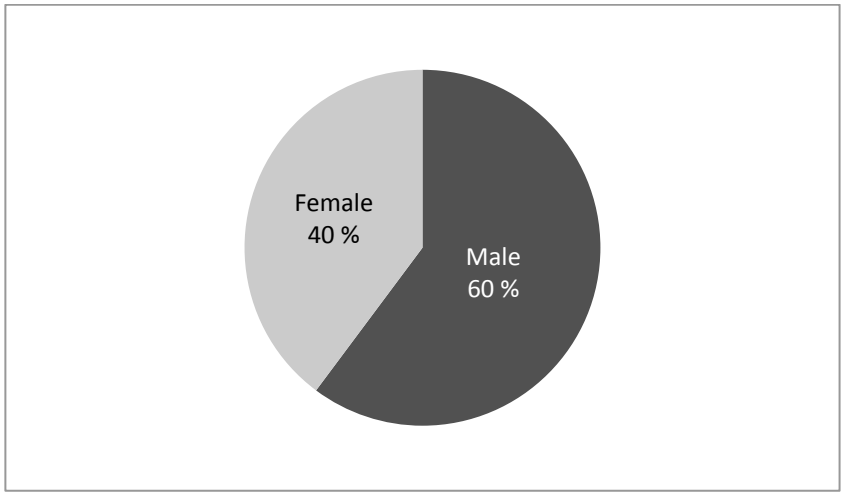

Figure 16: Respondents' sex

4.5. Operationalization of Variables

The purpose of this chapter is to gather all the hypotheses to one table and explain which questions in the survey form are related to which hypothesis (see Table 7). Furthermore, the table shows which method of analysis will be used in analyzing the data.

Hypothesis	Theoretical background	Method of analysis	Questions
H_1: Changes in design elements towards high-image store environments lead to better evaluations of the store	Baker et al. 1994	*t*-tests	1c, 1e-1l
H_2: Consumers will perceive expected prices to be higher in a convenience store compared to a supermarket nearby.	Thaler 1985	*t*-tests	2a-2d
H_3: Consumers who evaluate the redesigned store environment better than average are willing to pay more for products.	Baker et al. 2002	Multiple regression	1b-1l, 2a
H_4: As perceptions of store design cues become more favorable, consumer value increases by: H_{4a}: Increasing consumer perceived reference price H_{4b}: Increasing consumer perceived maximum price	Anttila 1990, Thaler 1985	Price sensitivity calculations	2a-2e
H_5: As consumers' perceptions of store design cues become more favorable, consumers will perceive monetary prices to be more acceptable.	Grewal & Baker 1994	*t*-tests	1m - 1p
H_6: People in low income segments are more price sensitive than people in high income segments	Wakefield & Inman 2003	Price sensitivity calculations	2a – 2e, 3d
H_7: People shopping alone are more price sensitive than people shopping together with someone.	Wakefield & Inman 2003, Midgley 1983	Price sensitivity calculations	2a – 2e, 3a
H_8: As consumers' perceptions of store design cues become more favorable, consumers' price sensitivity will decrease.	Wakefield & Inman 2003	Price sensitivity calculations	2a - 2e

Table 7: Operationalization of variables

4.6. Methods of Statistical Analysis

In this chapter I will describe the statistical methods used in analyzing the data. First, a *t*-test is used to compare means and their statistical significance. Second, multiple regression analysis will be used to find out the causality between store environment perceptions and price perceptions. Finally, price sensitivity calculations are used to test consumers' price sensitivity.

Using regression analysis or *t*-test requires variables to be measured on a continuous scale. Statisticians have not reached an agreement about whether Likert-scale variables can be treated as continuous or not. Some argue that Likert-scale is an ordinal scale and thus intervals between the categories are not equal (e.g. Jamieson 2004). However, others have demonstrated that using Likert-scale variables returns similar findings as tests with continuous variables (e.g. Carifio & Perla 2007). In this study, Likert-scaled variables will be treated as continuous variables in order to use advanced statistical methods to study relationships between factors.

4.6.1. Student's *t*-test

A *t*-test is generally used, when the means of two independent samples must be compared. *T*-test is similar to analysis of variance (ANOVA), which is used when there are more than two independent samples that need to be compared. The *t*-test is recommended instead of ANOVA when comparing means of only two independent samples, as is the situation in this case. (Malhotra & Birks 2006, 485-487)

Certain assumptions should be filled before conducting a *t*-test. First, the data of the samples being compared should follow a normal distribution. In the past, it was suggested that the samples should be pre-tested for normality, for example, by using the Shapiro-Wilk or Kolmogorov-Smirnov test. Today, however, preliminary tests of equality of variance are not widely recommended by statisticians. This is because the two step procedure often fails to protect the significance level. (Zimmerman 2004)

Second, the two samples being compared should have the same variance. This is generally tested by using Levene's test, because it doesn't require the normality of the underlying data. Levene's test can be interpreted by looking at the resulting *p*-value. If the *p*-value is less than α (generally $\alpha = 0.05$), then the differences in sample variance are unlikely to have occurred due to random sampling. In this case, the null hypothesis of

equal variances must be rejected and it is concluded that there is a difference between the variances in the population. (Glass 1966)

The Levene's test can be calculated as follows:

$$W = \frac{(N-k)}{(k-1)} \frac{\sum_{i=1}^{k} N_i (Z_{i\cdot} - Z_{\cdot\cdot})^2}{\sum_{i=1}^{k} \sum_{j=1}^{N_i} (Z_{ij} - Z_{i\cdot})^2}$$

, where W = the result of the test

k = the number of different groups to which the samples belong

N = the total number of samples

N_i = the number of samples in the ith group

Y_{ij} = the value of the jth sample from the ith group

$$Z = \begin{cases} \left| Y_{ij} - \bar{Y}_{i\cdot} \right| \\ \left| Y_{ij} - \tilde{Y}_{i\cdot} \right| \end{cases}$$

(Brown & Forsythe 1974)

After the Levene's test, the value for t can be calculated with the following formula:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (\mu_1 - \mu_2)}{s_{\bar{x}_1 - \bar{x}_2}}$$

In this study we are mostly interested in the arithmetic means of the samples measured before and after the store redesign process. The null hypothesis is that the means of these two samples are equal. Therefore, if the null hypothesis is accepted, it would mean that the redesign process hasn't had statistically significant changes in consumer attitudes. However, if the null hypothesis is rejected, it would mean that the redesign process has had significant changes in attitudes.

4.6.2. Multivariate regression analysis

Correlation coefficients and regression analysis is needed when one needs to understand the association between variables. When there is more than one independent (explaining) variable, multivariate regression analysis is used. (Malhotra & Birks 2006, 510-511) Multivariate regression tests the relationship between one dependent variable and two or more independent variables.

The general form of the multivariate regression model can be written as:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + B_k X_k + e$$

, where y = the dependent variable
X_k = the independent variable
β_0 = the intercept of the line
β_k = the slope of the line
e = the error term.

This formula is estimated by using the formula:

$$\hat{Y} = a + b_1 X_1 + b_2 X_2 + \cdots + b_k X_k$$

, where a = the intercept
b = the partial regression coefficient
$\hat{Y}$ = the predicted value of Y_i
X_k = the independent variable.
(ibid 2006, 521-539)

After estimating the parameters, they can be tested for significance. Here, the null hypothesis is that $\beta_1 = \beta_2 = \cdots = \beta_k = 0$ and the alternative hypothesis is that $\beta_1 = \beta_2 = \cdots = \beta_k \neq 0$. The null hypothesis denotes that there is no linear relationship between X and Y, whereas the alternative hypothesis suggests that either a positive or negative relationship exists. The results of the regression analysis further show the simple correlation coefficient (r) between Y and $\hat{Y}$ and the multiple correlation coefficient (R^2). Due to diminishing returns, R^2 must be adjusted for the number of independent variables and the sample size. This can be done by using a formula:

$$adjusted\ R^2 = R^2 - \frac{k(1-R^2)}{n-k-1}$$

In order to test the hypotheses for significance, an F statistic must be calculated, which shows the significance of the overall regression equation. The value for F can be calculated with the formula:

$$F = \frac{R^2/k}{(1-R^2)/(n-k-1)}$$

, which is significant at $\alpha = 0.05$. (ibid 2006, 521-539)

In this study, multivariate regression analysis is used to study if variables measuring store environment can predict how a consumer perceives the price of a product. If there is statistically significant correlation between these variables, this would denote that consumers are ready to pay more for products in environments that they feel pleasant.

