Aalto University School of Business

THE EFFECTS OF E-STORE ATMOSPHERE ON CONSUMERS' BUYING BEHAVIOR

A Literature Review

26. HELMIKUUTA 2017

TOMMI ALEKSI SEBASTIAN UTRIAINEN

AALTO UNIVERSITY SCHOOL OF BUSINESS, DEPARTMENT OF MARKETING

Student ID: 424288

Author	Tommi Utriainen
Title of thesis	The Effects Of E-store Atmosphere On Consumers' Buying Behavior
Degree	Bachelor
Degree programme	Bachelor of Marketing
Thesis advisor(s)	Sami Kajalo
Year of approval 2017	**Number of pages** 29	**Language** English

Abstract

Consumer behavior in traditional stores is already a vastly studied field of research. In contradiction to consumer behavior in a e-retail environment, which is still lacking a lot of research and has to be studied more.

This literature review tries to better understand the dynamics of consumer behavior in a e-retail environment and to give an overall introduction to designing a functional e-retail website. This is done by researching the effects of atmospherics in a traditional store environment and adapting those principles to the e-retail environment. Studies on e-retail environment are also used as much as possible.

The findings of this literature review suggest that many theories about traditional store related consumer behavior have been proven, but many of those related to e-retail are just assumptions and more research has to be done. Fortunarely there are some principles that have been also proven in a e-retail environment and it is a good basis to create a functioning web store for a company

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Table of contents

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Introduction and motivation

Researches have been done focusing on consumer behavior inside traditional stores, but research on web store environment is not yet exhaustive. Consumer buying behavior can be influenced in numerous ways and therefore it's an important topic for research.

The primary research question is:

- How to create an e-store atmosphere to increase consumers' purchase intentions?

The secondary research questions are:

- What are atmospherics and how do they influence the overall atmosphere?
- What are the mechanisms of e-consumer behavior?

First the review defines atmospherics and goes deeper in visual and auditory atmospherics, because they can be used in the e-environment as well. The other atmospherics which are not as viable for web stores, such as tactile, olfactory and gustatory will also be discussed for a deeper understanding about the overall effects of atmospherics on consumer behavior.

E-consumers' buying behavior will be discussed in general to understand its' mechanisms. It's important for the topic to understand how the attitudes towards the retailer, trust, past experiences and emotions affect the purchase intentions.

Defining atmospherics

Store atmospherics

Store atmospherics are defined as the factors creating an atmosphere in a particular place. (Manganari, Siomkos, Vrechopoulos 2009). Consumers tend to spend more time in places that they find pleasant. (Donovan, Rossiter, Marcoolyn, & Nesdale, 1994)

Different atmospherics

Visual atmospherics

Kotler (1974) talked about visual atmospherics as size, shape, brightness or color of a retail space. The level of stimulation of the people in a certain space is affected by the color or brightness of that space (Lehrl 2007). These factors can also alternate a person's emotions (Evans, 2002). Vision has been viewed as the dominant modality and therefore most studies have focused on vision. However Spence, Stein and Calvert in their study 2004 suggest that this is not the ultimate truth. Accordingly, a huge amount of retailers and brands have focused in colors and lighting even though nonvisual atmospherics might be a superior investment in terms of ROI (Spence, Puccinelli, Grewal, 2014)

Affective

Visual cues have direct positive effects on shopping behavior (Spence, Puccinelli, Grewal, 2014). It seems that additional lighting over a particular item or display increased the time that shoppers used inspecting and touching the object (Summers and Hebert, 2001). In terms of colors Bellizi and Hite (1992) found out that consumers thought of blue as more pleasant than red, because it's more relaxing. This suggests that using blue atmospherics will make consumers stay longer and therefore increase purchase intentions. Also it was found that the perceived taste of wine in terms of the value of the wine was significantly modified according to the color of lighting used (Oberfeld, Hecht, Allendorf and Wickelmaier, 2009). In addition male customers seem to perceive a higher value on products,

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

which's prices were displayed in red rather than black. The personnel of the store also play a role in visual cues, because a research indicates that the facial expressions and behavior of sales personnel that matches the behavior of the customer, influenced the shopping behavior positively. (Spence, Puccinelli, Grewal, 2013).

A visual cue may also trigger specific associations in consumers that make decision making easier. Studies suggests that changing factors such as the color scheme of the store or the overall brightness or lighting, will influence purchase intentions and sales. Colors are also associated with brands and they evoke associations to products and therefore they ease the decision making of the customer (Labreque & Milne 2012)

Direct behavioral effects

Visual atmospherics have both direct effects and effects that are seen after a period of time. A commonly used strategy amongst managers is to create a cathedral effect in their stores to draw in customers. The most studied field in visual atmospherics is among the usage of colors and it suggests that the color of the environment affects the behavior of customers. As a main rule the consumers tend to get drawn and spend more time in stores with a more pleasant interior. (Spence, Puccinelli, Grewal, 2014)

Visual summary

As mentioned before, a more visually appealing environment and atmosphere makes the customers to stay longer and therefore increases the chances of additional purchases. However it remains hard to specify a certain optimal usage of lighting and color design for any given store and it's usually an affair of trial and error. (Spence, Puccinelli, Grewal, 2014) As a rule of thumb a pleasant and arousing environment should be used. Different colors create different physiological responses and a certain coloring reminds consumers of different brands. Thus the colors used must be in congruence with the retailer's brand and image.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Auditory atmospherics

"Research has distinguished physical properties (volume, pitch, rhythm, tempo), emotional tone (positive, negative), and customer liking of elements determining the influence of music and sound" (Kotler, 1974). Music is easy to control and that's why it has been researched a lot as a stimulant factor in consumer behavior in a store environment (Spence, Puccinelli, Grewal, 2014). Consequently more and more retailers have started to invest in profiling their stores with a unique sound profile. This is also called "audio branding". One of the best proved tactics in audio branding is to use a functional sound that signals successful completion of a task such as the opening sound of Skype compared to music playing while on hold (Aminoff, 2014)

Affective

Certain audio cues have direct positive effects on consumer behavior. For example Lindsen (1975) found out that super market consumers prefer background music over silence. Also in general studies suggest that only the presence of music has a positive effect on consumers over silence and even stronger if the music was generally familiar and liked (Garlin, Owen, 2006). Usage of classical music in a jewelry store increased the perception of positive atmosphere by customers (Baker, Levy and Voss, 2003)

