Intention vs. Perception of Designed Atmospheres in Fashion Stores

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WWW.CBS.DK

ISSN 0906-6934

Print ISBN: 978-87-93579-78-1
Online ISBN: 978-87-93579-79-8

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Doctoral School of Economics and Management | **PhD Series 16.2018**

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

PhD Series 16-2018

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1st edition 2018
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The PhD School in Economics and Management is an active national and international research environment at CBS for research degree students who deal with economics and management at business, industry and country level in a theoretical and empirical manner.

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PREFACE

The present work is a paper-based dissertation, submitted in partial fulfillment of the requirements for a Ph.D. degree from Copenhagen Business School (CBS).

The project was cooperatively funded by Innovationsfonden and design studio Riis Retail, under the rubric of the Industrial Ph.D. program, and in cooperation with CBS. The student, Mia B. Münster, was employed by Riis Retail during the researching and writing of this project and divided her time between the firm and the university. Mia B. Münster holds a Master's degree in Architecture from The Aarhus School of Architecture (1998), a Master of Design from The Royal Academy of Fine Arts (2011), and has worked professionally as a retail designer for more than 15 years, prior to her matriculation in the Department of Marketing at CBS.

The core of the dissertation consists of four separate articles, each of which investigates a heretofore under researched area in the field of retail design. In the introduction, the need for a common domain of research between academia and business is established. This is followed by an outline of the content and key contributions of each of the four articles, in introductory terms. The remainder of the dissertation is organized into the following sections: a description of the current state of the art, with background information; limitations; methodology; the four articles; conclusion, and general discussion; contributions for theory and business; and, finally, implications for further research.

ABSTRACT

Retail stores are designed to attract and inspire consumers. They also function as communication platforms between brand and consumer. Customers, both consciously and unconsciously, decode messages embedded in the store design, and use them in their decision-making. But how can design managers know with any certainty whether the choices they make actually add value, to the products in the store? This dilemma has been addressed from varying perspectives in business-related design and marketing literature. John Heskett (2005) acknowledges the conflict of imperatives that obtains between a company and the users of its products and ascribes to design the role of providing a bridge between them. Philip Kotler (1973) underscores the need for designers to understand the targeted consumers by making a distinction between intended and perceived atmosphere. The intended atmosphere is, of course, the set of sensory qualities that the designer of an environment means to invoke. But a design is not always perceived as intended; indeed, perception can vary significantly from one customer to the next. Apart from offering insights in the retail designer's process of creating stores that function as a marketing tool, this dissertation proposes a method for measuring whether decisions made by the store designer do indeed support the products from the targeted consumer's perspective. In four articles, a toolbox is provided, offering insights of four types: (1) the theoretical and empirical, aimed at developing an understanding of the different categories within the retail designer's working process; (2) a codification of the stakeholders and constraint generators affecting the retail design process; (3) the proposal of a new method for studying spillover effects from store interior to product; and (4) the testing of this method in two field experiments, where we measure the effects of retail design on those for whom the design is ultimately intended: consumers.

The four papers included in the dissertation are:

- Haug & Münster (2015) Design variables and constraints in fashion store design processes, International Journal of Retail & Distribution Management
- Münster & Haug (2017) Management of Constraint Generators in Fashion Store Design Processes, International Journal of Retail & Distribution Management.
- Münster, M. B.; Kristensen T.; Gabrielsen G., Do Customized Store Designs affect Product Perception?
- Münster, M. B., Do beautiful Stores Sell Beautiful products?

DANSK RESUMÉ

Butikker indrettes med den målsætning at tiltrække og inspirere forbrugere, og de fungerer dermed som kommunikationsplatforme mellem brand og forbruger. Forbrugere afkoder - både bevidst og ubevidst - butiksinteriørets virkemidler og anvender fortolkningen af virkemidlerne i deres beslutningsproces. Hvordan kan designmanagers vide, om beslutningerne truffet i designprocessen rent faktisk tilføjer produktet værdi i forbrugernes øjne? Dette dilemma har optaget forskere inden for både business relaterede design- og marketingforskning. For eksempel beskriver John Heskett (2005) de modstridende interesser, der kan være mellem en virksomhed og brugerne af virksomhedens produkter, og han henviser til design som et brobyggende element mellem parterne. Ligeledes understreger Philip Kotler (1973) behovet for at designere forstår de forbrugere, som de henvender sig til - og skelner mellem deres hensigt og forbrugerens oplevelse af retail atmosfæren. Hensigten bag atmosfæren skal forstås som kombinationen af sanseindtryk, som designeren ønsker at fremkalde hos forbrugeren, mens forbrugerens oplevelse er det, som den individuelle forbruger oplever i mødet med interiøret. Det sker, at den tilsigtede effekt ikke kommer igennem til målgruppen, og derudover kan oplevelsen af interiøret variere betydeligt fra én forbruger til en anden. Denne afhandling foreslår en metode til at måle, om designerens beslutninger rent faktisk ender med at understøtte produktoplevelsen hos de tilsigtede forbrugere. Gennem fire artikler præsenteres værktøjer, der giver indsigt i udarbejdelsen af interiøret i modebutikker som strategiske marketingtiltag. Indsigterne falder indenfor kategorierne: (1) teoretisk og empiriske indsigter, der hjælper til at målrette og forstå forskellige områder af retail design processen, (2) identifikation af de forskellige interessenter og andre styrende elementer, der påvirker designprocessen, (3) en foreslået metode til at studere og måle 'spillover' effekter fra interiør til produkt og endelig (4) test af den foreslåede metode i to felteksperimenter, hvor 'spillover' effekterne af et stilmæssigt matchende interiør og af et æstetisk foretrukket interiør måles på produktoplevelse hos dem som butikken er tiltænkt - nemlig forbrugerne.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my advisers Tore Kristensen and Gorm Gabrielsen from Copenhagen Business School, both of whom have been enormously supportive, inspirational, and good company to boot. I will miss you both, and sincerely hope to keep in contact. I will do my part.

Thanks to Innovationsfonden for financial support, and to Riis Retail for supporting my involvement in the project. Special thanks to Dennis Madsen, Lars Nielsen, and Giedre Serritslev for many fruitful conversations. Thanks are also due to Kenneth Sørensen from Bestseller for hosting my onsite experiments, and to the staff and customers of the Jack & Jones store in Kolding.

Many thanks to my family for never-ending support, and bottomless faith in me. Thanks to all of my friends for their patience and understanding with my absence during the completion of this project.

Last but not least, a special thank-you to Stephen Buckley for reading and re-reading many drafts of this work, for untiring efforts to improve my English, and for support and encouragement during the writing process.

Copenhagen, May 2018
Mia B. Münster

CHAPTER 1.
INTRODUCTION

CHAPTER 1. INTRODUCTION

Throughout mankind's history, the building of architectural spaces intended to enhance or draw attention to a particular experience accounts for significant expenditure of resources. It is also widely acknowledged that our physical surroundings affect us in a wide spectrum of ways (Frijda 1989; Damasio 1995; Clark 2006). A beautiful concert hall can enhance a musical experience, as an elegantly decorated cinema can heighten one's appreciation of a film, and a beautiful gallery can enrich the experience of the art on its walls. Retailers are also aware that store environments have a measurable influence on consumer behavior and emotion, and often devote considerable resources to designing attractive retail environments as an element of their marketing strategy. In this way, stores function as communication platforms between brand and consumer—they are designed to attract customers and inspire them once they are inside. Customers, for their part, both consciously and unconsciously decode messages embedded in the store design, and use them in their decision-making. But how can design managers know with any certainty whether the choices made in the retail design process actually support the displayed products in the eyes of the customer? This dilemma has been addressed from varying perspectives in business-related design literature. For example, John Heskett (2005) acknowledges the conflict of imperatives that obtains between a company and the users of its products, and ascribes to design the role of providing a bridge between them. The issue has also been addressed in the research literature of both marketing and consumer behavior. Philip Kotler (1973), for example, underscores the need for designers to understand the consumers they are addressing by making the distinction between intended and perceived atmosphere. Intended atmosphere is, of course, the set of sensory qualities that the designer of an environment means to invoke. But designs are not always perceived in the way that they are intended; indeed, perception can vary significantly from one customer to the next (Kotler 1973). To complicate matters further, designers are normally employed by clients, who bring their own perceptions and intentions to the table (Kent 2007). Academic literature calls upon design managers to evaluate whether a design successfully meets consumer needs (Kotler 1973, Heskett 2005), yet few scholars propose practical, usable mechanisms for making such an evaluation.

As a retail designer, I understand the costs involved in the design and implementation of new stores from personal experience. The retail design process is intricate and convoluted, involving numerous functional, aesthetic, economic, and image-related considerations. I also know that high-volume retailers commonly base design decisions on results

from a test store, before implementing a design concept more extensively, and that these test stores are normally evaluated by a single criterion: sales performance. In spite of these efforts, we know surprisingly little about how consumers actually experience retail environments. Customers are seldom asked to provide feedback about their experience of the store design, and when they are, the feedback they provide is of questionable reliability. Most consumers are simply not able to articulate how a particular interior affects them—let alone how it might affect their perception of the products within that interior—with any sort of accuracy. While design managers might very well be able to articulate their intentions behind a given design and to argue for its advantages, consumers are not in the store to observe the design. Atmospheric effects are essentially emotional states that are difficult to verbalize (Donovan & Rossiter 1982). These states are not always readily available for recollection and have an immediacy that makes them more difficult to measure, describe, and document—assuming that this is possible in the first place—with the passage of time. As an additional challenge, consumers do not generally pay direct attention to the store atmosphere, but rather experience the variables and cues unconsciously.

Given these challenges, how can we determine whether an interior supports product perception segment? This is, of course, a question that design managers ask themselves daily, and a that they use their skills and intuition to attempt to solve. But the fact remains that we know little about precisely how store atmospheres affect consumers, and even less about how n interior might—or might not—affect consumer experience of the products within them. A reliable method for gauging the extent to which store designs influence product evaluation for a given consumer segment would be of obvious benefit to all stakeholders in this process. This study attempts to begin the process of finding such a method.

Through four articles, this dissertation provides a toolbox for retailers and retail designers. It offers insights into the process of creating stores as strategic marketing tools and introduces a tool for giving feedback about the effect of store design choices on actual consumers. The dissertation puts forward an explication of the different phases of the retail designer's working process, identifying and categorizing the stakeholders and constraint generators involved, leading to a more nuanced understanding of this often complicated process. Next, it proposes a method for studying the effects of store design on individual consumers. Since these effects are usually perceived without conscious attention, an indirect approach is utilized. Direct interrogation of necessity brings the respondent's conscious attention to the subject of inquiry, and in this way may alter the results. We therefore focus on respondents' actions, or choices, rather than their words. Furthermore, previous research in this area has often taken place in laboratories or other controlled settings, which makes variables easier to isolate and control. It is our contention that studying retail environments in laboratory setting produces a degree of artificiality that alters the

situation significantly enough to bring results obtained in this way into question. Finally, this study has insights to offer to retailers and design managers, who can use the methods presented here to gather data and information about how their designs affect those they are intended for: consumers. A more detailed outline of the four papers and their contents follows below.

1.1 Outline

This dissertation consists of two published articles and two as yet unpublished papers. The two published articles appear in *International Journal of Retail* and *Distribution Management*, and deal with theoretical aspects relating to the tools of the retail designer. The two unpublished papers approach the problem of measuring whether or not retail designers' intentions are conveyed

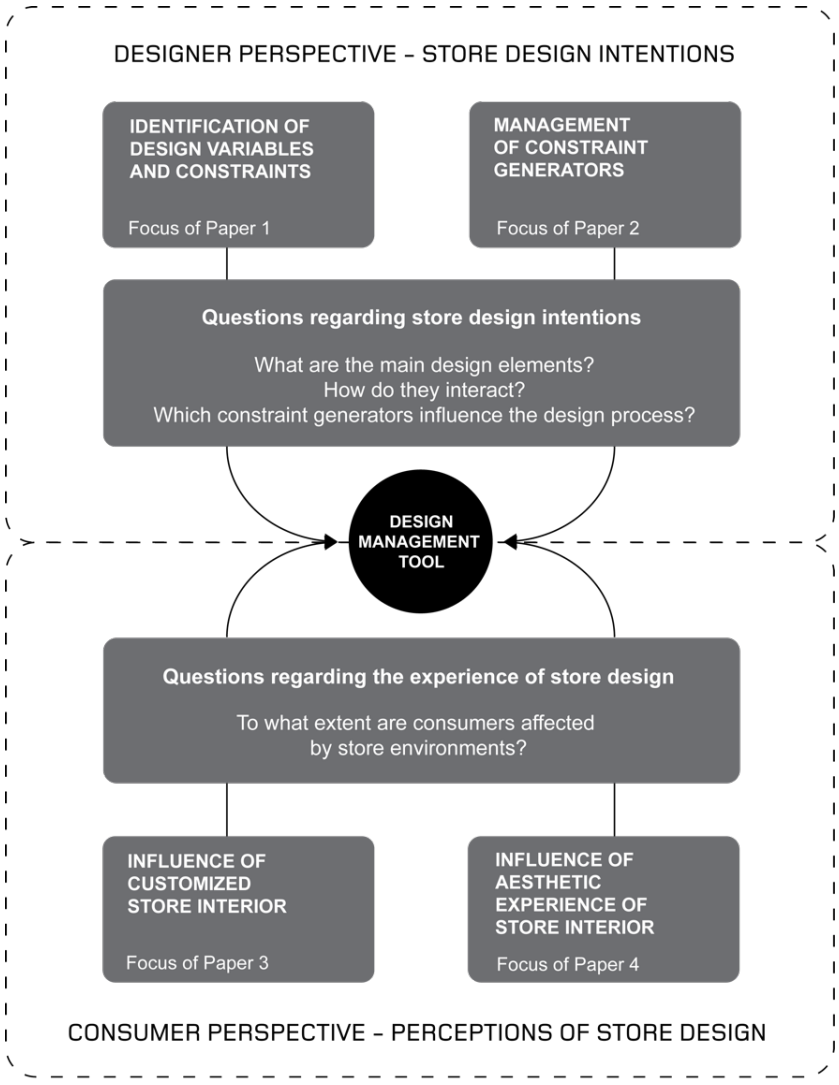


Fig. 1. Dissertation Outline. Shows how the four papers in this dissertation are related.

effectively to consumers. To this end we propose a method for measuring the extent to which product preference is affected by store designs. We take the position that these effects are perceived unconsciously, and that measuring them therefore requires some sleight of hand. The method was applied in two experiments, which are described in papers 3 and 4. Paper three attempts to determine whether a customized store design enhances product perception, investigating whether a specialized pairing between the style of a product and the style of a customized interior can produce a synergy. Paper four investigates whether product perception is positively influenced by store designs that consumers like or find aesthetically pleasing (Fig. 1).

Paper 1. Design Variables and Constraints in Fashion store design processes

The first two articles approach the task of store design from the retail designer's perspective. Through discussions of existing retail design literature and empirical studies, paper 1 presents a framework identifying variables lying within the retail designer's sphere of influence (Fig. 2). Frameworks of store design variables appear in previous studies, but these tend to take a broader approach (Bitner 1992; Berman & Evans 1995/2013; L. W. Turley & Milliman 2000). For a more nuanced understanding of the variables within the retail designer's control, a new framework was required.

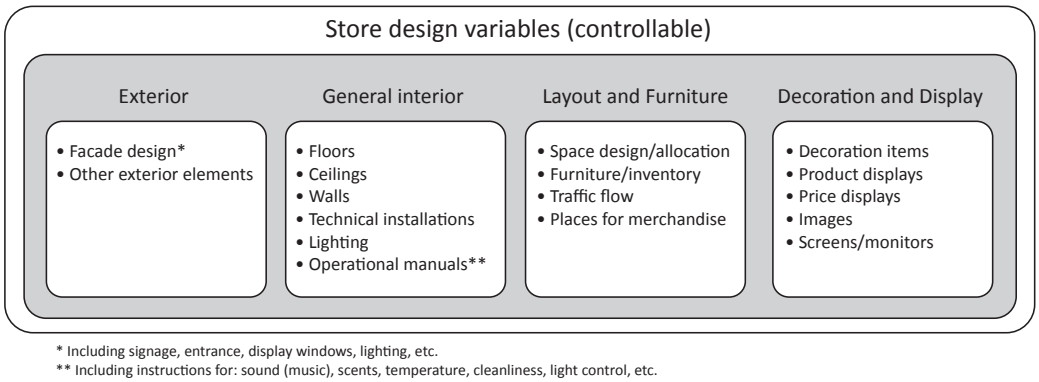


Fig. 2. Categorization of store design variables (Haug & Münster, 2015 – Paper 1)

We investigate these variables through case studies of six fashion store concepts, including interviews with designers involved in making them. We categorize design variables and identify constraints that exist between them. We then identify the nine stakeholders generating the most constraints in a typical design process. These categorizations will be utilized and referred to

throughout the remainder of the study, facilitating discussions of the multiplicity of variables the retail designer must reconcile and accommodate in the process of creating a store interior.

Paper 2. Management of Constraint Generators in Fashion Store Design Processes

Retail design concepts are complex projects which must reconcile functional and aesthetic demands arising from diverse constraint generators. Once again using discussions of existing literature and case studies, including interviews with retail designers involved in each case, this article identifies the most important constraint generators from the retail designer's perspective. The most important of these are: Brand owner, Store owner, Supplier, Competitor, Legislator, Landlord, Consumer, Store personnel, Designer, and finally, the Architectural site (Fig. 3). In addition to individual discussions of each of these, the article clarifies the types of constraints brought to bear by the different groups involved in the process.

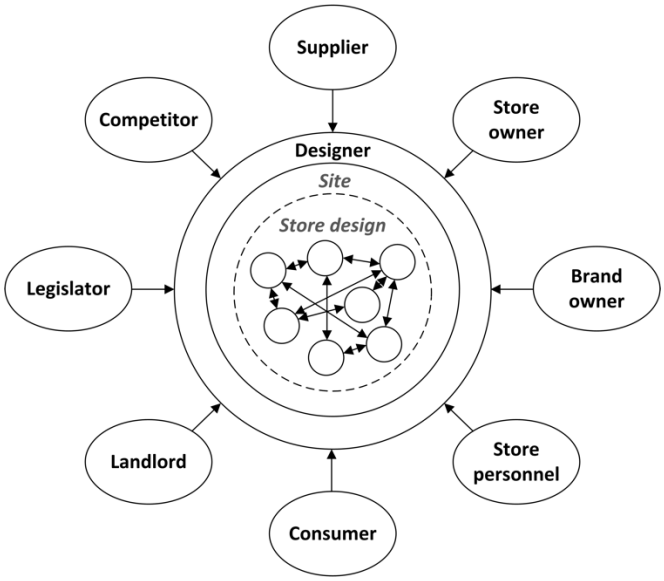


Fig. 3.
Model showing the constraint generators from the retail designers perspective (Münster & Haug, 2017 – Paper 2).

To understand these constraints as well as possible, designers were asked to estimate the influence of the different constraint generators at different points in the design process. Using information gleaned from these interviews, we provide a guideline for handling constraints in the most

effective manner possible. This compendium has proven useful to an understanding of the retail designer's work, and the retail design process general. Designers and project managers have been able to use it to understand the reasons behind the excessive stress and untimely revisions that often accompany the process, and to improve planning, reconcile constraints, and foresee impediments. A key imperative is to involve all stakeholders in the process as early as possible, armed with thorough design briefs and careful project planning. This model has also proven useful in teaching design students, helping to prepare them for a working environment where external factors have an increasingly decisive role in the design process.

Retroactive application of this model shows that the influence of all constraint generators decreases in the course of the design process, except for one: the supplier, whose influence tends to increase during the process. Most surprising, however, was that according to the designers we interviewed, the constraint generator who was consistently found to have the least influence was the consumer. It was this realization that inspired my attempts to study how consumers experience retail environments, and how this information might be measured and quantified. This search becomes the focus of papers 3 and 4.

Paper 3. Do Customized Store Designs Affect Product Perception?

Retailers, and high-volume retailers in particular, build stores to facilitate the sale of their products. As a component in a more comprehensive marketing strategy, store design can be considered a mechanism for attracting customers. In the dissertation's third and fourth papers, we describe and test a method for investigating the effects of store design. The method is meant as a tool to provide qualified feedback from the consumers to the retail designers. The idea is to measure the spillover effect that a store environment might have on product preference. We believe that these effects take place primarily at the unconscious level, which makes them difficult to measure, and has heretofore been a barrier to research.

The method is tested in a field experiment in which we ask fifty consumers to rate products in customized, brand-specific stores, and again in stores designed for other products. The design of the experiment is intended to reveal whether a style match between store interior and product actually supports the product as intended. We incorporate interviews with the designers who created the store concepts, in order to record their intentions.

The tool that we propose in this paper has potentially profound implications for understanding the effects of store atmospheres. Our results indicate that we can in fact identify a significant relationship between store design and product preference, and for the same consumer, different interiors have different effects on the same products. In addition, we were able to

scrutinize interactions between customized interiors and product ratings. Two out of the three customized stores we studied showed a significant, positive effect on the products they were customized for. The third store did not have a supporting effect on its own products, but instead showed a measurably positive effect on other products. We conclude, among other things, that a customized store design cannot stand on its own in relation to product preference—an observation which leads nicely to the fourth and final paper, in which yet another variable is placed under the magnifying glass.

Paper 4. Do Beautiful Stores Sell Beautiful Products?

In the final paper, the method utilized in paper 3 is applied again, but under slightly different circumstances. Rather than studying the effect of a targeted, brand-specific interior, the goal was to determine the extent to which the overall aesthetic impression of an interior affects product preference.

For designers, creating stores which consumers find appealing is widely held to be important. In this paper, we scrutinize the proposition that aesthetic preference for a particular store environment will have a positive effect on evaluations of products displayed in that environment, which seems to be the idea behind this belief. Respondents first participated in an experiment attempting to detect and measure a so-called spillover effect from interior to product. We accomplished this through indirect means, without bringing the store interior *per se* to their attention. Following this, participants were asked to observe the interiors, and to articulate their observations and preferences. Individual product scores from the three interiors were then correlated with scores for the store designs. Collectively, a strong correlation between store design ratings and products ratings was found. But when responses from within each store were considered separately, it became clear that the strength of this correlation was due to the ratings given in one particular store, whereas the influence of the store environment on product ratings was much weaker in the other two stores.

Although the research questions in paper three and four relate to two different aspects of the supporting effects of store design, data for these two papers was collected in the same setting and at the same time, using similar methodological approaches. Since papers 3 and 4 are as yet unpublished, the methodological approach is described in detail in both papers. Once the first of these papers is published, it will be possible to refer to the published paper, and the description of the methodological approach can be shortened in the other one. The reader's indulgence is requested in advance for these repetitions.

Chapter 5 in this dissertation comprises full versions of each of the four papers: Haug & Münster (2015), Design Variables and Constraints in Fashion Store Design Processes, published in International Journal of Retail & Distribution Management (Paper 1); Münster & Haug (2017) Management of Constraint Generators in Fashion Store Design Processes, published in International Journal of Retail & Distribution Management (Paper 2); Münster; Kristensen ; Gabrielsen, Do Customized Store Designs Affect Product Perception? (Paper 3), and Münster, Do Beautiful Stores Sell Beautiful Products? (Paper 4).

1.2 Practical design background and personal motivation

Fifteen years of experience as a retail designer for both Danish and international firms has aroused various interests pertaining to the industry. What fascinates me about retail design as a discipline is the mixture of architectural and industrial design principles. Additionally, it requires an understanding of not only what will work aesthetically within a given space, but also what will perform functionally and commercially; projects need to stay within budget, they need to be implemented on time, and at the same time meet an ever-increasing number of regulations. All of these constraints make retail design, in my opinion, among the most challenging in the field of design. Apart from an interest in developments in retail generally, and in retail design specifically, I am particularly interested in understanding the value of design in society as a whole, and would like to contribute to that conversation. Finally, a subject that occupies much of my attention is understanding consumer behavior, choices, desires. I enjoy observing and studying consumers, both when I am abroad and have the opportunity to discover new tendencies and trends; and when I am at home, and therefore in a position to notice small changes and details in behavior and usage. But my strongest motivation for this project comes from a desire to understand how consumers experience designed spaces, and in particular spaces I have been involved in bringing to life.

In my professional life I often experience that retail architects and designers either pay little attention to the cognitive effects that their creations might have on consumers, or that they think little of consumers' ability to decode them unambiguously. The imperative to design something new, individual, or unique tends to be the primary concern. Apart from the fact that so little can be said with certainty about these effects, I believe that this attitude is the result of a strong focus on creativity in design education and training. Architects and designers are evaluated by their peers—who are generally of the same mindset—in terms of aesthetic criteria, while functional and especially commercial performance tend to remain secondary concerns. Commercial interests loom large in business education but are emphasized less in design

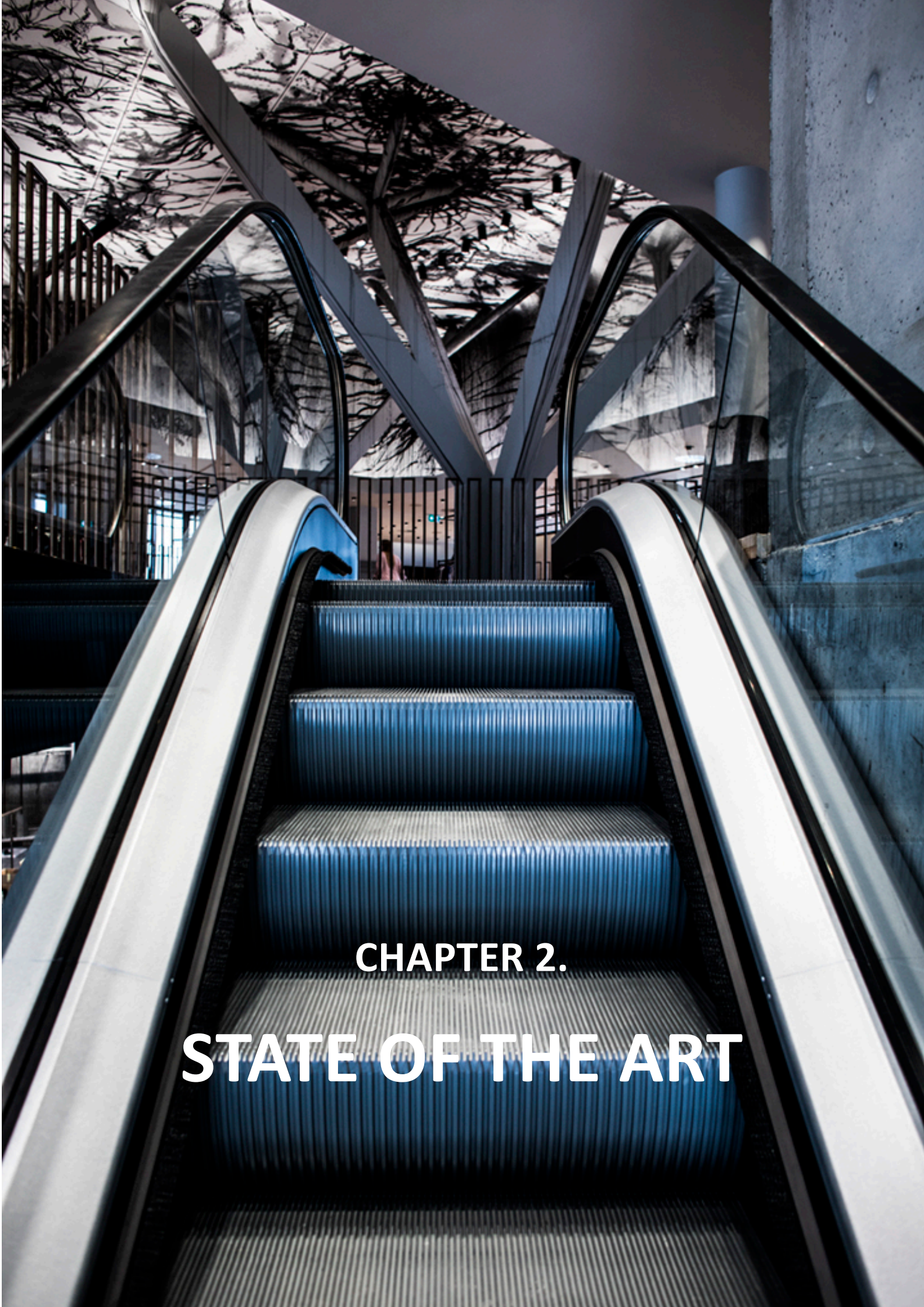
education. I have chosen to write my Ph.D. at a business school—despite my background in architecture and design—in response to this circumstance. I hope to be among those who seek to bridge these two worlds: to inspire designers to see their work as a commercially valuable instrument, and to convince business executives and managers of the value-creating potential of design.

To give the reader insight into my motivation as a designer for a better understanding of consumer behavior, I will briefly describe two fashion store cases that I have been involved with in recent years, both of which illustrate this point clearly. The first case involved a Danish retail brand with more than 10,000 stores worldwide. The firm was interested in a Scandinavian look for its 6,000 stores in China. My employer was responsible for the European store design concept for this retailer, so we were asked to come up with a design for the Chinese market. The concept we already had in place in Europe was not suitable, because the brand had targeted a higher-income market segment than its European markets—the Chinese retailer wanted a more exclusive design for its stores but wanted to maintain a Scandinavian look and feel. An additional factor was that Chinese consumer behavior differs from that in Europe, in that Chinese shoppers often go out in larger groups as opposed to alone or in twos and threes, which is more common in Europe. The store layout needed to be able to accommodate groups of friends who might be waiting in fitting room areas, for example. This and other practical concerns were easy enough to accommodate but creating an atmosphere that met the desired aesthetic criteria, and yet was still appropriate to the market, proved more challenging. The client felt that the Scandinavian look we proposed was too raw and industrial for Chinese consumers. The concrete floor, for example, which would be interpreted by most Scandinavian and European consumers as modern or cool, would be understood by Chinese consumers as cheap, unfinished, and trashy, harkening back to pre-1990s cultural revolution China, the period before economic reforms brought growth and prosperity to much of the country. Same material, yet a vastly different cue, produced by cultural context. Similar obstacles appeared when we were once again asked to create a store concept for the same brand's stores in India. The Indian retailer was critical of our proposed design, saying that it was "too white." A white interior in Europe generally gives a clean, spacious feeling, but Indian consumers, we were told, would associate the color with death and old age.

In both of these cases, it was necessary to create a design specific to the market that the retailer operates in. The design had to be understood and experienced as Scandinavian, but at the same time had to be free from any cues that might be misinterpreted in the respective markets. In other words, the design should not be Scandinavian, but instead be what an Indian or

Chinese person thinks of as 'Scandinavian.' This turned out to be an extremely difficult task, and one in which we only partially succeeded.

These projects are two among many that illustrate the kind of challenges a retail designer faces, and also the fact that design is often perceived in ways that are at odds with the designer's intention. It was cases like these that motivated me to investigate the perception of atmospheric cues more thoroughly. To build an understanding of the relationship between intention and perception, a firm grasp of the designer's work in developing store concepts is essential. But perhaps more important still is a more nuanced picture of how users actually experience designed environments.



CHAPTER 2.

STATE OF THE ART

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Each of the four papers contains a literature review and specific research questions related to the literature. I refer the reader to these sections for discussions of relevant literature and the research questions. The following section contains an overview of the retail industry, including perspectives of store design from the past, present, and future. In addition, I present some remarks about the theoretical background to this study, and consider what conclusions we might be able to draw from these. Certain passages in this section are paraphrased or reiterated from the papers themselves; the reader's indulgence is requested in advance for these repetitions.

2.1 Past, present and future of retail store design

With the rise and prominence of online shopping, today it is more important than ever for physical stores to provide customers with experiences that are not available to them online (Deloitte 2017). The National Retail Federation, the world's largest retail trade association, predicts that this trend will continue: "future retail will be about giving customers reasons to shop in the store" (National Retail Federation 2017). Academics also highlight the importance of customer experiences (Grewal et al. 2009; Puccinelli et al. 2009; Verhoef et al. 2009; Lemon & Verhoef 2016; Grewal et al. 2017). In 2017, Journal of Retailing published a special issue called 'The Future of Retailing' describing five key areas that are moving the retail field forward: (1) technology and tools, to facilitate decision making; (2) visual displays and merchandise offer decisions; (3) consumption and engagement; (4) big data collection and usage; and (5) analytics and profitability. A consistent aim within all of these key areas is the creation of superior customer experiences.

Not all elements of the shopping experience lie within the retailer's purview. The retail atmosphere, however, is a variable which the retailer can control to a significant extent, and whose importance is gaining recognition in the industry (National Retail Federation 2017; Verhoef et al. 2009; Grewal et al. 2017). But the retailer's control is limited by the dimensions and applicable rules of the location itself; I will address these limitations later in this chapter.

The fact retailers today can so thoroughly control the environment in which their product is presented is the result of a historical progression. Modern shopping environments are

both conceived for and tailored to commercial purposes to a much higher degree than they have previously been. Let us take a closer look at these developments.

The Past

Early shops combined production and trading activities, where workshops and sales were located on the same site. As the retail industry became more and more significant, these two activities were split, as the practical functions became more specialized. Stores became distributors of the producer's merchandise. When it was deemed advantageous for these locations to be attractive in and of themselves, their design began to receive more and more attention (Kent & Petermans 2017).

In the late nineteenth and early twentieth centuries, three technological innovations revolutionized the retail industry: air conditioning, artificial lighting, and the escalator. No single invention has had greater impact on the retail industry than the escalator. Coming into use around 1900, sales of the apparatus have continued to rise since that time (Weiss & Leong 2001). The escalator moved retailing into a new era, enabling consumers to move about freely within the shopping space, instead of being presented with a selection of products by a sales person behind a counter. Today it is all but inconceivable that a retailer would have products for sale that are not on display for consumers, but one needn't look further back than the 1950s to find an entirely different situation. "Merchandise that can be seen, can be sold," proclaimed advertising copy by the American escalator producer OTIS in 1955 (Weiss & Leong 2001). This newfound mobility simultaneously created two new demands on retail spaces: first, the need for atmospheres conducive to shopping, and second, the need to communicate a story around a product or a brand.

Unlike the escalator, artificial lighting and air conditioning were not developed specifically for use in retail, but each nonetheless gave an enormous injection of energy to the industry, redefining the premises of the retail space. Air conditioning was first implemented in a department store in New York in 1919, and today is all but a necessity for retailers (Leong & Weiss 2001). The implications of artificial lighting go almost without saying, opening up practically limitless possibilities for influencing mood and showcasing products. We take them for granted today, but it is no exaggeration to say that these three innovations have shaped and defined retail spaces as we know them today. Taken together, these three developments led directly to the design and construction of buildings intended specifically for retail purposes in numbers the world had not previously seen. With this new landscape for the industry came the possibility for control over design variables in store environments that was previously unthinkable.

The present

Today stores are laid out to attract targeted segments of consumers (Newman & Foxall 2003). Individual stores are most often modules in a collection of other stores of one of several types: a pedestrian shopping street, an indoor or outdoor mall, an outlet, an airport, or a department store. This situation has obvious advantages for retailers, including proximity to competitors, and the single-mindedness of the resulting context: everyone is there to shop. But this arrangement creates a concomitant need for the individual store to distinguish itself from its surroundings. Retailers use design cues, both inside and outside the store, to accomplish this, and consumers' perception of store images have a significant influence on purchase behavior (Diallo et al. 2013), and Faultrier and Towers (2011) put forward a concept of a fashion store as a place where consumers can experience a retailer's identity through an assemblage of materials, lighting, and fittings, all designed specifically for the retailer. In this manner, the store becomes a means of communication between the retailer and the consumer (Davies & Ward 2005).