4.7. Validity and reliability

The accuracy of statistical measurements can be examined with variability and reliability. The accuracy of measurements can be calculated with the true score model:

$$X_O = X_T + X_S + X_R$$

, where X_O = the observed score of measurement
X_T = the true score of the character
X_S = the systematic error
X_R = the random error.
(Malhotra & Birks 2006, 312)

Validity means whether the questions truly measure accurately what they are supposed to measure. In other words, perfect validity requires that there is no kind of measurement error ($X_O = X_T$). (Malhotra & Birks 2006, 314) Validity is formed of content validity, criterion validity and factorial validity. Content validity means that the questions must relate to the construct being measured. Criterion validity stands for whether the survey is measuring what it is supposed to measure. Finally, factorial validity means that when questions are broken down to sub-questions, they should emerge as components of the original question when conducting a factor analysis. (Field & Hole 2003, 44-47)

Errors in validity are typically related to poorly formed questions, that don't actually measure what is intended, and lying. Lying is especially prevalent in survey and interview methods, which are often a possible reason for random error but sometimes also for systematic error. Lying has been observed particularly in situations when some alternatives are not "in fashion" but are actually supported in real decision making situations. For example, when asked about opinions towards refugees, most well-educated might answer more positively than what they actually think, because tolerance is considered desirable among well-educated people. In order to get true opinions, the researcher should format the questions so that he can get honest answers. (Alkula et al. 2002, 89-91)

The validity of this study has been attempted to increase in several ways. First, I adopted several questions from earlier studies, because such questions have already been tested in use. However, as is natural for social sciences, same questions can seldom be used over and over again (Alkula et al. 2002, 93). Therefore, also this study had to come up with totally new questions in order to measure our phenomenon. This naturally poses some risks to the validity of the study.

Second, I used the help of retail design professionals in order to increase content validity. Retail design professionals can be considered to have the deepest knowledge about the field in practice. Therefore, their insight is important in establishing, what are the relevant measures for a study like this.

Third, I tested the survey form with some participants before making the actual field experiment. This gave me insight about whether respondents understand the questions and their true meaning. After the pre-test, some questions were formatted differently.

Reliability, in turn, means the extent to which measures are free from random error, X_R. In other words, if repeated measurements are made, they should produce consistent results. However, systematic error does not affect the reliability of the measurement. If $X_R=0$, then the measure is perfectly reliable. (Malhotra & Birks 2006, 313)

Poor reliability is typically caused by random errors by the researcher (e.g. typing errors) or by the respondents. The errors by respondents include, for example, mood and problems with memory and understanding. (Alkula et al. 2002, 94) Poor reliability always leads to poor validity but the opposite doesn't always hold true (Alkula et al. 2002, 89). Reliability can be improved, for example, by adding more questions to measure the

same phenomenon, by increasing the sample size and by defining each question precisely (Field & Hole 2003, 57).

In this study, I attempted to increase reliability by measuring the same phenomenon with several questions in the survey, where applicable. However, as mentioned, the survey form was necessary to keep as short as possible so the end result was a balance between short survey design and good reliability. The reliability was also improved by doing the same experiment in two different stores. The variations in results between the stores are discussed further in chapter 4.8.

In addition, people with severe problems with memory or understanding, such as strongly intoxicated, very old and very young people were not invited to answer the survey. Also people, who had problems understanding the language of the survey, were naturally refused from answering. These precautions should minimize the possibility for random error caused by respondents. Furthermore, the survey sheets were numbered in order to eliminate the possibility of lost answers. Results were double checked when entering the data to statistics software to minimize the risk for researcher caused random error.

The main source of random error that remains is related to attitudinal questions, such as "Do you perceive the color scheme fresh?" This kind of questions always has a possibility for random error because the mood of respondents can have a major effect on how they perceive an environment at the time of observation.

Reliability can be measured by several methods. The most popular ones are test-retest, alternative form and Cronbach's alpha. Cronbach's alpha is generally used when several questions measure the same factor, and their internal correlation can be therefore calculated. Utilizing Cronbach's alpha for the whole questionnaire is impossible in this case, because different questions measure different factors. However, we can calculate Cronbach's alpha for the variables that measure the evaluations about the store environment.

Cronbach's alpha can be calculated with the following formula:

$$\alpha = \frac{n}{n-1}\left(1 - \frac{\sum_i V_i}{V_t}\right)$$

, where n = the number of items

V_t = the variance of test scores

V_i = the variance of total score of all items

(Cronbach 1951)

The closer to one the value of Cronbach's alpha is, the more reliable the measures generally are. There are several opinions about what is an acceptable value for alpha, but values above 0.80 are generally regarded as acceptable. Values below 0.8 indicate an unreliable scale. (Field & Hole 2003, 48) By applying the formula above, Cronbach's alpha for the nine items in our scale was 0.90, which suggests that the scale in the survey is very reliable.

4.8. Data Adjustments

As the samples from the two different stores under examination were relatively small for independent analysis (25 responses per store/measurement), the samples were combined in order to get more significant results. To verify that it is possible to combine the samples, a *t*-test was conducted to check between variations in means between the samples of different stores.

The results of the preliminary *t*-test can be seen in Appendix B. Only a few questions had major differences between the two stores and thus had to be rejected from further analysis. The questions concerning the feeling of space and wideness of aisles had a great difference in means because the store "Puotila" was much larger initially than the store "Tehtaankatu". Furthermore, the store "Tehtaankatu" was moved to a whole different retail space during the redesign process. The new store was located around the same square, so there is no reason to expect any other changes resulting from the move than answers to these two questions. The monetary estimates in questions 2a-2e had also some differences in means between stores, as expected. This is likely to be due to the great difference in median income between the areas where the stores are located. However, this difference is expected in some of the hypotheses and thus these questions are

not rejected from further analysis. Combining the samples of the two stores resulted in a sample of 50 before and 50 after the redesign process.

In addition to combining the samples, some data adjusting is needed before starting the actual analysis. In questions 2a-2e subjects were given freedom to suggest a price for a chocolate bar. However, some respondents had given values, which were much larger than could be held reasonable for a bar of chocolate. It is assumed that in such cases the respondent has not known the context and thus such outliers can be removed from the data. In this case, as the real price of the chocolate bar is 3.00 euros, all values outside the range 1.00-5.00 were removed and are not included in the following calculations.

Now that I have described how the experiment was designed and conducted, as well as presented the statistical methods that were used in analyzing the data, we can next look at the results of the study.

5. Results and Analysis

In this chapter, I will present the results of the experiment and evaluate whether the hypotheses set in the theoretical chapters can be verified empirically or not. This logic, also known as deductive reasoning, attempts to show that conclusions necessarily follow from the set hypotheses. First, I will describe the alterations that were made to the retail environment between collecting the samples. Second, I will explain the results in detail by starting from measuring the changes in evaluations, then moving on to price perceptions and finally looking at price sensitivity.

5.1. Alterations in the retail environment

In order to understand the following results, it is first necessary to look at what was changed in the retail environment between gathering the data. The design brief from the retailer requested to change the environment so that it will increase impulsive purchases, make a refreshing shopping experience, have clear visibility and a feeling of space and make the product selection seem delicious.

The following changes were made to the retail environment:

- 3D-fixtures added
- Colors, shapes and materials of displays and fixtures renewed
- Logos and decals updated
- In-store advertisements updated
- Deli-stand and fresh foods product selection updated
- Product placement changed
- Customer-operated coffee machines added
- Decals in display windows and façades updated
- Width of aisles and feeling of space increased
- Layout changed (e.g. placing cash register further from the entrance)

After running the *t*-test we can see if there is a difference in consumer opinions before and after the store redesign process. In our case, before and after situations can be considered as independent samples since they are randomly collected replicate measurements from a population and have no effect on each other. Each of the questions from

the survey form is compared to determine if there are significant differences in their means.

The independent samples *t*-test, as seen on Table 8, shows clear differences in several questions. Although questions 1b and 1d are not relevant for testing the first hypothesis, these are interesting when assessing how well the renewed design fulfilled the goals set in the design brief. As was intended, consumers felt the new environment more refreshing than the old environment (question 1b), but the change was not statistically significant (M_1=5.28 vs. M_2=5.59, p=0.24). Consumers also saw a clear improvement in product selections' deliciousness, but also this change was too small to be statistically significant (M_1=4.80 vs. M_2=5.31, p=0.06). Since both of these questions were left outside the scope of this study, they will not be analyzed further here.

When looking at hypothesis one, the difference between means in questions 1c and 1e-1l must be tested. First, the new store was considered triggering more impulse purchases (M_1=4.04 vs. M_2=4.72, p=0.02). This is related to the placement of goods in the store and was also one of the goals for the concept designers. The result was achieved by placing goods bought often together next to each other instead of placing them simply to their own shelves. One example of this kind of setting was placing candies next to magazines.