The tempo and volume play the most important role in auditory stimulation. The musical tempo works in addition with the musical mode. It only seemed to have an effect in using music with minor more and combining it with a slow tempo. This seemed to have the most positive effect whereas combining major more music with either slow or rapid tempo didn't seem to have a distinctive effect. (Knöferle, Herrmann, Landwehr and Spangenberg 2012)

An interesting finding by Smith & Curnow in 1966 is that when a background music was played in a higher volume the customers seemed to spend less time in the store, but it did not affect the overall sales nor customer satisfaction. This suggests that using music in a high volume will make customers' decision making more rapid.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Direct behavioral effects

Music in general seems to facilitate low involvement decision making and disrupt high involvement decision making (Park and Young, 1986). Tempo is a huge factor affecting consumer behavior. The perceived passage of time in retail and service spaces is affected by the musical tempo. Slower tempo especially combined with a familiar tune and a quiet tone caused shoppers so stay in the shop longer (Garlin & Owen 2006). Also the moving pace of consumers was increased with a faster tempo music and in contrary slowed down when slower tempo music was used in the background (Milliman 1982). To be more precise increasing the tempo of quiet background music from less than 72 beats per minute to 94 beats per minute the customers shifted from moving slow to rapid through the aisles. The same study also showed how a supermarket's turnover was increased by almost 40% when using low tempo music. This seemed to be the result of moving slower and having more time to grow purchase intentions and therefore execute purchases. Another study indicated that music that was turned up too high repelled some groups of customers from even entering the store (Forsyth & Cloonan, 2008). From this it can be extracted that it might be possible for retailers to manage the customer flow inside the store simply by adjusting the volume of music.

Auditory summary

As mentioned before, music affects consumer behavior in many ways and the most important factors of it are the tempo, volume and style. Most studies focus on a single factor and further researches have to be done to find out how the consumers' behavior changes when altering multiple dimensions of the music. As a rule of thumb can be said that at least it's better to use some music over none and usually the safer choice is to go with a lower volume and lower tempo background music. (Spence, Puccinelli, Grewal, 2014)

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Olfactory atmospherics

Behavioral effects and summary

Fragrances are more likely than other atmospherics to trigger a hedonically charged customer response. This means it can be either negative or positive and usually quite unconscious. It may be Fragrances have quite strong effects on consumers and usually a presence of an ambient scent makes people feel themselves more comfortable and therefore purchase more. People might not be aware that an ambient scent is present, but still it alters their behavior. Sometimes even the scents that people are not aware of seem to have a greater effect on their behavior than those they are aware of (Spence, Puccinelli, Grewal, 2014). As with auditory and visual stimulants, the right scents also make consumers to stay longer in the store (Spangenberg, Sprott, Grohmann and Tracy 2006)

People also tend to have a strong memory related to scents and in researches it was found that for example compared to visual memory, the recognition decays very slowly. Scent recognition was 70% when tested immediately after exposure and 65% after one year from exposure versus image recognition which was 99% at first but after one year from exposure only 58% (Krishna, Lwin, Morrin, 2010). When products were paired with a scent, the recognition from consumers was higher and this creates greater buying potential. (Krishna, Lwin, Morrin, 2010)

Scents and fragrances have both long term effects (recall and recognition) and immediate effects. In a research done by Spangenberg, Sprott, Grohmann and Tracy (2006), they added a vanilla scent to a women's department and a sweet floral scent to the men's department of a store and the sales almost doubled. On the contrary when they switched the scents the effects were negative. Scents also seem to change people's perceptions of products, for example clothes were perceived as softer with a presence of a certain scent. (Demattè, Sanabria, Sugarman and Spence 2006)

Usage in e-environment

The usage of fragrances in a e-environment has not yet achieved adoption for a wide crowd although it would be technologically possible(Dennis, Mellilees, Jayawardhena and Wright 2009). The main

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

reason for this is that it requires additional machinery from the consumer and additional technological expertise and knowledge about fragrances from the retailer. The concept is not utopist though, because there is a patent for a "Fragrance emitter for use with internet" by Chum Lee which would enable the use of this. It can be speculated that such tools will be either in minor or maybe even major use in the future.

The lack of the usage of this technology in today's world is a pity, since the studies show that scents have tremendous effects on consumer behavior and it could be largely used in the internet stores as well as it's being used in department stores around the globe.

Tactile atmospherics and taste atmospherics

These atmospherics play a big role in department stores, but because of the incapability to introduce them in the e-environment, they are not very relevant for this literature review. They are worth mentioning briefly though so that they are recognized as dimensions of atmospherics as well.

Touch is strongly involved when shopping for clothes and it has a great impact on the response of the customers' buying behavior (Citrin, Stem, Spangenberg and Clark 2003). This dimension lacks in an e-store, but consumers often understand this and they have learned to trust their capability to evaluate the product by sight. However the capability to touch or pick the product up increases the trust on the quality of the product and therefore increases the chances of purchasing. (Grohmann, Spangenberg and Sprott 2007)

Taste is used by many grocery stores in the form of tasting stations, but the role of in-store tasting is not largely researched (Spence, Puccinelli, Grewal, 2014). Kotler in his research 1974 mentions taste as an unimportant factor in relation to store atmospherics. For this study also taste is not very applicable for the internet environment.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Advantages of purposeful atmosphere building

Store atmospherics obviously influence shoppers in various ways and according to numerous studies experience economy and sensory marketing are very appealing to today's consumers. Various independent atmospherics including visual, tactile, auditory and gustatory atmospherics influence shoppers' behaviors and perceptions, but their combined influence is very possibly even greater than the sum of their parts. The retailer has to be careful in using multiple senses at once though and try to keep a congruence between the atmospherics. An increasing number of marketers have adapted the practice to differentiate their stores with a specific fragrance, specific sound, specific visual outlook or a specific feel. Doing this congruently should offer benefits in increased sales and profits. (Spence, Puccinelli, Grewal, 2014)

Cognitive neuroscience and marketing research suggest that multisensory atmospherics are almost without an exception stronger than single sensory atmospheric cue. The most important thing in investing on multisensory marketing, is to make a good estimate about the ROI in multisensory marketing. In some cases it can be really expensive for example Harrods spent millions of pounds for its' multisensory toy department and it's not yet clear if it has paid off or not. (Spence, Puccinelli, Grewal 2014)

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Defining E-consumer Behavior

E-consumer behavior is close to the regular consumer behavior, but it includes and at the same time lacks some attributes that are present in the "real world".