Retailers are aware of the considerable influence that store design has on consumer behavior and emotion. This awareness is reflected in the retail store literature where topics such as consumer satisfaction, shopping frequency, purchase amount, loyalty, reputation, and image formation are treated by the likes of L.W. Turley & Milliman (2000); Wong & Sohal (2006); Grewal et al. (2009); Verhoef et al. (2009); Puccinelli et al. (2009); Jones et al. (2010); Bagdare & Jain (2013); Ballantine et al. (2015); Grewal et al. (2017), to name a few. Consumers decode the most obvious cues with cognitive awareness: those used to communicate the existence of a place for shopping and to delineate its boundaries, for example (Ward et al. 1992; Bitner 1992; Puccinelli et al. 2009). But many environmental cues are perceived without conscious attention, particularly by consumers shopping for pleasure or recreation. Shoppers focus their attention on products, and the store atmosphere normally remains in the periphery.

Following the emergence of the first retail consultancy firms in the 1960s, retail design has developed into a distinct discipline within the retail industry (Israel, 1976; Kent 2007). Today, the design of retail locations is a service that most serious retailers hire professional retail designers to discharge. Regardless of whether it is performed in-house or by external design agencies, retail design is a discipline which has become increasingly complex and specialized in recent decades.

In the period of over fifteen years that I have worked in the retail design field, it is my experience that the complexity of commercial properties has continued to increase. For one thing, ever-tightening building security regulations lead to a proliferation of limitations: restricted use of flammable materials; requirements for fire-escape routes, sprinklers, and smoke detectors; required signage or security cameras, to name just a few. Costs involved with the implementation

of stores have also risen, and efficiency requirements for store locations have risen commensurate with retailers' attempts to maintain profit margin in the face of these increases. In order to better control their businesses, many retailers have also implemented complex systems for counting customers and collecting data, security systems, payment systems, and additional in-store marketing campaigns. All of these result in a tremendous increase in technological constraints (see illustration 1), all of which limit the designer's creative possibilities. On the one hand, technological innovations at the beginning of the last century created the possibility for freedom of movement in store environments. On the other hand, technological developments in our century run the risk of becoming a limiting factor for otherwise sought-after customer experiences.

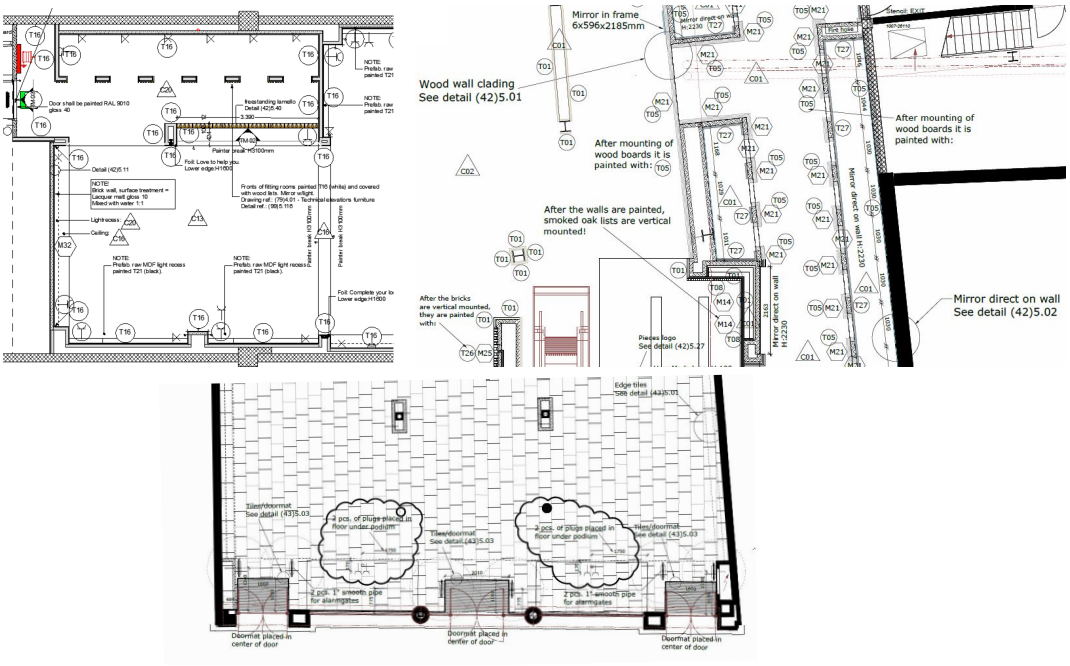


Illustration 1.
Details of technical drawings for fashion stores.

In order to speculate about the future of retailing, we must of course consider the different sectors. In the consumer electronics market in Europe, for example, 29% of revenue was generated through online sales in 2017. For household appliances, the percentage was slightly higher with 30%, but in the apparel market, only 16% of total revenue was generated online (Statista 2018).

Developments in digital platforms and technology have meant that in certain sectors, for example recorded music, film rentals, travel agencies, and ticket sales, the need for physical stores has been all but eliminated. Consumers find information on the internet, and

purchase and download products onto their devices, all from the comfort of their own home, or wherever they might happen to be. In other sectors it is not yet technologically possible to download products at home.

In other words, the continued relevance of physical stores varies widely from sector to sector within the retail industry as a whole. The relatively low percentage of online sales in the apparel market can be attributed to some form of value that consumers appreciate in physical stores. This could be as simple as the fact that one can touch, feel, and try on the product in a store—sensations which are not yet possible in the virtual sphere. There can be no doubt that technological developments have started a wave of new possibilities in retail, and the staggering amount of information available to the consumer has made them more powerful than ever. For these reasons it makes sense that retailers are now focusing on smoothly functioning cross-channel setups, but still regard physical stores as relevant arenas for consumer experiences (Pauwels & Neslin 2015; Quartier et al. 2016; McIntyre et al. 2016; Kent & Petermans 2017).

The Future

The purpose of this dissertation is not to predict the future of the retail industry, but I would like to use the opportunity to reflect upon a few scenarios that the future may hold. Clearly, things are changing fast in retail, where, for one thing, consumer communities are quickly becoming increasingly diverse; one size no longer fits all. In response, some retailers are starting to customize store experiences to the tastes and interests of increasingly specific consumer segments (Rigby & Vishwanath 2006; Kent & Petermans 2017).

Developments in information gathering techniques and the rise of online shopping are major challenge for retailers (Kent & Petermans 2017). Consumers have become more knowledgeable. They no longer meet the brand and the products only in stores, but through diverse channels such as on- and offline sales outlets, social media, and social communities (Verhoef et al. 2015; Rangaswamy & Van Bruggen 2005; Harwood & Jones 2016) The consumer journey is no longer limited to the controlled context of the store. Consumers may encounter a product on social media before even being aware of the existence of the brand. They may shop online and return product in physical stores, or they may collect online information about a product while shopping in a physical store.

Particularly within the fashion sector, I would expect physical stores to remain a reality for a long time to come, as a part of a well-integrated cross-channel setup. Even if we imagine a world where online ordering, delivery, and returns function as well as conceivably possible, it is still disappointing to be stuck with a piece of clothing that doesn't fit or doesn't live

up to expectations. To answer consumer demand for interaction with a product before buying, and at the same time cut costs inherent to the establishment of stores, I can imagine smaller, satellite showrooms, where consumers can come and try clothing in a branded environment with service and fitting rooms, but with minimal back stock capacity. After having tried on the product, the consumer can either order it on the spot for later delivery or go home and think about it. With this kind of setup, a brand would still be able to offer a personal level of service, project and support its image through a branded interior, and at the same time save money on expensive floor space. But this situation relies heavily on the effectiveness of the delivery system. Delivery times of several days would be unacceptable; the product needs to be able to be delivered quickly and conveniently to the consumer's door, even if they are not at home. Being required to sit at home and wait for a package, or to pick it up at a drop-off location, will simply not meet the expectations of tomorrow's consumer, in my opinion. To provide a satisfactory experience, one that compares favorably to going out, shopping, and returning home with a purchase, the product will need to be delivered the same day—preferably before the consumer arrives home from his or her shopping trip.

With these tendencies in mind, it is appropriate to reflect on the question of how retail experiences will be designed in the future. On the basis of my experience as a practitioner, a researcher, and a scholar, I can imagine three areas that will form the basis of the design of retail experiences in the future:

- Technology based retail experiences

Design is subservient to technological concerns, or technology itself becomes the central element of the experience.

- Activities: inside and outside stores

Activities in conjunction with sales, within shops or in other arenas less restricted by building regulations.

- The ultimate brand experience: removed from commerce

Situations where a branded experience is separated from buying and selling, to create associations with the brand.

Technology based retail experiences

In technology based retail experiences, technology will be the central element. For example, last year Amazon opened a new store concept called Amazon Go, whose main characteristic was the absence of check-out terminals. Amazon explains that this is made possible by the same technology employed in self-driving cars: computer vision, sensors and deep learning (Amazon 2018). When a consumer enters the store his or her mobile phone is scanned. Sensors detect when a consumer takes something from a shelf and keeps tract of the items in a virtual cart. When the customer leaves the store, Amazon charges their account and sends a receipt (Amazon 2018).

Another example of a technology based retail experience is seen in the movie *Minority Report* (Spielberg 2002), where the main character visits a future version of the fashion store The Gap. Upon entering the store, the character is met by a virtual sales assistant who recognizes him via iris scan. The assistant greets consumers, and provides individual guidance based on past behavior and purchases. Except from the virtual sales assistant, the atmosphere in this future version of The Gap is simple and traditional, without many design effects, which was disappointing in my opinion. In a world where data about all residents' preferences is so freely available, it would seem logical to use this data to create virtual atmospheres in stores based on the individual consumer's preferences.

There is much to indicate that both virtual and augmented realities will make inroads in store atmospheres of the future. Consumers of the future will have grown up with the constant presence of malleable, animated spaces like those we now see in video games, films, and music videos. These consumers will demand more of their shopping experiences, both online and in physical stores, and virtual technologies will probably be able to provide this malleability. In the design of this kind of store, the designer's project will be to develop and integrate technological solutions, which will require them to have strong technical backgrounds and abilities.

Activities: Inside and Outside Stores

Some retailers have implemented activities as a component of the retail experience; two examples follow. In the summer of 2017, Levi's flagship store in San Francisco had built a sewing workshop where shoppers could select a customized appliqué, and have it applied while they waited. The Canadian yoga and sports clothing brand Lululemon hosts free yoga classes in their stores, which consumers can sign up for. These and similar in-store experiences support commerce and can in many cases be implemented in stores as we already know them. But as mentioned above, largely due to high costs, traditional commercial real estate has become less attractive for retailers who

want to give consumers a special experience. Numerous examples can already be found of retailers who have chosen to move their stores out of the usual high-traffic retail areas and into spaces with more advantageous leases, and fewer rules.

For example, Filson in Seattle has placed its flagship store in the same building as one of its luggage assembly facilities. In this location the customer can have an in-depth experience of the brand and all its rich and storied history. Large windows allow customers to observe the production of bags and briefcases right in front of them, while upstairs is a veritable museum of the history of the outdoor work wear brand, with hunting and lumberjack paraphernalia and accoutrements endemic to the pacific northwest and its history are integrated with current collections. On top of this, the store has moved its repair department—a service the brand has long offered, that products needing repair can be delivered and repaired free of charge—into the store itself. One can bring a twenty-year-old Filson jacket into the store and browse or watch while a hole in the elbow is repaired. Loyal customers can also participate in events in the store, where one can learn, for example, to reapply wax to an older garment, or receive a guided tour of the manufacturing facility below.

Filson in Seattle (Author's own photo).

Lululemon has created a special breed of stores in their home city of Vancouver and in New York City, called Lululemon Lab (Instyle 2016). These shops are not located in the usual shopping areas in these cities, but are instead found in areas with cafés and small upcoming brands. In these locations, engaged and curious consumers can observe design and production of the newest products and ideas. The design team works from the back half of the store, and new products are immediately hung on racks at the front of the store, so that consumers can see them, touch, them, try them on, buy them, or let them hang. An interesting take on the in-store experience, which simultaneously involves consumers in the evaluation process of product design.

In my opinion, retailers like Filson and Lululemon have understood something both interesting and important. They pull their customers out of the normal shopping areas—or catch them where they are when they are not shopping—and offer an interesting and unique experience in a new and different setting. Products are for sale in these locations, but sales seem to be a secondary concern, and the focus is on an experience of a different nature. These kinds of experiences build loyalty. These special locations could be considered mother ships to the more sales-focused satellite stores, which remain in more traditional shopping areas. I believe that examples like these will prove to be models for the kind of shopping experience we will see more and more of in the future.

The ultimate brand experience: removed from commerce

We know that positive, memorable experiences can lead to consumer engagement and loyalty (Pine & Gilmore 1998; Quartier et al. 2016; Kent & Petermans 2017). Removing these experiences completely from the bounds of the retail store's four walls creates the opportunity for more freely designed, engrossing experiences, freed from the constraints imposed by real estate and the pressures of selling a product. Examples of fashion brands that have created branded experiences unconnected to selling merchandise can be found among classic luxury brands like Gucci (Gucci Garden), Armani (Armani/Silos) and Dior (Christian Dior Museum). Each of these brands has created a museum experience where they have been able to unilaterally design and construct the ideal ambience for the narration of the brand's history and artifacts. I chanced upon another example of this phenomenon in my own neighborhood in Copenhagen a few years ago. The fashion brand Club Monaco had established a pop-up showroom and wine bar on the premises of the world-famous restaurant, Noma, who were at that time operating from abroad, and had left their beautifully designed locale in Copenhagen harbor empty. Club Monaco took advantage of the opportunity and made a memorable impression on its fans, most likely creating some new ones in the process.

The author's own photos from Club Monaco's pop-up showroom and wine bar, which was implemented in Noma's premises, while the restaurant itself operated from abroad.

But this tendency is not the exclusive province of luxury brands. The American sports and outdoor retailer REI arranges classes, outings and events outside the walls of its many stores on an almost daily basis (REI 2018). Consumers can participate in activities such as paddling, hiking or climbing, or cycling. American retailer Toms has opened locations called 'Community Outposts' since 2015. These are more like meeting rooms or information centers than stores. The first of these was located in the Venice Beach area of Los Angeles, and was equipped with a casually decorated coffee bar, a patio with lounge seating, free WIFI, and movie nights (The New York Times 2015). Products are not in focus at these locations, but a small selection can be found grouped together in discreet spaces.

Designers of this kind of experience need to be able to produce radical, new ideas. They need to think outside of the usual parameters and find individual solutions. It is not my expectation that branded experiences and commerce will be completely separated in the future. But I believe that brands will continue to find and create opportunities to take advantage of the possibilities that arise when an experience is removed from the traditional stores. If retailers establish a good cross-channel setup, the product can be delivered to the consumer's home while he or she is out having an enriching and loyalty-building experience.

The purpose of this chapter has been to situate retail design in a historical context, and to point out some of the challenges that the industry faces, both now and in the future. These challenges will demand creative design solutions, and tools that can help retailers to understand consumer preferences in depth. I predict that each of the three formats described above will gain ground in the years to come. As mentioned above, communities of consumers grow increasingly diverse, increasingly connected, and increasingly self-aware. Retailers will need to mirror this diversity

and specificity in their offerings—one size no longer fits all. In this context, the importance of being able to understand and measure consumer experience of an environment, and any effect this might have on product preference, comes to light.

2.2 The customer journey through the fashion store

Most people can recall the sensation of entering a space that incites a bodily or emotional reaction. Most people can also recall a particular store where the atmosphere creates a particular feeling, without being aware of what it might be that gives rise to that feeling. It is important to remember that the consumer experience is a comprehensive one, where all variables are experienced simultaneously and in combination. Design cues are blended in unforeseeable ways, dependent on individual perspective, and coming together to form an integrated experience for the individual consumer. The experience of store environment as holistic is discussed further in section 2.3, and the importance of treating the experience as an individual one is discussed further in section 2.5.

As discussed in the previous section, the consumer's journey does not take place exclusively in the retail space. With the scope of today's marketing campaigns it begins long before entering the store and, buttressed either by products taken home or by the memory of an in-store or out-of-store experience, can continue long afterward. But this dissertation shines its light on the experience of the store atmosphere itself, and how its design affects consumers while they are under its influence. But let us take one small step further back in time, to the moment when the consumer approaches the facade, and decides to enter the store. The potential shopper might be guided by cues in the area just outside the store: logos, images, music playing inside the store, or an alluring scent wafting out from within its doors. A window decoration or a product display in the entrance area might exert a magnetic pull. Outside the store in a typical urban environment, the consumer is bombarded with commercial and social cues from the surrounding area, in amounts and types that are impossible to predict or control, all competing for his or her attention.

For practical purposes it is impossible to describe a ‘typical’ consumer journey, since they are of necessity so varied in nature. A consumer might have come to the store to pick up a delivery purchased online; she might want to examine the quality of a product that she has seen in an advertisement; she might be on a quest for a particular item—a pair of red shoes, for example; or she might simply want to explore the current collection, looking for inspiration or distraction in a free hour from work. Nonetheless, the moment the consumer sets foot in the store, she enters an environment controlled by the retailer. Depending on the type of store, the customer might be greeted by an employee, or she might be left alone to browse. In either case, she is

receiving inputs and signals all the while, and cognitive processes are being activated as she looks for recognizable patterns and signals in an inscrutable blending of conscious and unconscious attention (Puccinelli 2009).

Despite the fact that consumers enter the store for a wide variety of reasons, and therefore have different needs for the shop to accommodate, certain elements are common to most fashion stores. Furniture and layout lend support to the product displays. Products are normally well-lit, with the strongest products placed either at eye level, or a level that facilitates touching them. The consumer might, for example, be presented with dresses on hangers, which gives her an idea of how they might look on her body; while sweaters and t-shirts are presented on a table, where she can easily reach out and touch them, giving her an idea of how the material might feel against her skin. Mirrors are often integrated in the interior. If the consumer finds a promising product she might might pick it up, hold it up in front of her, or even drape it over herself in front of a mirror. If she likes what she sees, she might take the item to the fitting room area, where she can remove her own clothing, and put on an entirely new outfit. In order to ease this transformation, there is often a soft, pleasing, and hopefully flattering light in the fitting room, which might also be equipped with conveniently located hooks for both the old clothing and the new. There might also be a stool or a chair, where she can sit while taking her shoes off, and there is almost certainly a mirror—sometimes more than one—so that she can view the results of the transformation from the best possible angle. During the decision-making process, she might communicate with an employee, or collect information online about the brand or about specific products, using her phone or another device. She might also communicate with friends—be they with her in the store or participating with the help of a mobile device—perhaps soliciting an opinion about style, or guidance about fit or maintenance. The consumer might be shopping for a particular occasion—a dinner party or a job interview, or simply have a practical or a self-indulgent need for an item of clothing. Regardless of the purpose, fitting rooms—if they are designed to the task—have the unique opportunity to give the consumer a glimpse of this new version of the self. After evaluating and comparing products, a decision will follow. She might purchase the product and bring it home or leave it in the store and continue browsing. If she decides to purchase the product in the store, the next step in the process normally takes place in a cash desk area, where packaging and payment are handled. The product changes hands, and the customer leaves the shop with a parcel in hand and a receipt documenting the exchange.

The boundaries of the shopping space may be more clearly defined in stores that have their own discrete spaces and separate entrances—a shop in a mall, or on a shopping street, for example—as opposed to a shop in a department store, or a store-within-store arrangement, where boundaries may be a bit softer. But in both cases, the shopping space is delimited in one

way or another. Design cues communicate what is on the inside, and what is on the outside. Erwin Goffman (1959) uses a theatre metaphor to describe what happens when a person enters the 'scene of action.' In this metaphor, he makes a clear delineation between 'frontstage' and 'backstage.' When speaking of shopping environments, we might even be tempted to use the term 'pre-stage' to describe the store, because customers actually use the space to imagine themselves in a future event and context. In this way the shopping environment has the potential to influence not only the product, but also the consumer's imagination of a future context, or even of themselves.

Despite the rise and prominence of online shopping, the idea that a store is a beneficial environment, in which to view and experience fashion products remains a part of the general consciousness. This is naturally due to the opportunity a store provides to interact with products, but it also reflects a desire for in-store experiences (Deloitte 2017; National Retail Federation 2017). Store atmospheres are to a large extent branding tools, which can help consumers to ascertain what kind of store experience they can expect to have. Retailers use design cues to paint a picture of the brand's identity: category, style, values, price level, or service level, to name just a few traits (Ward et al. 1992; Puccinelli et al. 2009). A luxury shop, for example, typically has fewer items on display, an attentive but discreet level of service, and perhaps a guard stationed by the entrance to monitor the flow of customers in and out. A discount shop, on the other hand, normally has larger, more accommodating entrances, a large number of products, displayed on adaptable, modular furniture, and a service level that leaves the customer more or less to his own devices.

With a little imagination, it is possible to envision many different versions of the consumer journey through the shopping environment. And none of these consumers would likely have any difficulty, on the one hand, agreeing on which elements the environment consists of, in terms of furniture, surfaces, and decorations. On the other hand, these very same elements will have very different effects on different consumers, and they will have a much harder time reaching a consensus on the qualities of the atmosphere, or on how much they like or dislike it. A further discussion of the differing effects of store design on customers as individuals follows in section 2.6, and we broach the subject once again in the section on Scientific Approach.

2.3 Approaching store environments from a holistic perspective

Searches in existing peer-reviewed literature on store atmospheres reveal a number of articles studying single atmospheric cues, or a small group of them. For example, the effects of sound (Milliman 1982; Morin et al. 2007; Yalch & Spangenberg 2000; Knoferle et al. 2012; North et al. 2016), color (Bellizzi et al. 1983; Bellizzi & Hite 1992), odor/scent (Chebat et al. 2012; Herrmann et al. 2013; Spangenberg et al. 2005), lighting (Areni & Kim 1994; Custers et al. 2010; Quartier et al. 2014), and indoor climate (Frontczak & Wargocki 2011; Zhao et al. 2015). These studies indicate, for example, that arousing colors can stimulate consumers and increase the likelihood of impulse purchases, and that uplifting music can promote socially positive behaviors. But single cues within an environment are never experienced in isolation, and therefore interact with one another, as well as with the customer or subject. More recent scholarship suggests with increasing frequency that studies taking a more comprehensive, holistic perspective will provide a more realistic assessment of the effects of interiors (Baker, J; Parasurama, A; Grewal, D.; Voss 2002; van Rompay et al. 2012; Petermans et al. 2014; Ballantine et al. 2015)

A few *in situ* studies of retail atmospheres do exist, but they are complicated to execute, since a particular behavior may be caused by a single dominant, or a variety of moderating effects (Bitner 1992; L. W. Turley & Milliman 2000; Ballantine et al. 2015; Turley & Chebat 2002; Spence et al. 2014). For these reasons, most studies are carried out in artificial settings. But in reality, consumer experience of retail environments consists of a blending of sensory effects, a commingling that is difficult if not impossible to achieve in a laboratory setting. This seems a strong enough reason to explore how customers experience real shops in all their complexity. Research also shows that subjects behave and react differently in an artificial setting than they otherwise would in a 'real life' setting (Lynch, Jr. 1982; Groeppel-Klein 2005; Tversky 2008).

Notwithstanding these challenges, a small group of scholars have already executed holistic studies of atmospheric cues in actual retail environments. For example, Ballantine et al. (2015) conducted on-site interviews to analyze atmospheric cues in store environments. Kirby & Kent (2010) and Petermans et al. (2014) deployed photo-elicitation—a technique where respondents are shown photographs of a store environment and then asked questions about it—in an attempt to better understand how atmospheric cues are interpreted by consumers. This method provides a visual representation of the environment as a whole, and therefore to some extent represents the actual store atmosphere, but has obvious drawbacks compared to the actual experience of an environment.

Studies like these provide a good beginning to the study of consumers' store experiences from a more integrated perspective. But there is a significant problem common to the method employed in all of them—one that potentially clouds or even invalidates their results: namely, the fact that the technique of direct interrogation—taking interviews—of necessity triggers the respondent's reflection upon his or her own reactions, which colors the nature of their responses. In addition, this method presupposes that respondents are in fact capable of reliably articulating how a store design affects them. In fact, actual experiences of interior spaces are immediate, taking place without conscious reflection. We believe that these experiences should therefore be studied as the realistic experiences that they are. We also believe that behavior speak louder than words, a supposition which underpins our methodology. We will expand further upon these ideas below.

2.4 Spillover effects, from context to product

From psychological studies, we know that stimuli affect us unconsciously, and that they can also influence seemingly unrelated objects (Damasio 1999; Murphy & Zajonc 1993; Zajonc 1980; Leder et al. 2004). Marketing literature refers to this phenomenon as a spillover effect, in this case spilling from context onto product.

The relationship a particular individual has to a medium in itself constitutes an essential aspect of the meaning he or she will derive from messages delivered with that medium (Hirschman & Thompson 1997). For example, several advertising studies demonstrate how the form of advertisements can influence people's attitudes toward specific products (Mitchell & Olson 1981; Shimp 1981; MacKenzie et al. 1986). We also learn from this literature that when the advertising picture is related to the product, consumers' attitudes toward the product is more positive than when the advertising picture is unrelated to the product (Mitchell & Olson 1981). Product placement studies show that consumers react differently to product placements, and that their reactions are influenced by, for example, their attitude or relationship to the context where the product is shown. Cowley and Barron (2008) demonstrate that fans of a particular television program will pay more attention to products placed in that program. In short: a relevant and appreciated context can support product perception. Nevertheless, tools for gauging this effect more precisely are not to be found in previous scholarship.

One approach to this problem is to come at it indirectly. If we take for granted that we cannot rely on what consumers say about how an interior affects them, perhaps we can study their actions instead. In papers 3 and 4, we propose a method for measuring the effects of store atmosphere on product preference—the aforementioned spillover effect—without bringing the store atmosphere or its effects to the respondent's conscious attention. In this way we hope to be

able to determine the extent to which an interior supports product preference. Through scrutinizing the relationship between store design and product preference, we will be in a better position to evaluate the effects of specific interiors. We should, among other things, be able to ascertain whether product preference is weakened or enhanced when a product is presented in different interiors. We will look at a customized interior in paper 3, one where the interior is designed to match and support the characteristics of the products; and at a more generally aesthetically pleasing interior in paper 4, in order to see if a difference in these two approaches can be detected.

2.5 Effects of store design on consumers as individuals

Another factor that complicates the analysis of interiors arises from the potential for discrepancy between an intended and a perceived atmosphere. The intended atmosphere is the set of sensory qualities with which the designer has attempted to imbue the space. But it is well known that reactions to atmospheric cues are not uniform, depending as they do on such factors as cultural and biological background, education, and personal experience (Kubovy 2000; Martindale & Moore 1988; Leder et al. 2004; Reber et al. 2004). Consumers are individuals, in other words, and despite the fact that marketing scholars have generally studied consumers at the aggregate or market-segment level, a growing number of scholars believe that considering each consumer as an individual is the best approach. In order to gain access to potentially latent traits among individuals, our experiments are designed to measure preference at the individual level (Wright 1997; Leder et al. 2004). Individual measurements can subsequently be analyzed to identify patterns and structures (Krackhardt 1992).

Professional background and perspective is one factor that may help to create such differences in perspective. Consumers, brand owners and retail designers all perceive environments with the background of their perspectives and motivations (Clark 1997; Turley & Chebat 2002; Varela et al. 1991; Gallagher 2005; Hendriks-Jansen 1996; Hyun & Luck 2007; Lakoff & Turner 1989; Lakoff & Johnson 1999). The designer's intention may affect individual consumers differently, or may not come through to the consumer at all (Kotler 1973; Bitner 1992; L. W. Turley & Milliman 2000). In paper three, we add the the dimension of the retail designer's intentions to the study. To accomplish this, we interviewed the designers of the test environments about their intentions before conducting the experiment. Information from these interviews was used in our descriptions of the test stores, and in our discussions of specific consumer behavior.

2.6 Conclusions from background and literature review

Based on the information in the preceding sections, it is clear that a better understanding of consumer perception of store environments would have obvious benefits for both designers and retailers, making it much easier for them to evaluate the choices they make in the design process, and to assess the strengths and weaknesses of a store design.

As mentioned above, we know that stimuli affect us unconsciously, and can also influence neighboring objects that are seemingly unrelated. Unconscious effects are notoriously difficult to study, and especially to measure. Nonetheless, laboratory experiments have in fact yielded some degree of success in measuring the unconscious effects of design. The laboratory setting has the advantage of being able to effectively control variables—the question is whether we can rely on results achieved in such a setting. Realistic conditions, which we have established as being so crucial to the experience of an atmosphere and a shopping atmosphere in particular, are necessarily sacrificed in order to achieve this control of variables. The very act of bringing respondents into a laboratory can influence whatever responses they might give. We simply cannot be certain that the cognitive and emotional activity taking place in the laboratory corresponds to what we otherwise might find in real life (Lynch, Jr. 1982). In papers 3 and 4 we explain how we conducted experiments which retain some of the benefits of the laboratory setting, but take place in an actual shopping situation with actual shoppers. This method allowed us to assess the effects of the atmosphere in quantitative terms, without bringing the real subject of the study—the retail environment—to the respondent's attention. Our goal is to gain insight into which interior design decisions support products in the eyes of consumers as individuals. Our hope is that designers and retailers alike can duplicate this process and utilize information gathered in this manner in their decision-making processes.

CHAPTER 3.

RESEARCH DELIMITATION

CHAPTER 3. RESEARCH DELIMITATION

3.1 Why fashion stores?

Due to the strong influence of environmental context inherent to individual stores, store design is difficult to study from a general perspective (van Rompay et al. 2012). In order to narrow the focus, this study focuses on fashion stores. As discussed in papers 1 and 2, retail design literature has often dealt with fashion stores as special cases, since their design requirements are often far more stringent than other retail environments. In order to capture a customer's attention they require striking, unique interiors, that are able to distinguish themselves from their competitors (Ballantine et al. 2015; Haug & Münster 2015). Fashion retailing is dynamic and fiercely competitive; consumers must be matched continually with new products and styles (Cholachatpinyo et al. 2002) in an industry where entire product lines are created and discarded rapidly. Fashion stores are therefore designed to present merchandise in the most appealing manner possible, and to accommodate this ever-changing landscape (Newman & Foxall 2003; Ballantine et al. 2015). For all of these reasons, fashion stores represent an extreme in terms of the demands placed on their design, which makes them an ideal setting for our research. However, other kinds of retail environments, where design requirements are less demanding, can certainly benefit from the insights presented in this study.

3.2 Limiting the study to physical stores

Virtual stores can also be considered in terms of their atmospheres, as shown by Parsons & Conroy (2006); a number of studies have examined aspects of online store atmospheres (e.g. Cheng et al. 2008; Menon & Kahn 2002; Wu et al. 2013). The studies included in this dissertation, however, deal with physical as distinct from online store atmospheres. But any review of modern retail history cannot ignore other sales channels, since they certainly influence one another. Brands use multiple channels to reach out to consumers, and the design of the experiences in these different channels interact. Virtual shopping channels are discussed further in the final chapter on suggestions for future research; nevertheless, the physical retail environment remains the exclusive focus of this dissertation.

As mentioned above, the method proposed here is a tool for design managers, meant to assist in the gathering of information about how design is experienced by consumers. In order be able to use the feedback such a tool can provide in the design process, and before

implementing a concept on a larger scale, tests should ideally be conducted in new test stores. The sites chosen for this experiment were designed and built as test stores one and a half year before our experiment took place. In order to save resources, the retailer elected to run these test locations as normal stores following the test period, providing us with the opportunity to conduct our experiments in a location that had in fact been designed as a test store, which is why we were able to run the experiment in settings that were similar to a test store setting.

3.3 Store variables controlled by the designer

Several frameworks of store environment variables do exist already, for example (Bitner (1992) Berman & Evans (1995/2013) and L.W. Turley & Milliman (2000). However, as discussed in papers 1 and 2, these are not particularly appropriate to studying the fashion store design process. Since the focus of this dissertation is from the perspective of retail design management, we have limited our focus variables controlled by design managers. Paper 1 provides an overview of the design variables under the designer's purview. These can be separated into four categories: exterior variables, general interior variables, furniture variables, and display/decoration variables. Variables such as store personnel, surrounding areas, and merchandise or product design are of undeniable importance to the shopping experience, but since they lie outside of the retail designer's control, they are excluded from consideration in this study.

CHAPTER 4.

METHODOLOGY

CHAPTER 4. METHODOLOGY

4.1 Scientific approach

From an ontological perspective, I believe that reality exists in objective terms. But I differ with positivists in that I do not believe that we necessarily have complete access to that reality. In other words, I believe that reality is not completely transparent, and contains mechanisms that cannot be observed directly, but only indirectly through their outcomes (Danermark et al. 2002). I also believe that reality is experienced subjectively, but contrary to postmodernist perspectives, I believe that humans have a capacity for rational judgment, such that independent reality is that which scientific knowledge must be judged against (Buch-Hansen & Nielsen 2005). From this follows my belief, in terms of epistemology, that meaning emerges through socio-cultural relations, and that absolute certainty cannot exist, since humans tend to perceive phenomena differently, according to the dictates of these socio-cultural relations. Historically, most generally accepted theories have at some point or another been replaced with better ones. We experience the world subjectively, through our own eyes. Yet through the application of relevant theories and a watchful, critical eye, we can move toward results that are as objective and broadly applicable as possible, even with the knowledge that fully objective certainty is not a practical possibility, but rather an ideal which guides our search.

This dissertation thus follows a critical realism approach (Buch-Hansen & Nielsen 2005; Danermark et al. 2002). Essential elements of this paradigm include the following (Danermark et al. 2002):

- Science should have generalizing claims.
- The explanation of social phenomena, by revealing the causal mechanisms which produce them, is the fundamental task of research.
- Research involves a wide range of methodological tools, and we have to use many of these tools in a concrete research project. In other words, there is often a need to mix methods.

- There is a need to overrule the categorizing of methods in quantitative and qualitative terms.

- The nature of society as an open system makes it impossible to make predictions in the same way as in the natural sciences. However, based on analysis of causal mechanisms, it is possible to conduct a well-informed discussion about the potential consequences of mechanisms working in different settings.

Where this dissertation is concerned, it is important to differentiate two types of experience: those related to the (objective) existence of a phenomenon, and those related to our (subjective) evaluations of the same phenomenon. We can easily agree that there is a chair in the corner of the room, and even on the materials used to make it. But we may disagree strongly about the impression that the chair and its shape and materials produce. Likewise, consumers from wildly different backgrounds will easily agree that the elements of a fashion store's furnishings consist of so many shelves and tables and hangers, and yet differ strongly on the qualities of these same items. They will, at the same time, like or dislike the interior to some degree, and be affected by its atmospheric cues to some extent or another. As a researcher in this context, my goal is to attempt to measure and connect these subjective experiences with an objective, observable reality. In this case, I organize consumers with similar experiences into groups, thereby allowing me to generalize about these.

Each of the papers comprising this dissertation contains a detailed method section, in which the methods, setup, settings, variables, and techniques for data analysis are described. In this section, an overview of the methodological approach is provided and the different methodologies used in papers 1 and 2, and papers 3 and 4 are described and discussed. For example, in papers 1 and 2, case studies and interviews are used. In this case the designer's intention is what we are after. We assume that this intention is a conscious one, and therefore that we can accept the designer's own thoughts about it as valid and reliable. The consumer's experience and perception of this design, on the other hand, cannot be accessed in the same manner—with direct interrogation—and for this reason when we discuss perceived atmospheres, we must use different methods (fig. 4).

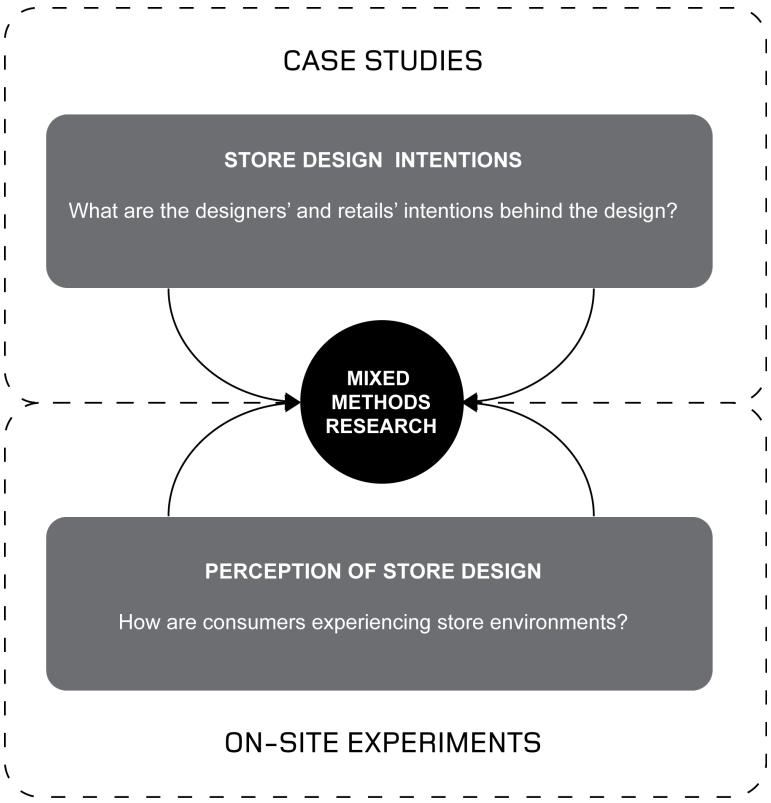


Fig. 4. To account for the complexity of the topic, different methods are employed for different problems.