Also the general product placement was considered better and triggering more purchase intentions in the new store environment (M_1=4.71 vs. M_2=5.34, p=0.01). This was reached by improving the signage of different product categories and by organizing the shelves more clearly. Also most displays were renewed during the redesign process. Whereas the old displays were simple metallic structures, the new displays had innovative shapes and bold use of accent colors, such as pink. This finding is in line with what Berman and Evans (1989) found about displays. Exposed displays trigger a feeling of discount-image whereas decorated displays are a sign of high-image store environment. Also the variable "Products are arranged clearly" was rated better in the new environment but didn't reach the limit of significance by a small margin (M_1=5.40 vs. M_2=5.86, p=0.06)

		N	M	SD	Sig.
1b) Shopping in this store is a refreshing experience	Before	50	5.28	1.07	0.241
	After	49	5.59	1.53	
1c) This store attracts on doing impulsive purchases	Before	49	4.04	1.22	0.015*
	After	50	4.72	1.49	
1d) Product selection seems delicious	Before	50	4.80	1.36	0.059
	After	49	5.31	1.28	
1e) Product placement makes me want to buy	Before	48	4.71	1.11	0.013*
	After	50	5.34	1.35	
1f) Products are arranged clearly	Before	50	5.40	1.16	0.062
	After	50	5.86	1.28	
~~1g) The store is spacious~~	~~Before~~	~~50~~	~~4.14~~	~~2.04~~	~~0.000**~~
	~~After~~	~~50~~	~~6.18~~	~~1.44~~	
1h) The color scheme is fresh	Before	50	4.70	1.30	0.000**
	After	49	5.82	1.44	
1i) The store is stylish	Before	49	4.06	1.33	0.000**
	After	50	5.68	1.52	
1j) The store is welcoming	Before	50	4.42	1.16	0.000**
	After	50	5.68	1.52	
1k) The store is clean	Before	50	5.28	1.03	0.003**
	After	50	6.06	1.50	
~~1l) The aisles are wide~~	~~Before~~	~~48~~	~~3.79~~	~~1.67~~	~~0.000**~~
	~~After~~	~~49~~	~~6.00~~	~~1.44~~	
1m) The overall price level of this store is expensive	Before	50	4.28	1.11	0.351
	After	49	4.53	1.52	
1n) The overall price level of this store is acceptable	Before	49	4.61	1.15	0.199
	After	47	4.91	1.14	
1o) Considering the speed of transaction, this store offers good value for money	Before	50	5.50	1.05	0.797
	After	50	5.44	1.26	
1p) Considering the refreshing experience this store offers, it offers good value for money	Before	49	4.67	1.23	0.003**
	After	50	5.46	1.31	

* Significant at 95% confidence interval
** Significant at 99% confidence interval

Table 8: Results of the *t*-test

Second, the visual appearance of the store received significantly better evaluations. The color scheme was considered clearly fresher in the new store (M_1=4.70 vs. M_2=5.82, p=0.00). This is interesting, since the basic colors of the chain, blue and yellow, were not changed but only slightly updated during the process by making them brighter. What might have affected more is that the use of the colors in the store interior design was re-defined. The amount of blue color was reduced and the amount of yellow increased resulting in a fresher overall feel. In addition, in the new design, pink, red and dark brown wood are used as accent colors to highlight certain areas, such as the slot machines and deli-foods (see Appendix C). The finding about fresher colors resulting in better evaluations is similar to what Birren (1945 in Baker et al. 1994) suggested.

Third, the new store design was also considered more stylish (M_1=4.06 vs. M_2=5.68, p=0.00). This could be the result of redesigned visual identity, including the logo. Although the brand colors were not significantly changed, the logo and typeface were modernized (see Figure 17), and the visual language and tone of voice were changed. Another reason for the significant changes in the results of this question is likely to be the general re-organization of products and the updated shelves, displays and visuals. For example, visuals in the new store use storytelling to make the brand come closer to the customer.

Figure 17: Comparison of the old (left) and new (right) logo and color scheme

Fourth, the new store was considered more welcoming (M_1=4.42 vs. M_2=5.68, p=0.00) and cleaner (M_1=5.28 vs. M_2=6.06, p=0.00). A store that is welcoming can potentially make consumers more likely to enter the store and increase the time they spend in the store. Cleanliness, in turn, has been suggested to be directly linked to the image of the store. Clean stores are perceived as having a high-image, whereas dirty stores are perceived as having a discount-image (Baker et al. 1994; ref. Gardner & Siomkos 1985). Therefore, the findings in these questions are in line with earlier research.

The results show clearly that changes in retail environments towards a high-image environment results in better evaluations. However, since one of the variables is not statistically significant, we cannot accept hypothesis one directly. Since there are seven variables measuring the first hypothesis, we will calculate a mean for p. If the mean value of p is below 0.05, we can accept hypothesis one. Thus, in order to reject the null hypothesis, the following must be true:

$$\frac{\sum p}{n} < \alpha$$

As the mean value for p is 0.01 (<0.05), we can accept H_1.

5.2. Price perceptions and acceptance

Hypothesis two suggested that consumers would perceive expected prices to be higher in a convenience store than in a supermarket nearby. This hypothesis was tested and supported by Thaler (1985) and accepting it would mean that on a general level, retail environments do have a role in consumer price perceptions.

In order to test H_2, we need to apply a paired samples t-test to compare estimated prices for the chocolate bar in a convenience store and a supermarket. As can be seen from Table 9, both the reference price and maximum price are estimated higher in the convenience store than in the supermarket. Respondents of this study consider it reasonable for a convenience store to charge 0.33 euros higher price for a chocolate bar than a supermarket. Moreover, the maximum perceived price is 0.63 euros higher for the convenience store. Since the real price of the chocolate bar was 3.00 euros in the convenience store, the figures would suggest an increase of 11% in the reference price and 22% in the maximum price.

Since both the reference price and maximum price pairs show strong correlation and are highly significant (p=0.00), it can be stated that expected prices are higher in the convenience store under examination compared to a supermarket nearby. Thus, hypothesis two can be accepted. This would denote that something in the offering of a convenience store, whether it's the speed of service, store environment or service, justifies for higher prices in the minds of consumers.

This result is similar what Thaler (1985) found out when measuring the estimated prices of a beer bottle in a small grocery store in comparison to a resort hotel. In both of these cases, the product is consumed outside the store and thus, the "atmosphere consumed" should not justify for a higher price if people were rational. This finding also supports the framing theory by Tversky and Kahneman (1981), who suggested that presenting the same option in different formats can alter people's decision.

	N	M	Corr.	SD	Sig.
Convenience store P_{ref}	84	2.366	0.761	0.422	0.000**
Supermarket P_{ref}	84	2.035			
Convenience store P_{max}	86	3.075	0.578	0.756	0.000**
Supermarket P_{max}	86	2.440			

a

** Significant at 99 % confidence interval

Table 9: Comparison of means for perceived reference (P_{ref}) and maximum price (P_{max}) for a supermarket and a convenience store.

Hypothesis three suggested that consumers who evaluate the redesigned store environment better than average are willing to pay more for products. In order to test this hypothesis, we must look into multivariate correlations. The independent variables that are used to predict variations in price (P_{ref}) are questions 1b-1l. However, questions 1g and 1l are excluded from analysis as they were removed in data preparation stage due to excess variation. By conducting a multiple regression analysis, we are able to tell if consumers, who assess the redesigned store better, estimate the reasonable price for the bar of chocolate higher.

Table 10 presents the results of the multiple regression analysis. The high R^2 and adjusted R^2 figures indicate a well-specified regression equation. The F-value (3.134) has a significance of 0.007, which is within the acceptable limits and thus enough to qualify for a statistically significant result at 95% confidence level.

	R^2	R^2 adj.	F	Sig.
Model 1	0.453	0.309	3.134	0.007*

* Significant at 95 % confidence interval

Table 10: Multivariate regression analysis of store environment factors and price perceptions

We can state that all the variables measuring the changes in the store environment have a positive and statistically significant relationship with estimated price (P_{ref}). In other words, people who evaluate the redesigned environment well are also ready to pay more for products. Thus, hypothesis three can be accepted.

This finding is congruent with what Baker et al. (2002) found about the relationship between store design perceptions and monetary price perceptions. Therefore, store design elements affect the perception that customers have about the price level of the respective store. Although hedonic and functional goods were not compared in this study, the effect is likely to be stronger in hedonic compared to functional goods, whose prices consumers can easily remember.

Hypothesis four stated that as perceptions of store design cues become more favorable, consumer value increases by (a) increasing consumer perceived reference price and (b) by increasing consumer perceived maximum price. Since it has been already verified that the retail design process resulted in more favorable perceptions of the store design cues, it is possible to simply use a *t*-test to compare the means between prices. From Table 11 we can see that mean prices for both hypotheses a) and b) have had almost no change due to the retail design process.

		N	M	SD	Sig.	Mdn
P_{ref}	Before	43	2.35	0.557	0.772	2.00
	After	45	2.39	0.685		2.50
P_{max}	Before	43	3.08	0.851	0.962	3.00
	After	45	3.07	0.914		3.00

Table 11: Comparison of perceived reference price (P_{ref}) and maximum price (P_{max})

However, although *t*-test would suggest rejecting hypothesis four, it is also possible to compare median prices, as done by Thaler (1985). Median prices are, in fact, likely to give a more realistic result since price estimates are often very scattered. As can be seen from Table 11, median price shows clear improvement in the reference price (Mdn_1=2.00 euros vs. Mdn_2=2.50 euros), but no change in the maximum price (Mdn_1=Mdn_2=3.00 euros). From the retailer's point of view, this would suggest that

consumers are more willing to accept the objective price (3.00 euros) in the new environment than in the old environment. Although there was no change in maximum price and thus hypothesis 4b needs to be rejected, consumer value will increase if only either of these factors increases, as presented in the formula for perceived value (Anttila 1990, 61):

$$\text{if } pv = v(p_{max} - p) + (p_{ref} - p),$$

then H_4 suggests that:

$$v(p_{max1} - p) + (p_{ref1} - p) < v(p_{max2} - p) + (p_{ref2} - p).$$

When applying the median figures into the formula,

$$\left.\begin{matrix} p_{max1} \\ p_{max2} \end{matrix}\right\} = 3.00$$

$$p_{ref1} = 2.00$$

$$p_{ref2} = 2.50$$

$$p = 3.00$$

$$v(3.00 - 3.00) + (2.00 - 3.00) < v(3.00 - 3.00) + (2.50 - 3.00)$$

Q.E.D.