Early e-shopping consumer research indicates that e-shoppers own utilitarian and functional considerations and they owned characteristics from typical "innovators". This finding is challenged in the newer researches (Jayawardhena, Wright and Dennis 2007) and it seems that the same people who go to the regular stores also deal with internet shopping nowadays.

"The study of e-consumer behavior is gaining importance due to the proliferation of online shopping" (Dennis, Mellilees, Jayawardhena and Wright 2009).

Factors influencing e-consumer behavior

In their study Jayawardhena & al. 2009 provide an insightful model of factors influencing consumer behavior and it will be included in this literature review as Figure 1. It uses the theory of reasoned action (TRA)
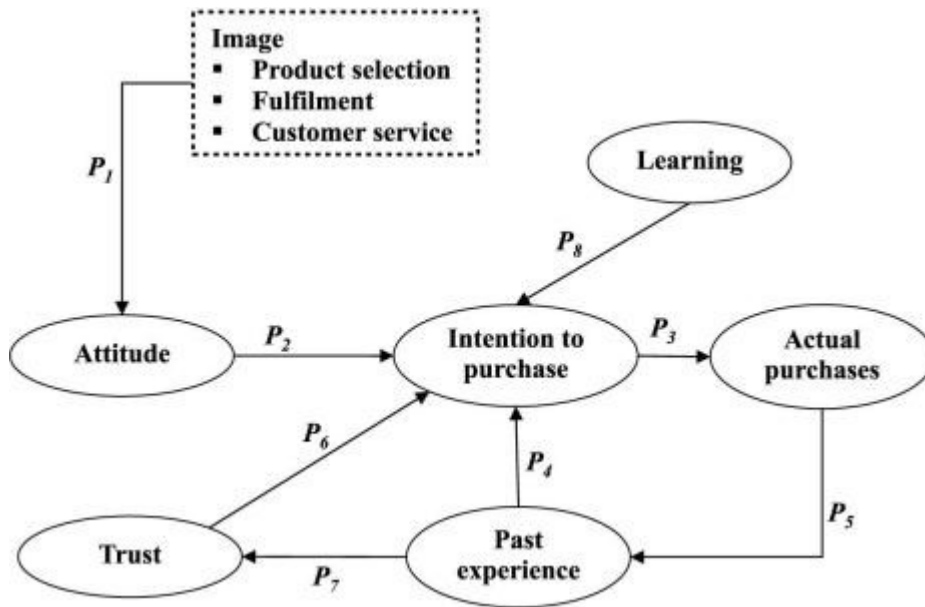
Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Figure 1.

Functional factors

Image is a strong factor influencing consumer behavior also in e-stores. People tend to buy more from stores with a positive image in their heads especially with considerations that are significant to the consumer, such as product selection or price. The most common components for building an image online are product selection, customer service and fulfilment or delivery (Jayawardhena & al. 2009).

E-consumers' intentions to buy from an e-store will be positively influenced by positive attitudes towards the retailer as seen in the chart and those increased intentions naturally lead to actual purchases. After the first purchase from an e-store, the consumer's chances to re-purchase increase exponentially. This is especially due to the novelty of online shopping and this leads to consumers finding online shopping riskier in comparison to traditional style of shopping (Laroche, Yang, McDougall and Bergeron 2005). The trust in the e-retailer will positively influence purchase intentions in an e-store and trust is best built by past experiences dealing with the e-retailer.

Prior to first purchase learning the usage of the e-retail site is a significant factor in building trust, increasing purchase intentions.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Social factors

""Subjective norm" refers on one hand to beliefs that specific referents dictate whether or not one should perform the behavior or not, and on the other hand the motivation to comply with specific referents" (Fishbein and Ajzen 1975). These are social factors which means how the purchase intentions are influenced by other people. For example how does it influence our behavior if our friend or mom thinks that we should make the purchase decision? It was found in various researches (Rohm & Swaminathan 2004, Parsons 2002) that social influence such as talking to friends, peer group experiences and communicating with like-minded people about a product or a retailer, influenced the attitude towards the e-retailer positively.

The research by Jayawardhena & al. provided yet another very useful figure to clarify the mechanism how consumer behavior happens in e-stores. It's included as Figure 2.
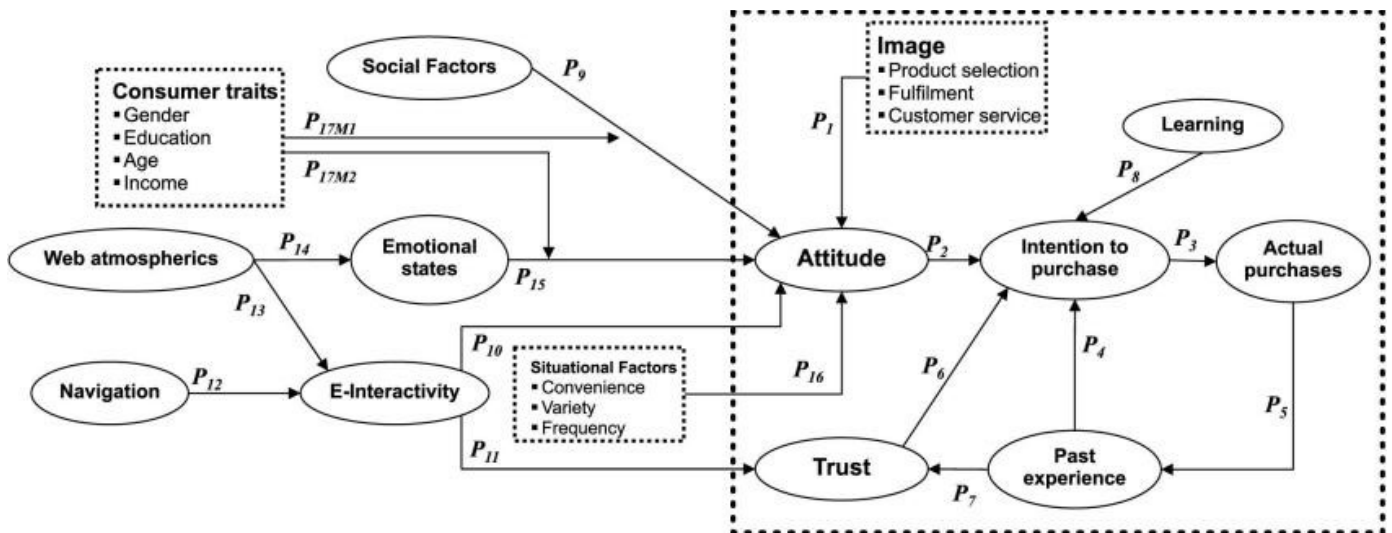

Figure 1.