4.2 Overview of methods used

The table below is a diagram of the methods employed, giving details about when they were employed, and their particular usefulness. Inasmuch as the methodological approach for papers 1 and 2 is essentially the same, the following section contains a description of the methods used in those studies. The same holds for papers 3 and 4, where the methodological approach is once again similar.

<table>
<tr><td colspan="5">Scientific approach: Critical Realism</td></tr>
<tr><td colspan="5">Methodology</td></tr>
<tr><td></td><td>Paper 1</td><td>Paper 2</td><td>Paper 3</td><td>Paper 4</td></tr>
<tr><td>Main Perspective</td><td colspan="2">Retail designer perspective</td><td colspan="2">Consumer perspective</td></tr>
<tr><td>Cases</td><td colspan="2">International fashion store projects</td><td colspan="2">Men’s Fashion Stores</td></tr>
<tr><td>Method</td><td colspan="2">Case studies</td><td colspan="2">Field experiments - proposed method to study unconscious effect of store design on consumers</td></tr>
<tr><td rowspan="4">Data</td><td rowspan="4">Six case studies incl. semi-structured interviews with a retail designer from each of the six design teams</td><td rowspan="4">Eight case studies incl. semi-structured interviews with a retail designer from each of the six design teams</td><td colspan="2">50 individual tests of consumers in three stores and in a neutral setting</td></tr>
<tr><td>Experiment, part 1: Product preferences of six test products conducted in the three test stores</td><td>Experiment, part 1: Product preferences of six test products conducted in the three test stores</td></tr>
<tr><td>Experiment, part 2: Product preference of six test products conducted in neutral setting</td><td>Experiment, part 2: Product preference of six test products conducted in neutral setting</td></tr>
<tr><td>Interviews with the retail designers about the intentions behind the three test stores</td><td>Experiment, part 3: Preference for the test stores design</td></tr>
<tr><td>Analysis</td><td>Identification of design variables, categorization of variables, analysis of how variables interact. + Identification of constraint generating stakeholders, who affect the design process.</td><td>Definition of the most important constraint generators and the type of constraints they generate. Estimation of influence of the constraint generators in the different periods of the design process.</td><td>Interaction between customized store design and product preference</td><td>Interaction between preference for store design and preference for products.</td></tr>
</table>

Table of methods used.

4.3 Methodology for papers 1 and 2

In papers 1 and 2, we developed case studies of fashion store design projects. Case studies themselves, and the interviews conducted for them, are described in detail in the respective papers. This chapter deals only with the most essential methodological points; for a detailed and full description, the reader is referred to the text of the respective articles.

As mentioned above, the methodological approach was essentially the same for papers 1 and 2. Certain interview subjects gave interviews for both articles. The data was collected in Denmark between 2013 and 2015. The interview approach was intended to shed light on the designers' intentions. We assume that these intentions are conscious ones, and therefore that the interview subjects would be able to articulate them in their own words. The purpose of the case studies was to elucidate a framework defining the various stakeholders, design variables, and constraints in the store design process. We believe that the case study approach, based on interviews with the relevant actors, would give us an in-depth overview of how retail designers understand the variables and stakeholders involved in the process of creating a retail store.

To this end, we used interviews and observations related to selected projects in order to gain insights about the design process itself, and to try to identify tendencies within it. We spent time with the designers in order to understand how the atmosphere-creating elements of the design are conceived and executed (paper 1); and then to investigate how and to what extent the designer attempts to integrate consumer experience, and other stakeholder interests, for that matter, in developing a store concept (paper 2).

Case studies

Cases were developed by interviewing retail store designers who had been involved in international projects, and studying documents related to these projects. The interviews were semi-structured and were given on condition of anonymity. During the interviews, which were recorded on a digital recording device, subjects were asked to describe their latest fashion store design project in terms of the proposed framework of variables and stakeholders. Many of these examples were explained by including drawings and pictures from the project in focus. During the interviews, a great deal of time was dedicated to explaining the different categories and stakeholder types, ensuring that they were understood correctly, and waiting for interviewees to recall relevant aspects of the project. One week later, interviewees were asked to reflect upon the answers they had given during the interview and consider additional comments they might like to add. Later in the process, the interviewees were again contacted to ensure that the development

of the framework had not negatively affected their perception of its correctness and understandability, as well as to retrieve additional examples. Cases were analyzed by studying transcriptions of interviews, listening to the audio recordings, analyzing notes taken, and studying project material acquired from the cases.

Cases with similar features were selected in order to achieve relatively homogeneous samples, since this approach, given a certain sample size, would provide a stronger basis for generalization. We realize, though, that any such generalizations would therefore be limited to cases of a similar type and nature. We have accepted the views of previous scholars that as few as six cases might be sufficient for generalizing, as long as the sample is sufficiently homogeneous (Kuzel, 1992; Morse, 1994). To increase the homogeneity of the sample, our focus was delimited to the design of new mono-brand fashion stores, as opposed to re-design of existing stores or implementation of existing store design concepts.

I am aware that my background as retail architect, while on the one hand providing certain benefits to the choice of focus for the research (Corbin & Strauss 2015), on the other hand leaves me vulnerable to overlooking certain particulars in the narratives from informants. The primary advantage of my status as an 'insider' was the access to a professional network, such that it was relatively easy to find relevant cases, get access to documents, and procure interviews. My experience as a retail designer also proved advantageous in the course of the interviews but was not without its downside. Prior to conducting the interviews, the research team discussed who amongst them should actually do the interviewing. Should it be the experienced researcher who lacks a design background, or the retail architect who lacks research experience? In an attempt to answer this question, we conducted a pre-study, where we each conducted one interview. It quickly became apparent that the advantages of interviewing a professional with the same background easily outweighed the disadvantages.

Advantages consisted mainly of the ability to use and understand the terminology and language of the professionals, which meant that many more nuances and details were available to the interviewer. The disadvantages of this choice, however, can also be traced to this shared vocabulary and frame of reference. From time to time this common background made it difficult to get subjects to describe things in detail, since they understood that the interviewer knew what they were trying to describe, and instead used humor or irony or skepticism, which can have had the effect of clouding answers in certain cases. We attempted to minimize this bias by (1) asking clarifying follow-up questions when an unclear or implied answer was given, and (2) deciding that it was not the interviewer, but the other researcher who would analyze the data from the interviews.

4.4 Methodology for paper 3 and 4

Research design, stimulus selection, and analysis are described in detail in each of the respective papers. This chapter only deals with the essential methodological points. For detailed descriptions, the reader is referred to the text of the respective papers. Once again, the experiment design was similar for papers 3 and 4. Data for the two papers was collected at the same time and in the same settings, in the spring of 2015.

Unconscious effects are difficult to measure. Yet laboratory experiments have in fact yielded some degree of success in measuring the unconscious effects of design. The laboratory setting has the advantage of being able to effectively control variables—the question is whether we can rely on results achieved in such a setting. Realistic conditions crucial to the experience of shopping are necessarily sacrificed in order to achieve this control of variables. The very act of bringing respondents into a laboratory can influence whatever responses they might give. We simply cannot be certain that the cognitive and emotional activity taking place in the laboratory corresponds to what we otherwise might find in real life (Lynch, Jr. 1982). The applied field experiments bear similarities to laboratory experiment—and hopefully retains the benefits of that setting—yet takes place in actual stores.

Field experiments

Experiments took place in a European shopping mall. Respondents were actual shoppers with a desire to view, try on, and potentially purchase fashion items. In order to locate suitable test stores, the authors took field trips and conducted interviews with retailers and retail designers before three stores were chosen.

In order to focus on design variables within the purview of the retail designer, the test locations were similar in size, room height, light intensity and quality, sound, odor, and in the quantity of fashion items displayed. Design variables beyond the retail designer's control, such as store personnel, surrounding areas, and merchandise or product design, are, as mentioned above, excluded from consideration in this study. As described in chapter 3, variables controlled by the retail designer can be broken down in to four categories, each of which is described in paper 1: Exterior variables, General interior variables, Furniture Variables, and Display/Decoration variables. Test stores were in close proximity to one another, in order to avoid undue influence from external factors during the course of the experiment. In fact, the three chosen test shops were located in one contiguous store containing three separately delineated in-shops.

We chose a ‘within-subject' study design, where each participant was asked to rate six test products, in the shape of fashion items, in various contexts. In other words, each respondent’s product ratings were taken in each of three test stores (part 1) and once again in a neutral test zone (part 2) (Fig. 5). Pictures and descriptions of stores and products are to be found in paper 3 pages 68-69 and in paper 4 pages 100-101.

Fig. 5. To measure if the interior unconsciously affects the product rating, the respondent’s product ratings under store influence are compared with product ratings in a neutral environment.

In the stores, each respondent rated the test products using a paired comparisons method. This method was chosen because it encourages an immediate reaction, without creating too much reflection (Thurstone 1927). The method does not require the respondent to assess how much a product is preferred in itself, but simply how much it is preferred relative to another product, making it expedient for our purposes. Furthermore, this method allowed us to determine not only how many respondents prefer product 6 over product 5 in a specific interior, for example, but also reveals the relative strength of that preference for each single respondent who fits that description.

Accordingly, separate preference structures for the six products for each respondent and for each store were calculated. Product ratings were converted into numbers, one for each comparison, using the following method: The distance from the middle of the scale to the mark noted by the respondent was measured, positively to the right and negatively to the left. The observations are denoted $y_{i,j}$, $(i,j) \in D$. It is assumed that the numerical score will increase with the strength of preference for one product over the other product, and that equal but upper site preferences would correspond with equal but upper site ratings. For each subject and each

room, the six comparison ratings, $y_{i,j}$, $(i,j) \in D$ were combined into a metric rating scale. Therefore, for each subject and for each room, there exists six γ's; γ_1, γ_2, γ_3, γ_4, γ_5 and γ_6, corresponding to the six products, so that the expected value, $E(y_{i,j})$, of $y_{i,j}$ has the form $E(y_{i,j}) = \gamma_j - \gamma_i$. The estimation of the γ's is performed using the least squares method. Preference-scores for the six products are calculated as: scores for product $i = exp\{\gamma_i\}$.

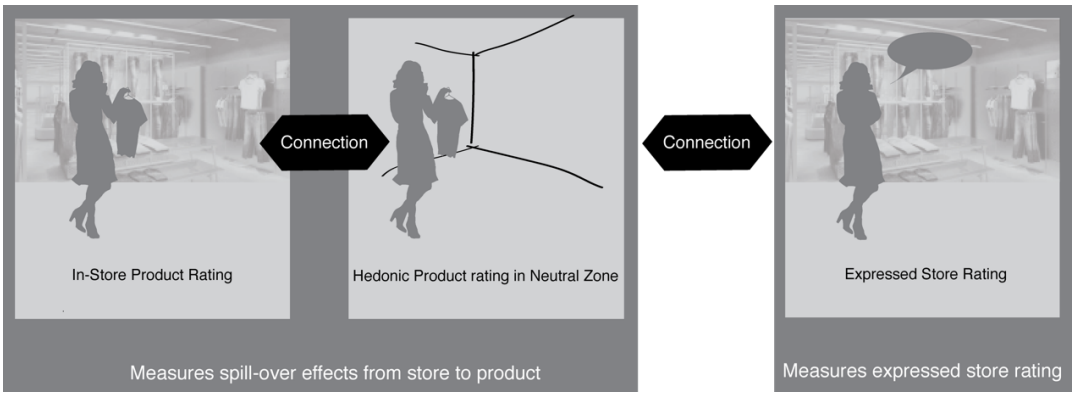
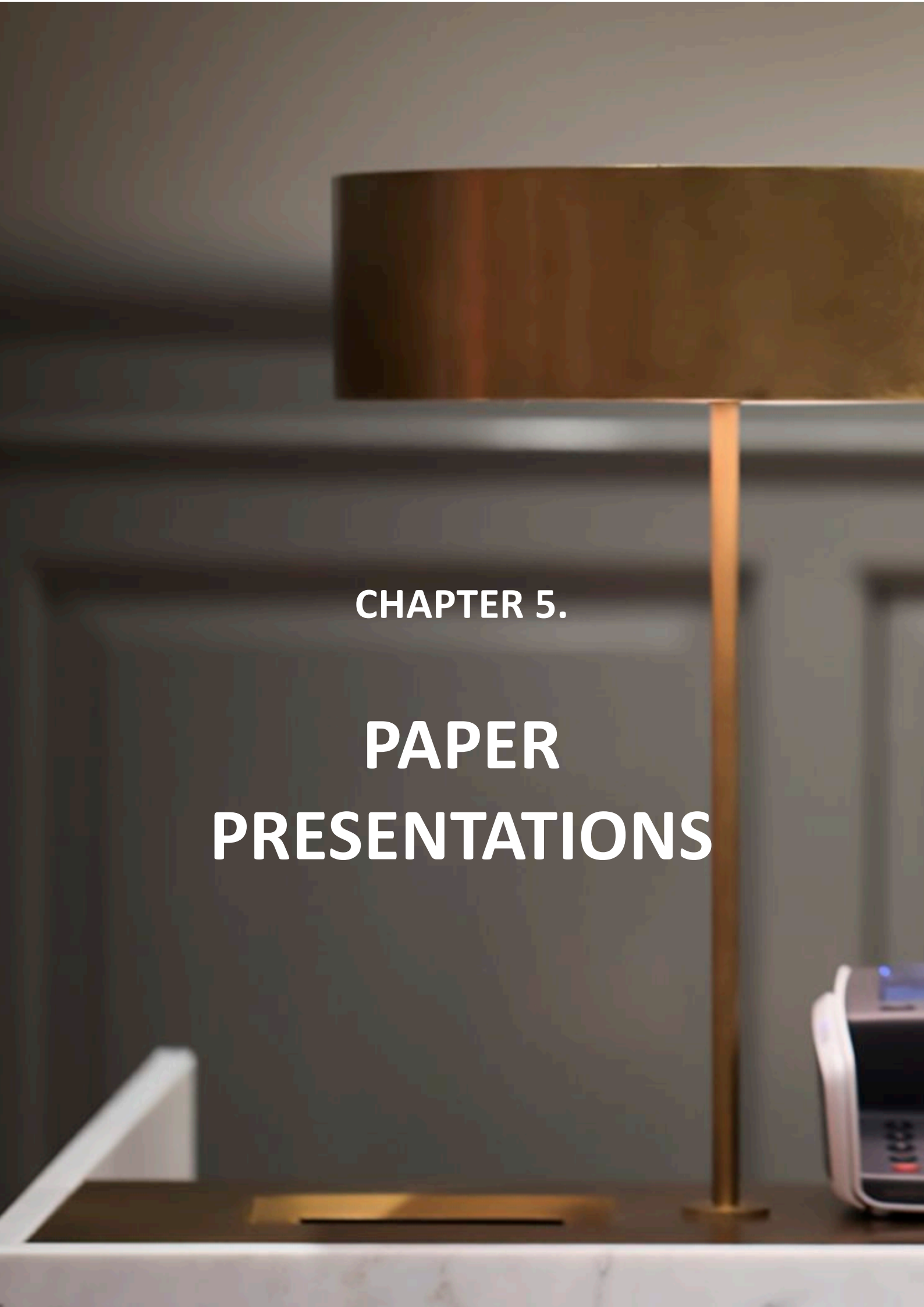


Fig. 6. In paper 4, we include articulated ratings of the store
in order to measure difference between articulated and unarticulated preferences

Prior to the study, we conducted interviews with the retailers and designers associated with the brands, in order to gather data on the characteristics of the brands, and to understand the intentions behind the design decisions in the stores. Expert interviews are included to describe the test stores in paper 3. Lastly, in paper 4 the respondents' expressed preferences for a particular interior are also included in the study (fig. 6).



CHAPTER 5.

PAPER PRESENTATIONS

Paper 1: Design Variables and Constraints in Fashion store design processes

Haug, A. & Münster M. B. (2015)
International Journal of Retail & Distribution Management, Vol. 43, No. 9.

Design variables and constraints in fashion store design processes

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Abstract

Purpose – Several frameworks of retail store environment variables exist, but as shown by this paper, they are not particularly well suited for supporting fashion store design processes. Thus, in order to provide an improved understanding of fashion store design, the aim of this paper is to identify the most important store design variables, organise these variables into categories, understand the design constraints between categories, and determine the most influential stakeholders.

Design/methodology/approach - Based on a discussion of existing literature, the paper defines a framework of store design variables and constraints between these. The framework is investigated through six case studies of fashion store design projects.

Findings - Through a discussion of literature and empirical studies, the paper (1) identifies the most important store design variables, (2) organises these variables into categories, (3) provides an understanding of constraints between categories of variables, and (4) identifies the most influential stakeholders. The paper demonstrates that the fashion store design task can be understood through a system perspective, implying that the store design task becomes a matter of defining a set of subsystems, while considering their mutual interdependencies.

Research limitations/implications - The proposed framework may be used as a point of departure and a frame of reference for future research into fashion store design.

Practical implications - The paper may support retail designers and retail managers in fashion store design processes by clarifying which store design variables to consider and providing an understanding of the constraints between them.

Originality/value – The perspective on the fashion store design task offered by the proposed framework adds a layer of understanding to the way in which existing literature describes the challenges related to store design. The empirical studies of fashion store projects demonstrate that the described system perspective offers a useful way of organising fashion store designers' experiences from design processes.

Keywords Fashion Store, Store Design Process, Retail Design, Design Constraints, Concept Design

Introduction

Due to growing competition in the consumer market, companies are increasingly devoting resources to product marketing. An important aspect of such marketing efforts is ensuring that consumer goods are presented appropriately in retail stores. From the perspective of retail stores, the overall goal is to create an environment that both attracts and retains consumers (Babin and Attaway, 2000).

The retail store design process involves the definition of store exteriors and interiors under restrictions imposed by relevant stakeholders. The task is performed at several abstraction levels, in the sense that the retail store design process may involve anything from decisions on details of specially designed furniture to the general design of the store interiors of which such furniture is a part. The numerous constraints between design variables at different abstraction levels may make such design processes complex. For example, if the designer chooses a certain type of wall furniture in the beginning of the design process, this constrains the choice of shelves, hanger rails, and other interior elements that have to match both practically and visually. Furthermore, the signals that the retail store facade sends need to correspond with the atmosphere that the interior creates. In other words, one design decision can affect many other design decisions, which can affect even more design decisions. Thus, compared to product design, the retail design favours flexibility and continuous problem solving over a more anticipatory approach (Kent, 2007).

Because of the highly context-dependent environmental factors associated with individual stores, it is difficult to study retail store design from a general perspective (Van Rompay et al., 2012). In order to delimit the focus, this paper therefore sets focus on a particular type of retail store, namely fashion stores. In a creative design perspective fashion stores are particularly interesting, since, compared to many other types of retail stores, they normally

address a relatively homogeneous target group, have a large emphasis on aesthetic qualities, and involve many considerations as to fashion aspects.

In store design projects it may be difficult to get an overview because of the numerous design variables and constraints between them. To provide an improved basis for understanding such projects, store designs may therefore be understood as a set of subsystems and variable types. Frameworks that identify variables of retail store environments exist (Bitner, 1992; Berman and Evans, 1995; Turley and Milliman, 2000), but as this paper later demonstrates, these are not particularly suited for supporting fashion store design processes. To address this issue, this paper develops a framework that identifies the most influential stakeholders, the main store design variables, and the constraints between store design variables, as seen from the perspective of the store designer. The proposed framework is investigated through six case studies on fashion store projects.

The focus of the paper seems to be unique in academic literature, as searches in relevant academic journal databases (described in the following section) indicated a gap on this topic in retail store design literature. Therefore, the framework may provide a point of departure for future research on fashion store design processes. In practice, the framework may be used to support discussions of fashion store designs with clients and other stakeholders. Although the focus is on fashion stores, the findings of the paper may, to some degree, be applicable to other types of retail stores as well.

Literature Review

To identify existing knowledge about "retail store design processes", searches in academic journal databases were carried out. These searches pointed to significant gaps in this literature. For example, searches for journal papers including in title, abstract, or keyword the terms "store/shop/retail design process" or "shop/retail/store designer", in the Social Sciences Citation Index and the Arts & Humanities Citation Index did not produce results. The same six searches in the EBSCO databases (peer reviewed journal papers) produced only one result (i.e. Davies and Tilley, 2004). This lack of results is confirmed by the literature reviews of other retail design research (see reviews in Lin, 2004; Joye, 2007; Harris and Ezeh, 2008; Chen and Hsieh, 2011; Van Rompay et al., 2012). However, the searches led to several results on "shop/retail/store design", and although such literature almost solely focuses on stores in relation to consumers, the literature holds relevant insights regarding the topic of this paper. Because of the extensiveness of this literature, only an overview is presented in the following subsections, organised under the topics "consumers" and "retail store design".

Consumers

In order to create a successful retail store design it is essential to understand the preferences and expectations of target consumers. The activity of shopping can be seen as having goal-oriented and/or recreational purposes. When shopping is a goal-oriented activity, it can be constrained by factors such as waiting in line, not finding the desired products, having to pass physical obstacles, and other barriers. When obstacles are encountered during a goal-oriented shopping process, this can evoke stress (e.g. Machleit and Eroglu, 2000), and bad shopping experiences can in turn lead to avoidance behaviour toward the particular retail context (Donovan and Rossiter, 1982). On the other hand, recreational shoppers seem to be less affected by this and, in fact, seem to prefer some stimulation during their shopping activity. This is illustrated by the study by Van Rompay et al. (2012) in which preferences of goal-oriented and recreational shoppers were investigated. The study indicated that goal-oriented shoppers preferred shopping in spacious stores, while the ambient variables (in this study, colour) did not directly impact behaviour. Van Rompay et al., however, note that the latter finding seems to contradict other research that indicates that arousing colours can interfere with task completion and, therefore, produce negative consumer responses. Since this sort of effect depends on the intensity of the ambient variables and the actual shopping context, there may be no contradiction between these findings. For recreational shoppers, the study showed that they responded positively to ambient design factors (in this study, colour), in the sense that they reported higher levels of shopping pleasure and stronger intentions to explore and return to the store. On the other hand, in relation to store layout, recreational shoppers appeared to be somewhat indifferent. In this context, it should be noted that also gender influences the typical reaction to stimulating store environments. More specifically, the study by Borges et al. (2013) showed that women in general demonstrate more favourable reactions to hedonic store atmospheres.

Understanding potential consumers is of central importance to the retail store designer because shoppers generally prefer shopping environments that match their self-concept (e.g. Donovan et al., 1994; Sirgy et al., 2000; Yim at al., 2007). This is supported in the study by Chebat et al. (2009), which indicates that store loyalty can be predicted by consumers' self-congruity (match between the brand image and consumer's self-concept), and that this self-congruity can be predicted by store dimensions such as atmosphere, merchandise, price and promotions. One way to understand consumers is through the concept of lifestyle, which is used in cultural sociology to distinguish between social subgroups in general patterns of values, attitude orientations, and preferences. Preferences in everyday life (such as shopping preferences) can be considered as observable expressions of a person's values and attitudes (Ritterfeld, 2002).

For retail stores, consumer brand perception has a significant influence on the purchase behaviour (Diallo et al., 2013). Retail stores can be seen as being laid out to attract successfully targeted groups of consumers who buy into branding statements (Newman and Foxall, 2003). In this manner, the store itself becomes a communication means between the retailer and the consumer (Davies and Ward, 2005). Thus, the identity of the store needs to be clearly communicated in order to build the associations with the brand (Vazquez and Bruce, 2002; Godey et al., 2009). In this context, Faultrier (de) and Towers (2011), describe the "fashion store concept" as "how the consumer can experience the brand identity, thanks to a specific choice of materials, lighting and fittings designed specially for the different brands and particular types of merchandise".

Retail store design

In the beginning of the 1970s, marketing research began to explore more subtle aspects of service environment design, not in the least because of Philip Kotler, who drew attention to what he called "atmospherics", or "the conscious designing of space to create certain effects in buyers" (Kotler, 1973, p. 50). Since then, there have been many studies on environmental psychology and retailing that have established the importance of creating pleasant consumer experiences, conveying a desired store image, and promoting specific behaviours (see, e.g., the review by Van Rompay et al., 2012).

Different cues can produce different consumer behaviours. Ballantine et al. (2010) divide cues into two categories, "attractive stimuli", which excite and elicit approach behaviours (like interactive product displays or attractive display features), and "facilitating stimuli", which facilitate product engagement (like comfort and lighting). Studies of the effects of cues include examinations of the effects of visual, auditory, olfactory, and tactile cues (Bellizzi et al., 1983; Bitner, 1992; Baker et al., 2002; Chebat and Morrin, 2007; Ryu and Jang, 2008; Ballantine et al., 2010; Van Rompay et al., 2012). The findings from such studies include the fact that arousing colours can stimulate or stress consumers, increasing the likelihood of (impulse) purchases; uplifting music can promote pro-social behaviours and steer perceptions of "store personality"; and spacious (as opposed to secluded) layouts can heighten pleasure in retail settings. However, according to Van Rompey et al. (2012), research addressing the effects of a store's environmental factors is inconclusive, partly because environmental aspects are complex combinations of different types of stimuli linked to nontangible variables such as colour and scent, and tangible variables such as decorations, layout, and interior design elements.

A central aspect of retail store design is to create environments that trigger the right emotions. In retail research, the terms "arousal" and "relaxation" have been associated with both positive and negative emotions, and by some researchers even with somewhat one-sided claims

(see review in: Brengman et al., 2012). However, both types of emotions have been shown to produce both negative and positive effects on shopping pleasure and behaviour, depending on intensity and context. Furthermore, it has been demonstrated that "arousal" can be seen as consisting of two separate and uncorrelated dimensions, one with a positive hedonic tone (i.e. boredom–excitement) and one with a negative valence (i.e. relaxation–tension) (Gorn, 1982; Brengman and Geuens, 2004). Another perspective on customer experience is provided by Bagdare and Jain (2013), who argue that existing characterisations of customer experience suggest that retail customer experience can be described in four dimensions: joy, mood, leisure, and distinctive. The survey by Bagdare and Jain supported the relevance of these factors.

The interior background of a retail store is often used to convey messages to consumers instead of merely acting as a neutral background for products (Frampton, 2006). Bitner's (1992) framework for service environments addresses the nature of such "interior shells", and it is one of the most cited of its kind. Bitner groups the physical service environment into three components: (1) space and function; (2) signs, symbols, and artefacts; and (3) ambient conditions. "Space/function" includes layout, equipment, and furnishings; "ambient conditions" include temperature, air quality, noise, music, and odour; and "signs, symbols, and artefacts" include signage, personal artefacts, and style of décor. The three components produce cues that direct consumers, communicate rules of behaviour, and help convey the firm image (Bitner, 1992). Signs, symbols, and artefacts can offer both explicit and implicit cues. Explicit cues include exterior and interior signage, while implicit cues include artwork, furnishings, floor coverings, and similar items. Ambient conditions tend to impact the subconscious and may influence both customers and employees present in the environment (Bitner, 1992). If the ambient conditions are within an acceptable range, consumers may not even be consciously aware of their existence, although they may be effective in relation to steering consumer behaviour (Russell and Snodgrass, 1987).

Another way to understand retail environments is proposed by Berman and Evans (1995). They define the four categories of atmospheric stimuli: (1) external variables; (2) general interior variables; (3) layout and design variables; and (4) point-of-purchase and decoration variables. Turley and Milliman (2000) extend this with a fifth category called "human variables". Table 1 shows these five categories and the included variables.

1. External variables	2. General interior variables	3. Layout and design variables	4. Point-of-purchase and decoration variables	5. Human variables
a. Exterior signs	a. Flooring and carpeting	a. Space design and allocation	a. Point-of-purchase displays	a. Employee characteristics
b. Entrances	b. Colour schemes	b. Placement of merchandise	b. Signs and cards	b. Employee uniforms
c. Exterior display windows	c. Lighting	c. Grouping of merchandise	c. Wall decorations	c. Crowding
d. Height of building	d. Music	d. Work station placement	d. Degrees and certificates	d. Customer characteristics
e. Size of building	e. PA usage	e. Placement of equipment	e. Pictures	
f. Colour of building	f. Scents	f. Placement of cash registers	f. Artwork	
g. Surrounding stores	g. Tobacco smoke	g. Waiting areas	g. Product displays	
h. Lawns and gardens	h. Width of aisles	h. Waiting rooms	h. Usage instructions	
i. Address and location	i. Wall composition	i. Department locations	i. Price displays	
j. Architectural style	j. Paint and wall paper	j. Traffic flow	j. Teletext	
k. Surrounding area	k. Ceiling composition	k. Racks and cases		
l. Parking availability	l. Merchandise	l. Waiting queues		
m. Congestion and traffic	m. Temperature	m. Furniture		
n. Exterior walls	n. Cleanliness	n. Dead areas		

Source: Turley and Milliman (2000)

Table 1. Atmospheric variables (Turley and Milliman, 2000)

A framework of fashion store design variables and constraints

To define the relevant store design variables, the four environmental categories defined by Berman and Evans (1995) are used as a basis. As mentioned previously, Turley and Milliman (2000) proposed a fifth category of "human variables" that included employee and consumer aspects. However, from the designer's perspective, it makes more sense to perceive employees and consumers as stakeholders who generate constraints rather than as something to be designed. The variables included in the "external variables category" (see Table 1) clearly show the consumer perspective of the work by Berman and Evans (1995) and Turley and Milliman (2000), in the sense that many of these variables are typically outside the control of the store designer; primarily those variables related to the location and the building. Location-related variables typically not controlled by the retail store designer include consumer flow/traffic, parking

availability, surrounding stores, lawns and gardens, location, and other surrounding area variables. With regard to building-related variables, typical non-controllable variables include architectural style, building dimensions, and exterior walls. The consumer focus is also evident regarding the variables mentioned under the internal environmental categories (Columns 2-4 in Table 1). More specifically, a variable such as "cleanliness" is rarely in the hands of the designer, although the store can be designed in a cleaning-friendly manner, (e.g. placing inventory on legs to make the floor accessible and using maintenance-free or easy-to-clean surfaces). Also, the variables "music", "scents", and "temperature" are seldom controlled by the designer, although a "retail store manual" can help address such issues.

Figure 1 shows the store design categories and variables found to reflect the perspective of the fashion store designer. Several changes have been made compared to the classification of Berman and Evans (1995). First, some of the category names have been changed to better reflect their focus. The first category is renamed "exterior variables" (from "external variables") because retail store designers are rarely involved in location and building architecture decisions, only in the design of exteriors (i.e., the facades and sometimes the immediate area in front of the facades, such as signs and benches). The third category is renamed "layout and furniture variables" (from "layout and design variables"), which creates a clearer distinction from the other categories. The last category is renamed "decoration and display variables" (from "point-of-purchase and decoration variables") since the word "point-of-purchase" is associated with multiple meanings and the display of consumer products is an important part of fashion stores. The mentioned variables under the four categories have been defined on a slightly higher abstraction level than the ones outlined by Turley and Milliman (2000) in order to avoid overlaps and oversights.

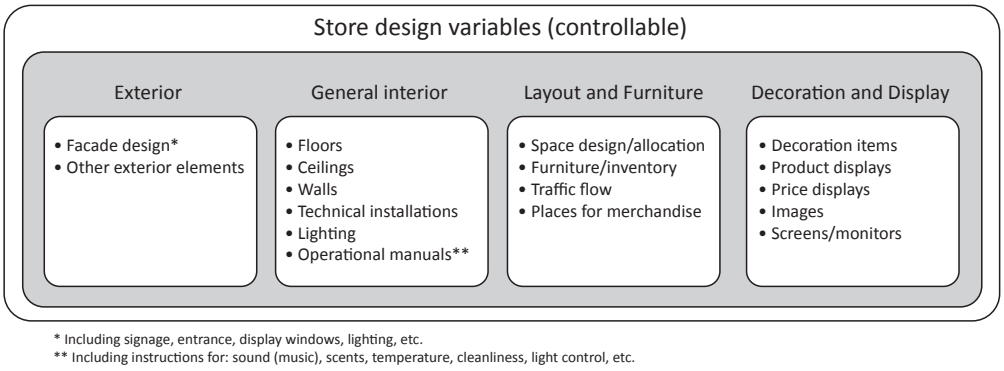

Figure 1. Categorisation of store design variables

When store designers make decisions concerning the defined types of store design variables, the scope of these decisions may be constrained by various stakeholders. In this context, two extensive classifications of retail design stakeholders were identified in the literature, namely the ones developed by Whysall (2000) and Kent (2007). These classifications, however, have an overall focus on retail design, and therefore, not all the included stakeholders are relevant from the store designer's perspective. Table 2 shows the set of stakeholders considered relevant from the perspective of a store designer as compared to the two stakeholder classifications identified in the literature. These differences are discussed below.

The proposed classification differs from the two existing classifications in three principal ways: (1) categories merged, (2) categories added, and (3) categories left out.

In relation to the merger of categories, the distinction between store managers and employees has been left out, since, from the designer's perspective, it is necessary to consider the work processes of all personnel, regardless of job title. Next, the distinction between the functional units of the retailer under the store owner, as proposed by Kent (2007), is left out, since, from a designer perspective, it makes more sense to perceive the store owner as an organisation, not least because this organisation often only has one or a few persons who communicate requirements to the designer.

	Store designer perspective	Whysall (2000)	Kent (2007)
0	Designers	Service providers	Store development/property arm, conceptual design team, store planning, and layout team
1	Suppliers	Suppliers	
2	Store owners	Owners	Buying and merchandising division, retailer's marketing department, retailer's corporate brand management team
3	Brand owners		
4	Store personnel	Employees, managers	Local store management, staff
5	Consumers	Customers	Customers
6	Landlords	Landlords	
7	Legislators	Government	
8	Competitors	Competitors	Competitors
9	Adjacent businesses		Adjacent businesses
		Financial community	Financial community
		Community	Neighbouring community
		Activists	
			Below-the-line agencies
			Above-the-line agencies
			Store development/property arm
			Architect/building services team
			Media
			Shareholders

Table 2. Constraint-generating stakeholders from a store designer's perspective

In relation to adding categories, it should be considered that in fashion store projects, store owners and brand owners are often different companies with different interests, which makes it important to draw a distinction between these two types of stakeholders.

With regard to leaving out categories, this is done for ten of the stakeholders mentioned by Whysall (2000) and Kent (2007). First, "financial community" and "shareholders" are left out, because they typically would not communicate with the designer — instead, they communicate with the store owner, who, based on such communication, may specify design constraints. Next, the "neighbouring community" has been left out, since it would typically not be the store designer's responsibility to consider their interests but instead the responsibility of the store owner and/or brand owner when they decide on a particular store location. Next, "activists" have been left out, since they are rarely relevant for the retail designer to consider; instead, they are more an issue for brand and store owners. Next, "below-the-line agencies" and "above-the-line-agencies" work for store or brand owners, and for this reason the designer would normally only meet these agencies through store or brand owners, which makes them an indirect factor. Next, "architect/building services team" has been left out, since the store designer is typically only involved in the project after a building has been bought, rented, or built. Thus, "architect/building services team" is normally not an actor type with whom the store designer communicates, except through the store or brand owner. Finally, "media" has been left out because media are only relevant through their influence on the other actors, which makes them an indirect factor.