Since the equation in the "after" situation results in higher value of *pv* than the equation in "before" situation, it seems reasonable to accept hypothesis four.

Anttila (1990, 239-248) looked at brand switching behavior in low- and high-involvement product categories (toothpaste and TV's). She was able to attest that there is a relationship between price perceptions of a brand and perceived quality attributes. However, her study dealt with physical goods rather than retail environments. Anttila also stated the need for more studies about the relationship between price perceptions and perceived quality (1990, 239-248). This is, to my knowledge, the only experiment in real store setting after Thaler (1985), where the quality of holistic retail environment has been linked to price perceptions.

Hypothesis five suggested that as consumers' perceptions of store design cues become more favorable, they will perceive monetary prices to be more acceptable. Testing this hypothesis requires looking into questions 1m-1p concerning price perceptions. Of these, only 1p was significant (p=0.00) with mean increasing from M_1=4.67 to M_2=5.46 after the retail design process. Thus, people considered the experience-price ratio at the

new store environment clearly better. This seems logical, since the focus of the redesign project was in improving the customer experience rather than improving the speed of transaction, which was already at a very high level before the project. The questions about efficiency-price ratio did not result in practically any changes (M_1=5.50 vs. M_2=5.44, p=0.80).

The overall price level was considered slightly more acceptable after the redesign process (M_1=4.61 vs. M_2=4.91, p=0.20), but the difference was not statistically significant. The same applied for the expensiveness of the store, which was used as an inverted measure for price acceptability (M_1=4.28 vs. M_2=4.53, p=0.35). Since the effect of the redesigned retail environment on price acceptability is significant only in 1 out of 4 questions, H_5 can be only partially accepted.

The results of the fifth hypothesis are consistent with the results from the study by Grewal and Baker (1994). They found that high-social environment (i.e. adequate number of employees, professional dressing and use of greeting) will result in better price acceptability but modifying the ambient and design factors produces mixed results. When both ambient and design factors were "high-image", price acceptability was significantly better. However, when only either of these factors was high-image, the results were controversial. (ibid 1994)

5.3. Price sensitivity

In order to test the last three hypotheses, we need to apply price sensitivity calculations. As was presented in Chapter 3, price sensitivity can be calculated as:

$$Price\ sensitivity\ (PS) = P_{max} - P_{ref}$$

The closer the result of this formula is to zero, the more price sensitive a respondent is. Hypothesis six suggests that people in low income segments are more price sensitive than people in high income segments, as found by Wakefield and Inman (2003). In mathematical form, H_6 could be written as:

$$P_{max1} - P_{ref1} < P_{max2} - P_{ref2}$$

, where 1 stands for low income and 2 for high income segment.

Our data was divided to eight different classes of income, in addition to one class for those who didn't want to answer. Since there was a large number of respondents who didn't want to answer questions about their income, we can either only look at the answers from people who reported their income or compare results from the two different stores, since they were located in areas that had high disparities in average income level.

Since the median household income in Finland is 2 705 euros per month, I will consider anything above that as a high-income segment and everything below as a low income segment (Statistics Finland 2011). Since the actual income classes in our survey were in intervals of one thousand, I will consider households earning more than 3 000 euros per month as high-income households and households earning less than 3 000 euros as low-income households. With this division, price sensitivity in the low-income segments (PS=0.72) is slightly higher than price sensitivity in high-income segments (PS=0.80).

When comparing price sensitivity between the two different areas (see Table 12), the low-income area (Puotila) also had a higher average price sensitivity (PS=0.65) than the high-income area (PS=0.76). Although there is a difference in means, *t*-tests don't show enough statistical significance for either of the differences. Therefore Hypothesis six must be rejected.

Although the direction of the results in this study is similar to what Wakefield and Inman (2003) found out, the small significance doesn't provide full support for their findings. They suggested that price sensitivity is lower for low-income household. However, their finding was true only in the case of hedonic goods. For functional goods price sensitivity has been observed to be relatively similar across income classes. A potential explanation for the small difference in results could be the type of product in question. Although a chocolate bar is generally thought as a hedonic good, the well-known brand of this particular chocolate bar in Finland could make it a functional good for many people. This would be supported also by the fact that many people were able to estimate the price of the bar very accurately.

	N	M	SD	Sig.
Puotila (low income)	45	0.65	0.66	0.403
Tehtaankatu (high income)	42	0.76	0.59	

Table 12: The effect of income on price sensitivity

Hypothesis seven suggested that people shopping alone are more price sensitive than people shopping together, as found by Wakefield and Inman (2003). The results of this study show no support for Wakefield and Inman's findings. As can be seen from Table 13, results suggest that people shopping together with someone (PS=0.62) are in fact more price sensitive than people shopping alone (PS=0.73). However, the results are not statistically significant and therefore hypothesis seven needs to be rejected.

The result here could be explained by the imaginative shopping situation. Consumers who actually shopped together were asked to fill out the survey by themselves, naturally giving them the ability to answer more honestly. However, if consumers shopping together were to actually purchase the item and the question about price was presented orally at the cash register, they could possibly estimate its price differently.

	N	M	SD	Sig.
Shopping alone	63	0.73	0.69	0.359
Shopping with someone	24	0.62	0.44	

Table 13: The effect of social situation on price sensitivity

The last hypothesis suggested that price sensitivity would decrease as consumers' perceptions of store design cues become more favorable. As it was already verified that consumers' evaluations about the store environment improved, we only need to apply a *t*-test to see if differences in means are statistically significant. As we can see from Table 14, there is no statistical significance between the means (M_1=0.72 vs. M_2=0.68, p=0.74) and thus hypothesis eight needs to be rejected.

This hypothesis attempted to study the overall store atmosphere's effect on price sensitivity. To my knowledge, there have been no previous attempts to test the causality of these factors, although this was a suggested subject for future research by Wakefield and Inman (2003).

	N	M	SD	Sig.
Before	42	0.72	0.64	0.735
After	45	0.68	0.62	

Table 14: The effect of store environment on price sensitivity

Now that I have analyzed the results in detail, I will next present the conclusions and managerial implications that can be drawn from this study. Finally, I will discuss about the limitations these results may have and look at some possible subject for future research.

6. Conclusions

Now that I have introduced the theoretical background of retail design and customer value formation and experimented their interdependence in an actual retail setting, it is time to discuss about the conclusions that can be drawn based on this study. This chapter will first describe the main findings of this paper and then introduce some managerial implications this thesis has. Finally, I will look at any limitations this study might have and introduce avenues for further research.

Before discussing about the findings, however, I will first briefly summarize what has been done so far. Chapters two and three reviewed the available research about retail design and customer perceived value. Chapter two established that retail environment can be divided to several elements using various classification methods. This study chose to use the division to ambient, social and design elements (Baker 1986, 79-84).

Chapter three looked into the problematic of defining customer value. Of the several definitions, the one by Zeithaml (1988) was chosen because of its simplicity. Based on this definition, value is a customer's perceptions of what is received and what is given. It is important to note that value is not static, but rather a dynamic concept that builds over time and can radically change due to alterations in market dynamics or consumer needs. For this reason, it is vital for retailers to identify trends that can change consumer behavior and adjust their offering accordingly.

Chapter four described the experiment that was done to test our hypotheses. The experiment was conducted in a convenience store, whose store environment was redesigned. A convenience sample of 50 customers was taken before and after modifying the store environment. The sample was then analyzed using Student's *t*-test, multiple regression analysis and price sensitivity calculations. The results that were presented in Chapter five will be discussed next in more detail.

6.1. Findings

The purpose of this study was to find out how retail design impacts on consumer perceived value and especially price perceptions. Since design is always a unique process, it

is impossible to state that all design projects would have the same outcome as the one in this study had.

It was not in the interest of this thesis to see what particular factors in store environments have the greatest effect on perceive value. As was established by Gestalt psychology, environments should always be designed and examined holistically and therefore measuring individual factors can be misleading. Instead, this paper attempted to show that changing the store environments has an effect on perceived value and price perceptions, since customer value is essentially the real driver of financial performance (Reichheld et al. 2000).

First, I explored how changes in design elements towards high-image store environment lead to better evaluations of the store. By measuring several specific factors about the retail environment, the relationship between store image and evaluations was found to be strong, as expected. As has been established in earlier studies, consumer satisfaction with the retail environment is linked to, for example, patronage intentions, purchase intentions and repurchase intentions (e.g. Baker et al. 2002, Areni & Kim 1993 and Michon et al. 2005).