Experiential factors

Shopping is not just a matter of buying tangible objects but it's also about experiences such as entertainment and enjoyment (Martineau 1958). Two specific experiential factor dimensions were recognized by Jawardhena & al. in their research, which are (1) Usefulness and (2) Ease of use.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Usefulness means the perceived advantage that consumers experience using an e-store. For example the easiness to browse through multiple products with minimum effort and the clarity of the e-store.

Ease of use is closely linked to e-interactivity, which is also included in the figure 2. and will be discussed further.

E-interactivity

E-interactivity can be understood as the substitute for salesperson-customer interaction in a department store environment and also the impact of senses on consumer behavior (the atmospherics influencing consumer behavior as discussed earlier). E-interactivity is found to influence positively the attitude and the trust towards the e-retailer which leads to increased purchase likelihood. E-interactivity can be achieved through e-store live chat with a salesperson and for example through creating visual images of clothing combinations. The perception of e-interactivity is positively influenced by the easiness of use of the website (Jawardhena & al. 2009). The most important factor in easiness of use is the navigability a.k.a. "the ability of the user to find their way around a site and keep track of where they are" (Richard and Chandra, 2005)

Web atmospherics

The intention of web atmospherics is the same as regular store atmospherics discussed earlier. The main goal is to create a certain type of atmosphere in the e-store to influence consumer behavior. The field in the web is slightly distinct from the regular stores and the retailer has to rely mostly on visual and auditory cues, such as layout, product display, background color, website graphics and soundscapes (Jawardhena & al. 2009). As mentioned before the usage of scents and odors and even touch would be technologically possible, but it's not yet widely adapted. In general elements that replicate the atmospherics from the offline world lead to more satisfied and pay willing customers (Goode and Harris, 2007). In their research Jayawardhena and Wright summarize that web atmospherics create emotional responses in the customer, which leads to positive image towards e-interactivity and the e-retailer.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Situational factors

According to Jawardhena and Wright, the situational factors include the perceived convenience of purchasing, variety of products, shopping frequency and specific individual circumstances such as having a flu or a baby. These all influence the consumer's behavior and attitude towards the retailer. One of the most important aspects that the retailer is able to influence in though is the perceived convenience of the site for example as mentioned in the related article amazon.com allows regular customers to complete the purchase process with one click.

Consumer traits

The four most examined ones include gender, age, income and education. It is important to include two traits, that are central to forming e-attitudes – Optimum stimulation level (OSL) and Need for cognition (NFC) (Jawardhena & al. 2009). Considering gender, men in general are ready to take risks (especially financial) more than women (Powell and Ansic, 1997), they are more task-oriented (Minton and Schneider 1980) and more systems-orientated (Baron-Cohen, 2004). According to Jawardhena & al. this is because of evolutionary psychology and because people are expected to behave in that way. According to research, women's preferred the ease of use of a system (such as e-store) whereas men were influenced by the perceived usefulness (Venkatesh and Morris 2000). Gender is a major factor affecting the behavior in an e-store because of the differences in courses of action and differences in preferences considering atmospherics, functionality and products (Jawardhena & al. 2009). Jawardhena & al. combined Dennis and McCall's research of gender influences on shopping behavior and Stenstrom et al.'s research of E-navigation to prove that more complex web sites are more easily navigated by males than females. This is because women are built to use a "landmark" navigation due to their ancestors' role in gathering near home whereas males utilize an "internal map" navigation, because hunting required the ability to navigate over long distances. Women are also more "shopping for fun" style of shoppers whereas males are "quick shoppers". All these considerations implicate that it is important to give some thought to the design of the website considering the gender of the users. This will increase e-consumer satisfaction and sales.

Aalto University
School of Business

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

People with a personality high in NFC (need for cognition) have a need to search more information about a product prior purchase and this leads to higher e-interactivity. In comparison, people with high OSL (optimal stimulation level) need more stimulation through atmospherics (more colors, more sound) and rely more on emotions rather than cognition (Richard and Chandra, 2005). A figure from Richard and Chandra is also included to clarify the factors. It is displayed as figure 3.