With a basis in the identification of the most common store design variables and constraint generating stakeholders, a framework of the constraints of the store design process can be illustrated as shown in Figure 2. In the figure, the designer is placed between stakeholders and store design variables because the designer defines the store design variables while considering the constraints imposed by relevant stakeholders. A distinction is made between interior and exterior store design variables, since the distinctions between "general interior", "layout and furniture", and "decoration and display" are less clear than the distinctions between these variables and the exterior variables. More specifically, the exterior and interior of a retail store can be observed almost as separate from each other, while this is not possible for the three categories of interior variables. However, this does not mean that the exterior and interior of a retail store are designed independently, since, obviously, their coherency is important. The full circles inside the four categories of store design variables represent store variables (i.e., V_E represents "exterior variables", V_{GI} represents "general interior variables", and so on). The arrows between the store design variables symbolise "constraints within categories of store design

variables" (i.e., C_E, C_{GI}, C_{DD} and C_{LF}). The arrows, C1 to C8, symbolise "constraints between categories of store design variables":

C1: Exterior choices constraining interior choices
C2: Interior choices constraining exterior choices
C3: General interior choices constraining layout and furniture choices
C4: Layout and furniture choices constraining general interior choices
C5: General interior choices constraining decoration and display choices
C6: Decoration and display choices constraining general interior choices
C7: Layout and furniture choices constraining decoration and display choices
C8: Decoration and display choices constraining layout and furniture choices

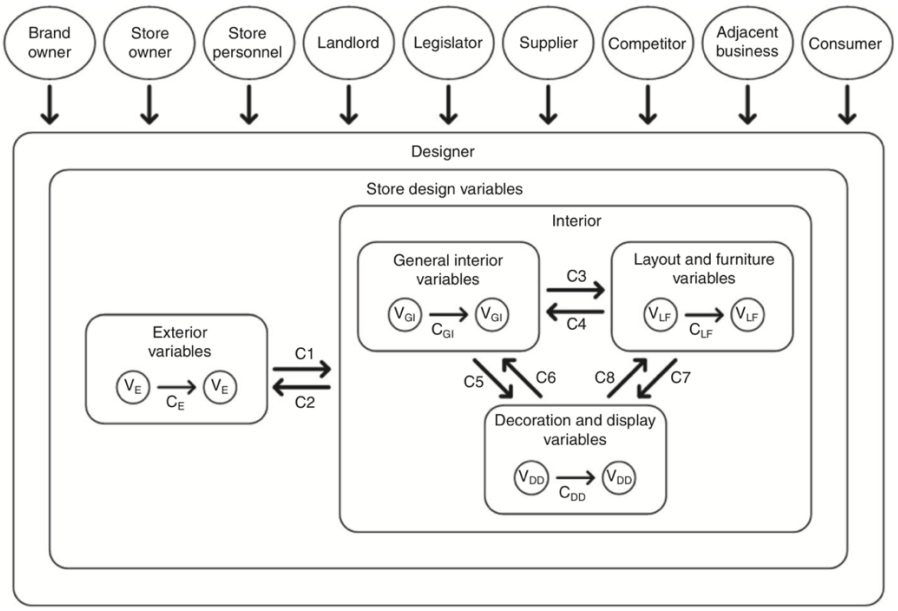

Figure 2. A framework of store design stakeholders, variables, and constraints

Figure 2 conveys three major propositions:

P1: The constraints imposed on the store design originate from nine major constraint-generating actor types
P2: The store exterior and the store interior may be perceived as separate systems, where the store interior consists of three subsystems: general interior, layout and furniture, and decoration and display
P3: Between these systems, eight types of constraints may emerge as a result of design choices

The empirical studies described in the subsequent sections investigate these propositions and clarify the nature of the defined types of constraints. In this context, it should be noted that the studies only focus on the constraints between categories of variables, as opposed to constraints that apply within these categories (i.e., C_E, C_{GI}, C_{DD} and C_{LF}). The reason for not focusing on such "constraints within categories of store design variables" is that the paper focuses on the usefulness of a system perspective on store design. Furthermore, such "local constraints" are often fairly self-evident — for example, the design of facade signs would typically affect the design of the flag signs and vice versa.

Research method

Six case studies of fashion store design projects were carried out. The purpose of the case studies was to investigate the outlined framework in terms of the defined store design stakeholders, variables, and constraints. This included (1) studying how well distinctions drawn in the framework corresponded with the worldview of retail store designers and (2) gaining insight into the defined constraint types. The reason for choosing a case study approach centred around interviews was the need to obtain a detailed understanding of how store designers understood the defined store design variable types of Figure 1 and the framework illustrated in Figure 2. More specifically, the study implied a need for retrieving, understanding and discussing large sets of examples of constraints between the different store design subsystems. Additionally, there was a need for multiple rounds of interviews to develop the store design variables into a form that all the designers found to be relevant and understandable.

Cases with similar features were chosen in order to achieve a homogeneous sample, since this, given a certain sample size, would imply a stronger basis for generalisation, although such generalisation would, obviously, concern only a more limited set of cases. In this context, it has been argued that as few as six cases might be sufficient for generalising, provided the sample is homogeneous (Kuzel, 1992; Morse, 1994). To increase the homogeneity of the sample, first the focus was delimited to the design of new fashion stores, as opposed to redesign of existing stores or implementation of existing store design concepts. Additionally, a delimitation was drawn regarding brand and physical setting. For the brand aspect, stores may be either single-brand or multi-brand stores. This study focuses on single-brand stores. In relation to physical setting, a retail store may be placed in a building created as part of the project or in an existing building. The latter includes, for example, street stores, mall stores, and airport stores. The contributions of this paper are relevant for all these scenarios. On the other hand, the contributions are only partly applicable to sub-stores in department stores (also known as in-stores or shop-in-

shops), where there is much less control over exterior and interior variables. Individual case characteristics are shown in Table 3.

Case	Market	Project duration[a]	Brand focus	Brand position	Employer	Designers in project	Education	Design experience	Store design experience
A	China	2 months	Women	Mid-range	Design bureau	3	MA Arch.	8 years	First project
B	China	7 months	Women	Mid-range to high-end	Design bureau	3	MA Arch.	8 years	2.5 years
C	Europe	8 months	Women	Mid-range	Design bureau	2	MA Arch.	11 years	9 years
D	Danish	3 weeks	Men/women	High-end	Design bureau	2	MA Arch.	14 years	12 years
E	Swedish	11 months	Women	Mid-range	Design bureau	2	MA Arch.	6 years	3 years
F	Danish	3 months	Men/women	Mid-range	Freelance	2	MA Design	10 years	10 years

Note: [a]Period from brief to the opening of the first store

Table 3. Case characteristics

The six projects were studied by interviewing retail store designers from each project and by studying documents related to the projects. The interviews were carried out as semi-structured interviews and were given on condition of anonymity. The interviews were recorded digitally and later transcribed. During the interviews, the interviewees were asked to describe their latest fashion store design project through the perspective of the proposed framework — in the form of examples of the defined store design variables (Figure 1), examples of constraints between the different store variables (Figure 2), and evaluations of the strength of such constraint types. Many of these examples were explained by including drawings and pictures from the project in focus. Finally, the interviewees were asked to consider the appropriateness of defined set of stakeholders. During the interviews, a great deal of time was dedicated to explaining the different categories of store design variables, ensuring that they were understood correctly, and waiting for interviewees to recall relevant aspects of the project. Thus, the interviews lasted 45-60 minutes. One week later, interviewees were asked to reflect upon the answers they had given during the interview and consider additional comments. Later in the process, the interviewees were again contacted to ensure that the developments of the framework had not negatively affected their perception of its correctness and understandability, as well as to retrieve additional examples. The cases were analysed by studying transcriptions of interviews, listening to the audio recordings, analysing notes taken, and studying project material acquired from the cases.

Results

In the first part of the interviews, the designers were asked to provide examples of constraints from the project in focus. Tables 4 and 5 show some of the examples given by each designer.

The examples given by the designers support the relevance of the defined types of constraints between store design variables (Figure 2) and illustrate how design choices related to one variable category can affect variables in other categories because of the constraints between them. In fact, examples of all eight constraint types could be given in all of the projects, except for "decoration and display" in relation to "general interior" in two cases and "decoration and display" related to "layout and furniture" in one case. In these cases, however, the designers reported that they had experienced such constraints in other projects.

After having given examples of constraints between store design variables, the designers were asked to estimate to which degree the design choices related to each of the variable categories affected the variables in the other categories. This information was retrieved to understand the connectedness between the four variable categories, which to some extent determines the required amount of consideration of variables in other categories, when making design choices within a particular category. The purpose of these estimates was not to acquire measures in a manner that would allow for comparisons across different cases, since this seems extremely difficult to do, if possible at all. Instead, the purpose was to understand how the designers had experienced the relative influence of such choices, as well as to investigate how easy it was to provide such estimates based on the defined framework. Table 6 shows the estimates given for the degree to which choices in one category of variables affect choices in the other categories.

Constraint relationship	Cases		
	Case A	Case B	Case C
Exterior variables to interior variables	The facade and entrance designs placed strong restrictions on the layout of the store	The entrance placement determined the consumer flow and, thus, affected the interior	Normally, a store has only one entrance, which makes it easy to plan the flow in the shop (e.g. by placing fitting rooms in the back of the store). The test store, however, had two entrances, which made the layout design challenging
Interior variables to exterior variables	The choice of materials and atmosphere in the interior should be reflected in the exterior. Thus, elements from the furniture and decorations were placed in the facade	Materials used in the interior were repeated in the exterior to achieve coherence	The desired customer flow in the store resulted in choosing to move an entrance door according to the flow
General interior variables to layout and furniture	The size of the interior restricted the number of items placed in the store	The design of the interior placed demands on materials used in furniture to ensure coherence	To create an intimate atmosphere in the fitting-room area, the ceilings were lowered, which implied that fitting rooms and furniture needed to fit this specific ceiling height
General interior variables to decorations and displays	Decoration items (e.g. posters) were chosen considering the interior design	The ceiling height determined the poster height	Wall posters were made in different sizes to fit the different dimensions of interior walls
Layout and furniture to general interior variables	The width of new interior walls was determined by the size of wall-mounted furniture	The ceiling was adjusted according to the height of prefabricated wardrobes	Wall lamellas were used as furniture, which implied a need to adjust the ceilings to fit their measurements.
Layout and furniture to decorations and displays	Decorations (e.g. posters) were greatly influenced by furniture design	Materials used for furniture were used for sign design	The design of poster-frames (decoration) matched the design of furniture (details and materials)
Decorations and displays to general interior variables	The wall space should consider the size of chosen decorations (e.g. posters)	Decorations affected general interior variables very little because of little decoration and display design	Not experienced in the current case (but in previous projects)
Decorations and displays to layout and furniture	The size of mannequins (decoration) affected the size of podiums (furniture)	Decorations barely affected layout and furniture variables because of little decoration and display design	While designing podiums, space for signs/posters was considered

Table 4. Examples of constraints between store design variables (Case A-C)

Constraint relationship	Cases		
	Case D	Case E	Case F
Exterior variables to interior variables	The architectural style of the building was brought into the interior decoration to some extent	The placement of the windows impacted the design of the general interior	The placement of entrances impacted the flow through the store and the design of the shop windows
Interior variables to exterior variables	Parts of the shop windows were closed to provide more space for the interior	Since the store had large windows and there was too little space for wall-furniture, decorations were placed in the windows to create more room for wall furniture	The colours and materials of the interior impacted the colour and materials chosen in the store facade (e.g. the signs chosen)
General interior variables to layout and furniture	Pillars made it difficult to use the space. Thus, sales tables were attached to these	The room height defined the furniture height	The placement of the stockroom, personnel room, and toilet affected how the flow in the store was defined, where the furniture was placed, and the size of the furniture
General interior variables to decorations and displays	To make use of limited space, a staircase was used to place mannequins	The room height defined the height of textile displays	The large store space made it necessary to divide the space with merchandise and signs
Layout and furniture to general interior variables	It was decided that the sales desk should be placed in a separate room, which required a new room to be built	A storage system demanded that the room was made taller for which reason the suspended ceiling was removed	The concept involved that furniture was fitted into niches in the walls. The size of furniture implied that the walls and niches be modified
Layout and furniture to decorations and displays	A detail from a rack was used in the window display	The backside of a storage system defined where posters were placed	Materials and colours from the furniture were used in the decorations and display design (e.g. mannequin podiums and signs)
Decorations and displays to general interior variables	A display made for the shop window was moved into the store, changing the flow in the store	Posters and other visual expressions were dominant, affecting how the rooms were designed	Flat screen monitors showing the collection were to be fitted in the walls. This implied that the recesses in the walls be defined by the monitor's sizes
Decorations and displays to layout and furniture	Display racks were used as sales racks to achieve better harmony	The goal of making an artist studio atmosphere was fulfilled by using details from artist studios in decoration and furniture design	The placement of the flat screen monitor affected the placement of coat hanger bars

Table 5. Examples of constraints between store design variables (Case D-F)

Variable category	Estimated influence of variable category					
	Case A	Case B	Case C	Case D	Case E	Case F
Exterior	2	5	2	2	2	3
General interior	4	5	4	2	4	3
Layout and furniture	5	4	4	5	4	5
Decoration and displays	2	2	2	1	4	2

Note: 1, None; 2, weak; 3, moderate; 4, strong; 5, very strong

Table 6. Estimated influence of variable choices on other category variables

As seen in Table 6, the designers generally agreed that the influence from the choices made on exterior and decoration and display variables were the least significant. This is not surprising, since, as mentioned, the exterior variables and the three categories of interior variables to some extent can be seen in isolation. In relation to the relatively low level of influence from decoration and display choices, four of the store designers stated that the general interior variables and layout and furniture variables are only rarely affected by decorations and displays, since decorations and displays are expected to change during the lifetime of a fashion store, because they are used to present new merchandise and continuously refresh the look of a store. Therefore, such changes do not normally imply major changes to the layout and furniture or general interior variables, which are more long-lasting elements.

Finally, the designers were shown the derived nine main types of constraint-generating stakeholders and the classifications by Whysall (2000) and Kent (2007). All the designers supported the arguments leading to the defined nine categories of stakeholders as well as their superior relevance as compared to the ones that had been left out.

Overall, the six case studies indicated that the proposed framework is a useful way to organise the worldview of fashion store designers. More specifically, the cases supported the existence and relevance of the defined categories of store design variables (Figure 1) as well as the defined categories of stakeholders and the constraints between store design variables (Figure 2). In fact, the interviewed designers were readily able to provide specific examples of these constraints and estimate their significance. In this context, it should be noted that all the interviewed designers mentioned that design constraints were not necessarily negative but could sometimes be helpful by making a task more specific and inspiring original ideas.

Discussion

As mentioned earlier, the proposed framework (as illustrated in Figure 2) conveyed three major propositions:

P1: The constraints imposed on the store design originate from nine major constraint-generating actor types
P2: The store exterior and the store interior may be perceived as separate systems, where the store interior consists of three subsystems: general interior, layout and furniture, and decoration and display
P3: Between these systems, eight types of constraints may emerge as a result of design choices

In relation to the first proposition, as mentioned, the interviewed designers all supported the arguments leading to the defined nine categories of stakeholders as well as their superior relevance as compared to the ones that had been left out from the classifications by Whysall (2000) and Kent (2007). Given that the existing classifications have an overall focus on retail design, it is not surprising that several of these stakeholders were not considered particularly relevant from the store designer's perspective. More specifically, many of the stakeholders from the existing classifications are typically not in direct contact with the designer but communicate with other stakeholders, for which reason, the designer perceives these constraints as originating from the stakeholders who convey them to the designer.

In relation to the second proposition, it may seem obvious that store designers are able to perceive a store design as a set of interrelated subsystems. However, in the cases studied here, this was not a perspective that the designers employed in the formal way that this paper outlines. More specifically, aside from a distinction between exteriors and interiors, the designers discussed store designs more at a variable level, perceiving the interior as one big system. This paper does not argue that this holistic perspective on store design should be discarded, but rather that the subsystem perspective could be advantageously employed at the same time. The perception of a store design as a set of interrelated systems allows the designer to design and evaluate parts of a store design in isolation, as well as comparing general characteristics of subsystems. Such approaches, for example, make it possible to discuss and optimise store designs in a more structured manner.

Another important point to be made in relation to the proposed system perspective is that it is not enough to divide a store design into just any set of subsystems. As pointed out in this paper, the classifications proposed by Berman and Evans (1995) and Turley and Milliman (2000) are not aimed at describing the store design task from the perspective of fashion store

designers; nor are they particularly well-suited for this purpose. For example, from the designer's perspective, it makes more sense to perceive employees and consumers as stakeholders rather than something to be designed, as the category "human variables" in the framework of Turley and Milliman (2000) would suggest. Additionally, the distinctions between some of the variables included in these frameworks are unclear; this applies, for example, to the distinctions between the variables "colour schemes", "wall composition" and "paint and wall paper" and "wall decorations", as well as the distinctions between "space design and allocation" and variables such as "dead areas", "waiting queues", "width of aisles" and "work station placement". On the other hand, the framework proposed by this paper was found to be relevant and easily understood by the six interviewed store designers. This is no coincidence, because although the proposed definition of store design subsystems and their elements may appear to be an obvious way to organise elements, in fact, substantial analysis work (by the authors) was needed to determine exactly which store design variables to include in each of the four subsystems (as shown in Figure 1). This work was done during the process of the six case studies through multiple rounds of interviews in which the preliminary sets of store design variables were slightly adapted, until they obtained a form that all six designers found to be clearly understandable and generally applicable.

In relation to the third proposition, the idea of perceiving the store design subsystems as being interconnected by constraints may, to a great extent, be what makes the system perspective useful for understanding store design processes. More specifically, the understanding of the way in which the different subsystems are interrelated allows the designers to perceive the subsystems in isolation by clarifying the implications for one subsystem of design decisions within another subsystem. The understanding of constraints between subsystems depends on the clarity of the subsystems that they connect — and, as the case studies demonstrated, the proposed subsystem definitions enabled a clear understanding of what the relevant constraints between subsystems were. Thus, according to the assessment of the interviewed designers, the proposed framework holds value as a means for structuring store design tasks and as a frame of reference when discussing store designs.

Conclusions

Searches in academic databases revealed several studies on retail store characteristics and consumer behaviour, but also showed a gap in relation to understanding fashion store design processes. To address this gap, this paper proposed a framework of fashion store design variables, the constraints between them, and constraint-generating stakeholders. The proposed framework was investigated by six case studies of fashion store projects, which supported its usefulness for understanding the design processes involved.

These case studies also illustrated the complexity of the store design process. The explanation of this complexity lies in the many constraints between different store design variables, which imply that a change to one variable can affect other variables, which can affect other variables, and so on. Furthermore, the cases showed a dynamic aspect of the retail store design process in the sense that many constraints are not known beforehand but emerge during the design process as decisions are made. The retail store designer needs to deal with such emerging constraints while attending to existing constraints, for which reason the retail store design process becomes a matter of handling multiple interdependent design decisions simultaneously.

In relation to the influence of the different constraints between store design variables, the cases showed that exterior and decoration and display variables had the least effect on other variable categories, while general interior and layout and furniture variables had the greatest effect, primarily upon each other and the decoration and display variables. The case studies also showed that the distinctions made in the framework seemed to correspond with the worldview of store designers in the sense that they could easily relate to the proposed store design variables and constraints. More specifically, the six cases illustrated that the defined store design constraint types are a part of fashion store design projects and that the defined categories and variables of the store design task provided a useful perspective. Therefore, the frameworks may enable retail store designers to approach the store design task in a more structured manner, and thereby limit the number of issues that later emerge.

Although it can be argued that there is some basis for assuming that to some degree the six cases are representative of similar projects, saying something about other types of retail stores is more difficult. In this context, it could be argued that because of the high-level definitions in the framework, at least the findings of the paper would be applicable to other types of retail stores with a relatively homogeneous target audience and with a focus on creating aesthetic or interesting store environments, as opposed to retail stores with a primary focus on practical and economic aspects. However, future research needs to investigate the framework in other retail contexts to understand its general usefulness.

For retail designers and managers, the framework may help structure the acquisition of information and design decisions during store design projects. For academia, the framework provides a novel perspective on store design as well as insights about stakeholders, store design variables, and constraints. Thus, the framework may be used as a point of departure and a frame of reference for future studies of store design and in store design education.

References

Babin, B.J. and Attaway, J.S. (2000), "Atmospheric affect as a tool for creating value and gaining share of the customer", *Journal of Business Research*, Vol. 49 No. 2, pp. 91-99.

Bagdare, S. and Jain, R. (2013), "Measuring retail customer experience", *International Journal of Retail & Distribution Management*, Vol. 41 No. 10, pp. 790-804.

Baker, J., Parasuraman, A., Grewal, D. and Voss, G.B. (2002), "The influence of multiple store environment cues on perceived merchandise value and patronage intentions", *Journal of Marketing*, Vol. 66 No. 2, pp. 120-141.

Ballantine, P.W., Jack, R. and Parsons, A.G. (2010), "Atmospheric cues and their effect on the hedonic retail experience", *International Journal of Retail & Distribution Management*, Vol. 38 No. 8, pp. 641-653.

Bellizzi, J.A., Crowley, A.E. and Hasty, R.W. (1983), "The effects of color in store design", *Journal of Retailing*, Vol. 59 No. 1, pp. 21-45.

Berman, B. and Evans, J.R. (1995), *Retail Management: A Strategic Approach*, 6th ed., Prentice-Hall, Inc., Englewood Cliffs, NJ.

Bitner, M.J. (1992), "Servicescapes: The impact of physical surroundings on customers and employees", *Journal of Marketing*, Vol. 56 No. 2, pp. 57-71.

Borges, A., Babin, B.J. and Spielmann, N. (2013) "Gender orientation and retail atmosphere: effects on value perception", *International Journal of Retail & Distribution Management*, Vol. 41 No. 7, pp. 498 - 511.

Brengman, M. and Geuens, M. (2004), "The four dimensional impact of color on shoppers' emotions", in B.E. Kahn and M. Frances (Eds.), *Advances in Consumer Research 31*, Association for Consumer Research, Valdosta, GA, pp. 122-128.

Brengman, M., Willems, K. and Joye, Y. (2012), "The impact of in-store greenery on customers", *Psychology and Marketing*, Vol. 29 No. 11, pp. 807–821.

Chebat, J.C. and Morrin, M. (2007), "Color and cultures: Exploring the effects of mall decor on consumer perceptions", *Journal of Business Research*, Vol. 60 No. 3, pp. 189-196.

Chebat, J.C., Hedhli, K.E. and Sirgy, M.J. (2009), "How does shopper-based mall equity generate mall loyalty? A conceptual model and empirical evidence", *Journal of Retailing and Consumer Services*, Vol. 16 No. 1, pp. 50-60.

Chen, H. S. and Hsieh, T. (2011), "The effect of atmosphere on customer perceptions and customer behavior responses in chain store supermarkets", *African Journal of Business Management*, Vol. 5 No. 24, pp. 54-66.

Davies, B. and Ward, P. (2005), "Exploring the connections between visual merchandising and retail branding", *International Journal of Retail and Distribution Management*, Vol. 33 No. 7, pp. 505–513.

Davies, J. and Tilley, N. (2004), "Interior design: Using the management services approach in retail premises", *Managing Services*, Vol. 48 No. 7, pp. 10-13.

Diallo, M.F., Chandon, J. L., Cliquet, G. and Philippe, J. (2013), "Factors influencing consumer behaviour towards store brands: evidence from the French market", *International Journal of Retail & Distribution Management*, Vol. 41 No. 6, pp. 422-441.

Donovan, R.J. and Rossiter, J.R. (1982), "Store atmosphere: An environmental psychology approach", *Journal of Retailing*, Vol. 58 No. 1, pp. 34-57.

Donovan, R.J., Rossiter, J.R., Marcoolyn, G. and Nesdale, A. (1994), "Store atmosphere and purchasing behavior", *Journal of Retailing*, Vol. 70 No. 3, pp. 283-94.

Faultrier (de), B. and Towers, N. (2011), "An exploratory packaging study of the composite fashion footwear buying framework", *Journal of Retailing and Consumer Services*, Vol. 18 No. 5, pp. 463-470.

Frampton, K. (2006), "The work of architecture in the age of commodification", *Harvard Design Review*, Vol. 23 No. 1, pp. 65-69.

Godey, B., Lagier, J. and Pederzoli, D. (2009), "A measurement scale of "aesthetic style" applied to luxury goods stores", *International Journal of Retail & Distribution Management*, Vol. 37 No. 6, pp. 527-537.

Gorn, G.J. (1982), "The effects of music in advertising on choice behavior: A classical conditioning approach", *Journal of Marketing*, Vol. 46 No. 1, pp. 94-101.

Harris, L.C. and Ezeh, C. (2008), "Servicescape and loyalty intentions: An empirical investigation",

European Journal of Marketing, Vol. 42 No. 3/4, pp. 390-422.
Joye, Y. (2007), "Architectural lessons from environmental psychology: The case of biophilic architecture", *Review of General Psychology*, Vol. 11 No. 4, pp. 305–328.
Kent, T. (2007), "Creative space: Design and the retail environment", *International Journal of Retail & Distribution Management*, Vol. 35 No. 9, pp. 734-745.
Kotler, P. (1973), "Atmospherics as a marketing tool", *Journal of Retailing*, Vol. 49 No. 4, pp. 48-64.
Kuzel, A. (1992), "Sampling in qualitative inquiry", in B. Crabtree and W. Miller (Eds.), *Doing Qualitative Research*, Sage Publications, Newbury Park, CA, pp. 31-44.
Lin, I.Y. (2004), "Evaluating a servicescape: The effect of cognition and emotion", *International Journal of Hospitality Management*, Vol. 23 No. 2, pp. 163-178.
Machleit, K.A. and Eroglu, S.A. (2000), "Describing and measuring emotional response to shopping experience", *Journal of Business Research*, Vol. 49 No. 2, pp. 101-111.
Morse, J. (1994), "Designing funded qualitative research", in N. Denzin, N. and Y. Lincoln (Eds.), *Handbook of Qualitative Research,* Sage Publications, Thousand Oaks, CA, pp. 220-235.
Newman, A. and Foxall, G. (2003), "In-store customer behaviour in the fashion sector: some emerging methodological and theoretical directions", *International Journal of Retail and Distribution Management*, Vol. 31 No. 11, pp. 591–600.
Ritterfeld, U. (2002), "Social heuristics in interior design preferences", *Journal of Environmental Psychology*, Vol. 22 No. 4, pp. 369-386.
Russell, J.A. and Snodgrass, J. (1987), "Emotion and the environment", in D. Stokols and I. Altman (Eds.), *Handbook of Environmental Psychology 1*, John Wiley & Sons, New York, NY, pp. 245-281.
Ryu, K. and Jang, S. (2008), "Influence of restaurants' physical environments on emotion and behavioral intention", *The Service Industries Journal*, Vol. 28 No. 8, pp. 1151-1165.
Sirgy, M.J., Grewal, D. and Mangleburg, T. (2000), "Retail environment, self-congruity, and retail patronage: An integrative model and a research agenda", *Journal of Business Research*, Vol. 49 No. 2, pp. 127-138.
Turley, L.W. and Milliman, R.E. (2000), "Atmospheric effects on shopping behavior: A review of the experimental evidence", *Journal of Business Research*, Vol. 49 No. 2, pp. 193–211.
Van Rompay, T.J.L., Tanja-Dijkstra, K., Verhoeven, J.W.M. and van Es, A.F. (2012), "On store design and consumer motivation: Spatial control and arousal in the retail context", *Environment and Behavior*, Vol. 44 No. 6, pp. 800–820.
Vazquez, D. and Bruce, M. (2002), "Design management – the unexplored retail marketing competence", *International Journal of Retail & Distribution Management*, Vol. 30 No. 4, pp. 202-210.
Whysall, P. 2000, "Addressing ethical issues in retailing: a stakeholder perspective", *The International Review of Retail, Distribution and Consumer Research*, Vol. 10 No. 3, pp. 305-318.
Yim, C.K., Chan, K.W. and Hung, K. (2007), "Multiple reference effects in service evaluations: Roles of alternative attractiveness and self-image congruity", *Journal of Retailing*, Vol. 83 No. 1, pp. 147-157.

Paper 2: Management of Constraint Generators in Fashion Store Design Processes

Münster, M. B. & Haug A. (2017)
International Journal of Retail & Distribution Management, Vol. 45, No. 2.

Management of constraint generators in fashion store design processes

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Abstract

Purpose – Retail design concepts are complex designs meeting functional and aesthetic demands from various constraint generators. However, the literature on this topic is sparse and offers only little support for store designers to deal with such challenges. To address this issue, the purpose of this paper is to identify the most important constraint generators, investigating the types of constraints they generate, and providing guidelines for how to deal with constraint elicitation.

Design/methodology/approach – The three contributions mentioned above are developed through discussions of the literature and eight case studies of fashion store design projects.

Findings – The paper shows that the influence of the constraint generators decreases during the design process except for supplier-generated constraints, which increase in the final stages of the design process. The paper argues that constraints should be elicited close to their occurrence, and that doing so requires a solid understanding of relevant constraint generators.

Research limitations/implications – The paper provides a structured basis for further research and identifies areas warranting further study. Although, the paper's focus is on fashion store design, the findings may, to some degree, be applicable to other types of store design projects.

Practical implications – The understandings provided by this paper may help designers to deal proactively with constraints, reducing the use of resources to alter design proposals.

Originality/value – The paper: defines the most important constraint generators from the perspective of retail store designers, clarifies the types of constraints they generate, and provides guidelines for how to deal with constraint elicitation.

Keywords Design management, Design constraints, Constraint generators, Fashion store, Retail design, Store design Paper type Research paper

Introduction

Most retailers and product brands are aware of the importance of focussing on retail store design as a part of their marketing strategy. This awareness has a solid foundation in the retail store literature, which holds considerable evidence that retail store experiences have a significant impact on consumer satisfaction, shopping frequency, purchase amount, loyalty, reputation, and image formation (e.g. Turley and Milliman, 2000; Wong and Sohal, 2006; Grewal et al., 2009; Verhoef et al., 2009; Puccinelli et al., 2009; Jones et al., 2010; Bagdare and Jain, 2013; Ballantine et al., 2015).

Although the retailer makes the final decisions, it is the store designer who creates the store designs, as well as advising the retailer about the consequences of such decisions. Thus, in contrast to the focus in most existing literature, it is also relevant to understand this task from the perspective of store design bureaus. They are to provide design proposals that satisfy desires and demands from retailers, while ensuring that such proposals are realisable within economic and time constraints. This can be extremely complicated because of the many design variables involved and their interrelationships (Vazquez and Bruce, 2002; Haug and Münster, 2015). For example, choosing a certain floor material has consequences for the choices made about the walls, because the two materials will meet. Therefore, a practical solution for the joint must be found, and aesthetically, the mix of the surfaces must create a coherent and harmonious store appearance. Another issue that may complicate the retail store design task is the involvement of multiple stakeholders with differing opinions and interests. The many interdependent design variables and different stakeholder interests imply that, compared to product design, retail store design favours flexibility and a process of continuous problem solving over a more anticipatory approach (Kent, 2007).

Since constraints in store design projects typically emerge continuously throughout the design process and often point it in different directions (Vazquez and Bruce, 2002; Kent, 2007; Haug and Münster, 2015), dealing with such constraints only as they emerge requires altering store designs each time new and unsatisfied constraints are encountered. Thus, dealing with constraints in a more proactive and systematic manner may make it possible to avoid alterations and save on time and resources. One of the means to enable such an approach is a better understanding of relevant constraint generators (i.e. constraint-generating stakeholders and physical surroundings) and the type of constraints they generate. Despite the fact that fashion consumers have been studied extensively over the past 20 years (Michon et al., 2015), academic investigation of store design – the environments in which these consumers make their purchases – is sparse, and does not provide adequately detailed answers from the designer's perspective (Haug and Münster, 2015). To address this issue, this paper aims to identify the most important

constraint generators, investigating the types of constraints they generate, and providing guidelines for how to deal with constraint elicitation. More specifically, this paper answers the following three questions from the perspective of store designers:

1) Who/what are the main constraint generators from the perspective of the fashion store designer?
2) What types of constraints do the main constraint generators impose?
3) How can store designers elicit such constraints?

Because of the highly context-dependent environmental factors associated with individual stores, retail store design is difficult to study from a general perspective (Van Rompay et al., 2012). In order to delimit the focus, this paper concentrates on fashion stores. Fashion stores are of particular interest in relation to store design, since their design usually requires unique interiors capable of standing out from the competition; they need to appear exclusive, provocative, grab consumers' attention in other ways (Ballantine et al., 2015; Haug and Münster, 2015). Furthermore, fashion stores demand a flexible interior since the fashion collections change frequently, creating a need for the store to convey new messages at regularly recurring intervals (Barnes and Lea-Greenwood, 2010). Fashion stores thus represent an extreme in terms of the demands of their store design, which makes them an ideal laboratory for this type of study. Other kinds of retail stores, where the requirements of the design are perhaps less exacting, may be able to utilise insights gained from the study of fashion store design. Thus, although the focus of this paper rests narrowly on the design of fashion stores, the findings may be applicable to other types of store design projects.

Literature review

This section summarises and discusses literature on retail store design, design constraints, and retail design constraint generators.

Retail store design

In the early 1970s, marketing research began to explore the subtler aspects of service environment design, not least because Philip Kotler (1973) drew attention to what he called "atmospherics", or "the conscious designing of space to create certain effects in buyers" (p. 50). A central topic in this context is the effect of cues on consumers. Studies with this focus include investigations of the effects of visual, auditory, olfactory, and tactile cues (Bellizzi et al., 1983; Bitner, 1992; Baker et al., 2002; Chebat and Morrin, 2007; Ryu and Jang, 2008; Van Rompay et al., 2012; Bagdare

and Jain, 2013; Ballantine et al., 2015). However, research addressing the holistic effects of a store's environmental factors is inconclusive. This is in part because environmental aspects are complex combinations of different types of stimuli linked to both intangible variables, such as colour and scent, and tangible variables, such as decorations, layout, and interior design elements (Van Rompay et al., 2012; Ballantine et al. 2015).

Consumers generally prefer shopping environments that match their self-concept (e.g. Donovan et al., 1994; Sirgy et al., 2000; Yim et al., 2007). Also, consumers' brand perceptions have a significant influence on their purchase behaviour (Diallo et al., 2013), and the store becomes a means of communication between brand and consumer (Davies and Ward, 2005). The communication of brand identity through store design seems particularly relevant in fashion stores, where environmental cues grab the consumer's attention in a certain way. Faultrier de and Towers (2011) describe the approach to fashion store design in this way: "how the consumer can experience the brand identity, thanks to a specific choice of materials, lighting and fittings designed specially for the different brands and particular types of merchandise".

Besides communicating a specific identity, fashion stores must also meet consumers' need for interacting with the products. The store has both to inspire and to present the products in a way that makes it easy for the consumer to see, touch, and try them. The store must also accommodate social factors in both an direct and indirect manner (Brocato et al., 2012; Baker et al., 2002; Jones et al., 2010; Wu et al., 2013). Research also indicates that consumers with hedonic intentions place higher importance on the store environment than consumers with utilitarian intentions (Jones et al., 2010; Kaltcheva and Weitz, 2006; Van Rompay et al., 2012). Fashion shopping can to a large extent be categorised as particularly hedonic type of shopping, which obviously produces special demands in relation to store design.

A central aim of retailers is to create consumer loyalty. Studies have indicated that store loyalty can be predicted by consumers' self-congruity (the match between the brand image and consumer's self-concept), and that this self-congruity can be predicted by store dimensions such as atmosphere, merchandise, price, and promotions (Chebat et al., 2009). Thus, the identity of the store needs to be clearly communicated in order to build the desired associations with the brand (Vazquez and Bruce, 2002; Godey et al., 2009).

Bitner's (1992) framework for service environments addresses the nature of store environments and is one of the most widely cited of its kind. Bitner grouped the physical service environment into three categories: space and function; signs, symbols, and artefacts; and ambient conditions. Another way to understand retail environments is proposed by Berman and Evans (1995), who defined the four categories of atmospheric stimuli: external variables; general interior variables;

layout and design variables; and point-of-purchase and decoration variables. Turley and Milliman (2000) added a fifth category called "human variables".