Second, as originally presented by Thaler (1985), we verified that different retail environments have a direct relationship with price perceptions. Respondents were willing to pay 11 to 21 percent more for a chocolate bar in the convenience store in question compared to a supermarket nearby. Although the difference was smaller than what Thaler achieved when comparing a resort hotel to a grocery store, both of the results streghten the assumption about the irrationality of consumers.

Third, the finding by Baker et al. (2002) that more favorable evaluations about the store environment lead to higher expected prices was verified also in this study. By using multiple regression analysis, we developed a model, which incorporated nine predictor variables and showed significant correlation between the respondents' evaluations about the store environment and estimated prices.

Fourth, Customer Perceived Value (CPV) was defined as the difference between perceived benefits and sacrifices (Zeithaml 1988). According to Anttila (1990, 61), perceived value can be then written in mathematical form as:

$$pv = v(p_{max} - p) + (p_{ref} - p).$$

Based on this formula, either p_{max} or p_{ref} must grow in order for the perceived value to increase. The results of this study showed no statistically significant changes in maximum perceived price (p_{max}), but a significant rise in the reference price (p_{ref}) after redesigning the retail environment. This denotes that consumer perceived value can be increased through succesful redesign of store environments.

Fifth, price acceptability was hypothesized to become greater when perceptions of store design cues become more favorable. Since more acceptable prices lead to more purchases (Grewal & Baker 1994), this should be in the interest of every retailer. The results of this study, however, showed mixed results. Price acceptability was measured with four different questions, and of these only one showed statistically significant increase between the "before" and "after" situations. However, whereas the rejected three questions dealt with overall price level and speed of transaction, the one accepted variable compared the refreshing experience the store offers to value for money. This is of great importance, since one of the main goals in the redesign process was to create a refreshing store environment. Therefore, it can be said that the redesign of the store produced desirable results. This also suggests that investments in improving the customer experience affect consumers' price acceptability and therefore sales. For companies, whose operational efficiency is already at a high level, as is often the case for retailers in Finland, improving the customer experience might provide an easy way to increase customer value.

Grewal and Baker (1994) also found that stores with high-image design and ambient cues have higher price acceptability, but if either of these elements is low-image, the results for price acceptability can be even negative. Since the ambient factors of the store environment were not modified in this redesign process, it could offer a potential explanation for the small increase in general price acceptability. Adding background music, ambient lighting or scents to the new retail concept could possibly result in increased price acceptability, and thus increased sales.

Finally, questions six, seven and eight dealt with price sensitivity and certain demographic and social factors. The results by Wakefield and Inman (2003) suggested that consumer are less price sensitive when they have a high income or when they are shopping together with someone. Their results emphasized that especially hedonic goods have much lower price sensitivity and thus consumers are not as deal prone when shopping this kind of goods. This study attempted to replicate the results by Wakefield and Inman with the addition of a holistic measure (H_8).

Although there was a small change in price sensitivity when comparing the income of respondents (H_6), this change was not statistically significant. In the social setting (H_7) the impact was adverse than what Wakefield and Inman had found out, but again, the result was not statistically significant. The adverse result may have been caused by the small sample size of respondents shopping together (n=24).

Hypothesis eight attempted to measure the impact that changes in the environment have on price sensitivity. However, also this hypothesis needed to be rejected, since the difference between means was not statistically significant. Although the results of this study did not support the findings of Wakefield and Inman (2003), there is likely to be major differences in price sensitivity between different kinds of goods based on their functional or hedonic nature.

Table 15 finally compiles the results of all hypotheses. As can be seen, the hypotheses measuring the effect that store environment have on price perceptions were generally accepted as hypothesized. However, hypotheses predicting changes in price sensitivity could not be verified.

Hypothesis	Result
H_1: Changes in design elements towards high-image store environments lead to better evaluations of the store	Accepted
H_2: Consumers will perceive expected prices to be higher in a convenience store compared to a supermarket nearby.	Accepted
H_3: Consumers who evaluate the redesigned store environment better than average are willing to pay more for products.	Accepted
H_4: As perceptions of store design cues become more favorable, consumer value increases by: H_{4a}: Increasing consumer perceived reference price H_{4b}: Increasing consumer perceived maximum price	Accepted H_{4a} accepted, H_{4b} rejected
H_5: As consumers' perceptions of store design cues become more favorable, consumers will perceive monetary prices to be more acceptable.	Partly accepted
H_6: People in low income segments are more price sensitive than people in high income segments	Rejected
H_7: People shopping alone are more price sensitive than people shopping together with someone.	Rejected
H_8: As consumers' perceptions of store design cues become more favorable, consumers' price sensitivity will decrease.	Rejected

Table 15: Results of the hypotheses

6.2. Managerial implications

From the managerial point of view, the goal of this study was to find out if retail design has an impact on company profitability. This should be of great importance not only for concept managers but also for the top-level managers of retail organizations. Retail concept should be at the core of every retailer's strategy and therefore understanding where the customer value stems from has an enormous impact on how a retailer will succeed.

Consumer value is constructed from the difference between benefits and sacrifices. In a retail setting, the objective price and the effort needed to acquire a product is the sacrifice whereas value of the product and the shopping experience is the benefit received. Whenever benefits exceed the sacrifices, consumer will engage in purchasing behavior (given that he/she has recognized the need for the product or service).

There is little a retailer can do about the objective price or value received from acquiring the product. Objective price can be decreased to some extent by minimizing costs. Cost cutting, however, is a difficult strategy since its easy to copy by competitors and only one company in the market can have the lowest objective price at a time. A more sustainable strategy for a retailer is to either decrease the effort needed to acquire the product or to increase the benefits received from the shopping experience. Decreasing effort can be done, for example, by improving customer service, optimizing the customer experience and activating different channels, such as the internet.

This thesis has focused mostly on studying the relationship between the customer experience and customer value. Although linking the different factors in a store environment to price perceptions is a very complex phenomenon, this study has increased understanding about the subject and offered additional evidence that store environments do have a direct link with customer perceived value. Thus, by designing stores that create additional value, retailers are able to increase customer loyalty and sales, and even more, to create a competitive advantage that is difficult to imitate by competitors.

This study demonstrated that improving the design of retail environments has a direct impact on customer perceived value through both better evaluations of the store and increased price perceptions. Although actual sales figures were not looked at in this study, earlier studies have indicated that increased customer value leads to increased customer loyalty, which is essentially the real driver of financial performance (Reichheld et al.

2000). If a 5% increase in customer retention leads to 40-50% increase in net present value profits, as found by Reichheld and Sasser (1990), redesigning a retail environment regularly to better suit customer needs may easily pay itself back. However, the outcome of a creative process can never be totally quantified, and thus, investments in retail design, by nature, will always bear some risks.

6.3. Limitations and avenues for future research

This study has shed light on understanding the effect of retail environments on price perceptions. However, there are naturally some limitations concerning the generalization of the results in this study. First, since R-kioski is a well-known brand and a major player in the convenience store market in Finland, many people may have strong perceptions of its image through advertising. Naturally, redesigning a retail environment cannot completely change the perceptions that have been formed during several years. Thus, especially price perceptions are likely to be influenced by the overall image of the retail chain. For future research, it could be beneficial to look at single-outlet stores or chains with low brand awareness to minimize the effect of other variables.

Second, as has been learned from earlier studies (e.g. Pons et al. 2006), cultural factors have an effect on how people perceive environments. Since the data for the empirical part of this study was collected only from Finland, results cannot be generalized to other cultures. One potential avenue for future research could be to compare stores of a single chain in several countries. This kind of study naturally requires more resources and finding a chain that is undergoing a redesign process simultaneously in several countries.

Third, retail design is, by nature, a creative process and therefore the outcome is impossible to predict beforehand. This study looked at the changes in retail environments through discount image - high image classification, which gives some clues about what is generally perceived valuable and what not. However, as most of the factors have been studied separately from the holistic environment, caution should be exercised when applying these principles to other retail environments. As has been noted, retail design should be always based on the targeted customer segment's needs and therefore setting universal principles about what works and what doesn't, is difficult. Moreover, as consumers always perceive retail environments holistically, more emphasis should be placed on studying complete retail environments instead of single factors, such as colors or music.

Finally, it would be important to link retail design research into actual sales figures in future studies. This and earlier studies have relied on the link between increased satisfaction and loyalty and increased sales. However, studying the effect that changes in the retail environment have on actual sales figures of a store would confirm this assumption.

References

Alkula, T, Pöntinen S, and Ylöstalo, P. (2002), *Sosiaalitutkimuksen kvantitatiiviset menetelmät*. Helsinki: WSOY.

Anttila, Mai (1990), *Consumer Price Perception and Preference*. Helsinki: Helsinki School of Economics Press.

Areni, C. S., Duhan, D. F., and Kiecker, P. (1999), "Point-Of-Purchase Displays, Product Organization, and Brand Purchase Likelihoods," *Journal of the Academy of Marketing Science*, 27 (4), 428-441.

Areni, C. S. and Kim, D. (1993), "The Influence of Background Music on Shopping Behavior: Classical Versus Top-Forty Music in a Wine Store," *Advances in Consumer Research,* 20 (1), 336–340.