To summarize the consumer traits actually moderate all the other factors (social, experiential and functional) and therefore are a major factor to take in to consideration when designing web atmospherics. This is also seen in figure 2 earlier.
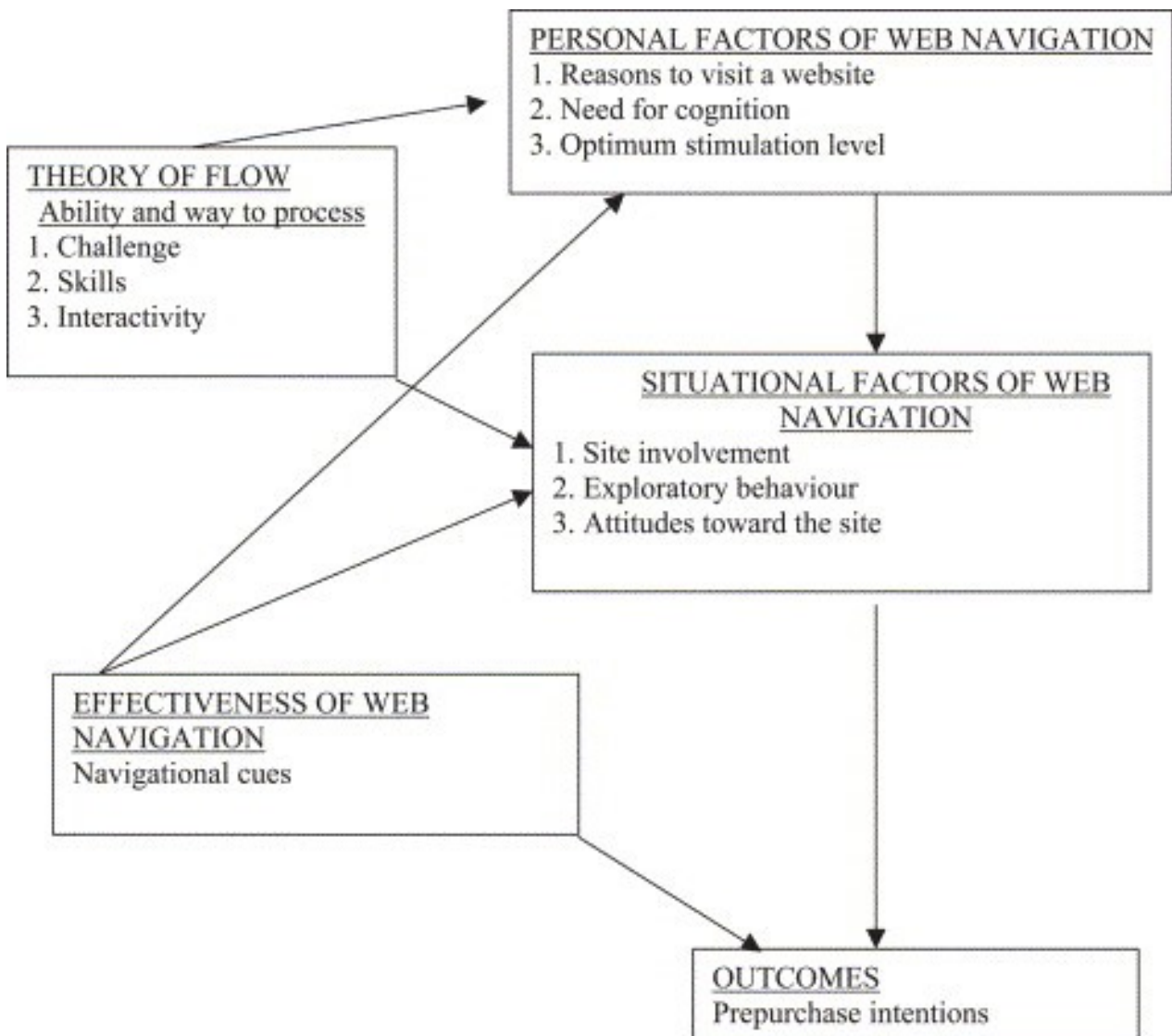

Figure 3.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

E-store atmosphere and its' influence on e-consumer behavior

Online store environment

"The online store environment consists of four components: Virtual layout and design, virtual atmospherics, virtual theatrics and virtual social presence" (Manganari, Siomkos, Vrechopoulos, 2009).

In their study they used a figure to show these components and their sub-components. The figure is included as figure 4.
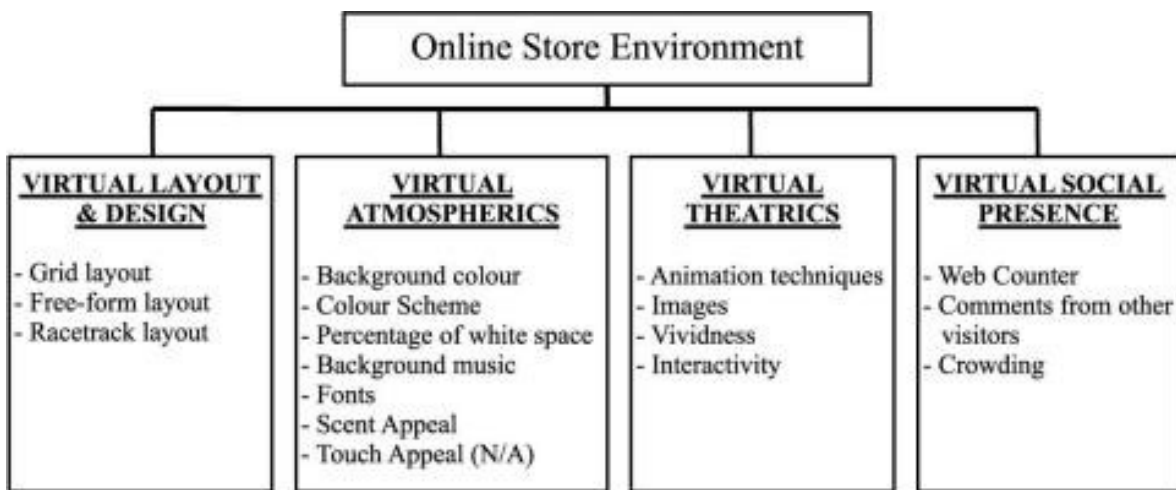

Figure 4.

Virtual layout and design

Vrechopoulos, O'Keefe, Doukidis et al. 2004 compared three distinct and popular virtual store layouts and measured their effects on consumer behavior. These are the grid layout, the free-form layout and the racetrack layout. They share some characteristics, but are mostly distinct and have various effects on consumer behavior.

17

Aalto University School of Business

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Defining the different layouts

Grid layout

According to Vrechopoulos et al. (2004) in this layout the shoppers navigate in the following manner:

Product category $\leftrightarrow$ product subcategory $\leftrightarrow$ end-product

It is more useful for planned purchased compared to free-form and racetrack layouts. The navigation is relatively easy and it can be done moving forward or backwards. This layout is widely used because of its' simplicity and easiness to navigate. According to the researches used in this literature review this layout is best for female-targeted websites because of the easiness of use. Customers with a high OSL might find the grid layout too simple and the level of engagement and interest might suffer. (Richard and Chandra, 2005)

Example of a grid layout web store from www.bleep.com:

Photo 1.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis
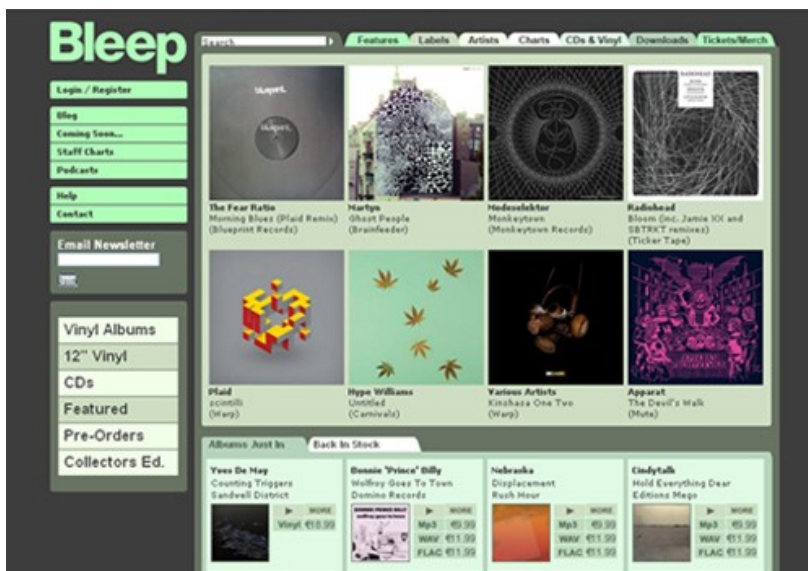
Free-form layout