What the above-mentioned classifications make clear is that retail store design involves decisions for a wide range of interpreted variables, which can make store design an extremely complicated task (Vazquez and Bruce, 2002). Thus, as mentioned in the introduction, many stakeholder interests and the interdependency of these design variables imply that, compared to product design, retail design favours flexibility and a process of continuous problem solving over a more anticipatory approach (Kent, 2007). The design decisions related to these variables may be seen as compromises between the demands, interests, or preferences of relevant constraint generators, such as store owners, consumers, and legislators. In other words, it is the task of the store designer to define a store design that considers such demands, interests, or preferences (i.e. constraints) to a satisfactory degree. Thus, store designers need to know who the relevant "constraint generators" are and what constraints they generate.

In retail design literature, fashion stores are often dealt with as a special case within retail stores generally. Examples include the marketing communication of fast fashion (Barnes and Lea-Greenwood, 2010), fashion store atmosphere (Parsons, 2011; Ballantine, 2015), fashion store personality (Brengman and Willems, 2009), the relationship between hedonic and utilitarian fashion shopping (Scarpi, 2006), sensory aspects of fashion stores (Clarke et al., 2012), lighting aspects of fashion stores (Schielke and Leudesdorff, 2015), the role of scent in fashion stores (Doucé and Janssens, 2013), visual merchandising vs brand attitude in fashion stores (Park et al., 2015), private vs national brand fashion store images (Herstein et al., 2013), and consumer vs retailer store image perception (Birtwistle et al., 1999). As mentioned in the introduction, the explanation for the special treatment accorded to fashion stores lies in the fact that the demands of fashion store design are typically far more stringent when compared to other retail environments. Fashion stores require attention-grabbing interiors capable of standing out from their competitors, while at the same time requiring an interior flexible enough to accommodate frequently changing product lines (Barnes and Lea-Greenwood, 2009; Ballantine et al., 2015; Haug and Münster, 2015).

Design constraints

Extensive searches in journal databases (Social Sciences Citation Index, Arts and Humanities Citation Index, and EBSCO) revealed that retail design literature dealing with "design constraints" is sparse. This is also the case for the adjacent fields of industrial and fashion design,

as opposed to, for example, engineering and computing. In the following, the most relevant of the identified literature is summarised.

A design constraint is something that limits the possible design choices. Lawson (2006) distinguished between three design constraint dimensions: generator, domain, and function. Lawson divided constraint generators into designers, clients, users, and legislators. He further argued that the flexibility or optionality of the constraints is greatest in the designer-generated constraints, becomes increasingly smaller as one moves from clients to users, and eventually becomes rather rigid or mandatory at the legislator level. According to Lawson (2006, p. 91), one of the most important skills for designers to acquire is the ability to evaluate self-imposed constraints. This lets them eliminate unfruitful constraints instead of spending time on insuperable problems that, to a large extent, are created by the designers themselves.

According to Gedenryd (1998, p. 73), the standard view of constraints can be summarised as "restrictions on an acceptable solution that are specified in the instructions given to the designer" that are "non-optional (but indeed required) and thus beyond the designer's control". However, according to Gedenryd (1998, p. 71), within the design literature, there are many examples where constraints are not fixed restrictions given in advance, as well as examples where adding constraints proves helpful. More specifically, Gedenryd adopted Guindon's (1990, p. 297) conception that since specifications encountered in practice are typically incomplete, adding constraints is crucial to define the requirements that capture the desired functionality. Thus, according to Gedenryd, conceptions of what a design constraint is point in different directions, in the sense that a constraint may be helpful or a hindrance, fixed or optional, provided in advance or added during the design process, and given to the designer in the problem definition or imposed by the designer.

Savage and Miles (1998) distinguished between three kinds of constraints that designers use: external constraints (economic aspects, such as the time and the cost to develop a product); internal constraints (domain knowledge, expertise, and intelligence); and task-inherent constraints (physical characteristics, such as the size of the product). To investigate such constraints, Savage and Miles conducted experiments by giving 100 students design tasks with different constraining conditions. The experiments showed that removing the external task constraints of time and cost did not necessarily lead to an optimal solution, while the effect of increasing the task-inherent constraints (physical characteristics) was, at best, neutral. Furthermore, their study suggested that if the aim is to stimulate creativity and unusual designs, it is necessary to keep cost constraints and task-inherent constraints to a minimum.

Oak (2011) investigated how the conversational aspects of design can be examined from the perspectives of symbolic interactionism and conversation analysis. According to Oak,

the designed object and the conversations about it represent a set of negotiations between creativity and constraints. Furthermore, Oak argued that "through talk, the creativity and constraints of design are continually being managed and performed by participants in practice" – and that the novel ideas for a new object do not always come from the designer, as clients may also produce innovative suggestions, which may be accepted or rejected on the basis of constraints such as cost, aesthetics, and available machining techniques.

Oygur and McCoy (2011) studied the role of the user and user involvement in the interior design process in a study where 14 students were introduced to a user-centred design process. The study indicated that the students utilised knowledge about the users both as an inspiration and as a source of constraints. The knowledge about the users produced constraints related to goals, barriers, expectations, requirements, and limitations in the project, while also fostering creativity (inspiration) and helping the students to develop concepts. The dynamic between these two roles varied during the project, as in the beginning (analytical phase and executive phase) the users were primarily seen as producing constraints, while later in the process (creative phase), the users were primarily seen as a source of inspiration.

Retail design constraint generators

As mentioned, Lawson (2006) divided constraint generators into designers, clients, users, and legislators. Although this categorisation may be well suited to explain the nature of design constraints, more nuanced descriptions are needed to support retail store designers in their work. Given the sparse literature on design constraints in retail store design, to identify relevant constraint generators, the focus was turned to literature dealing with stakeholders in retail store contexts.

On the basis of general stakeholder categorisations (i.e. Freeman, 1984; Greenley, 1989), Whysall (2000) defined 12 groups of stakeholders in retailing: customers; suppliers; competitors; government; financial community (e.g. in relation to in-store credit); service providers (such as haulage companies and store designers); employees; managers (such as store managers); landlords (e.g. in relation to rental agreements and property maintenance); owners (of the retail business); community (e.g. the retailer may take community services, such as dispensing post); and activists (e.g. trying to protect their local environments against retail development).

According to Kent (2007), stakeholders in retail design fit into three broad categories: those directly involved in the retail design and store development process, those directly affected by the process, and those indirectly affected. Directly involved stakeholders include the store development/property arm; the architect/building services team; the conceptual

design team; the store planning and layout team; the local store management; and the buying and merchandising division. Directly affected stakeholders include the retailers' marketing department; the retailers' corporate brand management team; below-the-line agencies (POP, sales promotion, DM, etc.); and advertising and other above-the-line agencies. Indirectly affected stakeholders include staff; customers; adjacent businesses; the neighbouring community; competitors; the media; and shareholders and the financial community.

Other authors use the concept of stakeholders in retail research but do not engage in significant discussions of the concept. For example, Kent and Stone (2007) focussed on how a company's retail store design relates to its brand and corporate values through a study of The Body Shop. In relation to this case study, they mentioned the following types of stakeholders: brand managers, retailers, manufacturers, consumers, and designers. Lai et al. (2010) discussed green retailing, and in this connection, they argued that retailers are under pressure from regulators, community groups, and customers for green practices and that retailers have the role as an intermediary between suppliers and customers in fostering such green practices. In relation to "green retailing practices", they defined the key parties as employees, suppliers, customers, and top management. Petermans et al. (2013) focussed on customer experiences in retail environments. To account for the stakeholders who have been involved in the design and functioning of actual retail environments, they interviewed the three types of stakeholders: retailers, designers, and customers. In other words, their study was based on the assumption that these three types of stakeholders have adequate insights to account for the relevant aspects in relation to the design and functioning of retail environments.

The studies by Haug and Münster (2015) produced nine major types of constraint generators in fashion store design projects from the perspective of the designer: supplier, store owner, brand owner, store personnel, consumer, landlord, legislator, competitor, and adjacent business. This categorisation of constraint generators differs significantly from the categorisations by Whysall (2000) and Kent (2007), in the sense that Whysall (2000) and Kent (2007) focus on retailing from an overall perspective, while the classification proposed by Haug and Münster (2015) takes the perspective of the store designers. Thus, as opposed to Haug and Münster (2015), Whysall (2000) does not include "brand owners" and "adjacent businesses", while Kent (2007) does not include "suppliers", "brand owners", "landlords", and "legislators". On the other hand, as opposed to Haug and Münster (2015), Whysall (2000) includes "financial community", "community", and "activists", while Kent (2007) includes "financial community", "neighbouring community", "below-the-line agencies", and more. These differences illustrate that it is a different set of stakeholders that affect store designers, as compared to the set of stakeholders involved in retail from an overall perspective.

Literature discussion

In summary, the literature review showed that retail design projects are complex. It also underlined the importance of designers knowing the relevant constraint generators and understanding the types of constraints they generate. Furthermore, the literature review showed that although there are several examples of research on design constraints from a general perspective, research on constraint generators in fashion store design processes is scarce. Finally, although the literature refers to several types of constraint generators in action, it does not clearly describe how and to what extent they affect the design process. This gap, as previously mentioned, is addressed by this paper.

Research method

To address the questions raised by this paper, studies of eight fashion store projects were carried out. Besides delimiting the studies to fashion stores, further delimitations were made regarding brand and physical setting. For the brand aspect, stores can be either mono-brand or multi-brand. The studies focused on mono-brand stores, on the assumption that the influence of brand aspects would be easier to detect in such cases. In relation to the physical settings, a retail store can be a street store, a store in a commercial building, such as a mall or an airport, or a so-called in-store in a department store. The contributions of this paper are relevant for the first three store types but only partly relevant for in-stores, since they involve slightly different constraint generator roles.

When new stores are created, the interior is often based on a general store design concept, which is implemented in a test store and afterwards rolled out in other locations. Since it is only in the development of the store concept that all constraint generators are fully involved, it is the creation of the test store that is of interest to research. However, new store concepts are time- and resource-consuming projects, which are not frequently created. Furthermore, the projects in focus had to be relatively recent in order for the designers to be able to remember them – and not all bureaus in charge of new mono store design projects are interested in sharing their experiences. Therefore, in the selection of designers, the main challenge was to identify suitable projects to study rather than to select them from a larger pool. To overcome such issues, among the eight projects, six had previously been studied by the authors, albeit with other focusses. The individual case characteristics are shown in Table I.

The eight projects were investigated through two rounds of interviews with each of the eight store designers in charge of the projects and by study of documents related to the projects. The interviews were carried out as semi-structured interviews, given on condition of anonymity, and digitally recorded. The eight interviewed store designers were Danish and worked for design agencies (as opposed to being employed by the brand or the store owner).

First, a pilot interview was made with a key informant in order to formulate appropriate interview questions. Next, semi-structured interviews with each of the eight designers were conducted. These eight interviews focussed on asking the designers to describe constraint generators, examples of constraints, and elicitation of constraints. These interviews lasted around 60 minutes each. After a few months, the same eight designers were interviewed again, this time focusing on the influence of the constraints produced by the identified set of constraint generators, and to check that what had been extracted from the previous interview round was in accordance with the perception of the interviewed designers. These second-round interviews lasted around 20 minutes each.

Case	Market	Project duration[a]	Brand focus	Brand position	Designers in project	Education	Design experience	Store design experience
A	China	4 months	Women	Mid-end	3	MA Arch.	8 years	First project
B	China	7 months	Women	Mid-end	3	MA Arch.	8 years	2.5 years
C	Europe	8 months	Women	Mid-end	2	MA Arch.	11 years	9 years
D	Denmark	3 months	Men/women	High-end	2	MA Arch.	14 years	12 years
E	Sweden	11 months	Women	Mid-end	2	MA Arch.	6 years	3 years
F	Denmark	3 months	Men/women	Mid-end	2	MA Design	10 years	10 years
G	Northern Europe	3 months	Men/women/ children	Mid-end	1	MA Arch.	15 years	15 years
H	Europe	24 months	Men	Mid-end	4	MA Arch.	8 years	8 years

Note: [a]Period from brief to the opening of the first store

Table 1. Case characteristics

The analysis of the interview data was carried out in two corresponding rounds, one after each round of interviews. The data from the first round of interviews – that concerning relevant constraint generators – was analysed through the following steps:

1) all constraint generators mentioned in the eight interviews were combined into an aggregate list;

2) duplicate constraint generators (i.e. similar actor types described in different ways) were identified and eliminated, and closely related constraint generators were merged into ten final groupings;
3) each of the constraint generators in the final constraint generator classification (produced in the previous step) was described, based on the descriptions provided by designers;
4) examples of constraints produced by the constraint generators were organised according to the groupings established in step 2; and
5) designers' accounts of elicitation processes and challenges were organised according to the types of knowledge involved in such processes.

The interview data from the second round of interviews were analysed by the following steps:

1) constraint generator influence scores given by the designers were organised in table form
2) explanations for the scores given and deviances from general tendencies were elicited from designers.

The results of the analysis process described above are given in the following section.

A retail store constraint elicitation framework

On the background of the empirical studies, this paper addressed the three questions presented in the introduction:

1) Who/what are the main constraint generators from the perspective of the store designer?
2) What types of constraints do the main constraint generators impose?
3) How should store designers elicit such constraints?

Main constraint generators

The studies carried out two changes to the framework proposed by Haug and Münster (2015). First, "adjacent businesses" was broadened to "site" to include additional relevant aspects, such as the store building and its surrounding areas.

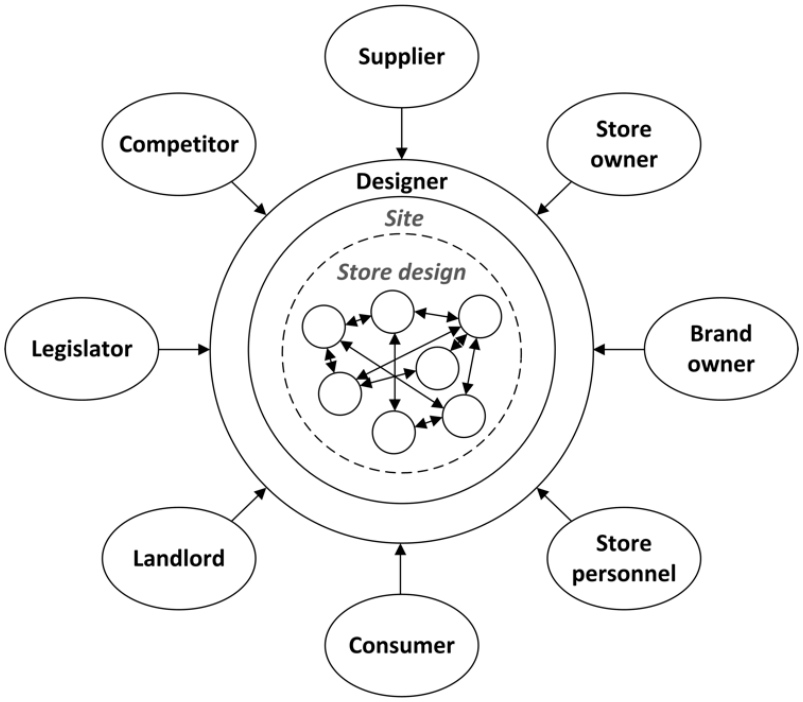

Figure 1.
Constraint generators from the perspective of the designer

Thus, rather than being a stakeholder, "site" describes the physical context in which the store design is to be implemented. Second, "designers" were included as a constraint generator type. This is illustrated in Figure 1, which depicts the relationship between the eight external constraint generators, the designer, the site, and the store design. In the figure, the arrows represent constraints, and the small circles within the "store design" circle represent design elements. As seen, the "designer" manages the constraints that influence the store design at a particular site. The ten constraint generators of Figure 1 are defined in Table II.

Constraint generator	Description
Designers	Person or a group of persons (which can consist of senior and junior designers) given the task of designing one or more fashion stores; they may either be employed by the client or a design bureau
Suppliers	Persons or companies producing and delivering items for the store and the workers building the store
Store owners	One or more companies who own the store in question; in some cases, the store owner and the brand owner are the same company, but in many cases, they are separate companies connected through some sort of contractual agreement – a franchise or a sales-and-purchase agreement, for example
Brand owners	One or more companies that produce the products sold through the store; fashion stores may be either mono-brand or multi-brand, which affects the power of the brand owners
Store personnel	Sales staff, sales managers, decorators, and others hired to operate and maintain the store
Consumers	The group of people that the store targets
Landlords	One or more persons or companies owning the building in which the store is located; in some cases, the store owner or even the brand owner may own the store building, but often this is not the case
Legislators	The international, national or local officials who define laws and rules which the store design needs to comply with
Competitors	Other companies needing to be considered when designing the store; these may be direct competitors (companies offering similar products) or indirect competitors (companies offering products that are not directly interchangeable)
Site	All the physical aspects related to the building and surrounding area – architecture, neighbours, geography, location

Table 2.
Descriptions of constraint generators

Constraints imposed by constraint generators

All eight interviewed designers could easily provide specific examples of constraints imposed by the identified constraint generator types. To illustrate the nature of these constraints, Table III provides the most illustrative examples of stakeholder-related constraints given by the eight informants.

Examples of constraints provided by the store designers point to the different types of knowledge that store designers need to acquire to create successful store designs. The four types of knowledge defined by Lundvall and Johnson (1994) are useful guides in this context: "know-what", "know-who", "know-why", and "know-how". To further complicate matters, these four knowledge-types can be either tacit or explicit, in varying degrees (Scharmer 2001).

The eight cases showed that "know-what" is relevant for store designers in relation to all of the ten defined constraint generators. In relation to store owners, this concerns demands for price level, shop functions, style, etc.; in relation to brand owners, it concerns demands for style, merchandising the goods, store layout, etc.; in relation to store personnel, it concerns demands for visibility, user-friendliness, air and light quality, access to back office, etc.; in relation to consumers, it concerns desires for entertainment, presentation of goods, air and light quality, etc.; in relation to landlords, it concerns demands to follow local guidelines (e.g. in

relation to signage and facade design); in relation to legislators, it concerns building laws and regulations; in relation to competitors, it concerns demands to make attractive shopping environments, which differ from the competitor stores; in relation to suppliers, it concerns material availability, production methods available, price levels, etc.; in relation to designers, it concerns creativity level, experience level, communication skills, cooperation skills, etc.; and in relation to sites, it concerns building architecture, the surrounding area, size of store, ceiling height, size of entrance, access to stockroom, etc.

The "know-who" needed by store designers concern having an understanding of the different constraint generators. The case studies showed that knowing the individual constraint generator helps the designer to better target designs. For example, one designer said:

> *I experienced that a specific inventory supplier had great influence on which solutions were chosen because of insights into price and quality issues.*

It was also mentioned that some suppliers have access to knowledge, machineries, and production methods that might be beneficial in the production of specific designs. Other designers talked about how some store owners expect to be very involved in design decisions, while others tend to leave such choices more up to the designer or the brand owner; and several designers mentioned that knowledge about the local legislators was helpful. For example, one designer said:

> *In France the legislators require bigger fittings rooms for wheelchair users and they are very strict on fire requirements for specific materials.*

The "know-why" needed by store designers means understanding why certain constraints are imposed by different actors. The case studies showed that by knowing why a certain actor imposes a particular type of constraint, the designer could better estimate the strength of this constraint and thus know to what extent it might be negotiable. For example, a designer stated that:

> *The price level given by a store owner does often not concern cash flow issues, but is linked to an estimation of the store's expected turnover. Thus, the designer can make a store with a higher turnover, and in this manner make the store's price level renegotiable.*

Case	*Examples of constraints imposed by designers*
A	The designer lacked experience with certain inventory systems and materials, which made the design go in other directions
B	The designer's lack of presentation/persuasion abilities made it hard to convince the client about the quality of certain design ideas
C	The facade design was based on old craftsmen principles, which caused some problems because the design team did not have experience with the techniques used
D	The two designers in the project had problems sharing information from the store owner, which caused some problems
E	The designer lacked insights about the product being sold in the store (e.g. sizes and packaging), which produced great needs for analysis of the market and how competitors solved the task
F	The designer lacked knowledge about some relevant materials (e.g. epoxy floor drying time, smell and appearance), which affected which particular solutions were chosen
G	The designer understood that there were economic limitations, but did not understand budgeting well enough to help the client calculate the store's price level
H	In the beginning of the design process the designer did not feel capable of arguing well enough for a design proposal, because of not knowing the brand very well
Case	*Examples of constraints imposed by suppliers*
A	The designer was informed that local furniture suppliers had problems producing highly detailed items and therefore such details were avoided
B	On some instances, the delivered furniture was not produced fully according to the design specifications because of material unavailability
C	The client and the designer liked a floor material, which the supplier was not able to provide at the required price level
D	The short store design implementation period implied that there was a need for choosing rapid production methods and materials with short delivery time
E	An inventory supplier had great influence on which solutions were chosen because of insights into at price and quality issues
F	The elements in the store were only designed with a low level of detailing, after which it was up to the suppliers to provide input about further details (e.g. definition of drawer mounts)
G	The metal profiles preferred by the designer were not available at the local supplier, for which reason other profiles were chosen
H	Technological solutions needed to be implemented in the furniture, which the suppliers were not fully familiar with, which implied that the designer needed to cooperate with the suppliers on developing these
Case	*Examples of constraints imposed by store owners*
A	The preferences of the store owner were to a large extent considered in order to avoid rejections of proposals0
B	The store owner made clear requests for certain looks, and often changed his mind (e.g. rejecting a wardrobe design that was later accepted upon seeing a prototype)
C	The store owner required that the store be easy for the staff to oversee, which conflicted with the ambition of creating a cosy atmosphere. Semi-transparent furniture was applied to solve this issue
D	The store owner had specific demands for the placement of certain item groups and for using a certain transparent material in a part of the store
E	The store owner made requests for the use of certain colours in the store and for a certain interior style in order to achieve a desired atmosphere
F	The store owner and the managing director both had strong opinions about where the brand and the store design should go. Often these ideas were conflicting
G	The store owner had difficulties in making up his mind about choice of floor material, which delayed the process, and in the end implied that the chosen solution was to keep the existing floor, because of time pressure
H	The designer created some glass walls in order to make an interesting store flow, but, the store owner, however, was afraid that the walls would block the flow, for which reason some of the walls were removed
Case	*Examples of constraints imposed by brand owners*
A	The target consumers seem to like strong colours and gold ("bling-bling"), while the brand demanded more of a "Scandinavian cool" appearance

(*continued*)

B	The brand wanted to position itself as being exclusive, but at the same time there was a request for more items in the store than in most exclusive brand stores
C	The brand wanted to position itself as a luxurious and feminine brand, which was satisfied by designing delicate spaces
D	The brand was associated with certain colours, which should be integrated in the store concept
E	The brand developed a visual identity, while making the store concept. This visual identity was to be reflected in the store design
F	The brand was formerly known as a maritime/sailor brand. This "feeling" was to be integrated in the store concept, but in a new and modern manner
G	The brand owner wanted to use existing brand images in the store to tell the story of the brand, so these needed to be implemented in the new store concept
H	The brand owner at some point insisted in adding an extra department to the store, although the designer had argued that the store was too small for this
Case	*Examples of constraints imposed by store personnel*
A	The designer considered the needs of the staff, e.g., by making space for storage in the cash desk area and by making space for the staff to help the consumers in the fitting room area
B	The store personnel had great difficulties in understanding the cleaning manual. Thus, the store concept was changed to make it easier to clean, while the client was informed about the need for training of store personnel
C	The merchandising/decoration of the shop was planned to make it easy for the staff to maintain
D	The store personnel had several requests, such as having big drawers in the sales desk to make room for large shopping bags
E	To improve the work conditions of sales personnel, a height-adjustable sales desk and a soft surfaced floor behind the desk was chosen
F	The store layout was designed to give the sales personnel easy access to the warehouse and to make it easy to oversee the store
G	In order to allow the staff to move around in the store, rather than being fixated behind a cash point, a freestanding counter unit was developed
H	In order to help the staff to keep the fitting room area tidy, an extra rack for was developed for temporary storing of clothing that had been tried on by the customers in the fitting rooms
Case	*Examples of constraints imposed by consumers*
A	The designer was informed that the target consumers often shop in groups, therefore there was a need to create waiting areas that supported this behaviour, i.e., of adequate size and seating possibilities
B	The designer knew that the target consumers often shop in groups, therefore there was a need for more space in the fitting room area as well as furniture to sit in while waiting
C	To support the target consumers assumed desire for a feeling of luxury while shopping, the fitting rooms were designed as a luxurious space with a delicate atmosphere
D	The consumer group was assumed to have certain preferences in relation to placement of goods and the use of mannequins, which were sought fulfilled
E	The consumer group was assumed to have certain preferences in relation to being able to touch the goods, which affected their placement
F	The designer was informed that the existing consumer group was slowly diminishing, for which reason the brand tried to attract a new and younger group without scaring the existing consumers away. It was challenging to find this balance
G	The designer made sure that the store had nice and comfortable fitting rooms, according to assumed consumer preferences
H	The designer knew that the jeans collection was difficult to overview for consumers, and thus created a specially designed jeans wall to make it overview the collection
Case	*Examples of constraints imposed by landlords*
A	The mall in which the store was to be located had strict demands to the design, in particular, in relation to the store facade
B	The mall in which the store was placed had demands for the facade design, implying that logos and the canopies had to have particular dimensions
C	The designer was not confronted by landlord demands
D	The designer was not confronted by landlord demands

(*continued*)

E	The landlord had certain demands for the design of the entrance and the hallway
F	The landlord had several demands in relation to the design of both interiors and the facade
G	The landlord demanded to keep an existing element on the shop front
H	The landlord demanded to maintain existing arches in openings between rooms in the store
Case	*Examples of constraints imposed by legislators*
A	Standard building rules (e.g. emergency exits) were considered in relation to the design
B	Fire legislation implied that a design with wooden columns was not allowed, for which reason aluminium columns were chosen instead
C	Emergency exit routes were considered in relation to the store layout
D	Fire routes, emergency routes, and fire divisions were considered in the store layout
E	Many type of legislations were considered in relation to fire and emergency legislation, as well as district plan demands for facade design
F	Legislation concerning how the two storeys were connected affected the design, while fire legislation and district plans placed demands on the facade design
G	The local rules demanded staff rooms to be of a certain size, which was implemented in the store design
H	Local demands were considered. France, for example, requires bigger fittings rooms for wheelchair users
Case	*Examples of constraints imposed by competitors*
A	Attention was paid to the store designs of the closest competitors in order to create a visual identity that was not to close to these, among others by using different colours
B	An inspiration was taken in more stores for more luxurious brands, which had a darker and more exclusive appearance
C	There was a strong need to look different than the stores of closely related brands by being darker and more classical, while inspiration was taken in store designs of other competitors
D	The store designs of competitors affected the design in relation to being inspired by quality solutions
E	References to other similar stores were made, while still giving the store a unique appearance
F	The designer did not believe to have being significantly affected by the store designs of competitors
G	A competitor used a specific surface on the metal furniture, which had been considered for the store, for which reason the designers decided to go with a different solution
H	A less popular brand released a façade solution similar to the solution, which the designer had considered. The designer therefore decided to change the design of facade
Case	*Examples of constraints imposed by sites*
A	The given store area made it challenging to include the desired number of items and to create good customer flow
B	The narrow layout made it challenging to fit in the desired design elements
C	The small size of the store made it challenging to fit in all the items and functions
D	The store space was long and narrow, which made it was challenging not to block the passage through the store
E	The store had low ceilings in one half of the store, implying that inventory needed to be made in multiple heights. This made it challenging to find ceiling spots, which could light up the goods properly
F	The same design needed to be implemented in multiple rooms of different sizes. Thus, it was chosen to avoid special solutions, but instead to use standard elements suited for rooms of different sizes
G	Existing beams and pillars influenced the layout of the store
H	Existing brick walls were reused as a part of the store design

Table 3. Examples of constraints imposed by constraint generators

Likewise, it can be valuable for a designer to know why the store personnel have specific demands (e.g. the need for a drawer in a cash desk in order to hold big bags). More specifically, if the designer believes that these particular demands are problematic, either in relation to design quality or economic aspects, the designer would want to provide alternative suggestions (e.g. suggest making a big shelf for the bags in the cash desk or storing big bags in the stockroom). However, to do so, the designer needs to understand the deeper motives for these demands – i.e. know why

the store personnel made these demands and use this knowledge to satisfy these deeper-level desires in another way.

The "know-how" needed by store designers means understanding how to create, present, and negotiate design solutions on the basis of the constraints imposed in a particular project. The case studies showed that this type of knowledge was often at play. For example, one designer said:

> *Fire legislation implied that a design with wooden columns was not allowed, for which reason we decided to make aluminium columns instead.*

The designer initially suggested wooden surfaces in a store where local authorities demanded a higher fire resistance than wood can provide, and he used his know-how to find another solution. In another case, a brand owner described a certain style desired for the store, which the designer had to decode and encode into the store design.

As demonstrated above, these four general types of knowledge may also be useful for organising and understanding the types of knowledge that store designers need.

Eliciting store design constraints from constraint generators

To elicit store constraints efficiently, it is important to understand the relevance of the constraints generated by the different constraint generators at different points in a project. Thus, the designers were asked to estimate their influence across a design project, divided into four equally long time periods, as shown in Table IV. It should be noted that the designers found it too difficult to estimate the influence of the constraints that they generated themselves, for which reason this evaluation was omitted.

As the eight case studies showed, the influence of the different constraint generators varied from case to case. However, a rather clear general pattern seems to be at play. More specifically, in all the cases, the influence of all the constraint generators decreased during the design process, except for the influence of the suppliers, which increased. The designers explained this pattern with the fact that the constraints imposed by constraint generators other than the suppliers mainly concerned overall design decisions, which were made early in the design process; for the more detailed choices made later in the process, the designer had greater latitude. The reason given for the increasing importance of supplier-generated constraints during the course of a project was that as the level of detail increased, it became possible to make more supplier-related choices.

		Design process																																	
		1st quartile										2nd quartile										3rd quartile										4th quartile					
Store owner	Designer A-H	5	4	3	4	4	4	3	5	4	4	2	3	4	3	2	5	3	3	3	3	2	2	2	3	1	2	3	3	3	1	2	1
	Avg.				4.0								3.4									2.6										2.0				
Brand owner	Designer A-H	5	5	5	4	5	5	3	5	4	4	3	5	4	5	2	4	3	4	3	5	3	4	2	3	1	4	4	5	2	3	2	1
	Avg.				4.6								3.9									3.4										2.8				
Personnel	Designer A-H	4	3	2	3	2	4	2	3	2	3	1	3	2	2	3	1	2	2	1	2	2	2	2	1	1	2	2	2	2	2	2	1
	Avg.				2.9								2.1									1.8										1.8				
Consumer	Designer A-H	4	2	3	2	2	3	4	3	3	2	2	2	2	1	4	4	1	1	1	2	2	1	2	1	1	1	1	2	2	1	1	1
	Avg.				2.9								2.5									1.4										1.3				
Landlord	Designer A-H	5	4	4	4	4	5	1	2	3	4	3	2	3	2	4	4	1	4	4	2	2	2	1	2	1	4	2	2	2	1	1	2
	Avg.				3.6								3.1									2.3										1.9				
Legislator	Designer A-H	5	4	3	2	4	5	1	2	3	4	2	2	4	2	2	4	2	3	2	4	1	2	3	2	1	4	2	2	3	1	1	2
	Avg.				3.3								2.9									2.4										2.0				
Competitor	Designer A-H	5	5	5	4	5	4	1	5	4	5	3	4	4	3	3	3	2	4	3	4	2	3	3	3	1	4	3	4	1	3	1	1
	Avg.				4.3								3.6									3.0										2.3				
Supplier	Designer A-H	3	3	3	2	3	4	1	2	4	3	2	2	4	4	1	2	5	3	2	2	5	3	4	4	5	3	3	4	3	3	4	5
	Avg.				2.6								2.8									3.5										3.8				
Site	Designer A-H	5	5	5	5	4	5	2	5	4	4	3	4	5	3	3	5	2	2	2	2	1	2	1	2	2	1	2	2	2	2	1	2
	Avg.				4.5								3.9									1.8										1.8				

Notes: 1, none; 2, little; 3, some; 4, much; 5, very much

Table 4. Influence from constraint generators during store design processes

One aspect of the data in Table IV in particular may seem surprising, namely, the relatively low influence of consumers' preferences and desires on the designers' choices. In fact, of all the constraint generators, the consumer-generated constraints had the least significant influence on store design decisions. The explanations given by the designers revolved around two key aspects. First, by considering other constraint generators like store owner and brand owner demands, the designers assumed that the consumers were indirectly considered. For example, designers claimed:

> *I was informed that the target consumers often shop in group, therefore there was a need to […].*

In this context, it should be noted that clients are often more familiar with the particular consumer group than the designers are, since they target this group all the time, while designers sometimes target different consumer groups in different projects. Constraints imposed by the other groups of constraint generators can therefore be said to indirectly consider consumers' needs. Another example of this could be the need to provide the store's personnel a visual overview of the store. In meeting this demand, the designer addresses the personnel's need for watching over the store, and at the same time addresses the customer's need for eye-contact with a person who can provide service. Second, it was argued that meeting consumer preferences was to some extent not even a conscious act, since preferences are not always explained consciously, but also emotionally, which can make them difficult to explain in words (Damasio, 1994; Leder et al., 2004). For these reasons the consumer-related constraints presented may be less specific than the other constraint generator types. This should not be taken to mean that the designers ignored consumer preferences

– on the contrary. According to the interviewed designers, consumer preferences and desires consistently received considerable attention.

As mentioned above, sometimes the designer needs to consider differences in demands or desires of different constraint generators, which may not necessarily correspond. This type of conflict is illustrated by the following statement:

> *The target consumers seem to like strong colours and gold ("bling-bling"), while the brand demanded more of a "Scandinavian cool" appearance.*

While the constraints generated by the site are relatively static, and the ones generated by the designer do not need elicitation, the constraints generated by the eight external constraint generators (i.e. excluding designer and site) require the continuous collection of information. This is the case because the constraints produced by the constraint generators may develop during the design process. Constraints are easier to elicit as close as possible to the point in time when they impact a given design decision, since a design proposal becomes increasingly more detailed; this also reduces the risk of constraints changing before they become relevant. That does not mean, however, that the solution is to employ a "just-in- time" strategy for eliciting constraints, since one cannot expect to be able to elicit a constraint exactly when it is needed. For example, if the production of a new floor causes problems, and the surface turns out differently than expected, the designer and the client may need to visit the site before deciding whether to change the floor completely; accept the floor, even though the surface is different than expected; or try to resurface the floor. Thus, some sort of time buffer is required. This is illustrated in Figure 2. In the figure, the cost of eliciting constraints is shown as exponentially decreasing up until the point when the constraint becomes relevant; after this time, the cost of eliciting constraints remains stable and minimal. The rationale behind this is that the closer one gets to the point of constraint relevance, the more detailed the design proposal becomes. Thus, the number of possible solutions for which possible constraints should be elicited decreases exponentially. The cost of failing to elicit a constraint before it becomes relevant, on the other hand, is shown as exponentially increasing. The rationale behind this is that a design choice that is based on a false premise and violates a constraint may give rise to several other design choices that also violate this constraint; this in turn may give rise to even more design choices that violate the constraint.