Areni, C. S. and Kim, D. (1994), "The influence of in-store lighting on consumers' examination of merchandise in a wine store," *International Journal of Research in Marketing,* 11, 117-125.

Aura, S., Horelli, L., and Korpela, K. (1997), *Ympäristöpsykologian perusteet.* Porvoo: WSOY.

Babin, B. J., Darden, W. R. and Griffin, M. (1994), "Work and/or fun: Measuring hedonic and utilitarian shopping," *Journal of Consumer Research,* 20 (4), 644-656.

Babin, B. J., Hardesty, D. M., and Suter T. A. (2003), "Color and shopping intentions: The intervening effect of price fairness and perceived affect," *Journal of Business Research*, 56 (7), 541-551.

Bailey, N. and Areni, C. S. (2006), "When a few minutes sound like a lifetime: Does atmospheric music expand or contract perceived time?" *Journal of Retailing,* 82 (3), 189–202.

Baker, Julie (1986), "The Role of the Environment in Marketing Services: The Consumer Perspective," in John A. Czepeil, Carole A. Congram and James Shanahan (eds.), The

Services Challenge: Integrating for Competitive Advantage, Chicago, IL: American Marketing Association.

Baker, Julie, Levy, M. and Grewal, Dhruv (1992), "An Experimental Approach to Making Retail Store Environmental Decisions," *Journal of Retailing,* 68 (4), 445-460.

Baker, Julie, Grewal, Dhruv and Parasuraman, A. (1994), "The influence of store environment on quality inferences and store image," *Academy of Marketing Science,* 22 (4), 328-339.

Baker, Julie, Parasuraman, A., Grewal, Dhruv and Voss, Glenn B. (2002), "The Influence of Multiple Store Environment Cues on Perceived Merchandise Value and Patronage Intentions," *Journal of Marketing*, 66 (April), 120-141.

Bell, Paul A., Greene, T. C., Fisher, J. D. and Baum, A. (2001), *Environmental Psychology*. United States of America: Harcourt College Publishers.

Bellizzi, J. A., Crowley, A. E. and Hasty, R. W. (1983), "The Effects of Color in Store Design," *Journal of Retailing,* 59(1), 21-45.

Boedeker, M. (1997), *Recreational Shopping – The role of the basic emotional dimensions of personality.* Turku: Kirjapaino Grafia Oy.

Bolton, Ruth N. and Drew, James H. (1991), "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research*, 17 (December), 375-384.

Brown, Morton B. and Forsythe, Alan B. (1974), "Robust tests for equality of variance," *Journal of the American Statistical Association*, 69 (346), 364-367.

Campus, Antonietta (1987), "Marginal Economics", *The New Palgrave: A Dictionary of Economics*, v. 3, 323.

Carifio, J. and Perla, R. J. (2007), "Ten Common Misunderstandings, Misconceptions, Persistent Myths and Urban Legends about Likert Scales and Likert Response Formats and their Antidotes," *Journal of Social Sciences*, 3 (3), 106-116.

Chebat, J.-C. and Michon, R. (2003), "Impact of ambient odors on mall shoppers' emotions, cognition, and spending: A test of competitive causal theories," *Journal of Business Research,* 56 (7), 529-539.

Cronbach, L. J. (1951), "Coefficient alpha and the internal structure of tests," Psychometrika, 16(3), 297-334.

Darden, W. R., Orhan, E. and Darden, D. K. (1983), "A Comparison and Test of Three Causal Models of Patronage Intentions," in William R. Darden and Robert F. Lusch (eds.), Patronage Behavior and Retail Management, New York, NY: North-Holland.

Dick, Alan S. and Basu, Kunal (1994), "Customer Loyalty: Toward an Integrated Conceptual Framework," *Journal of the Academy of Marketing Science*, 22 (2), 99-113.

Donovan, R.J. and Rossiter, J.R. (1982), "Store atmosphere: An environmental psychology approach," *Journal of Retailing,* 58, 34-57.

Eroglu, S. and Harrell, G. D. (1986), "Retail Crowding: Theoretical and Strategic Implications," *Journal of Retailing,* 62 (4), 346-363.

Field, A. and Hole, G. (2003), *How to Design and Report Experiments*, London, UK: Sage.

Finne, Sami and Sivonen, Hanna (2009), *The Retail Value Chain*, London, UK: Kogan Page.

Gabor, Andre and Granger, Clive W. J. (1966), "Prices as an indicator of quality: Report on Enquiry," *Economica*, 33, 45.

Gescheider, George A. (1997), *Psychophysics – The Fundamentals*, 3rd edition, Mahwah, NJ: Lawrence Erlbaum Associates.

Glass, Gene V. (1966), "Testing Homogeneity of Variances," *American Educational Research Journal*, 3 (3), 187-190.

Golden, L. G. and Zimmerman, D. A. (1986), *Effective Retailing*, Boston, MA: Houghton Mifflin.

Graf, Albert and Maas, Peter (2008), "Customer value from a customer perspective: a comprehensive review," *Journal für Betriebswirtschaft*, 58 (1), 1-20.

Grewal, D. and Baker, J. (1994), "Do retail store environmental factors affect consumers' price acceptability? An empirical examination," *International Journal of Research in Marketing,* 11 (2), 107-115.

Grewal, D. and Levy M. (2009), "Emerging Issues in Retailing Research," *Journal of Retailing*, 85 (4), 522-526.

Grönroos, C. (2000), "Service Management and Marketing: A Customer Relationship Approach," 2nd edition, Chichester, UK: Wiley.

Grönroos, C. and Ravald, A. (1996), "The value concept and relationship marketing," *European Journal of Marketing*, 30 (2), 19-33.

Herrington, J. D. and Capella, L. M. (1996), "Effects of music in service environments: a field study," *The Journal of Services Marketing,* 10 (2), 26–41.

Heskett, James L. (2003), *The Value Profit Chain: Treat employees like customers and customers like employees*. New York, NY: The Free Press.

Hirsch, A. R. (1995), "Effects of Ambient Odors on Slot-Machine Usage in a Las Vegas Casino," *Psychology & Marketing,* 12 (7), 585-594.

Hirschman, Elizabeth C. and Holbrook, Morris B. (1982), "Hedonic Consumption: Emerging Concepts, Methods and Propositions," *Journal of Marketing*, 46, 92-101.

Holbrook, Morris B. and Hirschman, Elizabeth C. (1982), "The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun," *Journal of Consumer Research*, 9 (Sept), 132-140.

Holbrook, Morris B. (1999), "Introduction to Consumer Value," in M. B. Holbrook (ed.) *Consumer Value. A Framework for Analysis and Research,* London: Routledge.

Hui, M. K. and Bateson, J. E. G. (1991), "Perceived Control and the Effects of Crowding and Consumer Choice on the Service Experience," *Journal of Consumer Research,* 18 (2), 174-184.

Jacobs, L., Keown, C., Worthley, R., and Ghymn, K-I. (1991), "Cross-cultural Colour Comparisons: Global Marketers Beware," *International Marketing Review*, 8 (3), 21-30.

Jamieson, S. (2004), "Likert scales: how to (ab)use them," *Medical Education,* 38, 1212-1218.

Jäätmaa, J. (2007), *Taustamusiikki markkinoinnin työvälineenä suomalaisissa tavarataloissa*, Helsingin yliopisto, Musiikkitiede, Pro gradu -tutkielma.

Kahneman, Daniel and Tversky, Amos (1979), "Prospect Theory: An Analysis of Decision under Risk," *Econometrica*, 47 (2), 263-291.

Kaltcheva, V. D. and Weitz, B. A. (2006), "When Should a Retailer Create an Exciting Store Environment?" *Journal of Marketing,* 70 (1), 107-118.

Kaplan, R. S. and Norton, D. P. (1996), *The Balanced Scorecard: Translating Strategy into Action*, Boston, MA: Harvard Business School Press.

Kaplan, S. (1998), *With People in Mind: Design & Management of Everyday Nature,* Washington, D.C: Island Press.

Kerin, Roger A., Jain, Ambuj and Howard, Daniel J. (1992), "Store Shopping Experience and Consumer Price-Quality-Value Perceptions," *Journal of Retailing*, 68 (4), 376-397.

Kotler, P. (1973-1974), "Atmospherics as a Marketing Tool," *Journal of Retailing,* 4, 48-65.

Kotler, P. and Keller, K. L. (2006), "Marketing Management," 12th edition, New Jersey: Pearson, Prentice Hall.

Lehar, Steven (2003), "Gestalt isomorphism and the primacy of subjective conscious experience: A Gestalt bubble model," *Behavioral and Brain Sciences*, 26 (4), 375-408.

Lewis, Robert C. and Shoemaker Stowe (1997), "Price-Sensitivity Measurement," *Cornell Hotel and Restaurant Management Quarterly*.

Levy, Michael and Weitz, Barton A. (2012), *Retailing Management*, 8th Edition, New York, NY: McGraw-Hill.

Lusch, Robert F., Vargo, Stephen L. and O'Brien, Matthew (2007), "Competing through service: insights from service-dominant logic," *Journal of Retailing*, 83 (1), 5-18.