The free-form layout is also relatively simply structured and therefore easy to use. It is mostly used by large e-retailers such as fashion retailers which have kind of "shop-in-shops". For example a fashion retailer featuring multiple brands. (Vrechopoulos & al. 2004) This layout also appeals to women for the same reasons as the grid layout. (Richard and Chandra, 2005) The advantage of the free-form layout is that the visual variety provided by different shapes and placements provides extra stimulus for people with a higher OSL and keeps people in general more engaged in the web site. As mentioned earlier, this leads to more e-interactivity which results in more buying potential. (Jawardhena & al. 2009)

An example of a free-form layout from www.namshi.com:

Photo 2.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Racetrack layout

"The racetrack layout uses two online "corridors" on each web page and guides consumers to navigate through specific paths of the store in order to reach their desired products." (Manganari & al. 2011). The navigation in this type of website is complex and requires earlier usage experience from the user to feel comfortable. This layout was found to be confusing and the least appealing in Vrechopoulos & al.'s research and it is a risky choice for an e-retailer. Considering the studies used this type of layout would be more appealing to men than women, but because of the complexity even males' perceived usefulness of the site might be low and also their interest would be diminished. On the positive side, if a person is willing to spend more time browsing such as a person with a personality high of NFC. In addition people tend to create bonds in things they feel like they are "good at" and when using this type of websites an individual might create a specific positive association towards the complexity and the potential for re-purchases increase.

Layout summary and free-grid layout

In Vrechopoulos & al.'s research the racetrack layout drew the shortest stick in comparison to the two other layouts in terms of preferences and e-customer satisfaction level. The grid and the free-form layout both have the crucial attributes of perceived easiness of use and convenience, which make them superior. Vrechopoulos & al. suggested in their research that probably the best option would be a mixed solution which they called the "free-grid layout" which is as a matter of fact largely used in nowadays e-retailers. The free-grid layout uses the following navigation analogues:

Vertical navigation: product category X → end product X

Horizontal navigation: subcategory X → subcategory Y

Diagonal navigation: end-product X → product category Y

Circle navigation: product category X → subcategory X → end product X → end product Y → subcategory Y → product category Y

This layout combines the beneficial attributes in both the grid and the free form layout and according to research is a good choice for e-retailers in general.

AalFo University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Virtual atmospherics

Visual cues

The first important type of virtual atmospherics is color and color scheme, and is probably the most effective one when operating in web stores. It includes the background color, color scheme used in the entire site and the variation between different tabs (Manganari & al. 2009).

Color influences e-consumer behavior in multiple ways (Wu & Yuan. 2003). For example in their study Wu and Yuan found out how the changes in background color vs. foreground color and their luminance as well as highlighting text vs. not highlighting text influences the consumers' visual preferences and reading performance. In addition Gorn, Chattopadhyay, Sengupta and Tripathi (2004) investigated the effects of screen color on time perception. It seemed that colors that created relaxed feelings in the consumers made the perceived passage of time slower and therefore the experience of download time was diminished. This is similar to the effects of background music tempo discussed earlier in this literature review, where slower tempo created a more relaxed feeling and perception of the passage of time was slower (Milliman 1982).

Another important visual factor is product presentation. The display of products on the right colored background is crucial. Biers and Richards (2005) found that when introducing expensive products on a cool background color, the potential of purchase increased. The product presentation style affects consumers' perception of the product's quality and value (Kim, Kim and Lennon, 2009). Also product presentation in the right manner encourages impulse purchases (Ko and Rhee, 1994).

In online shopping the evaluation of the product's quality is harder leading to a heightened consumer's perceived risk of purchase. Fortunately with the right product presentation, this perceived risk can be diminished and the likelihood of purchase is increased (Kim & al. 2009). Especially the use of 3D rotational pre-viewing of the product decreased the risk perception of consumers and in addition it increased the entertainment value of the website, leading to more engagement (Kim & al. 2009, Jawardhena & al. (on e-interactivity) 2009). If no 3D rotational preview was available consumers preferred apparel presented on human models over pictures of apparel hung over a hanger (Kim & al. 2009).

According to the findings discussed in this literature review, creating a more pleasant and relaxing atmosphere with visual cues in congruence with the brand's perceived image should lead to increased

21

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

short term purchases (caused by the instant effects of visual stimuli) and increased long term purchases (caused by the reinforced brand loyalty and recognition).

Auditory cues

Background music has been widely studied as an influencer of consumer buying behavior in a traditional store environment. It has been considered as efficient in enhancing mood leading to likelihood of purchase in retail and service environments (Spence, Puccinelli and Grewal, 2014). On the contrary there is no much research to be found on the auditory atmospheric effects in an online environment. In the study by Kim, Kim and Lennon, 2009 they didn't find a significant effect for music on emotions in an online environment. This finding is questionable though, because they didn't use music as a part of the e-store but the music was played inside the computer lab, while the studied individuals shopped online. They mention in their research that the music might have not affected the studied because the music playing in the lab was not attributed to the web site. People are able to be completely engaged in a virtual environment so that they block all outside stimuli (Fiore & al. 2005).

Considering the endless amount of research focused on the effects of music on emotions, behavior and performance (Zentner & al. 2008; Juslin Sloboda 2001; Ekman & al. 1983 etc.), it is more than likely that background music in a web store will also evoke emotions and therefore be a considerable atmospheric also in a web store.

Virtual social presence

Virtual social presence can be seen as an alternative to the sales clerk in a traditional store. This can be best achieved through introducing live chat feature to the web store, where a real life person behind his own screen engages the web customer in a chat immediately after arrival or after some time browsing through the online store.