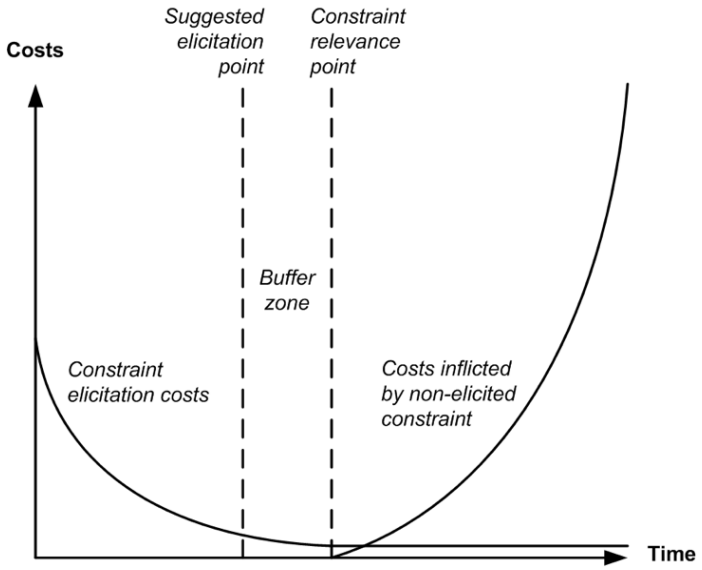

Fig 2. Time of Constraint elicitation

Figure 2 visualises that with regard to constraint elicitation, the designer's focus should be on getting the timing right – not too early and not too late. Failure to elicit the most basic constraints (e.g. the price maximum and style-related demands) would cause the designer to work on assumptions that are likely to differ from the actual constraints, thus producing design proposals with a higher risk of rejection. On the other hand, eliciting detailed client demands prior to the design process could be very resource demanding, since the entire design is new and must be developed and described before it can be reviewed in the first place. Furthermore, with an unknown design, there are multiple potential paths that need to be considered – and a considerable risk of overlooking demands. Last but not least, there is also a risk that unduly restrictive constraints might block innovative ideas.

All the cases studied showed several examples of constraints being elicited so late in the design process that it resulted in extra work to change designs in progress – extra work that could have been avoided if constraint elicitation had been done proactively. A characteristic of many of these changes was that with a little effort they could have been elicited earlier in the project, provided the issue had been given more attention. In particular, it seems that spending more time on eliciting constraints before initiating the design process would have led to fewer encounters with constraints that made it necessary to change design proposals in progress. On the other hand, continuously having to alter aspects of the store design because of encountering non-elicited constraints can be costly in terms of time and resources. Thus, it seems that in many cases, there could be significant benefits in eliciting certain demands before initiating the design process.

The question, however, is how the designer should approach this; in other words, how many constraints should be elicited prior to the design process, and when should the remaining constraints be elicited? The answer is that it makes sense to elicit readily collectable constraints as well as the ones that affect decisions at the beginning of the project before the design process is initiated. On the other hand, some constraints can only be elicited after a certain development of the designed project. With regard to the constraints to be elicited before the design phase is initiated, the cases generally showed that during the course of the project, the constraints affecting design decisions gradually changed from a general to a more specific nature.

Finally, based on the interviews, it seemed that the more experienced the designer was (e.g. in terms of knowledge of materials, consumers, and regulations), the less time he/she needed to elicit constraints.

Conclusions

This paper has addressed three main questions from the perspective of fashion store designers: Who/what are the main constraint generators in fashion store design? What types of constraints do they impose? And how should store designers elicit these constraints?

On the background of the literature review, eight fashion store design projects were studied by analysing project materials and conducting interviews with eight retail designers. This led to the identification of ten major constraint generators from the perspective of fashion store designers: designer, supplier, store owner, brand owner, store personnel, consumer, landlord, legislator, competitor, and site. The relevance of these constraint generators was supported by specific examples of the constraints they imposed in the projects studied.

A general pattern across the eight projects was that the influence of the constraints generated decreased during the course of a design process, except for the supplier-generated constraints, whose influence increased. Of the ten constraint generators, consumers (i.e. preferences and desires) generated the least significant constraints. The explanations offered by the designers was that consumer preferences and desires were assumed to be considered by store owner and brand owner demands, and that consumer preferences and desires do not produce specific constraints similar to those produced by the other constraint generators. However, it could be argued that if designers had a better understanding of the consumers, they might be able to target their store designs even better, and they would have stronger arguments for their design choices in discussions with their clients.

With regard to dealing with constraint generators, the paper discussed the types of knowledge required by drawing a distinction between know-what, know-who, know-why, and

know-how. The use of this distinction revealed substantial differences in the knowledge required to deal with different constraint generators. Next, the paper argued that a more thorough design preparation phase than observed in the cases would be beneficial, and that emerging constraints should be elicited close to their point of relevance, albeit with a reasonable time buffer.

The studies showed that the different constraint generators may have opposing interests, and that many constraints are not known beforehand but emerge during the design process, as decisions are being made. The complexity of dealing with continuously emerging constraints, which may point in different directions, was addressed by the main contributions of this paper. More specifically, by basing their work on the definitions of constraint generators and constraint management guidelines provided in the paper, store designers may be able to address constraints in a much more structured and proactive manner. Furthermore, the definitions presented in the paper provide a foundation for teaching store design students to address relevant constraint generators.

The constraint generator classification provided in the paper may constitute the basis for organising future store design studies. Given the lack of existing literature, the paper had an explorative focus with the purpose of revealing some basic characteristics of store design projects; hence, it may be beneficial for future research to employ a broader focus, for example, in the form of a questionnaire study. Furthermore, future research may also investigate the usefulness of the contributions of this paper in other retail contexts beside fashion stores. More specifically, although many other types of retails stores may not face as tough demands in relation to store style, novelty, and atmosphere, in some cases, such stores may draw inspiration from fashion stores in relation to choosing more special designs and standing out more. In fact, it may be argued that this tendency is already taking place, albeit to a smaller extent, in, for example, the design of supermarkets, drug stores, and food markets.

The focus has been on the retail designer's process in creating a store design. A retailer's marketing strategy does not necessarily include an in-depth understanding of the store design process. The findings presented here suggest a solid basis for including a deeper understanding of constraints and constraint generators in the store design process as a component in the retailer's marketing strategy. This is an area which future research should continue to explore. We have also shown that involving store designers in this process can yield benefits to the final result. In short, this paper has identified an area of marketing strategy that has received little attention, but which deserves further exploration.

In relation to a general retail perspective, the insights into constraint generators that store designers deal with may allow retailers to become more involved in what from certain perspectives could appear to be a black box in which the store designer operates. For example,

rather than merely making certain demands and expecting store design bureaus to provide design proposals that satisfy these, retailers may in some cases profit from being more involved in making supplier agreements, ensuring that their demands meet legislative rules, understanding competitor designs better before making demands, and so on. In this manner, the communication between retailer and retail designers may become more efficient, the duration of the project may be shortened, and fewer financial resources may be needed.

References

Bagdare, S. and Jain, R. (2013), "Measuring retail customer experience", International Journal of Retail & Distribution Management, Vol. 41 No. 10, pp. 790-804.

Baker, J., Parasuraman, A., Grewal, D. and Voss, G.B. (2002), "The influence of multiple store environment cues on perceived merchandise value and patronage intentions", Journal of Marketing, Vol. 66 No. 2, pp. 120-141.

Ballantine, P.W., Parsons, A. and Comeskey, K. (2015), "A conceptual model of the holistic effects of atmospheric cues in fashion retailing", International Journal of Retail & Distribution Management, Vol. 43 No. 6, pp. 503-517.

Barnes, L. and Lea-Greenwood, G. (2010), "Fast fashion in the retail store environment", International Journal of Retail & Distribution Management, Vol. 38 No. 10, pp. 760-772.

Bellizzi, J.A., Crowley, A.E. and Hasty, R.W. (1983), "The effects of color in store design", Journal of Retailing, Vol. 59 No. 1, pp. 21-45.

Berman, B. and Evans, J.R. (1995), Retail Management: A Strategic Approach, 6th ed., Prentice-Hall, Englewood Cliffs, NJ.

Birtwistle, G., Clarke, I. and Freathy, P. (1999), "Store image in the UK fashion sector: consumer versus retailer perceptions", The International Review of Retail, Distribution and Consumer Research, Vol. 9 No. 1, pp. 1-16.

Bitner, M.J. (1992), "Servicescapes: the impact of physical surroundings on customers and employees", Journal of Marketing, Vol. 56 No. 2, pp. 57-71.

Brengman, M. and Willems, K. (2009), "Determinants of fashion store personality: a consumer perspective", Journal of Product & Brand Management, Vol. 18 No. 5, pp. 346-355.

Chebat, J.C. and Morrin, M. (2007), "Color and cultures: exploring the effects of mall decor on consumer perceptions", Journal of Business Research, Vol. 60 No. 3, pp. 189-196.

Clarke, D.W., Perry, P. and Denson, H. (2012), "The sensory retail environment of small fashion boutiques", Journal of Fashion Marketing and Management: An International Journal, Vol. 16 No. 4, pp. 492-510.

Damasio, A. (1994), Descartes' Error, Grosset/Macmillan.

Davies, B. and Ward, P. (2005), "Exploring the connections between visual merchandising and retail branding", International Journal of Retail and Distribution Management, Vol. 33 No. 7, pp. 505-513.

Diallo, M.F., Chandon, J.L., Cliquet, G. and Philippe, J. (2013), "Factors influencing consumer behaviour towards store brands: evidence from the French market", International Journal of Retail & Distribution Management, Vol. 41 No. 6, pp. 422-441.

Donovan, R.J., Rossiter, J.R., Marcoolyn, G. and Nesdale, A. (1994), "Store atmosphere and purchasing behavior", Journal of Retailing, Vol. 70 No. 3, pp. 283-94.

Doucé, L. and Janssens, W. (2013), "The presence of a pleasant ambient scent in a fashion store: the moderating role of shopping motivation and affect intensity", Environment and Behavior, Vol. 45 No. 2, pp. 215-238.

Faultrier (de), B. and Towers, N. (2011), "An exploratory packaging study of the composite fashion footwear buying framework", Journal of Retailing and Consumer Services, Vol. 18 No. 5, pp. 463-470.

Freeman, R.E. (1984), Strategic Management: A Stakeholder Approach, Pitman, Boston, MA. Gedenryd,

H. (1998), How Designers Work: Making Sense of Authentic Cognitive Activity, PhD dissertation, Lund University, Sweden.
Godey, B., Lagier, J. and Pederzoli, D. (2009), "A measurement scale of 'aesthetic style' applied to luxury goods stores", International Journal of Retail & Distribution Management, Vol. 37 No. 6, pp. 527-537.
Greenley, G.E. (1989), Strategic Management, Prentice Hall, London.
Grewal, D., Levy, M. and Kumar, V. (2009), "Customer experience management in retailing: an organizing framework", Journal of Retailing, Vol. 85 No. 1, pp. 1-14.
Guindon, R. (1990), "Knowledge exploited by experts during software system design", International Journal of Man-Machine Studies, Vol. 33 No. 3, pp. 279-304.
Haug, A. and Münster, M. (2015), "Design variables and constraints in fashion store design processes", International Journal of Retail & Distribution Management, Vol. 43 No. 9, pp. 831-848.
Herstein, R., Gilboa, S. and Gamliel, E. (2013), "Private and national brand consumers' images of fashion stores", Journal of Product & Brand Management, Vol. 22 Nos 5/6, pp. 331-341.
Jones, P., Comfort, D., Clarke-Hill, C. and Hillier, D. (2010), "Retail experience stores: experiencing the brand first hand", Marketing Intelligence and Planning, Vol. 28 No. 3, pp. 241-248.
Kent, T. (2007), "Creative space: design and the retail environment", International Journal of Retail & Distribution Management, Vol. 35 No. 9, pp. 734-745.
Kotler, P. (1973), "Atmospherics as a marketing tool", Journal of Retailing, Vol. 49 No. 4, pp. 48-64.
Lai, K.-H., Cheng, T.C.E. and Tang, A.K.Y. (2010), "Green retailing: factors for success", California Management Review, Vol. 52 No. 2, pp. 6-31.
Lawson, B. (2006), How Designers Think, 4th ed., Elsevier, Oxford.
Leder, H., Belke, B., Oeberst, A. and Augustin, D. (2004), "A model of aesthetic appreciation and aesthetic judgments", British Journal of Psychology, Vol. 95 No. Pt 4, pp. 489-508.
Lundvall, B. and Johnson, B. (1994), "The learning economy", Journal of Industry Studies, Vol. 1 No. 2, pp. 23-42.
Michon, R., Chebat, J.C., Yu, H. and Lemarié, L. (2015), "Fashion orientation, shopping mall environment, and patronage intentions", Journal of Fashion Marketing and Management, Vol. 19 No. 1, pp. 3-21.
Oak, A. (2011), "What can talk tell us about design?: analyzing conversation to understand practice", Design Studies, Vol. 32 No. 3, pp. 211-234.
Oygur, I. and McCoy, J.M. (2011), "User: inspiration or constraint?", Journal of Interior Design, Vol. 36, No. 3, pp. 1-13.
Park, H.H., Jeon, J.O. and Sullivan, P. (2015) "How does visual merchandising in fashion retail stores affect consumers' brand attitude and purchase intention?", The International Review of Retail Distribution and Consumer Research, Vol. 25 No. 1, pp 87-104.
Parsons, A.G. (2011), "Atmosphere in fashion stores: do you need to change?", Journal of Fashion Marketing and Management: An International Journal, Vol. 15 No. 4, pp. 428-445.
Petermans, A., Janssens, W. and Van Cleempoel, K. (2013), "A holistic framework for conceptualizing customer experiences in retail environments", International Journal of Design, Vol. 7 No. 2, pp. 1-18.
Puccinelli, N.M., Goodstein, R., Grewal, D., Price, R., Raghubir, P. and Stewart, D. (2009), "Customer experience management in retailing: understanding the buying process", Journal of Retailing, Vol. 85 No. 1, pp. 15-30.
Ryu, K. and Jang, S. (2008), "Influence of restaurants' physical environments on emotion and behavioral intention", The Service Industries Journal, Vol. 28 No. 8, pp. 1151-1165.
Savage, J.C.D. and Miles, C. (1998), "The interaction of time and cost constraints on the design process", Design Studies, Vol. 19 No. 2, pp. 217-233.
Scarpi, D. (2006), "Fashion stores between fun and usefulness", Journal of Fashion Marketing and Management: An International Journal, Vol. 10 No. 1, pp. 7-24.
Scharmer, C.O. (2001), "Self-transcending knowledge: sensing and organizing around emerging opportunities", Journal of Knowledge Management, Vol. 5 No. 2, pp. 137-151.
Schielke, T. and Leudesdorff, M. (2015), "Impact of lighting design on brand image for fashion retail stores", Lighting Research and Technology, Vol. 47 No. 6, pp. 672-692.
Sirgy, M.J., Grewal, D. and Mangleburg, T. (2000), "Retail environment, self-congruity, and retail patronage: an integrative model and a research agenda", Journal of Business Research, Vol. 49 No.

2, pp. 127-138.
Turley, L.W. and Milliman, R.E. (2000), "Atmospheric effects on shopping behavior: a review of the experimental evidence", Journal of Business Research, Vol. 49 No. 2, pp. 193-211.
Van Rompay, T.J.L., Tanja-Dijkstra, K., Verhoeven, J.W.M. and van Es, A.F. (2012), "On store design and consumer motivation: spatial control and arousal in the retail context", Environment and Behavior, Vol. 44 No. 6, pp. 800-820.
Vazquez, D. and Bruce, M. (2002), "Design management: the unexplored retail marketing competence", International Journal of Retail & Distribution Management, Vol. 30 No. 4, pp. 202-210.
Verhoef, P.C., Lemon, K.N., Parasuraman, A., Roggeveen, A., Tsiros, M. and Schlesinger, L.A. (2009), "Customer experience creation: determinants, dynamics and management strategies", Journal of Retailing, Vol. 85 No. 1, pp. 31-41.
Whysall, P. (2000), "Addressing ethical issues in retailing: a stakeholder perspective", The International Review of Retail, Distribution and Consumer Research, Vol. 10 No. 3, pp. 305-318.
Wong, A. and Sohal, A.S. (2006), "Understanding the quality of relationships in consumer services: a study in a retail environment", International Journal of Quality and Reliability Management, Vol. 23 No. 3, pp. 244-264.
Wu, W.-Y., Lee, C., Fu, C. and Wang H. (2013), "How can online store layout design and atmosphere influence consumer shopping intention on a website?", International Journal of Retail & Distribution Management, Vol. 42 No. 1.
Yim, C.K., Chan, K.W. and Hung, K. (2007), "Multiple reference effects in service evaluations: roles of alternative attractiveness and self-image congruity", Journal of Retailing, Vol. 83 No. 1, pp. 147-157.

Further reading

Ballantine, P.W., Jack, R. and Parsons, A.G. (2010), "Atmospheric cues and their effect on the hedonic retail experience", International Journal of Retail & Distribution Management, Vol. 38 No. 8, pp. 641-653.
Bryman, A. and Bell, E. (2011), Business Research Methods, 3rd ed., Oxford University Press, New York, NY.
Newman, A. and Foxall, G. (2003), "In-store customer behaviour in the fashion sector: some emerging methodological and theoretical directions", International Journal of Retail and Distribution Management, Vol. 31 No. 11, pp. 591-600.

Paper 3: Do Customized Store Designs affect Product Perception?

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Do Customized Store Designs Affect Product Perception?

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Abstract

Store interiors are often customized to support the style of specific brands or products; stores function in this way as communication platforms between brand and consumer. Consumers are influenced by the design variables used in the store, and these in turn influence their decisions. But how can design managers know whether the resources expended on a customized store design actually add value to the products? Do choices made in the design process actually support the products from the consumer's perspective? Investigating the effects of store design presents considerable challenges for the researcher, since store environments are complex designs consisting of numerous design variables combined in various ways. Adding to the difficulties is the fact that, consumers, brand owners and retail designers perceive environments differently; in fact, these perceptions often occur at an unconscious level. For all these reasons, a reliable method for testing the spillover effect from a store design onto the products displayed in it would have obvious utility. This paper proposes a tool for measuring whether retail designers' decisions actually support product perception, from a consumer perspective. We test the tool in a field experiment, where the spillover effect of three customized fashion store environments is measured via consumer response.

Keywords:

Customized store design, fashion stores, field experiment, value creation through store design, spill-over effects

Introduction

Store atmospheres are often studied from the perspectives of marketing strategy or consumer behavior. Yet we lack tools for understanding whether strategic decisions in the store design process do in fact achieve their objectives from the consumer perspective. As one component in a broader marketing strategy, considerable resources are allocated to developing customized store environments, with the intention of showcasing specific brands or products. But how can retailers and design managers be certain that a targeted, brand specific store design in fact adds value to the products displayed in it? Large-scale retailers often make design decisions based on results from a test store, before rolling out a design concept on a larger scale. But the effect of the store's atmosphere is difficult to measure and test. Customers experience environmental cues from their individual perspective, which makes it difficult to determine the overall efficacy of a store's atmosphere with any precision. Moreover, test stores are normally evaluated by one criterion: the sales performance of the store, measured against expectations. Customers are seldom asked to provide feedback about their experience of the store. If and when they are, the feedback they provide is of questionable reliability. Most consumers are simply not able to articulate how a particular interior affects them, let alone how it might affect their perception of the products within that interior, with any sort of accuracy.

In 1973, Philip Kotler introduced the term *Atmospherics* to denote the intentional control and structuring of environmental cues. Since then, scholars have carried out studies dealing with specific environmental cues such as the visual, tactile, olfactory and auditory (Bellizzi et al. 1983; Bitner 1992; Baker, J; Parasurama, A; Grewal, D.; Voss 2002; Morin et al. 2007; Ballantine et al. 2010; van Rompay et al. 2012; Herrmann et al. 2013). Most of these studies focus on reactions to a single variable, or a small collection of variables. But as with any interior space, design variables in a store environment are never experienced in isolation. Each single variable is part of a complex fabric consisting of numerous variables that can be combined in any number of different ways (Bitner 1992; Turley & Milliman 2000; Spence et al. 2014) and is thus experienced holistically. Moreover, environmental factors tend to do their work at the level of the unconscious, and also affect the perception of other objects in the environment (Damasio 2003, Leder 2004, Lawson 200, Puccinelli 2010). However, these perceptions are not consistent from person to person, and in fact show wide variation amongst individuals (Turley & Chebat 2002). For these reasons, an increasing number of scholars have called for studies employing a more holistic approach. From the commercial perspective, a reliable method for determining whether a store design is in fact making the desired impact would be of obvious benefit to both store designers and retail managers.

The purpose of this paper is to test whether targeted, brand-specific store designs support or enhance product perception. We propose a method for measuring this effect, which attempts to measure and quantify a spillover effect, from store environment onto product preference, at the level of the unconscious. We believe that this method has profound implications as a tool for studying unarticulated effects of environments. To test the efficacy of the method, we conducted a field experiment in which we scrutinize the purported spillover effect. 50 customers were asked to rate the same set of products in store environments both customized and not customized for those products. In order to ensure their suitability for the experiment, product selections were made by brand representatives, and interviews were conducted with the retail designers who created the stores, in order to record and account for their intentions. Aggregate analysis of the results shows a positive correspondence between customized store environments and the products that they were intended to sell. But our method delves beneath the aggregate level and seeks to identify previously unidentified structures amongst individual responses. We measure individual responses first from within an environment customized to a product; then in two foreign interiors, not intended for that product; and finally, from within a neutral environment. This strategy reveals a previously unobserved synergy between the style of store environments and the style of products and allows designers and retailers to observe the effects of choices made in the design process. Generally speaking, our findings show a measurable spillover effect from customized store design to product. This effect is most pronounced with products for which the individual test subject indicates a strong preference for in the neutral environment, which we termed *hedonic* preference. In other words, a store environment has the best chance of improving a consumer's experience of a product when the consumer likes that product in the first place. In addition, we were able to measure how the effect of the store environment varied from store to store. Two of three test stores showed a positive influence on product ratings for their 'native' products, while the third test store showed a positive influence on products more generally, irrespective of style. These findings provide the background for a discussion of the potential for a retail environment to influence product perception.

In the following section we make a brief introduction to existing studies on atmospherics in retail. We describe theoretical concepts like categorization, prototypicality, and fluency, since these concepts help us explain the amplifying effects from environment to product. Finally, we introduce literature that supports our assumption that environments are perceived emotionally. We believe that this quality makes it problematic to interview subjects for their impressions of an environment, as they are often not able to articulate them reliably.

Theoretical Framework and hypothesis

Studying Stores in a Holistic Perspective

Searches in existing peer-reviewed literature on store atmospheres reveal a number of articles that investigate single atmospheric cues. For example, the effects of sound (Milliman 1982; Morin et al. 2007; Yalch & Spangenberg 2000; Knoferle et al. 2012; North et al. 2016), color (Bellizzi et al. 1983; Bellizzi & Hite 1992), odor/scent (Chebat et al. 2012; Herrmann et al. 2013; Spangenberg et al. 2005), lighting (Areni & Kim 1994; Custers et al. 2010; Quartier et al. 2014), and indoor climate (Frontczak & Wargocki 2011; Zhao et al. 2015). These studies demonstrate, for example, that arousing colors can stimulate consumers and increase the likelihood of impulse purchases, or that uplifting music can promote socially positive behaviors. But cues within an environment are never experienced in isolation, and therefore have interactive effect on one another, as well as on the customer. Recent scholarship suggests with increasing frequency that studies employing a more holistic perspective should be able to provide a more realistic assessment of the effects of interiors (Baker et al. 2002, van Rompay et al 2011, Kent & Kirby 2009, Spence et al. 2014; Ballantine et al. 2015).

In situ studies of retail atmospheres are difficult to execute, though some do exist. A particular behavior may be caused by a single dominant- or various moderating effects (Bitner 1992; Turley & Milliman 2000; Ballantine et al. 2015; Turley & Chebat 2002; Spence et al. 2014), which is difficult to control outside of a laboratory setting. Most studies are therefore carried out in more controlled settings. But in fact, consumers experience retail environments as the mixture of sensory stimuli that they are; this commingling is difficult if not impossible to achieve in a laboratory setting. This circumstance alone seems a strong enough reason to explore how customers experience retail environments in all their complexity. Providing further motivation, research also shows that subjects behave and react differently in an artificial setting than they otherwise would (Lynch, Jr. 1982; Groeppel-Klein 2005; Tversky 2008).

Encouragingly, a small group of scholars have indeed executed holistic studies of atmospheric cues in actual retail environments. For example, to better understand how atmospheric cues are interpreted by consumers, Kent & Kirby (2009) and Petermans et al. (2014), used an approach combining interviews with photographs of store environments to provides a visual representation of the environments, and Ballantine (2015) conducted on-site interviews to analyze atmospheric cues in store environments. These studies provide a good beginning to the study of individual consumer experiences from a holistic perspective. But a significant problem is common to the method of these studies, namely that interviews will almost necessarily trigger a respondent's reflection upon his or her own reactions, which may color the nature of their

responses. In addition, this method presupposes that respondents are in fact capable of articulating how a store design affects them. In fact, actual responses to interior spaces are immediate, and take place without much conscious reflection. We believe that these experiences should therefore be studied as real experiences. We also believe that actions speak louder than words, a supposition which underpins our methodology. We will expand upon these ideas below, in the section dealing with the unconscious effects of retail environments.

Spillover effects from store to product

In this section we examine the significance of the context in which an object is presented and discuss how the characteristics of a particular space can influence perception of the objects contained within it.

Psychological studies show that external stimuli affect us, and that they may also influence seemingly unrelated objects (Damasio 1999; Murphy & Zajonc 1993; Zajonc 1980; Leder et al. 2004). Marketing literature refers to this phenomenon as spillover effects. Within the field of advertising, for example, product placement studies demonstrate not just increased awareness of products deployed in this way, but also how the particular context of the film, TV show, or game that the product appears in can influence people's attitudes toward not only the product itself, but toward product placement generally, and even further to the media transmitting the product placement (Cowley & Barron 2008; La Pastina 2001; Delorme & Reid 1999; Gould & Gupta 2006). In other words, from the consumer's perspective there is a spillover effect from context to product, but also from product to context. In a study of brand placements in movies, Delorme and Reid found that audiences used meanings derived from the film to construct meanings for products placed within the film (Delorme & Reid 1999). In a similar study, Gould and Gupta (2006) revealed that consumers intertwined the meanings of game shows and the meanings of product placements themselves to make sense of the product placements. Thus, the medium is not just a technological platform for presenting product placements but generates its own set of meanings which consumers interpret and react to (Gould & Gupta 2006; Hirschman & Thompson 1997). Similarly, advertising literature shows that the context of an advertisement can influence people's attitude towards specific product (Mitchell & Olson 1981; Shimp 1981; MacKenzie et al. 1986). For example, Mitchell and Olsen 1981 demonstrate that when an image used in an advertisement is related to the product, consumer attitudes toward the product are more positive than when the image is unrelated (Mitchell & Olson 1981).

Thus, we know that a relevant context can support product perception, and that individuals react differently to the same stimuli. From psychological studies we also know that stimuli can affect us unconsciously (Damasio 1999; Murphy & Zajonc 1993; Zajonc 1980; Leder

et al. 2004). The majority of the studies mentioned above collected data by interviews and surveys, but as we have pointed out above, interviewing cannot accommodate unconscious effects – a circumstance which compromises data collected in this manner. What is needed are tools for more precisely gauging the spillover effect. Unfortunately, such tools that are not to be found in the scholarly literature. One possible approach might be to study the correlation between product variables and interior variables, without bringing the actual interior to the subject's conscious attention. We therefore propose the following:

Proposition 1:

Spillover effects from retail environment to product can be measured without bringing the store design to the consumer's attention. Using this method, we should be able to determine whether retail design decisions do in fact support the product perception for the targeted consumer segment.

By scrutinizing the relationship between store atmosphere and product preference, we will be in a better position to evaluate the effects of specific interiors. We should, among other things, be able to ascertain whether product preference is enhanced when a product is presented in an interior customized for it. The next section will explain what we believe to be the defining characteristics of a customized interior.

Customized Store Design

Consumers draw on environmental cues in order to categorize the range of products or services offered by the retailer (Koo & Kim 2013; Puccinelli et al. 2009; Ward et al. 1992; Shostack 1987 Zeithaml, Parasuraman, and Berry 1985; Berry and Clark 1986). The space that the retailer takes over, before adding surfaces, fixtures, and decorations, is typically a white box consisting of a raw floor, raw walls, a raw ceiling, and various technical installations. The environment that consumers meet when the store opens is designed in a specific style, and sometimes customized to display specific products. The design may refer to styles already familiar to consumers. A good example of this is the Outlet Village in Dubai, which is designed and decorated like a Tuscan village. Consumers understand, of course, that they are not in Tuscany, but the atmosphere from a real Tuscan village spills over onto the artificial environment of the shopping center. Frijda (1989) contends that the ability to accept an artificial environment resides in the dual nature of assessments of reality, saying: *'Things can look real and be taken for real when they are known not to be real. Fool's gold glitters like gold even when one knows it to be fool's gold.'* This

phenomenon can be compared with suspension of disbelief that occurs when watching a film or a magic trick. It occurs without entering our awareness.

In addition to whatever style is chosen, certain physical elements—such as the distance between shelves, the amount of open space, or the width of an aisle or a staircase—may also function as physical directives, encouraging patterns of movement within an interior space. From the perspective of analysis, these elements operate as image-schemata, since the physical context necessarily constrains how people move—often without rising to the level of consciousness (Lakoff & Johnson 1999). Similarly, physical directives within a store design pertaining to displayed products can influence consumers while shopping (Kent & Kirby 2009; Puccinelli et al. 2009). Retailers create customized stores out of a belief that designers familiar with the brand or products will be able to create interiors that will communicate the brand's values and enhance product presentation. It is therefore reasonable to expect some level of synergy between interior design and product design in these cases. A bakery should, for example, facilitate the act of buying bread, while a denim shop should facilitate shopping for jeans. Some authors suggest that people tend to perceive stimuli as a member of the demographic category that matches themselves best (Eleanor Rosch & Carolyn B. Mervis 1975; Block 1995; Blijlevens et al. 2012; Ward et al. 1992; Leder et al. 2004; Reber et al. 2004). For example, Ward et al. (1992) describe how consumers seek tangible cues as predictors for the level of service and products they can expect from a restaurant; Leder et al. (2004) describe how the appearance of an object in an art exhibition is a strong contextual cue for classifying an object as one that warrants aesthetic processing.

Martindale (1984) proposes that prototypical forms are preferable to non-prototypical forms. Studies have found a correlation between prototypicality and aesthetic evaluations of for instance color patches (Martindale & Moore 1988), paintings (Hekkert & Wieringen 1990), and furniture (Whitfield & Slatter 1979). An explanation for this phenomenon lies in a concept that Reber et al. (2004) define as ‘processing fluency’: the more easily an object is processed by the mind—the more familiar it is, in other words—the more positively it will be perceived. Zajonc (1980) explains this by acknowledging that familiarity produces a feeling of safety; the more fluently we are able to process a given environmental stimulus—the more securely it lies inside of our own contexts, experiences, and beliefs—the less likely it is to be harmful. Other scholars have suggested that successful recognition of stimuli is associated with the availability of useful knowledge and error-free processing involved with the interpretation of the stimulus (Simon 1996; Carver & Scheier 1990; Derryberry & Tucker 1994; Fernandez-Duque et al. 2000; Ramachandran & Hirstein 1999). All of this makes it reasonable to assume that the style of a customized interior can facilitate a customer's perception and interpretation of a product.

This phenomenon was mentioned above in relation to advertising, but studies also show that coherency in attitude towards brand images enhances the perception of those brands. A recent co-branding study of fictitious retail collaborations, where smaller in-stores were located in larger retail stores, demonstrated that image perception of both brands were affected positively when the two store images aligned (Banerjee & Drollinger 2017). The coherence produces a synergy which is beneficial to both partners.

By virtue of a store design's guiding effect, we can expect that the perception and subsequent categorization of a retail space—unconsciously can aid consumers in establishing a connection to the products within it. A skilled designer's decoding of a brand or a store image, can produce a customized store environment matching the products within it. The resulting coherence will ease processing dynamics, and in turn enhance product perception. Our second proposition is therefore:

Proposition 2:

A successful style match between product and environment adds value to the product.

We submit, in other words, that a product placed in an interior styled to match its characteristics will be rated higher than when the same product is placed in a neutral or a mis-matching interior. We expect that comparisons between product ratings given in customized interiors and those given in a neutral environment will reveal differences, and we submit that these differences can be attributed to the influence of the interior.

That stimuli affect us unconsciously, and that they can also influence seemingly unrelated objects suggests that scrutinizing these unconscious effects will produce insights into how retail environments affect consumers. The method proposed below allows us to measure whether product ratings are influenced unconsciously by the surrounding interior, and to look for correlations between product variables and interior variables. In the following section, we describe our reasons for believing that these effects should be studied on an individual level, as opposed to the aggregate.

Effects of Store Design on Individual Consumers

Another challenging factor in the analysis of interiors arises from the potential for discrepancy between intended and perceived atmospheres. The intended atmosphere is the set of sensory qualities with which the designer endeavored to imbue the space. However, reactions to atmospheric cues are not uniform, depending instead on such factors as cultural and biological

background, education, and personal experience (Kubovy 2000; Martindale & Moore 1988; Leder et al. 2004; Reber et al. 2004). Consumers are individuals, and despite the fact that many marketing scholars have generally studied consumers by grouping them together at the aggregate or market-segment level, a growing number of scholars believe that considering each consumer as an individual is the best approach. In order to gain access to potentially hidden information among individuals, our experiments are designed to measure preference at the individual level (Wright 1997; Leder et al. 2004). Individual measurements can subsequently be analyzed to identify patterns and structures (Krackhardt 1992).

Professional background, to choose one example, is a factor that may account for such differences in perception. Brand executives, for example, may perceive interior environments differently from retail designers (Clark 1997; Turley & Chebat 2002; Varela et al. 1991; Gallagher 2005; Hendriks-Jansen 1996; Hyun & Luck 2007; Lakoff & Turner 1989; Lakoff & Johnson 1999). The designer's intention will almost certainly affect individual consumers differently and may not get through to the consumer at all (Kotler 1973; Bitner 1992; Turley & Milliman 2000). To get a sense of the designer's intention, and to add this dimension to our study, we interviewed designers about their intentions concerning the test stores before we ran the experiments. Statements from these interviews appear below in our descriptions of the test stores, and in our discussion of specific consumer behaviors.

Research Methodology

Unconscious effects are difficult to measure. Yet laboratory experiments have in fact yielded some degree of success in measuring the unconscious effects of design. The laboratory setting has the advantage of being able to effectively control variables—the question is whether we can rely on results achieved in such a setting. Realistic conditions crucial to the experience of shopping are necessarily sacrificed in order to achieve this control of variables. The very act of bringing respondents into a laboratory can influence whatever responses they might give. We simply cannot be certain that the cognitive and emotional activity taking place in the laboratory corresponds to what we otherwise might find in real life (Lynch, Jr. 1982). The following section explains the ways that our experiment bears similarities to laboratory experiment—and hopefully retains the benefits of that setting—yet takes place under more realistic conditions. A crucial component of our method is therefore to avoid bringing the subject of the study—the retail environment—to the respondent's attention.

Research Design and Stimulus Selection

Fifty respondents participated in the experiment. Each participant was asked to rate fashion products from three different brands in various contexts. In part 1, products were presented in three different shopping environments, each of which were designed specifically for one of the three brands. Each product was therefore displayed once in a 'home' interior, and twice in a 'foreign' interior. Immediately after rating the products inside the stores, the respondent was taken to a neutral zone to rate the products once again, this time outside of the influence of the store interiors (fig. 1). This last step comprises part 2 of the experiment.

We chose a 'within-subject' study design, with repeated individual measurements. This means that the same respondent's product ratings were taken in each of three test stores (part 1) and once again in a neutral test zone (part 2). In part 1, each respondent rated the products by making paired comparisons of six products inside each of the three contexts. The paired comparisons method was chosen because it encourages an immediate reaction, without creating too much reflection (Thurstone 1927). This method does not require the respondent to assess how much a product is preferred in itself, but simply how much it is preferred relative to another product, making it expedient for our purposes.