Malhotra, Naresh K. and Birks, David F. (2006), *Marketing Research: An Applied Approach*, Updated 2nd European Ed., Harlow, UK: Prentice Hall.

Markkanen, Susanne (2008), *Myymäläympäristö elämysten tuottajana. Myymäläsuunnittelun työkalupakki*. Helsinki: Talentum.

Maslow, Abraham H. (1943), "A Theory of Human Motivation," *Psychological Review*, 50 (July), 370-396.

Mattila, A. S. and Wirtz, J. (2001), "Congruency of scent and music as a driver of in-store evaluations and behavior," *Journal of Retailing*, 77 (2), 273-289.

Mazursky, D. and Jacoby, J. (1986), "Exploring the Development of Store Images," *Journal of Retailing,* 62 (2), 145-165.

Mehrabian, A. and Russell, J. A. (1974), *An Approach to Environmental Psychology,* Cambridge, MA: MIT Press.

Michon, R., Chebat, J.-C. and Turley, L. W. (2005), "Mall atmospherics: the interaction effects of the mall environment on shopping behavior," *Journal of Business Research*, 58 (5), 576-583.

Midgley, David F. (1983), "Patterns of interpersonal information seeking for the purchase of a symbolic product," *Journal of Marketing Research*, 20, 74-83.

Miller, C. (1991), "Research Reveals How Marketers Can Win by a Nose," *Marketing News*, 25 (3).

Monroe, Kent B. (1973), "Buyers' subjective perceptions of price," *Journal of Marketing*, 10, 70-80.

Monroe, Kent B. and Dodds, William B. (1985), "The Effect of Brand and Price Information on Subjective Product Evaluations," *Advances in Consumer Research*, 12 (1), 85-90.

North, A. C. and Hargreaves, D. J. (1999), "Can Music Move People? The Effects of Musical Complexity and Silence on Waiting Time," *Environment and Behaviour,* 31 (1), 136–149.

Oakes, S. (2003), "Musical Tempo and Waiting Perceptions," *Psychology & Marketing,* 20 (8), 685–705.

Parasuraman, A., Zeithaml, Valarie and Berry, Leonard L. (1988), "SERVQUAL: A Multiple Item Scale for Measuring Customer Perceptions of Service Quality," *Journal of Retailing*, 64 (Spring), 12-40.

Pons, F., Laroche, M. and Mourali, M. (2006), "Consumer reactions to crowded retail settings: Cross-cultural differences between North America and the Middle East," *Psychology & Marketing*, 23 (7), 555-572.

Porter, Michael E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*. New York, NY: Free Press.

Porter, M. E. and Kramer, Mark. R. (2011), "Creating Shared Value," *Harvard Business Review*, 89 (1/2), 62-77.

Prahalad, C. K. and Ramaswamy, Venkatram (2004), *The Future of Competition: Co-Creating Unique Value with Customers*. Boston, MA: Harvard Business School Publishing.

Proshansky, H. M. (1987), "*The Field of Environmental Psychology*," in D. Stokols and I. Altman (ed.) *Handbook of Environmental Psychology*. New York, NY: John Wiley & Sons.

Ramírez, Rafael (1999), "Value co-production: Intellectual origins and implications for practice and research," *Strategic Management Journal*, 20 (1), 49-65.

Ramsay, John (2005), "The real meaning of value in trading relationships," *International Journal of Operations & Production Management*, 25 (5/6), 549-565.

Reichheld, F.F. (1994), "Loyalty and the reneissance of marketing," *Marketing Management*, 2 (4), 10-20.

Reichheld, F.F. and Sasser, W.E. Jr (1990), "Zero defections: quality comes to services," *Harvard Business Review*, 9-10, 105-111.

Reichheld, F.F., Markey, R.G. Jr and Hopton, C. (2000), "The loyalty effect: The relationship between loyalty and profits," *European Business Journal*, 12 (3), 134-139.

Sánchez-Fernández, Raquel and Iniesta-Bonillo, M. Ángeles (2007), "The concept of perceived value: a systematic review of the research," *Marketing Theory*, 7 (4), 427-451.

Sheth, Jagdish N., Newman, Bruce I. and Gross, Barbara L. (1991), "Why We Buy What We Buy: A Theory of Consumption Values," *Journal of Business Research*, 22, 159-170.

Smith, Adam (1776), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, UK: W. Strahan and T. Cadell.

Smith, J. Brock and Colgate, Mark (2007), "Customer Value Creation: A Practical Framework," *Journal of Marketing Theory and Practice*, 15 (1), 7-23.

Smith, P. C. and Curnow, R. (1966), "Arousal Hypothesis' and the Effects of Music on Purchasing Behavior," *Journal of Applied Psychology,* 50 (3), 255–256.

Spangenberg, E. R., Crowley, A. E. and Henderson, P. W. (1996), "Improving the store environment: Do olfactory cues affect evaluations and behaviors?" *Journal of Marketing,* 60 (2), 67-80.

Solomon, M., Bamossy, G. and Askegaard S. (2002), *Consumer Behaviour, A European Perspective*. Essex, UK: Prentice Hall.

Summers, T. and Hebert, P. (2001), "Shedding some light on store atmospherics: Influence of illumination on consumer behavior," *Journal of Business Research,* 54 (2), 145-150.

Sweeney, Jillian C. and Soutar, Geoffrey N. (2001), "Consumer perceived value: The development of a multiple item scale," *Journal of Retailing*, 77, 203-220.

Takkinen, Matti (2009), *Kuluttajan ostopaikan valintaperusteet – Kyselytutkimus naiskuluttajien valintaorientaatiosta pääkaupunkiseudulla*, Helsingin kauppakorkeakoulu, Markkinointi, Pro Gradu -tutkielma.

Tauber, Edward (1972), "Why Do People Shop?" *Journal of Marketing*, 36 (Oct), 46-59.

Thaler, Richard (1980), "Towards a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization*, 1, 39-60.

Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199-214.

Turley, L. W. and Milliman R. E. (2000), "Atmospheric Effects on Shopping Behavior: A Review of the Experimental Evidence," *Journal of Business Research,* 49 (2), 193-211.

Tversky, Amos and Kahneman, Daniel (1981), "The Framing of Decisions and the Psychology of Choice," *Science*, 211 (4481), 453-458.

Vargo, Stephen L. and Lusch, Robert F. (2004), "Evolving to a New Dominant Logic for Marketing," *Journal of Marketing*, 68 (1), 1–17.

Vargo, Stephen L., Maglio, Paul P. and Akaka, Melissa Archpru (2008), "On value and value co-creation: A service systems and service logic perspective," *European Management Journal*, 26, 145-152.

Varki Sajeev and Colgate, Mark (2001), "The Role of Price Perceptions in an Integrated Model of Behavioral Intentions," *Journal of Service Research*, 3 (3), 232-240.

Wakefield, Kirk L. and Inman, Jeffrey J. (2003), "Situational price sensitivity: the role of consumption occasion, social context and income," *Journal of Retailing*, 79, 199-212.

Walsh, Gianfranco, Kilian, Thomas and Buxel, Holger (2008), "Assessing the Consumer Perceived Value Scale," *Advances in Consumer Research - North American Conference Proceedings*, 35, 688-689.

Ward, P., Davies, B. J. and Kooijman, D. (2003), "Ambient Smell and the Retail Environment: Relating Olfaction Research to Consumer Behavior," *Journal of Business and Management,* 9 (3), 289-302.

Wilkie, W. L. and Moore, E. S. (2003), "Scholarly research in marketing: Exploring the "4 Eras" of thought development," *Journal of Public Policy and Marketing*, 22 (2) , 116-146.

Woodruff, Robert B. (1997), "Customer Value: The Next Source for Competitive Advantage," *Journal of the Academy of Marketing Science*, 25 (2), 139-153.

Yalch, R. F. and Spangenberg, E. (1990), "Effects of Store Music on Shopping Behavior," *Journal of Consumer Marketing*, 7 (2), 55–63.

Yalch, R. F. and Spangenberg, E. (1993), "Using Store Music for Retail Zoning: A Field Experiment," *Advances in Consumer Research* 20 (1), 632–636.

Zeithaml, V. A. (1988), "Consumer Perceptions of Price, Quality and Value: A means-end model and synthesis of evidence," *Journal of Marketing*, 52 (3), 2-22.

Zeithaml, V. A. (2000), "Service quality, profitability, and the economic worth of customers," *Journal of the Academy of Marketing Science*, 28 (1), 67-85.

Zeithaml, V. A., Bitner, M. J. and Gremler, D. D. (2006), *Services Marketing: Integrating Customer Focus Across the Firm,* New York, NY: McGraw-Hill.

Zimmerman, D. W. (2004), "A note on preliminary tests of equality of variance," *British Journal of Mathematical & Statistical Psychology*, 57 (1), 173-181.