"Websites with a high active control tend to stimulate higher cognitive involvement. Moreover, it can also lead to higher affective involvement for functional product websites when there is an absence of reciprocal communication." (Zhenhui, Chan, Tan and Wei, 2010). According to research, cognitive involvement does not change in relation to reciprocal communication but instead affective involvement is increased through reciprocal communication (Zhenhui & al. 2010). Affective involvement is an important factor influencing purchase intentions and as affective involvement increases the likelihood for purchase is increased. Therefore introducing virtual social presence on a

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

web store is a positive variable, but the retailer has to keep in mind the expected ROI since hiring people to maintain a live chat feature can be an expense to a fault.

Conclusions and discussion

Proven effects vs. speculation

As seen in this literature review, there are numerous proven effects of atmospherics on consumer behavior. The different atmospherics and their effects in traditional stores have been widely researched, but the field of e-store atmospherics still lacks information on many levels. Many of the researches studying e-store behavior used in this review draw conclusions about how consumers are likely to behave in the internet, based on some other studies actually studying the effects of those atmospherics in a non-internet environment. To point out some examples:

- In the study by Gorn, Chattopadhyay, Sengupta and Tripathi (2004) they found out that background color in websites influence people's perception of time, but does the perception of time actually influence consumers' buying behavior was left open.
- In Vrechopoulos & al. (2004) research about different e-store layouts the preferences were made in the context of usage comfort and easiness, but then again the actual correlation between actual sales and layout has to be done.
- According to numerous studies about music's effects on mood, performance and consumer behavior in general it is likely that it also has an effect in e-stores, but actual research still has to be done. Kim, Kim and Lennon (2009) didn't find a significant effect of music on behavior when shopping online, but the research was done in a rather questionable manner where the music played was not on the website itself, but in the laboratory room where the subjects were browsing their websites.

Fortunately, there are some proven effects on e-consumer behavior such as:

- According to Kim, Kim and Lennon (2009) product presentation style affects the consumer's perception of product quality and value and also the perceived risk of e-purchases is diminishes with the right presentation.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

- Gender affects online shopping behavior (Jawardhena & Al. 2009). Males tend to be "quick shoppers" and females tend to go more with the "shopping for fun" mindset.

- Elements that replicate the atmospherics from the offline world lead to more satisfied and pay willing customers (Goode and Harris, 2007)

Managerial implications

To increase the customer satisfaction, engagement and purchase intentions, retailers should focus attention to enhancing their web stores' with appropriate atmospherics. When done correctly, it may increase the sales and revenues significantly and additional competence over competitors is gained. The retailer should be aware of the overall demographic profiles of its' customers and can create a desired atmosphere to the website accordingly. In addition the atmosphere should also be created in congruence with the retailer's image to avoid confusion and to increase long term loyalty. In web stores this can be done through using the earlier discussed website layouts, product display, color schemes and virtual social presence.

Limitations and future research

There is not much research available about the effects of auditory atmospherics in web stores, although the influence of music has been proved in a traditional store environment in numerous researches. It is probable that music has potential uses in a web stores as well, but before appropriate research is done, it can only be pondered. Therefore future research on the matter is desirable.

In addition the world around e-functions including web stores is developing in a tremendous speed, since internet is a relatively new invention especially for private users. This leads to a need to execute fresh research on the influences of web store atmosphere on consumer behavior, since it's already 2017 and the internet consumerism has taken huge leaps during the preceding decade.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

References

Baron-Cohen, S., & Wheelwright, S. (2004). The Empathy Quotient: An Investigation of Adults with Asperger Syndrome or High Functioning Autism, and Normal Sex Differences. *Journal of Autism and Developmental Disorders*, *34*(2), 163–175.

Calvert, G., Spence, C., Stein, B. E. (2004). The handbook of multisensory processes.

Citrin, A. V., Stem, D., Spangenberg, E. R., Clark, M. J (2003). Consumer need for tactile input: An internet retailing challenge. *Journal of Business Research*, *56*(11), 915–922.

Dematte, M. L., Sanabria, D., Sugarman, R., & Spence, C. (2006). Cross-Modal Interactions Between Olfaction and Touch. *Chemical Senses*, *31*(4), 291–300.

Dennis, C., Merrilees, B., Jayawardhena, C., & Tiu Wright, L. (2009). E-consumer behaviour. *European Journal of Marketing*, *43*(9/10), 1121-1139.

Ekman, Paul, Robert W. Levenson, and Wallace V. Friesen (1983). "Autonomic nervous system activity distinguishes among emotions." *Science* 221.4616 (1983): 1208-1210.

Eroglu, S. A., Machleit, K. A., & Davis, L. M. (2003). Empirical testing of a model of online store atmospherics and shopper responses. *Psychology and Marketing*, *20*(2), 139–150.

Forsyth, A., & Cloonan, M. (2008). Alco-pop? The Use of Popular Music in Glasgow Pubs. *Popular Music and Society*, *31*(1), 57–78.

Garlin, F. V., & Owen, K. (2006). Setting the tone with the tune: A meta-analytic review of the effects of background music in retail settings. *Journal of Business Research*, *59*, 755–764.

Goode, M. M. H., & Harris, L. C. (2007). Online behavioural intentions: an empirical investigation of antecedents and moderators. *European Journal of Marketing*, *41*(5/6), 512–536.

Gorn, G. J., Chattopadhyay, A., Sengupta, J., & Tripathi, S. (2004). Waiting for the Web: How Screen Color Affects Time Perception: EBSCOhost.

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Grewal, D., Baker, J., Levy, M., & Voss, G. B. (2003). The effects of wait expectations and store atmosphere evaluations on patronage intentions in service-intensive retail stores. *Journal of Retailing*, *79*, 259–268.

Grewal, D., Roggeveen, A. L., Puccinelli, N. M., & Spence, C. (2014). Retail Atmospherics and In-Store Nonverbal Cues: An Introduction. *Psychology & Marketing*, *31*(7), 469–471.

Jayawardhena, C., Tiu Wright, L., & Dennis, C. (2007). Consumers online: intentions, orientations and segmentation. *International Journal of Retail & Distribution Management*, *35*(6), 515–526.

Juslin, Patrik N., and John A. Sloboda (2001). *Music and emotion: Theory and research*. Oxford University Press, 2001.

Kim, J., Kim, M., & Lennon, S. J. (2009). Effects of web site atmospherics on consumer responses: music and product presentation. *Direct Marketing: An International Journal*, *3*(1), 4–19.