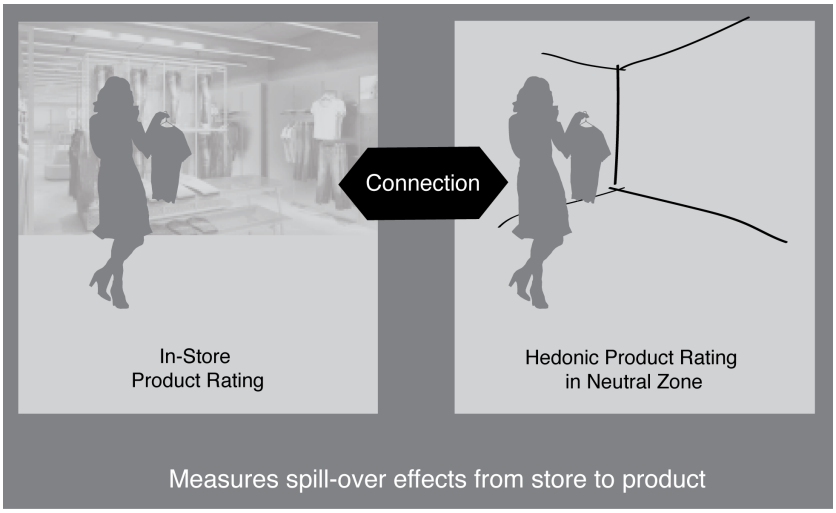

Fig. 1. To measure if the interior unconsciously affects the product rating, the respondent's product ratings under store influence are compared with product ratings in a neutral environment.

Setting of experiment

Our experiment took place in a European shopping center. Respondents were actual shoppers, with a desire to view, try on, and potentially purchase fashion items from the selected retail settings. In order to locate suitable test stores, the authors took field trips and conducted interviews with retailers and retail designers. The test stores chosen for the experiment were similar in size, room height, light intensity and quality, sound, odor, and the quantity of fashion items displayed. The three shops were in fact located in one contiguous space, which contained three separately delineated in-shops. This situation was considered advantageous, in order to avoid undue influence from external factors during the course of the experiment. Each shop was specifically designed for one of the three selected brands: shop 1 for the brand called Core, shop 2 for the brand called Vintage, and shop 3 for the brand called Premium. Prior to the study, we conducted interviews with the retailers and designers associated with the three brands, in order to gather data on the fashion brands, and to understand the intentions behind the design decisions in the stores. The experiment was performed in the period from February to May, 2015.

Variables controlled by the retail designer can be broken down in to four categories, as defined by Haug & Münster (2015). These are: exterior variables, general interior variables, furniture variables, and display/decoration variables. While variables such as store personnel, surrounding areas, and merchandise or product design, are certainly important to the shopping experience, they are excluded from consideration in this study since they lie outside the retail designer's control.

Test Stores as Described by the Retail Designers

Shop 1

The Brand manager for Core described the fashion brand as modern, minimalistic in style, with scant and subtle details. The retail designers explained that they wanted to make a clean, simple, and young look to support that style: *'The design should be cut down to the bone'* they said. *'From the beginning of the design process we imagined the shop to be all white. We wanted the shop to be cool and to stand out, and many of the surrounding stores were darker. To add some cool textures, we used metal cable trays as wall covers to obtain a modern, industrial look without spending too much money.'* All furniture items in the store were treated with high gloss paint, which produces an almost clinical feeling. Decorative items are few but large: a large, backlit poster and white, modern bicycles with many technical details.

Shop 2

The Vintage brand was described by the brand manager in terms corresponding to the name: a vintage style brand featuring soft, pre-washed fashion items with a rugged, antique look. The retail designers describe the style of the store as *'the iconic way to design a vintage store. We used elements like brick walls, wooden beams, and antiqued furniture. Things that make you think of rough-hewn craftsmanship, woodsmen, and classic work-wear stores. When using these cues, we believe that customers will easily recognize that the products sold here are casual Vintage style products.'* When the designers were briefed about the project by the brand managers, they were told that the shop would primarily sell t-shirts and should communicate the image of a strong t-shirt supplier. But when we visited the store, there were mainly jeans and shirts on display. The designer also explained that in order to set the shop apart from its neighbors and at to give the store a cozy and inviting feeling, all materials were kept in their natural color. The designer believed that this would result in what they described as *'an authentic looking atmosphere.'* Decorative items, like wooden ladders, antique industrial pendant lamps, and old-fashioned tailoring tools, were added to contribute to the atmosphere of craftsmanship that the designer was trying to evoke.

Shop 3

Premium is described as a formal brand with a focus on formal clothing, such as classic suits and dress shirts. The designers explained that they wanted the store design to reach out to a young, but more formal consumer segment. They wanted the store to express *'tailoring'* in a classic, even somewhat nostalgic manner. The designer explained: *'We wanted the store to have an exclusive look and added lots of textures like solid wooden floors, fine wooden furniture, and carpets. We treated the walls with a special structured plaster. In order to present the merchandise in an exclusive way we designed classic-looking wooden cabinets, which frame the products and present them in a more high-end manner.'* The detailing of the cabinets contributes a feeling of fine workmanship, and the decorations are delicate and artistic, as though they were taken from an art gallery.

Neutral Zone

After rating the products inside each of the store environments, participants were taken to what we will refer to as a neutral zone, separate from the three retail spaces. While it is implicit in our premise that no interior space is completely neutral, what is meant by this is an interior whose atmosphere lies outside the focus of this experiment. The area in question was located in a corner of the fitting room area common to the three stores. The walls were monochrome and dark, and

no decoration or other products were on display. To lead the respondent's focus away from the surroundings as much as possible, the researcher took the respondent close to a rack, where the test products hung. Here the respondent was given the opportunity to examine the products more closely, after which time they were asked to rate each product once again.

Table 1 specifies the characteristics of the test stores, including a list the variables under consideration, based on Haug & Münster's (2015) table of atmospheric cues controlled by designers. Exterior variables are not included, since this study deals with in-store atmospherics exclusively. Factors which are common to all three test stores, including lighting, music, temperature, room height, odor, and width of aisles, are also omitted.

	Core	Vintage	Premium
General interior			
Flooring and carpeting	Terrazzo, dark grey	Terrazzo, dark grey, oriental carp	Wood, dark stained and 2 grey carpets
Colors wall/ceilings	White ceiling/walls (bright)	Black ceiling/Brick covered walls	Black ceiling/Grey walls (warm)
Wall composition	U-shaped	L-shaped	I-shaped
Wall materials	White metal	Brick covered	Grey painted, rustic paint
Ceiling height	4,5 m.	4,5 m.	4,5 m.
Merchandise	Core Mens Fashion	Vintage Mens Fashion	Premium Mens Fashion
Layout and Furniture			
Store layout			
Size	39m2	31m2	38m2
Furniture, wall	White metal rails with perforated metal, 600mm modules front, side or shelf, flexible display heights, merchandise displayed in two height	Open patinated metal racks with wooden shelves, 1200mm sections, 600mm fronthanging or sidehanging options, 1200mm shelves, display in two heights	Closed wooden cabinets, 1200mm sections, 600mm sidehanging or fronthanging options, 1200mm shelves, display in two heights. Two wooden shelves on walls with hanger rails below.
Furniture, floor	Square, white metal podiums/tables 900x900mm in groups of three/different heights. U-shaped tables/podiums with storage shelf below. White T-racks	2 tables 1600x900 with patinated wooden table top and patinated metal legs. Shelf for storage under the table	2 black stained wooden tables 2000x900mm, below 2 small wooden tables with thin metal legs/frame
Entrances/Exits	One big entrance	One big, one small entrance	Two medium/one small entrance
Decoration and Display			
Signs/Logos	White logo sign with light	Logo box on top shelf, patinated	Black logo letters on wall
Mannequins	Three mannequins, full body, head and hands in matt grey plastic	Two torsoes and one mannequin, head in natural coloured fabric	Three mannequins, full body, heads in natural coloured fabric, wooden hands
Pictures and decoration items	One big fashion image, modern bikes above the wall furniture on the left wall	Vintage metal boxes, brass signs, seewing maschines, ladder, old tailor tools, pendant	Framed pictures, canvas, glass bottles, wooden scuptures, big grey pendants
Product displays	Wall system, tables, T-racks (see Furniture). Aluminium hangers	Wall racks, tables, T-racks (see Furniture). Metal hangers with patina and wooden detail	Wall cabinets, tables, T-racks (see Furniture). Thick wooden hangers

Table 1. Design variables in the three test stores.

Test products

The six test items were all men's fashion items: one shirt and one sweatshirt from each of the three brands in the study (Table 2). The price level was between $40 and $60. The samples had no visible logos, were all in neutral colors and patterns, and were all size 'medium.' Sample products were selected by brand experts employed by each of the brands and were chosen on the strength of their correspondence with style criteria for their respective brands; they can therefore be considered to represent their respective brands as strongly as possible. All six products were presented once in each of the three test stores, and once again in the neutral zone. We made use of four different units of each sample product for these presentations. Items were presented on shirt hangers specially designed for and used in the three respective shops. Furthermore, items were presented in accordance with the guidelines from their respective brands. For example, the Vintage shirt was presented wrinkled, with rolled-up sleeves and the top button left open, while products from Premium were pressed and buttoned all the way up.

	Core Products	Premium Products	Vintage Products
Sweat shirt			
Shirt			

Table 2.
Six test products we used in the experiment - one shirt and one sweatshirt from each of the three studied brands.

Respondents

50 customers participated in the experiment, 31 men and 19 women, with an age range of 15 to 49 years. All respondents were actual customers who were recruited upon leaving the store after shopping or browsing.

Study

Pre-test

We performed pre-tests with five respondents in order to determine whether the test was comprehensible. Respondents did not appear to have problems understanding the procedure, but we did make one small change as a result of the pre-test. In the pre-test, the order of the product combination was the same in each setting, and respondents were noticeably bothered by the realization that they were being asked to compare the exact same products in the exact same order. They seemed to lose interest in the experiment, or even to doubt the quality of the research. In response to this observation, we decided to shuffle the order of the product combinations between the different settings. This alteration reduced or eliminated the aforementioned predictability, and its negative effect on respondents seemed to disappear.

Because respondents did not rate products individually, but as paired comparisons from within each space, the experiments and data from each store can be considered independent of the other two. We have therefore determined that the importance of maintaining a natural flow through the store outweighed the minimal risk of a mere-exposure effect, where a respondent might come to like a product or products more by being shown it multiple times.

Procedure, part 1

As a warm-up to the rating exercise, each respondent was shown a test screen, to familiarize them with the task. On the test screen, respondents were asked to indicate their preference for one of two products on a visual analog scale by pointing with their finger on a touch-screen. The scale did not have verbal anchors or indications, but the researcher explained the use of the scale by saying that the participant should indicate how much he or she preferred the one product to the other (see Photo 1).

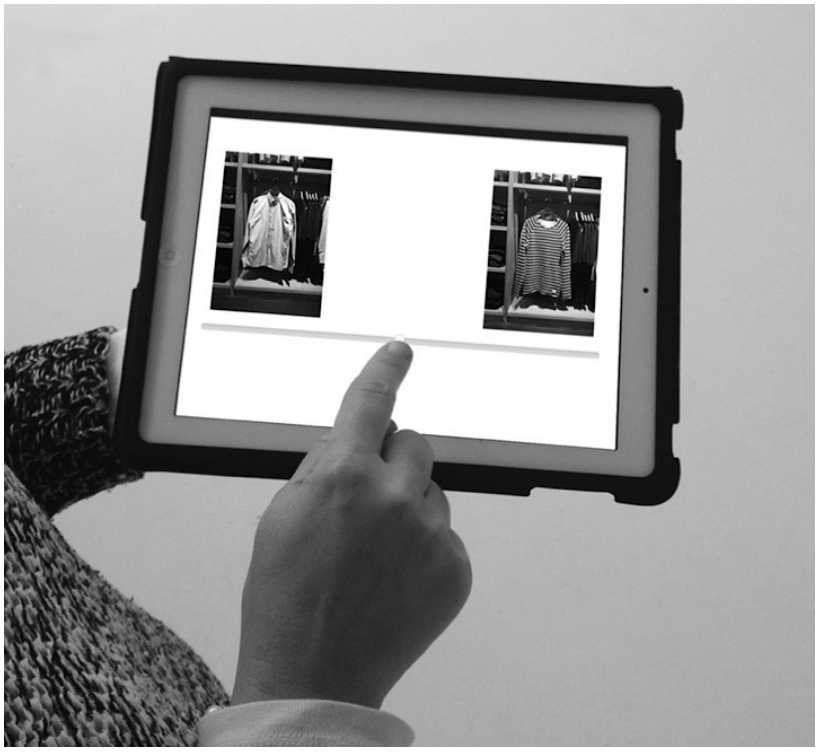

Photo 1. Respondents were asked to indicate their preference for one of two products on a visual analog scale by pointing with their finger on the touch-screen.

As stated above, in part 1 of the study comparisons of the six product pairs were made from within each of the three store environments. The six sample products appeared in all three stores, placed among the current collections. Products were presented hanging, from front sticks on wall furniture, so that the front of the product faced the customer. Ratings were collected on the same touch screen, where photos of the items taken from within the respective settings were displayed for each product pair. In other words, both the hanger and the background from each setting were visible in the photos that the respondent was asked to choose between. Because of the relative location and proximity of the test stores, a natural path through them was determined. We decided to follow the same path in the experiment, so that respondents' attention would not be occupied or disturbed by the flow from store to store.

The respondent was first taken into the Core shop. The researcher asked the respondent to turn his attention to two of the test products and asked the respondent to compare them based on how much he or she liked the products. After comparing the products hanging in the store, the researcher presented the touch screen with photos of the two products – one photo to the left and one photo to the right. For each pair of products, the researcher asked the respondent to indicate his or her preference by placing the cursor on the aforementioned scale. The six paired

comparisons in this shop were: (Product left, Product right) ~ {(1,2), (2,3), (3,4), (4,5), (5,6), (6,1)}. This comprises *Statistical Design set D*.

Next, the participant was taken into the Vintage shop, and asked once again to rate the same pairs of products, but this time in a different order. Finally, this procedure was repeated once again in the Premium shop, with yet another ordering of the product pairs. Thus, the *Statistical Design Set* was identical in all three shops, but the product pairs were presented in a different order in each case.

Results and Discussion, part 1

The paired comparisons method allows us to determine not only how many respondents prefer, for example, product 6 over product 5, but also reveals the relative strength of a preference, or lack thereof, for each single respondent. A preference structure was therefore determined separately for each respondent and each store. Product ratings were converted into numbers, one for each comparison, using the following method: The distance from the middle of the scale to the mark noted by the respondent was measured, positively to the right and negatively to the left. The observations are denoted $y_{i,j}$, $(i,j) \in D$. The assumption is that the numerical score would increase with the strength of preference for one product over the other product, and that equal but upper site preferences would correspond with equal but upper site ratings. For each subject and each room, the six comparison ratings, $y_{i,j}$, $(i,j) \in D$ were combined into a metric rating scale. Therefore for each subject and for each room, there exists six γ's; γ_1, γ_2, γ_3, γ_4, γ_5 and γ_6, corresponding to the six products, so that the expected value, $E(y_{i,j})$, of $y_{i,j}$ has the form $E(y_{i,j}) = \gamma_j - \gamma_i$. The estimation of the γ's is performed using the least squares method. Preference-scores for the six products are calculated as: scores for product $i = exp\{\gamma_i\}$. Next, the indexed representation of the scores is obtained by making one of the scores equal to 100, the base value; we chose to assign the base value to Product 1. As an example, see Table 3 below, showing the preference structures obtained for respondent A, using Product 1 as the base value. We can see that respondent A's product scores vary widely between the stores. For example, respondent A's index rating for Product 5 is low (11.02) inside the Vintage Shop, but high (869.19) inside the Premium shop. This indicates that respondent A's preference for product 5 is positively influenced by the Premium shop, to a substantial degree, but negatively affected by the Vintage shop. A slight positive influence is detected in the Core shop (115.93).

	Core Products		Vintage Products		Premium Products	
	1	2	3	4	5	6
Core shop	100	21.29	107.67	360.70	115.93	455.02
Vintage shop	100	50.67	282.86	56.80	11.02	29.95
Premium shop	100	35.73	133.19	335.84	869.19	239.35

Table 3. Preference scores for respondent A.
For this person we see that the product preferences vary from room to room.
Thus, we can see that some environments support the preference for specific products.

For the purpose of comparison, Table 4 shows all scores at an aggregated level. Here the differences between the scores are flattened out due to the large heterogeneity of the sample, but variations are still in evidence. For example, Core Products, products 1 and 2, scored higher in the Core Shop (100 and 105.99 respectively) than both Vintage products (75.88, 45.86) and Premium products (62.68, 78.35). Even with the flattening caused by considering ratings in aggregate, the influence of store interiors is still in evidence.

	Core Products		Vintage Products		Premium Products	
	1	2	3	4	5	6
Core shop	100	105.99	75.88	45.86	62.68	78.35
Vintage shop	100	81.03	78.48	82.08	75.89	46.35
Premium shop	100	99.89	85.55	115.74	93.25	95.52

Table 4.All Preference scores of products given in the three shops at aggregated level.

It is well known among statisticians that amplifying or reinforcing effects found at the individual level are flattened out at the aggregate level (Wright 1997). This phenomenon is often ignored by marketing researchers, where deviations from the mean at the individual level are treated as sampling errors or 'noise.' It is our contention that data at the individual level, far from being insignificant, instead reveal actual differences between individuals in any given situation, in our

case a market. Between subject variation is real, not mere noise, and we ignore it at our own peril. In doing so we overlook structures in the market that potentially outline smaller groupings of individuals, whose preferences may in fact be strongly influenced by a certain interior. If we ignore these deviations, we run the risk of discarding valuable information about potential consumer niches. This loss of information can lead to misunderstandings, bad decisions, and underutilized markets (Ziliak & McCloskey 2008).

Procedure, part 2

After completing product ratings inside each of the three shops, each respondent was then taken to a neutral area, to rate the six products once again, outside the influence of a retail atmosphere. The six shirts were hung side by side on a hanger rail and presented to the respondent one at a time. In this setting, the respondent was asked to rate each product individually, in accordance with his or her own preference, rather than in comparison to one of the other products. After giving the respondent a chance to examine the product closely, the touch screen was once again shown to them. On the display was a photo of the product, and an analog scale with the anchors 'Don't like at all' on the left side, and 'Like very much' on the right. Respondents indicated their preference by selecting an appropriate location on the scale. Ratings obtained from this neutral setting are called the hedonic product rating in this study.

Respondents were then asked to reveal their age and gender, and finally whether they would ever consider buying clothes from the brands in the study. This last question was to intended to identify participants who might have been in the store for reasons other than shopping, so that they might be eliminated. Each interview, consisting of part 1 and 2, lasted approximately 10 to 15 minutes per respondent.

Results and Discussion, part 2

Once again, product ratings given by respondents were converted into scores by measuring the distance from the middle of the scale (0) to the indicated mark. Positive scores (to the right of zero) from 1 to 50 were possible; likewise, negative scores (to the left of zero) of –1 to –50. The higher (or lower) the indication, the higher (or lower) the preference of the product it represented. Each respondent's hedonic product rating was recorded alongside his or her product ratings from Study, part 1. As an example, Respondents A's scores are show in Table 5.

	Core Products		Vintage Products		Premium Products	
	1	2	3	4	5	6
Core shop	100	21.29	107.67	360.70	115.93	455.02
Vintage shop	100	50.67	282.86	56.80	11.02	29.95
Premium shop	100	35.73	133.19	335.84	869.19	239.35
Hedonic Product Rating	30	-27	49	40	39	18

Table 5. Combined preference scores for respondent A - including product ratings given from within the store environments (Study, part 1), and Hedonic product ratings (Study, part 2).

With this data from each of 50 respondents, we can now investigate the extent of the influence each store environment has on product ratings.

We are aware of the pitfalls of making comparisons between different scales of measurement (we use paired comparisons in part 1 vs. absolute ratings in part 2). We believe that this particular experiment is in fact strengthened by using these differing methods of measurement. The use of the paired comparisons method in part 1 allowed participants to express a preference without requiring any reflection over degree. In this case we do not learn anything about the respondent's preference for a given product in and of itself, but only relative to another product. This method obscures a concrete, absolute assessment of any single product, but provides an immediacy that we considered desirable in measuring the unarticulated effects that were the objective of part 1. Conversely, in part 2 we are interested in the respondent's absolute preference for a particular product, in and of itself; hence the preference scale employed in part 2. It is our contention that the difference between these two ratings, the unarticulated rating from part 1 and the articulated rating from part 2, will reflect the influence of the store design on the product rating in a quantifiable manner.

Proposition Corroboration

In Proposition 1, we contend that the influence of a store environment on product preference can be measured without bringing the consumer's conscious attention to the interior environment, because that influence takes place in part on an unconscious or emotional level. We also claim that this influence can be measured. Results from the study indicate that environments do indeed have a quantifiable effect on product preference. We can see clearly, for instance, that respondent

A rated the same products differently from shop to shop. A comparable effect, albeit attenuated, is observable at the aggregate level. Interpreting the data from the two tables, we observe effects attributable to the individual and his or her preferences on the one hand, and to the interior environments on the other.

Assuming that hedonic product ratings indicate the respondents' engagement or appreciation for a product, and assuming that the interiors can manipulate this preference, we made a regression analysis of Product Ratings in Stores (unarticulated ratings) on Hedonic Product Ratings (articulated rating) Product Scores $log(\text{score}) = \alpha_{store} + \beta_{store} \times$ *Hedonic Product Rating* (fig. 2). This analysis shows statistically significant reinforcement effects, β's, for all three interiors (Core: (β= 0,00209, $p < .001$, Vintage: β= 0,00728, $p < .001$, Premium: β= 0,00715, $p = .036$). Thus, the respective interiors had statistically differing reinforcement strengths on products, p= XX, but influenced products in varying degree. The Vintage shop, indicated by the dotted line in figure 2, reinforced ratings markedly, suggesting that the Vintage interior had the most positive effect on product ratings. The effect of the Premium interior, indicated with the dashed line, was slightly less than that of Vintage, whereas the Core interior, represented by the solid line, had the lowest effect).

In order to determine whether respondents rated products more positively in customized store environments (Proposition 2), we analyzed how products from a particular brand interacted with the different interiors.

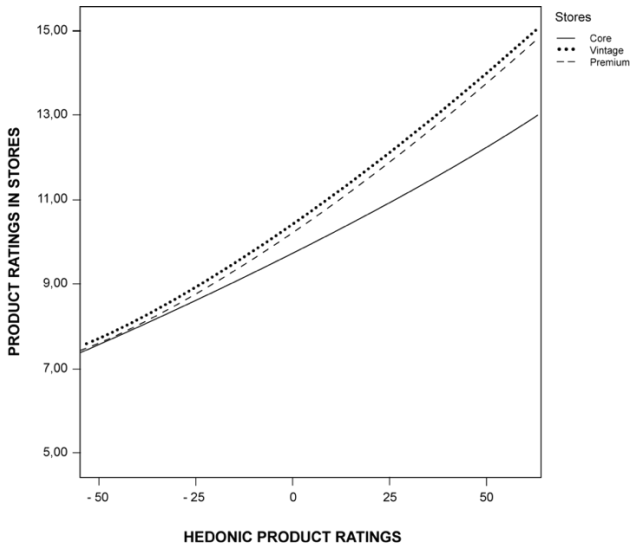

Fig. 2. Regression lines indicating Product Scores given in the three interiors.

Here big differences come to light (figures 7, 8, 9). The Vintage interior, which supported products most positively at the aggregate level, did not have the same effect on products from all brands. Fig. 8 reveals that the high general level of product ratings in the Vintage store was actually due to very high ratings of Core products ($p < .001$) and Premium products ($p = .045$). Vintage products were in fact negatively influenced by the Vintage interior (however insignificant $p = .375$).

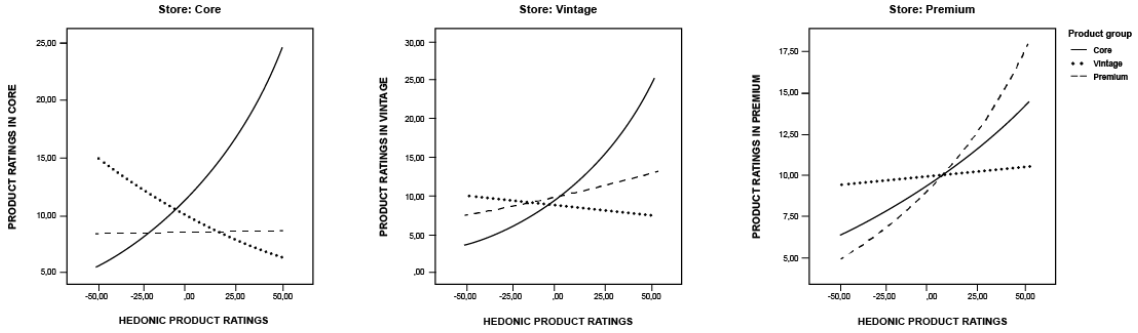

Fig. 7. Core. Core products were rated the highest in their 'home' interior, while the Core interior showed a negative influence on Vintage products and a neutral influence on Premium products.

Fig 8. Vintage. Core products were positively influenced by the Vintage interior, whereas Premium and Vintage products were either neutrally or negatively influenced.

Fig. 9. Premium. Premium products were influenced most positively by their 'home' interior, but Core products were also positively influenced to a significant degree. Vintage products were negatively influenced by the Premium shop.

Note: Scales on the Y-axis are not identical between the three diagrams.

Core products were reinforced significantly by the Core Interior ($p < .001$) while Vintage and Premium products were not (Fig. 6). Premium products were significantly supported by the Premium shop ($p < .001$), but closely followed by the Core products ($p = .012$); whereas Vintage products were not significantly influenced by the Premium shop ($p = .740$). Vintage products were not significantly supported by any store environment, and in fact negatively influenced to a significant degree by the Core interior ($p = .006$)

We discern a positive match between brand products and brand environments in the case of both Premium and Core, while no such match exists between the Vintage interior and its products. This last finding was surprising, and contradictory to the main effects, which we will treat below in the section called General Discussion.

Segmentation of preference by Gender and Age

Our study was intended to test the effect of the retail interiors. However, there are two additional variables in our dataset which might have influenced the reinforcing effects we observed. These are gender, and age.

The three-factor interaction between interior, product, and gender was not significant, (p = .916). In other words, gender had no influence on the reinforcing effect between product and interior. There were, however, interaction effects between gender and product (p = .002); e.g. products 1 and 6 were preferred by females, whereas products 2, 3 and 4 were preferred by males (p =< .001).

Three-factor interaction between interior, product, and age was also found to be insignificant (p = .683), which means that age, like gender, had no meaningful influence on the reinforcing effects between product and interior. But once again, we did observe a slight interaction between age groups and products. Products 3 and 4 were preferred more by respondents in the age group 13-33 years, when compared to those in the age group 34-58 years (p < .001).

General Discussion and Theoretical Contribution

Existing research demonstrates influential effects of atmospherics in retail environments but does not give retailers and designers concrete tools for measuring spillover effects. We propose framing the question in terms of a spillover effect, in this case from interior design onto product perception. In order to pursue this line of inquiry, knowledge and experience are required when it comes to measuring these spillover effects, especially since they usually occur at an unconscious level. Thus, the contribution of this study is the method we propose, and the results from our on-site experiments using the method. By conducting repeated individual analyses of product ratings from 50 respondents, we uncovered spillover effects from interior to product preference, and accomplished this without bringing the store design to the respondents' attention. Our results demonstrate that primary effects should be scrutinized with great care. Repeated measurements on each individual proved fruitful, allowing us to gain insight into specific interactions between interior design and product design.

Empirically, our results show that two out of the three customized store environments significantly affected the products which they were intended for, and that this effect was greater than the effect on products that were intended for the other environments. This supports our contention that retail designers are in fact able to decode brand images and use this information to create atmospheres which help consumers to understand and appreciate products.

Our results also indicate that interiors can contain general cues that can have a more diffuse influence on product perception generally. For these reasons, it makes sense to talk about the fact that interiors can influence consumers on different levels.

While the Vintage interior best supported products generally, analysis of interactions between the Vintage interior and the different product groups reveals that the Vintage interior was the only retail space not to lend support to its native products. The apparently positive general effect of the Vintage store can in fact be accounted for by the ratings of one specific product group, namely the Core products. Core Products, however, were positively influenced by the Core interior to an even higher degree, which argues against changing the design of the Core interior. Analysis of store design and design cues suggests the following possible explanations for the Vintage interior's generally positive influence on product ratings: The colors are subdued, the materials are natural, and the natural-looking patina makes surfaces—old bricks, burned iron, and aged wood—seem more casual, and less ostentatious. The palate of surfaces does not present a lot of contrast. It may be that the aged, slightly worn look evokes informal references, and therefore has a relaxing effect. In addition, people tend to like things that are familiar to them (Zajonc 1980), and the style of the Vintage store and products was, at the time of the experiment, very much in keeping with the spirit and style of the times. Apart from their intention to create an easily comprehensible, uncomplicated space, the designers themselves describe the room as *cozy and inviting*. The cues employed in the design are both easy to understand and send friendly and inviting signals, which helps consumers to relax, and focus on the products rather than the space.

Why didn't the Vintage interior strengthen perception of its own products? Is it just badly designed? Not necessarily. The shop did have a measurably positive effect on other products. We offer two possible explanations. First, according to the designers, the shop was not designed for the products that were displayed in it at the time of the experiment. The lackluster performance of the Vintage products might be due to the fact that the interior was designed with another product type in mind (recall that the designers were told the shop would primarily sell t-shirts, a directive that the retailer then revoked along the way). The design is therefore not as specifically targeted to the products as it might be. A second possible explanation is that the products themselves simply aren't attractive enough. Vintage products received lower ratings than the other four products in all settings, which indicates that the products themselves were simply not alluring enough. If respondents felt that these products were unattractive, this could produce a lack of engagement with them (Zaichkowsky 1985; Lastovicka & Gardner 1978). The amplifying effect of the store interiors was more pronounced on products which also received high hedonic product ratings. In other words, the amplifying effect of customized store interiors seems to be activated when consumers are engaged with the products. Retail design cannot

accomplish everything on its own—consumers must like the products. This suggests that the underlying cognitive processes associated with engagement might be the key that opens the door, making an individual more receptive to his or her surroundings.

A comparison of the performance of the three different product groups in the different interiors also yields insights. Vintage products received low ratings in all three interiors, while Core products received high ratings in all settings. Premium products, on the other hand, received significantly higher ratings in the Premium store than in the other two settings. This can potentially be explained in terms of the contrast effect (Ramachandran & Hirstein 1999; Arnheim 1974). It is possible that the contrast between the style of the Premium products and the style of the Vintage and Core interiors was too strong. Or it may be that the stylistic match between product and interior is simply more critical in some cases than in others.

Another potential explanation has to do with a concept called prototypicality, or the degree to which a consumer associates a particular environment with a particular goal (Puccinelli 2009). Retail environments produce different outcomes and feelings as they interact with a consumer's background, personality, and goals. The design of an environment can have a positive or negative interaction with a customer's memories, or with their imagination of a future event, both of which often play a crucial role in shopping decisions. When a customer envisions an event in the future where the products they are shopping for will be used—a wedding, party, or other special occasion, for example—a context for organizing information in memory is established (Murphy & Medin 1985; Puccinelli et al. 2009). The designers of the Premium store describe the interior as classic, formal, and luxurious. Respondents who gave a high hedonic product rating to Premium products were more positively influenced by Premium's formal interior than by the other interiors. This may be because the formal and luxurious character of the store harmonizes well with an image of an event where they might imagine using the products. When looking at formal fashion products, a consumer might very well imagine using them at a formal event. When looking at the more quotidian Core products, on the other hand, the different interiors have a more uniform effect, which may be accounted for by the wider range of contexts that respondents imagine when considering these products. This may in turn reduce the influence of any one context over the others. In any case, it is conceivable and perhaps even likely that consumers perceive these contexts, and thereby how they might support or challenge any given fantasy, in different ways. Simply put, the same atmosphere will affect individuals in different ways.

Limitations and Further research

The method proposed here has both strengths and weaknesses. Weaknesses include the fact that field studies in real-life settings are complicated to execute. Under normal operating conditions, it is impossible to control all the variables in a store environment, and the possibility that respondents may be distracted in one way or another, and that this might in turn influence their responses, cannot be eliminated.

Apart from this inherent complication, the following five limitations specific to this study deserve mention. First, results are based on a field experiment with 50 participants, six products, and three test stores; we presume that statistical significance would increase with a larger sample size. The three test stores were different enough to be distinct from one another, but due to geographic proximity, probably still somewhat homogeneous in style. We also presume that results would be more significant if a similar study was conducted using interiors with more obvious stylistic contrast. Second, results are based on data from one mall, which again creates a geographic limitation. Consumers behave differently in different markets, and we would encourage the design and execution of comparative studies in geographically disparate markets, which would be of obvious benefit to retailers who operate stores in different regions of the globe. Third, the study was limited to customers who were already in the store. We therefore lack data on potential consumers, who had not already decided to enter the store. Reactions from potential customers could produce relevant data for retailers. Fourth, the study does not reveal the consumer's buying intentions. How many of these customers actually purchased the products they rated highly? Is there an identifiable threshold where like equals buy? This data would also be of obvious interest to retailers. Finally, our study was limited to the unarticulated effects spilling over from store to product. Combining this type of study with one soliciting articulated or explicit responses might give a more nuanced account of how consumers internalize and interpret design cues, whether the effect is conscious or unconscious, and to what extent.

One store environment turned out to have a discernible positive effect on consumer evaluation of all test products, while two store environments positively influenced products from their respective brands. Using information culled from interviews with the designers of these interiors, we were able to propose some possible explanations. However, the results do not clearly reveal any definitive cause for the effects we observed. We therefore suggest further investigation into the effects of design cues, and that this research should consist of more complex, combinatorial studies.

The method proposed here needs further development in order to determine its usefulness in practice. Our hope is that it will prove useful in the selection phase of the design process. It could be effective, for example, as an aid in choosing between different design

solutions, or as a tool in determining whether a retail location needs to be updated in order to continue to attract customers and support products. A comparative study based on Virtual Reality representations of stores could also yield results, since the effects of environments could be tested on 3D drafts at an earlier stage in the design process, before resources are used on building them. Virtual reality technology is currently developing with extraordinary speed. Cumbersome VR goggles and blurry images will soon be a thing of the past, and the technology will soon be able to depict highly detailed interiors in realistic ways. These advantages will certainly benefit studies of this nature in the future.

Managerial Implications

The crucial advantage of this method is that it provides insight into how interiors affect consumers' product evaluation, and thereby enables qualified feedback to design managers. Using the proposed method, we obtained results that neither retailers nor designers could have predicted. In increasingly competitive markets, retailers are forced to confront the need for return on investment, and the implementation of retail design requires significant investments. The ability to determine ahead of time whether a design will support products and thereby enhance sales is an advantage with obvious value. With further development, the method proposed here could create such an advantage, helping managers to evaluate a store design before implementing a concept on a larger scale. But this is not its only application. Our method can also be used to test whether existing stores remain attractive to consumers, or to isolate and target as yet undiscovered market niches. High-traffic retail stores can become tired and 'shop-worn,' and retail managers who visit these stores often can lose their objectivity (Turley & Chebat 2002). This method could be an effective tool for helping them to see their stores with consumer eyes.

By measuring both in-store product ratings and hedonic product ratings from a neutral space, we were able to determine that store atmospheres have their best effect on products which consumers like to begin with. We were also able to gain insight into whether a product's negative performance might be attributable to the store design, or if the fault might lie with the merchandise itself. These insights can provide constructive, usable information to both fashion designers and retail designers. Investing in tailored retail design can improve product perception, but only when consumers like the products in the first place. Once again, this is actionable knowledge for both retail managers and retail designers can. Another application might involve expanding the repeated individual measurements used in our method. If these measurements are linked with consumer demographic information, behavioral patterns within specific consumer segments could emerge. This effect could be expanded by collecting additional data—pre-

existing brand loyalties, for example—in order to detect preferences of loyal consumers, and to determine whether and how to target loyal and enthusiastic consumers with increased specificity.

Our study assumes that retail designers utilize information about a brand and its image and position in a given market, decoding these images in order to transform that style into the language of interior design. A thorough understanding of both the brand and products is therefore essential to the creation of a successful customized store design. Finally, since our results point to the synergy created by a coherent integration of product and store design, we submit that it is in the interest of retail executives to facilitate an effective collaboration between brand managers, fashion design managers, and retail design managers, in order to create successful store experiences.

References

Areni, C.S. & 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(2), pp.117–125.