Internet sources

KPMG (2009), *The Evolution of Retailing: Reinventing the Customer Experience*, retrieved 13th June 2011 from: http://www.kpmg.com/Ca/en/IssuesAndInsights/ArticlesPublications/Documents/The%20Evolution%20of%20Retailing.pdf

PTY (2011), *Finnish Grocery Trade 2010-2011*. Retrieved 17th May 2011 from: http://www.pty.fi/julkaisut0.0.html

Sanoma (2011), *Annual Report 2010*. Retrieved 17th May 2011 from Sanoma Group: http://www.sanoma.com/archive

Statistics Finland (2011), Income and consumption statistics. Retrieved 10th May 2011 from: http://www.stat.fi/til/tul_en.html

Appendix A: Customer survey

Aalto-yliopisto
Kauppakorkeakoulu

R kioski
MOZO

TUTKIMUS MYYMÄLÄSUUNNITTELUSTA

Tällä lomakkeella tutkitaan myymäläsuunnittelun vaikutusta kuluttajien hintamielikuviin. Kysely on osa Aalto-yliopiston kauppakorkeakoulussa tehtävää pro gradu –tutkielmaa. Tutkimus tehdään yhteistyössä R-kioskin ja designtoimisto Mozon kanssa. Kaikki vastaukset käsitellään luottamuksellisesti eikä yksittäistä vastaajaa voida tunnistaa tuloksista.

1. Arvioi TÄTÄ KIOSKIA ympyröimällä mielipidettäsi parhaiten kuvaava vaihtoehto

Oletko havainnut jotain muutosta tässä kioskissa viime aikoina?

1 Kyllä
2 Ei

Jos vastasit kyllä, mikä on mielestäsi muuttunut? _____

_____

	Täysin eri mieltä			Ei eri eikä samaa mieltä			Täysin samaa mieltä
Asiointi tässä kioskissa on piristävä kokemus	1	2	3	4	5	6	7
Kioski houkuttelee tekemään heräteostoksia	1	2	3	4	5	6	7
Tuotevalikoima vaikuttaa herkulliselta	1	2	3	4	5	6	7
Tuotteiden esillepano houkuttelee ostamaan	1	2	3	4	5	6	7
Tuotteet on järjestetty selkeästi	1	2	3	4	5	6	7
Kioski on tilava	1	2	3	4	5	6	7
Kioskin värimaailma on raikas	1	2	3	4	5	6	7
Kioski on tyylikäs	1	2	3	4	5	6	7
Kioski on viihtyisä	1	2	3	4	5	6	7
Kioski on siisti	1	2	3	4	5	6	7
Kioskin käytävät ovat leveät	1	2	3	4	5	6	7
Tämän kioskin hintataso on kallis	1	2	3	4	5	6	7
Tämän kioskin hintataso on hyväksyttävä	1	2	3	4	5	6	7
Huomioiden asioinnin nopeuden, kioski tarjoaa hyvin vastinetta rahoilleni	1	2	3	4	5	6	7
Huomioiden elämyksellisyyden ja asioinnin piristävyyden, kioski tarjoaa hyvin vastinetta rahoilleni	1	2	3	4	5	6	7

KÄÄNNÄ!

2. Fazerin sininen suklaalevy 200g

Jos olisit parhaillaan ostamassa kuvan tuotetta itsellesi tai perheellesi:

a) Mitä pitäisit **kohtuullisena hintana** tuotteelle **tässä kioskissa**? _____ , ____ €

b) Mikä on **korkein hinta**, jonka olisit valmis maksamaan tuotteesta **tässä kioskissa**? _____ , ____ €

c) Mitä pitäisit **kohtuullisena hintana** tuotteelle lähiseudun **ruokakaupassa** (Alepa/Siwa/K-market) _____ , ____ €

d) Mikä on **korkein hinta**, jonka olisit valmis maksamaan tuotteesta lähiseudun **ruokakaupassa** (Alepa/Siwa/K-market)? _____ , ____ €

e) Arvioi tuotteen todellinen hinta tässä kioskissa: _____ , ____ €

3. Taustatiedot:

a) Olin ostoksilla:
1 Yksin
2 Jonkun kanssa

b) Sukupuoli
1 Mies
2 Nainen

c) Ikä
1 alle 16 vuotta
2 16 – 25 v
3 26 – 35 v
4 36 – 45 v
5 46 – 55 v
6 56 – 65 v
7 yli 65 vuotta

d) Taloutesi yhteenlasketut bruttotulot kuukaudessa (ennen veroja)
1 Alle 1 000 €
2 1 000 – 1 999 €
3 2 000 – 2 999 €
4 3 000 – 3 999 €
5 4 000 – 4 999 €
6 5 000 – 5 999 €
7 6 000 – 6 999 €
8 Yli 7 000 €
9 En halua vastata

Kiitos osallistumisesta!

Julkaistava tutkimus on nähtävissä Aalto-yliopiston kirjastossa (www.helecon.fi) syksyllä 2011.

Juho Ullakonoja
Kauppatieteiden kandidaatti
Aalto-yliopiston kauppakorkeakoulu

Appendix B: Original test statistics

Data preparation, *t*-test for the samples from different stores:

Question	Store name	N	Mean	SD	Sig.
1b) Shopping in this store is a refreshing experience	Puotila	49	5,39	1,336	0,730
	Tehtaankatu	50	5,48	1,313	
1c) This store attracts on doing impulsive purchases	Puotila	50	4,32	1,392	0,649
	Tehtaankatu	49	4,45	1,415	
1d) Product selection seems delicious	Puotila	49	5,12	1,201	0,598
	Tehtaankatu	50	4,98	1,464	
1e) Product placement makes me want to buy	Puotila	48	4,96	1,220	0,584
	Tehtaankatu	50	5,10	1,329	
1f) Products are arranged clearly	Puotila	50	5,50	1,374	0,295
	Tehtaankatu	50	5,76	1,080	
1g) The store is spacious	Puotila	50	5,66	1,624	0,013*
	Tehtaankatu	50	4,66	2,282	
1h) The color scheme is fresh	Puotila	50	5,14	1,471	0,445
	Tehtaankatu	49	5,37	1,482	
1i) The store is stylish	Puotila	49	4,94	1,360	0,719
	Tehtaankatu	50	4,82	1,881	
1j) The store is welcoming	Puotila	50	5,02	1,237	0,841
	Tehtaankatu	50	5,08	1,712	
1k) The store is clean	Puotila	50	5,50	1,488	0,207
	Tehtaankatu	50	5,84	1,167	
1l) The aisles are wide	Puotila	48	5,38	1,438	0,021*
	Tehtaankatu	49	4,45	2,346	
1m) The overall price level of this store is expensive	Puotila	49	4,24	1,362	0,238
	Tehtaankatu	50	4,56	1,280	
1n) The overall price level of this store is acceptable	Puotila	47	4,85	1,063	0,452
	Tehtaankatu	49	4,67	1,231	
1o) Considering the speed of transaction, this store offers good value for money	Puotila	50	5,36	1,274	0,345
	Tehtaankatu	50	5,58	1,032	
1p) Considering the refreshing experience this store offers, it offers good value for money	Puotila	49	5,08	1,288	0,936
	Tehtaankatu	50	5,06	1,376	
2a) What would you consider a reasonable price for this product at this store	Puotila	48	2,36	,78440	0,035*
	Tehtaankatu	46	2,75	1,00876	
2b) What would be the highest price you'd be willing to pay for this product at this store	Puotila	47	3,19	1,67599	0,156
	Tehtaankatu	47	3,69	1,66454	
2c) What would you consider a reasonable price for this product at a nearby supermarket	Puotila	46	2,06	,86182	0,188
	Tehtaankatu	45	2,29	,76244	
2d) What would be the highest price you'd be willing to pay for this product at a nearby supermarket	Puotila	47	2,85	2,90263	0,971
	Tehtaankatu	45	2,87	1,10206	
2e) Estimate the real price of this product at this store	Puotila	42	2,87	2,12426	0,652
	Tehtaankatu	45	3,02	,99050	
3b) Age	Puotila	50	4,48	1,898	0,978
	Tehtaankatu	49	4,49	1,660	
3d) Total household income per month before taxes.	Puotila	50	4,40	2,339	0,032
	Tehtaankatu	49	5,51	2,724	

* Significant at 95% confidence interval

Multivariate regression analysis:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,673[a]	,453	,309	,56966

a. Predictors: (Constant), The store is clean, This store attracts on doing impulsive purchases, The store is stylish, Shopping in this store is a refreshing experience, Product selection seems delicious, The store is welcoming, The color scheme is fresh, Product placement makes me want to buy, Products are arranged clearly

b. Dependent Variable: What would you consider a reasonable price for this product at this store

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,154	9	1,017	3,134	,007[a]
	Residual	11,033	34	,325		
	Total	20,187	43			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,040	,467		2,227	,033
	Shopping in this store is a refreshing experience	,273	,091	,608	3,010	,005
	This store attracts on doing impulsive purchases	,069	,069	,150	1,009	,320
	Product selection seems delicious	,033	,130	,061	,253	,802
	Product placement makes me want to buy	,051	,129	,101	,396	,695
	Products are arranged clearly	-,493	,145	-,919	-3,405	,002
	The color scheme is fresh	,075	,120	,158	,627	,535
	The store is stylish	,081	,082	,180	,994	,327
	The store is welcoming	-,016	,102	-,036	-,160	,874
	The store is clean	,187	,100	,410	1,875	,069

Appendix C: Before and After Comparison