Klemens M. Knoferle, Eric R. Spangenberg, Andreas Herrmann and Jan R. Landwehr (2012), It is all in the mix: The interactive effect of music tempo and mode on in-store sales

Ko, S., and E. Rhee (1994). "Consumers' impulse buying process of clothing products." *International Textiles and Apparel Association, Monument, CO, Proceedings of the Annual Meeting of the International Textiles & Apparel Assocation*. 1994.

Kotler, & Kotler, P. (1973). Atmospherics as a marketing tool. *Journal of Retailing*, *49*(4).

Krishna, A., Lwin, M. O., & Morrin, M. (2010). Product Scent and Memory. Journal of Consumer Research Jun2010, Vol. 37 Issue 1, p57-67. 11p.

Labrecque, L. I., & Milne, G. R. (2012). Exciting red and competent blue: the importance of color in marketing. *Journal of the Academy of Marketing Science*, *40*(5), 711–727.

Laroche, M., Yang, Z., McDougall, G. H. G., & Bergeron, J. (2005). Internet versus bricks-and-mortar retailers: An investigation into intangibility and its consequences. *Journal of Retailing*, *81*(4), 251–267.

Manganari, E. E., Siomkos, G. J., & Vrechopoulos, A. P. (2009). Store atmosphere in web retailing. *European Journal of Marketing*, *43*(9/10), 1140–1153.

Manganari, E. E., Siomkos, G. J., Rigopoulou, I. D., & Vrechopoulos, A. P. (2011). Virtual store layout effects on consumer behaviour. *Internet Research*, *21*(3), 326–346.

Milliman, R. E. (1982). Using Background Music to Affect the Behavior of Supermarket Shoppers. *Journal of Marketing*, *46*(3), 86.

Minton, H.L., Schneider, F.W. and Wrightsman, L.S., 1980. Differential Psychology, Brooks.

Obadă, D. R. (2013). Flow Theory and Online Marketing Outcomes: A Critical Literature Review. *Procedia Economics and Finance*, *6*, 550–561.

Oberfeld, D., hecht, h., allendorf, u., & wickelmaier, f. (2009). Ambient Lighting Modifies the Flavor of Wine. *Journal of Sensory Studies*, *24*(6), 797–832.

Powell, M & Ansic A. (1997). Gender differences in risk behaviour in financial decision-making: An experimental analysis. *Journal of Economic Psychology*, *18*(6), 605–628.

Richard, M.-O., & Chandra, R. (2005). A model of consumer web navigational behavior: conceptual development and application. *Journal of Business Research*, *58*(8), 1019–1029.

Spangenberg, E. R., Sprott, D. E., Grohmann, B., & Tracy, D. L. (2006). Gender-congruent ambient scent influences on approach and avoidance behaviors in a retail store. *Journal of Business Research*, *59*(12), 1281–1287.

Spence, C., Puccinelli, N. M., Grewal, D., & Roggeveen, A. L. (2014). Store Atmospherics: A Multisensory Perspective. *Psychology & Marketing*, *31*(7), 472–488.

Summers, T. A., & Hebert, P. R. (2001). Shedding some light on store atmospherics: influence of illumination on consumer behavior. *Journal of Business Research*, *54*(2), 145–150.

Venkatesh, V., Smith, R. H., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior 1, *24*(1), 115–139. Vol. 23, No. 1 (March 2012), pp. 325-337

![Aalto University School of Business logo]

Aalto University, P.O. BOX 11000, 00076 AALTO
www.aalto.fi
Abstract of bachelor's thesis

Vrechopoulos, A. P., O'Keefe, R. M., Doukidis, G. I., & Siomkos, G. J. (2004). Virtual store layout: an experimental comparison in the context of grocery retail, Journal of retailing 80 (1), 13-22.

Wu, J.-H., & Yuan, Y. (2003). Improving searching and reading performance: the effect of highlighting and text color coding. *Information & Management*, *40*(7), 617–637.

Zentner, Marcel, Didier Grandjean, and Klaus R. Scherer. "Emotions evoked by the sound of music: characterization, classification, and measurement." *Emotion* 8.4 (2008): 494.

Zhenhui, J., Chan, J., Tan, B., & Wei, S. (2010). Effects of Interactivity on Website Involvement and Purchase Intention: EBSCOhost. *Journal of the Association for Information Systems. Jan 2010*, *11*(1), 34–59.

https://www.namshi.com/

https://www.bleep.com/

Appendices

Appendix 1.

Author (year)	Behavior			Including e-behavior	
	Human behavior in general	Consumer behavior	Related to atmospherics	Visual atmospherics	Other
Baron-Cohen, Wheelwright (2004)	x				
Citrin, Stem, Spangenberg, clark (2003)		x	x		
Dematte, Sanabria, Sugarman, Spence (2006)	x	x	x		
Dennis, Merrilees, Jayawardhena (2009)		x	x	x	x
Ekman, Paul, Robert, Levenson, Wallace (1983)	x				
Eroglu, Machleir, Davis (2003)		x	x	x	x
Garlin, Owen (2006)		x	x		
Goode, Harris (2007)	x			x	x
Gorn, Chattopadhyay, Sengupta, Tripathi (2004)		x	x	x	
Grewal, Baker, Levy, Voss (2003)		x	x		
Jayawardhena, Wright, Dennis (2007)		x	x	x	x
Juslin, Patrick, Sloboda (2001)	x		x		
Kim, Kim, Lennon (2009)		x	x	x	x
Ko, Rhee (1994)		x	x		
Kotler (1973)	x	x	x		
Krishna, Lwin, Morrin (2010)	x	x	x		
Labreque, Milne (2012)		x	x		
Laroche, Yang, McDougall, Bergeron (2005)		x	x	x	x
Manganari, Siomkos, Vrechopoulos (2009)		x	x	x	x
Manganari, Siomkos, Rigopoulou, Vrechopoulos (2011)		x	x	x	x
Milliman (1982)		x	x		
Minton, Schneider, Wrightsman (1980)	x				
Oberfeldt, Hecht, Allendorf, Wickelmaier (2009)		x	x		
Powell, Ansic (1997)	x	x			
Richard, Chandra (2005)		x	x	x	x
Spangenberg, Sprott, Grohmann, Tracy (2006)	x	x	x		
Spence, Puccinelli, Grewal, Roggeveen (2014)		x	x		
Vrechopoulos, O'Keefe, Doukidis, Siomkos (2004)		x	x	x	x
Wu, Yuan (2003)		x	x	x	
Zhenhui, Chan, Tan, Wei (2010)		x	x		