Arnheim, R., 1974. *Art and Visual Perception: A Psychology of the Creative Eye* 1974. New., University of California Press.

Baker, J; Parasurama, A; Grewal, D.; Voss, G.B., 2002. The Influence of Multiple Store Environment Cues on perceived Merchandise Value and Patronage Intentons. *Journal of Marketing*, pp.120–141.

Ballantine, P.W., Jack, R. & Parsons, A.G., 2010. Atmospheric cues and their effect on the hedonic retail experience. *International Journal of Retail & Distribution Management*, 38(8), pp.641–653.

Ballantine, P.W., Parsons, A. & Comeskey, K., 2015. A conceptual model of the holistic effects of atmospheric cues in fashion retailing. *International Journal of Retail & Distribution Management*, 43(6), pp.503–517.

Banerjee, A. & Drollinger, T., 2017. Store within a store: Matched versus mismatched image perceptions. *Journal of Retailing and Consumer Services*, 36, pp.53–61.

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

Bellizzi, J. a. & Hite, R.E., 1992. Environmental color, consumer feelings, and purchase likelihood. *Psychology and Marketing*, 9(5), pp.347–363.

Bitner, M.J., 1992. Servicescapes: the impact of physical surroundings on customers and employees. *Journal of Marketing*, 56(2), pp.57–71.

Blijlevens, J., Gemser, G. & Mugge, R., 2012. The importance of being "well-placed": The influence of context on perceived typicality and esthetic appraisal of product appearance. *Acta Psychologica*, 139(1), pp.178–186.

Block, P.H., 1995. Seeking the ideal form: Product design and consumer response. *Journal of Marketing*, 59(3), p.16.

Carver, C.S. & Scheier, M.F., 1990. Origins and function of positive and negative affect: A control-process view. *Psychological Review*, 97(1), pp.19–35.

Chebat, J.-C. et al., 2012. The effect of ambient scent on consumers' perception, emotions and behaviour: A critical review. *Journal of Business Research*, 30(4).

Cholachatpinyo, A. et al., 2002. A conceptual model of the fashion process – part 1. *Journal of Fashion Marketing and Management: An International Journal*, 6(1), pp.11–23.

Clark, A., 1997. *Being There: Putting Brain, Body and World TogetherAgain*, Cambridge MA: The MIT Press.

Cowley, E. & Barron, C., 2008. When Product Placement Goes Wrong: The Effects of Program Liking and Placement Prominence. *Journal of Advertising*, 37(December), pp.89–98.

Custers, P. et al., 2010. Lighting in retail environments: Atmosphere perception in the real world. *Lighting Research and Technology*, 42(3), pp.331–343.

Damasio, A.R., 1999. *The feeling of what happens: Body and Emotion in the Making of Consciousness*, New York: Houghton Mifflin Harcourt.

Delorme, D.E. & Reid, L.N., 1999. Moviegoers' Experiences and Interpretations of Brands in Films Revisited. *Journal of Advertising*, 3367(December).

Derryberry, D. & Tucker, D.M., 1994. Motivating the Focus of Attention. In *The Heart's Eye*. pp. 167–196.

Eleanor Rosch & Carolyn B. Mervis, 1975. Family resemblances: Studies in the internal structure of categories. *Cognitive Psychology*, 7(4), pp.573–605.

Fernandez-Duque, D., Baird, J.A. & Posner, M.I., 2000. Awareness and Metacognition. *Consciousness and Cognition*, 9(2), pp.324–326.

Frijda, N.H., 1989. Aesthetic Emotions and Reality. *American Psychologist*, pp.1546–1547.

Frontczak, M. & Wargocki, P., 2011. Literature survey on how different factors influence human comfort in indoor environments. *Building and Environment*, 46(4), pp.922–937.

Gallagher, S., 2005. *How the Body Shapes the Mind*, Oxford: Oxford University Press.

Gould, S.J. & Gupta, P.B., 2006. "COME ON DOWN": How Consumers View Game Shows and the Products Placed in Them. *Journal of Advertising*, 35(1), pp.65–81.

Groeppel-Klein, A., 2005. Arousal and consumer in-store behavior. *Brain Research Bulletin*, 67(5), pp.428–437.

Haug, A. & Münster, M.B., 2015. Design variables and constraints in fashion store design processes

Article information: *International Journal of Retail & Distribution Management*, Vol. 43(Iss 9), pp.831–848.
Hekkert, P. & Wieringen, P.C.W., 1990. Complexity and prototypicality as determinants of the appraisal of cubist paintings. *British Journal of Psychology*, 81(4), pp.483–495.
Hendriks-Jansen, H., 1996. *Catching Ourselves in the Act : Situated Activity, Interactive Emergence, Evolution, and Human Thought*, Cambridge MA: The MIT Press.
Herrmann, A. et al., 2013. The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales. *Journal of Retailing*, 89(1), pp.30–43.
Hirschman, E.C. & Thompson, C.J., 1997. Why Media Matter: Toward a Richer Understanding of Consumers' Relationships with Advertising and Mass Media Why Media Matter: Toward a Richer Understanding of Consumers ' Relationships with Advertising and Mass Media. *Journal of Advertising*, 26(1).
Hyun, J.-S. & Luck, S.J., 2007. Visual Working Memory as the Substrate for Mental Rotation. *Psychonomic Bulletin & Review*, 14(1), pp.154–158.
Kent, A.M. & Kirby, A.E., 2009. The design of the store environment and its implications for retail image. *The International Review of Retail, Distribution and Consumer Research*, 19(4), pp.457–468.
Knoferle, K.M. et al., 2012. It the mix: The interactive effect of music tempo and mode on in-store sales. *Marketing Letters*, 23(1), pp.325–337.
Koo, W. & Kim, Y.-K., 2013. Impacts of Store Environmental Cues on Store Love and Loyalty: Single-Brand Apparel Retailers. *Journal of International Consumer Marketing*, 25(June), pp.94–106.
Kotler, P., 1973. Atmospherics as a Marketing Tool. *Journal of Retailing*, 49(4), pp.48–65.
Krackhardt, D., 1992. The strength of strong ties: The importance of Philos in organizations. *Networks and Organizations: Structure, Form, and Action*, 216, pp.216–239.
Kubovy, M., 2000. *Visual and design arts*, New York: Oxford University Press.
Lakoff, G. & Johnson, M., 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, Basic Books.
Lakoff, G. & Turner, M., 1989. *More Than Cool Reason - a Field Guide to Poetic Metaphor - Lakoff,G, Turner,M*, University of Chicago Press.
Lastovicka, J.L. & Gardner, D.M., 1978. Low Involvement Versus High Involvement Cognitive Structures. *Advances in Consumer Research*, 5, pp.87–92.
Leder, H. et al., 2004. A model of aesthetic appreciation and aesthetic judgments. *British journal of psychology*, 95(Pt 4), pp.489–508.
Lynch, Jr., J.G., 1982. On the External Validity of Experiments in Consumer Research. *Journal of Consumer Research*, 9, pp.225–240.
MacKenzie, S.B., Lutz, R.J. & Belch, G.E., 1986. The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations. *Journal of Marketing Research*, 23(2), pp.130–143.
Martindale, C., 1984. The pleasures of thought: A theory of cognitive hedonics. *Journal of Mind and Behavior*, 5(1).
Martindale, C. & Moore, K., 1988. Priming, prototypicality, and preference. *Journal of Experimental Psychology: Human Perception and Performance*, 14(4), pp.661–670.
Milliman, R., 1982. Using background music to affect the behavior of supermarket shoppers. *The journal of Marketing*, 46(3), pp.86–91.
Mitchell, A.A. & Olson, J.C., 1981. Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude? *Journal of Marketing Research*, 18(3), pp.318–332.
Morin, S., Dubé, L. & Chebat, J.-C., 2007. The role of pleasant music in servicescapes: A test of the dual model of environmental perception. *Journal of Retailing*, 83(1), pp.115–130.
Münster, M.B. & Haug, A., 2017. Management of constraint generators in fashion store design processes. *International Journal of Retail & Distribution Management*, 45(2), pp.122–142.
Murphy, G.L. & Medin, D.L., 1985. The Role of Theories in Conceptual Coherence. *Psychological Review, Vol. 92*, (3), pp.289–316.
Murphy, S.T. & Zajonc, R.B., 1993. Affect, cognition, and awareness: affective priming with optimal and suboptimal stimulus exposures. *Journal of personality and social psychology*, 64(5), pp.723–39.
North, A.C., Sheridan, L.P. & Areni, C.S., 2016. Music Congruity Effects on Product Memory, Perception, and Choice. *Journal of Retailing*, 92(1), pp.83–95.
La Pastina, A.C., 2001. Product Placement in Brazilian Prime Time Television: The Case of the Reception of a Telenovela. *Journal of Broadcasting & Electronic Media*, 45(4), pp.541–557.

Petermans, A., Kent, A. & Van Cleempoel, K., 2014. Photo-elicitation: Using photographs to read retail interiors through consumers' eyes. *Journal of Business Research*, 67(11), pp. 2243–2249.
Puccinelli, N.M. et al., 2009. Customer Experience Management in Retailing: Understanding the Buying Process. *Journal of Retailing*, 85(1), pp.15–30.
Quartier, K., Vanrie, J. & Van Cleempoel, K., 2014. As real as it gets: What role does lighting have on consumer's perception of atmosphere, emotions and behaviour? *Journal of Environmental Psychology*, 39, pp.32–39.
Ramachandran, V.S. & Hirstein, W., 1999. The Science of Art A Neurological Theory of Aesthetic Experience. *Journal of Consciousness Studies*, 6(6/7), pp.15–51.
Reber, R., Schwarz, N. & Winkielman, P., 2004. Processing fluency and aesthetic pleasure: is beauty in the perceiver's processing experience? *Personality and social psychology review : an official journal of the Society for Personality and Social Psychology, Inc*, 8(4), pp.364–382.
van Rompay, T.J.L. et al., 2012. On Store Design and Consumer Motivation: Spatial Control and Arousal in the Retail Context. *Environment and Behavior*, 44(6), pp.800–820.
Shimp, T. a, 1981. Attitude toward the ad as a mediator of consumer brand choice. *Journal of Advertising*, 10(2), pp.9–48.
Shostack, G.L., 1987. Service positioning through structural change. *Journal of Marketing*, 51(1), pp.34–43.
Simon, H.A., 1996. *The Sciences of the Artificial* 3rd ed., MIT Press.
Spangenberg, E.R., Grohmann, B. & Sprott, D.E., 2005. It's beginning to smell (and sound) a lot like Christmas: The interactive effects of ambient scent and music in a retail setting. *Journal of Business Research*, 58(11 SPEC. ISS.), pp.1583–1589.
Spence, C. et al., 2014. Store atmospherics: A multisensory perspective. *Psychology and Marketing*, 31(7).
Thurstone, L.L., 1927. *The Method of Paired Comparisons for Social Values*, University of Chicago.
Turley, L.W. & Chebat, J.-C., 2002. Linking Retail Strategy, Atmospheric Design and Shopping Behaviour. *Journal of Marketing Management*, 18(1–2), pp.125–144.
Turley, L.W. & Milliman, R.E., 2000. Atmospheric effects on shopping behavior: A review of the experimental evidence. *Journal of Business Research*, 49(2), pp.193–211.
Tversky, B., 2008. Embodied and situated cognition. *Artificial Life*, 11(1–2), pp.5–11.
Varela, F.J., Thompson, E. & Rosch, E., 1991. *The Embodied Mind: Cognitive Science and Human Experience*,
Ward, J.C., Bitner, M.J. & Barnes, J., 1992. Meassuring the Prototypicality and meaning of retail stores.pdf. *Journal of Retailing*, 68(2).
Whitfield, T.W.A. & Slatter, P.E., 1979. The effects of categorization and prototypicality on aesthetic choice in a furniture selection task. *British Journal of Psychology*, 70(1), pp.65–75.
Wright, B.D., 1997. Measurement. *Educational Measurement: Issues and Practice*, pp.33–45.
Yalch, R.F. & Spangenberg, E.R., 2000. The Effects of Music in a Retail Setting on Real and Perceived Shopping Times. *Journal of Business Research*, 49(2), pp.139–147.
Zaichkowsky, J.L., 1985. Measuring the Involvement Construct. *Journal of Consumer Research*, 12(3), pp.341–352.
Zajonc, R.B., 1968. Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9(2).
Zajonc, R.B., 1980. Feeling and Thinking: Preference Need No Inferences. *American psychologist*, 35(2), pp.151–175.
Zhao, M., Kim, Y.-S. & Srebric, J., 2015. Occupant perceptions and a health outcome in retail stores. *Building and Environment*, 93, pp.385–394.
Ziliak, S.T. & McCloskey, D.N., 2008. *THE CULTOF STATISTICAL SIGNIFICANCE How the Standard Error Costs Us Jobs, Justice, and Lives*, United States of America: The University of Michigan Press.

Paper 4: Do Beautiful Stores Sell Beautiful Products?

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Do Beautiful Stores sell Beautiful products?

Measuring the effects of interior spaces

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Abstract

Retail designers often emphasize the importance of creating stores that consumers will find attractive. This paper challenges that commonly held view, presenting impirical results from a field experiment showing that a positive rating of a store interior does not affect the product rating to the degree expected. Environmental cues are usually taken in without much conscious attention, and this complicates studying their effects with any precision. This paper proposes a method for measuring these so-called spillover effects, which ordinarily take place at the emotional level, without conscious attention. The method was applied in an experiment where 50 shoppers were asked to rate six fashion products in three differently designed fashion stores. Respondents were first asked to rate the products from within the three retail environments, and then once again in a neutral zone. Favorite products were determined, and the ratings were compared; any discrepancy between the in-store ratings in those from the neutral zone can be interpreted as the influence of the store design. Results indicate that it is indeed possible to measure a spillover effect from interior design to product preference. Surprisingly, however, only one of the three retail environments studied showed a significant correlation between the respondents' highest product rating and store preference. In addition to describing a tool for measuring spillover effects between store design and product preference, this paper demonstrates that valuable knowledge can be gained from studying consumer preferences at the individual level, rather than treating the average consumer as representative of the market as a whole.

Keywords: Retail design, store design, retail atmosphere, field experiment, consumer preference.

Introduction

Throughout mankind's history, architectural spaces intended to enhance a particular experience account for significant expenditures of both effort and resources (Lawson 2001; Gehl 2011). It is also widely acknowledged that physical surroundings have an effect on not only our feelings and behavior, but also on our experience of other objects or entities in that environment, be they works of art, music, or artifacts (Frijda 1989; Damasio 1995; Clark 2006). Retailers are well aware that store environments have an influence on consumer behavior and emotion, and as a component of a marketing strategy often devote considerable resources to designing stores that display their products. Stores can be designed in countless ways, so what should the retail designer's priorities be, if the goal is to create store environments that attract consumers and sell products?

Philip Kotler (1973) was among the first researchers to acknowledge the effect of store design. He introduced the term ‘atmospherics’ to denote the intentional control and structuring of environmental cues. Since that time, scholars have undertaken various studies on atmospheric variables in retail spaces (Turley & Milliman 2000; Bellizzi et al. 1983; Turley & Chebat 2002; Donovan et al. 1994; Spence et al. 2014; Kent & Kirby 2009). In spite of these efforts, we know surprisingly little about how consumers are actually affected by a store design as a whole. Consumers are seldom asked to provide feedback about their experiences of store designs. Even when they are, this feedback is of questionable reliability, since most people are simply not able to articulate how an interior environment affects them, let alone their perception of products within that environment. At least some portion of atmospheric effects take place without conscious attention, and this circumstance casts a shadow over direct interrogation as a method of data collection. Previous research has addressed how context can affect product perception and refers to this phenomenon as a ‘spillover’ effect (Hagtvedt & Patrick 2008; Leder et al. 2004), yet scholarship investigating the spillover effect from store design to product perception is meager at best.

In order to better understand the correlation between product preference and store design preference, this paper describes first of all a study design for measuring the extent to which store preference spills over onto product preference, and then compares this measurement with respondents' explicit impression of the store design. The method is tested in a field experiment conducted in three fashion stores with contrasting interior designs. In the experiment, the store design preferences of 50 shoppers are correlated with their product preferences within the three test spaces. Data from the experiment shows that a spillover effect from store design onto product preference is in fact measurable. At the aggregate level, product preferences are indeed supported by highly rated interiors. But analysis of ratings taken from within each of the three interiors separately reveals interesting differences. By virtue of repeated individual measurements carried

out in the three different settings, we can see that the supporting effect of a highly rated store interior is present in only one of three test stores. No significant connection between store preference and product preference is identifiable in the two remaining environments. These results and their implications lay the groundwork for a theoretical discussion about spillover effects from within the context of retail design.

The following provides a brief introduction to existing studies on retail atmospherics and the perception of designed environments. We discuss literature supporting the contention that interior spaces affect product perception, and also describing the fact that environments are largely experienced unconsciously and how this complicates studying their effects. Following this we describe our methodological approach, document the field experiment, and then present and compare the results. Finally, the paper ends with a discussion of the theoretical, methodological, and managerial implications of these findings, and proposes areas for further research.

Background

Studying store atmospheres

A number of scholars have studied the effects of individual atmospheric cues in store design. The literature is replete with studies investigating atmospheric variables such as sound (Milliman 1982; Morin et al. 2007; Yalch & Spangenberg 2000; Knoferle et al. 2012; North et al. 2016), color (Bellizzi et al. 1983; Bellizzi & Hite 1992), odor/scent (Spangenberg et al. 2005; Chebat et al. 2012; Herrmann et al. 2013), lighting (Areni & Kim 1994; Custers et al. 2010; Quartier et al. 2014), and indoor climate (Frontczak & Wargocki 2011; Zhao et al. 2015). But atmospheric cues are never experienced in isolation. Recently, scholars have begun to suggest that studies taking a more holistic approach to retail environments should provide a more realistic assessment of their effects on consumers (Baker et al. 2002, van Rompay et al 2011, Kent & Kirby 2009, Spence et al. 2014; Ballantine et al. 2015).

Several circumstances stand in the way of studying variables in store environments with any precision. First of all, as mentioned above, consumers do not experience individual cues in isolation, but rather experience the store environment as a whole (Ballantine et al. 2010; Ballantine et al. 2015; Mattila & Wirtz 2001). Moreover, store atmospheres are created as backgrounds for merchandise, and the influence of the atmosphere is largely experienced without conscious attention. Consumers do not enter a store to evaluate its interior, or to consciously identify qualities that attract their attention (Newman & Foxall 2003). The effect of the retail

interior can therefore be difficult to verbalize and recall (Donovan & Rossiter 1982). Consumers come to stores to shop, and their attention is normally focused on the products, and not on the interior design. For these reasons, the use of direct interrogation as a method for studying retail atmospheres is problematic at best. To counteract the effects of quickly fading memory, measurements in any such study should be taken as closely as possible to the time and place of the shopping experience, and preferably from within the store itself, so that the influence of the environment is still in effect (Donovan & Rossiter 1982). Control of multiple variables also presents a challenge for researchers. Some studies approaching atmospheric cues holistically do exist, but most are made in artificial settings where variables are easier to control. Research shows, however, that people behave and react differently in an artificial setting than they do in a 'real life' setting (Lynch, Jr. 1982; Frijda 1989; Groeppel-Klein 2005; Tversky 2008). A subject's simple awareness of being in a laboratory or other artificial setting shifts his or her consciousness, and therewith any response he or she might give. In reality, a consumer's experience of a store consists of a blending of sensory effects, a commingling that is difficult if not impossible to achieve in artificial settings. This seems a strong argument for studying customer experiences in real shops, despite the problems presented by their complexity.

A small group of scholars have indeed braved these challenges, and executed holistic studies of store atmospheres in real shopping environments. Ballantine et al. (2015) made on-site interviews to analyze atmospheric cues in store environments, while both Kirby & Kent (2010) and Petermans et al. (2014) used photo-elicitation, where respondents are shown photographs of a store environment, to better understand how atmospheric cues are interpreted by consumers. This method provides a visual representation of the environment as a whole, and therefore to some extent represents the actual store atmosphere. Studies like these provide a good beginning to the study of consumers' store experiences from a more integrated perspective. Still, a significant problem is common to the method of these studies, and one that potentially clouds their results. This problem is that direct interrogation necessarily triggers respondents' reflection upon their own reactions, which colors the nature of their responses. In addition, interrogation presupposes respondents' ability to express how a store design affects them, when in fact this ability varies considerably among individuals. Actual experiences of interior spaces are immediate, and take place without much conscious reflection. We therefore believe that we should not limit our investigations to respondents' conscious expression, but incorporate unconscious effects, which the respondent might not be able to articulate. We will expand upon these ideas, and how we approach this conundrum, in the following sections.

Spillover Effects from Store to Product

From psychological studies we know that stimuli affect us unconsciously, and that they can also influence seemingly unrelated objects (Damasio 1999; Murphy & Zajonc 1993; Zajonc 1980; Leder et al. 2004). Leder et al. describe how the appearance of an object in an art exhibition or a museum is a strong contextual cue for classifying that object as one warranting aesthetic processing. In the context of marketing, scholars usually refer to this transference phenomenon as a 'spillover effect.' Numerous advertising and product placement studies demonstrate how the specific context of a film, TV-show, game, or advertisement can influence attitudes towards a specific product (Mitchell & Olson 1981; MacKenzie et al. 1986; Shimp 1981; Cowley & Barron 2008; La Pastina 2001; Gould & Gupta 2006). We learn from these studies that consumer relationships to media themselves constitute an essential aspect of their reactions to commercial messages. Likewise, product placement studies demonstrate that consumer reactions to products are influenced by their attitude towards the context where the product is shown. Fans of a particular TV show, for example, will pay more attention to products appearing in that show.

In other words, context plays an important role in defining our perception of an object. Furthermore, attitude towards a particular context can affect attitude towards a product presented in the context. When a shopping space resonates with a consumer, it is reasonable to expect a concomitant effect on their evaluation of products displayed within it. Nonetheless, the author's survey of the literature revealed no studies investigating this phenomenon.

Beauty and Judgment of Store Designs

Most people will be able to recall the sensation of entering an architectural space that incites a bodily reaction, or perhaps even feelings, like happiness, excitement or fear. Most people can also recall a particular store where the atmosphere created a particular feeling, without being aware of what it might be that gave rise to that feeling. It is well known that variables like figural goodness, contrast, repetition, symmetry, and prototypicality influence aesthetic judgments (Leder et al. 2004; Kubovy 2000; Martindale & Moore 1988). It is also well known that aesthetic judgments are individual and depend on a person's memory, knowledge, experience and personal taste (Leder et al. 2004; Reber et al. 2004). Thus, the impact of a store design is highly context-dependent, and inevitably associated with a consumer's personal experiences of the individual store (van Rompay et al. 2012).

In order to investigate whether a consumer's appreciation for a store design affects their perception of the products in it, we need to be clear about what we mean. In the title of the paper we use the word 'beautiful,' which can mean many things. Studies of beauty are rare,

perhaps because the concept is so difficult to define precisely, changing as it does according to time and place. A preponderance of the beauty studies that have been carried out are associated with Gestalt theorists such as Rudolf Arnheim (1974) or more recently, Ramachandran and Hirstein (1999). Aesthetic experiences are often supposed to be experienced intuitively. Asking people to articulate such experiences will usually receive a reply reflecting a rationalized version of what is assumed to be 'good taste.' For this reason, researchers rarely ask respondents to comment on 'beauty' or 'good taste' per se. Instead, most researchers focus on attributes like figural goodness, pleasantness, liking, or preference. The argument is that eliciting such simple judgments makes it is possible to identify the basic processes or modifying variables that underpin aesthetic experiences (Reber et al. 2004). Judgments based on the question 'how much do you like this interior?' are therefore believed to be closely related to how beautiful or aesthetically pleasing an interior is in the eyes of the respondent. For our purposes, we will define beauty in the following way: a subjective experience of pleasure produced by products/interiors and not mediated by intervening reasoning. This formulation hews closely to definitions of aesthetic experience used by Kubovy, 2000; Martindale and Moore, 1988; Reber 2004 and Leder et al. 2004. This study is therefore designed around the question 'how much do you like this store/product?' which was used to elicit and determine respondents' expressed preferences.

Searches of existing literature did not reveal studies where preference for store design is studied in relation to product preference. One study, however, showed that consumers patronize stores whose characteristics are congruent with their ideal self-images (Stern et al. 1977). Studies working in continuation of this premise propose a correlation between a consumer's self-image and his or her experience of a store's image (Donovan et al. 1994; Chebat et al 2009; Sirgy et al. 2000; Yim et al. 2007). Chebat et al. (2009) argue that store loyalty can be predicted by what they call a consumer's self-congruity, which is defined as a match between the characteristics of the store and the consumer's self-image. If consumers respond favorably to a store environment that resonates with their self-image, it is reasonable to postulate that stores matching the consumer's self-image will be rated more positively, and from this that highly rated stores will, in turn, have a positive spillover effect on products presented within these stores.

Objectives

With the abovementioned literature as a background, we propose studying retail atmospheres from a practical and process-oriented perspective, using actual customers' in-store preferences and behavior as indicators. Research investigating atmospheric cues in this manner is limited, as mentioned above, and where it does exist, employs a predominantly qualitative approach. We contend that atmospheric cues are largely perceived unconsciously, and that qualitative methods

using direct interrogation as a method of data collection are therefore inadequate. To address this deficiency, this paper proposes a method for discovering the extent to which expressed store preference spills over onto product preference, without bringing respondents' conscious attention to the store interior.

Tools for studying a store interior's effect on consumers should be of great interest to both retailers and design managers, both of whom have obvious interest in determining whether their designs are properly matched with their targeted market segment. The uncertainty surrounding how a design is perceived by consumers is often pointed out in design and marketing literature; designers, it is usually argued, are the ones who should both know and be able to realize the consumer's needs. John Heskett (2005), for example, acknowledges the conflicting imperatives between a company and the users of its products, and describes how the role of design needs to be understood as providing a bridge between them. Philip Kotler (1973) underscores the relevance of the designer's understanding of the consumer by drawing a distinction between intended and perceived atmosphere. Kotler defines the intended atmosphere as the set of sensory qualities that the designer of the store means to invoke, while the perceived atmosphere is the sensory qualities experienced by the consumer. As a further complication, perception can of course vary significantly from one consumer to the next. Further still, designers are employed by clients who typically bring their own perceptions and intentions to bear on the situation (Kent 2007; Haug & Münster 2015). Considering all these complicating factors and interests together, it becomes obvious that a reliable method for understanding how designs are experienced subjectively would be of indisputable value to decision makers at every level in the field of retail.

In order to delimit the study, we will focus our attention on the variables controlled by the designer: namely, layout, furniture, decoration, and display (Haug & Münster 2015). Using this method, we are able to investigate whether different store characteristics affect individual consumers' product preferences, and determine the extent to which a highly rated store designs affects ratings of products inside the store. A strong correlation between store design preferences and merchandise preferences would indicate that interviews might in fact be a sufficient method of data collection; a weaker correlation would indicate, conversely, that perhaps this data is not as trustworthy as we'd like it to be.

Research Methodology

Experimental approach

The experiment was designed to investigate whether an interior, that a respondent has expressed a preference for, has a positive influence on the respontent's perception of the products in that interior. In order to determine this, various measurements from each participant were needed. The experiment was therefore designed to collect data indicating each participant's hedonic preference for both interiors and products, and data for product ratings from within different interiors.

Ratings were measured for each individual. Preferences depend on individual factors like cultural and biological background, education, and personal experience (Thurstone 1928; Kubovy 2000; Martindale & Moore 1988; Leder et al. 2004; Reber et al. 2004), which makes aggregated data less useful. Each consumer is unique, in other words. Despite the fact that many marketing scholars study consumers by grouping them together at the aggregate or market-segment level, we contend that considering consumers as individuals will grant access to potentially latent information. The experiment was therefore designed first to take individual ratings, and then analyze this data to identify patterns and structures in the population (Wright 1997; Krackhardt 1992). The first part of the study was designed to measure the influence that the interior has on the product when presented in the store — the so-called spillover effect. The second part of the study was designed to measure an explicit preference, or lack thereof, for the store interiors. Comparing each respondent's expressed preference for a store with his or her highest rated product will tell us whether the product is indeed more highly rated in an interior that the respondent likes.

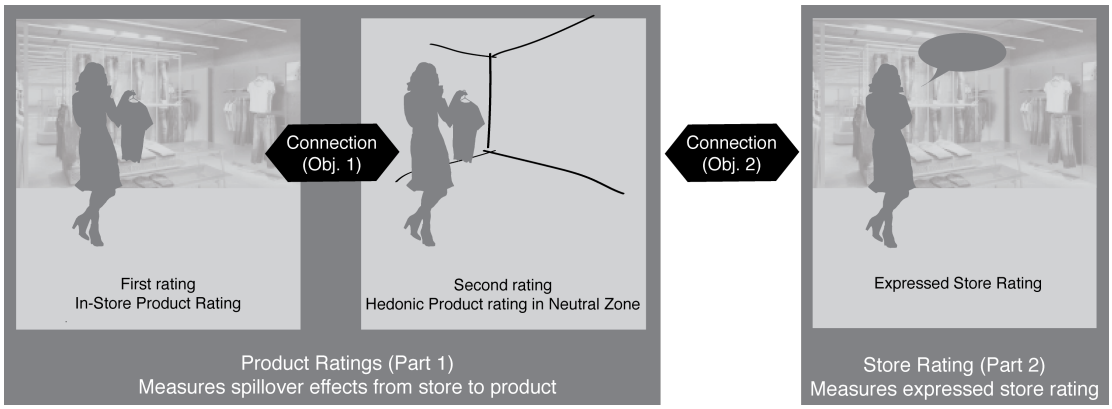
To measure the unconscious effects that interiors might have on products, it was deemed necessary to avoid drawing attention to the interior. To avoid undue reflection, respondents were asked to rate products while physically present in three different test stores. Respondents were therefore influenced by the interior and its various cues, without knowing that the stores were the real subject of the questioning, and not the products.

Ratings were collected using a touch screen tablet which showed photos of the products taken in the respective environments, such that the hanger and background was visible in the photos (Photo 4). Preference for the products was indicated on a visual analogue scale (VAS) using rated, paired comparisons (Wright 1997). Moving the cursor left or right from center, the respondent indicates which of two products he or she prefers, and the relative strength of that preference.

Photo 4. For each pair of products, the respondent is asked to indicate his or her preference by moving the cursor on the visual analogue scale to a position that reflects the degree of preference to the products shown.

To add a control product rating, respondents were then taken to what we will call a neutral zone, outside the influence of the three test interiors. Here respondents were allowed to examine the products more closely, before rating each product again. Product ratings were again collected on a touch screen showing a photo of the product and a visual analogue scale running from 'I don't like at all', on the left, to 'I like very much', on the right. Respondents were asked to indicate a preference for the pictured products by moving the cursor left or right of center. In the following, this rating will be referred to as the 'hedonic' rating. Any discrepancy between the hedonic product rating and the in-store product rating is, we contend, attributable to the influence of the interior: the spillover effect (Model 1).

In the second part of the study, the same respondents were asked to observe the store interiors and rate them according to their personal taste. These ratings were once again collected on a touch screen tablet, which showed a photo of the store from the perspective where the respondent was standing with the researcher. Above the photo was the question: 'How much do you like this store?' and below, a visual analogue scale with 'I don't like at all' at the left endpoint and 'I like very much' on the right. Once again, the respondent was asked to indicate how much he or she liked the store design by moving the cursor left or right of center.



Model 1.
In the first part of the study the products are rated in a neutral zone and inside different test stores.
In the second part of the study the design of the test stores is rated.

Comparison of results from part 1 and part 2 should indicate the level of correspondence between a respondent's expressed preference for an interior and that interior's spillover effect, if any, on the respondent's product preferences (Model 1).

Stimulus Selection

Before carrying out the experiment, field studies and interviews with retailers and retail designers were conducted in order to locate suitable test stores. The three test stores selected were in close proximity to one another, which was considered ideal. This would allow the researcher to guide respondents though the different environments without encountering additional, unintended atmospheres, which might influence respondents. The experiment was conducted in a European mall in 2015. The first 20 tests took place in February, the next 20 in March-April, and the last 10 in May. Respondents were actual customers who had entered the stores to view, try on, and potentially purchase the displayed fashion items, and were recruited upon leaving the store. The researcher explained that the experiment involved rating different products in the store.

Test Stores

Test environments were similar in size (between 31-39 m2), room height (4,5 meters), light intensity/quality, sound, and odor, in order to remove the influence of variables that are not always controlled by the retail designer (Haug & Münster 2015). Quantity of products displayed, and price level were also comparable between all three test stores. As mentioned above, it was deemed important to use test stores which were in close proximity to one another, in order to reduce the

influence of external factors during the experiment. The test site was in fact a single men's store consisting of three separate in-shops, each specifically designed for three different men's fashion brands. Most importantly for our purposes, the design of each of the three in-shops was easily distinguishable from the other two. Furniture, wall coverings, floor materials, decoration items, brand images, hangers, and collections; each of these had its own separate identity in each of the shops. We will hereafter refer to the test environments as Shop A, Shop B and Shop C (Photos 1-3).

Shop A had a modern, industrial, bright appearance. All surfaces were white, and metal is a consistently used material. Shop B was characterized by a vintage look using different natural surfaces: brick-walls, wood, and metal with a distressed or patinated look. Finally, shop C had a classical, elegant look resembling a formal men's wear department from previous decades.

The neutral zone was located in continuation of the fitting room area, which was shared by the three stores. While it is implicit in our premises that no interior space is completely neutral, what is meant by this is an interior whose atmosphere is outside the purview of this experiment. The interior of the area in question was, however, monochrome and dark, with no decorations or other products on display.


Photo 1 (left) shows Shop A, photo 2 (in the middle) shows Shop B, and photo 3 (right) shows Shop C.

Test products

Six men's tops were selected as test items. All items were priced from 40 to 55 Euros, which also corresponded to the mean price level for similar items in these stores. The same six products were presented in all three test stores and in the neutral zone, so it was necessary to use several copies

of each product. Products were presented on front sticks on wall furniture, such that the front of the product faced the customer, and all six products were placed so that they could easily be seen from the center of the store, where the interview would take place. None of the test products were a part of the collections featured in the shops at the time of the experiment, but they were placed among the current collections as though they were. All items were presented on specially made hangers belonging the stores where they were displayed.

Participants

Of the 50 respondents, 31 were men and 19 were women, aged from 15 to 49 years.

Study

Pre-tests

Five pre-tests were conducted at the test site, in order to determine whether the test was comprehensible to participants, and to fine-tune the procedure. Evaluation of the pre-tests resulted in some slight adjustments to the procedure before proceeding to the 50 actual tests, which are included in this paper. In the pre-test, the six product combinations were presented in the same order in all three shops. Respondents understood the procedure easily enough, but were confused by the realization that they were seeing the exact same products in each of the environments. In order to ameliorate this unsettling effect, we changed the order of the combination of products from store to store, to reduce this predictability. We also decided to inform participants at the outset of the interview that they would be presented with different fashion items, and that some of the items would be presented several times.

Procedure for Product Ratings (Part 1)

In-store Product Ratings

As a warm-up to the rating procedure, each respondent was shown a test sheet to familiarize them with the task. On a test screen, each respondent was asked to indicate his or her preference between two products on a visual analogue scale.

First, the researcher walked the respondent into shop A. While standing in the middle of the store, the researcher presented the respondent with two products at a time, asking the respondent to compare them (Photo 4). The researcher then presented the touch screen with photos of two products in the setting and asked the respondent to indicate his or her preference

by moving the cursor to a position that reflected a degree of preference. The six paired comparisons were (product left, product right) ~ {(1,2), (2,3), (3,4), (4,5), (5,6), (6,1)}; this comprises the statistical design set. Next, the researcher escorted the respondent into shop B, where the procedure was repeated, this time with the products in a different order. The same procedure was then repeated a third time in shop C, with yet another ordering of products. The statistical design set was identical in all three shops; the comparisons were merely shown in a different order in each location. Data collected in this phase will be referred to hereafter as 'Product Ratings' or 'In-Store Ratings'.

Photo 4. In the stores, the research assistant presents the respondent with two products at a time and asks him to compare them.

Results and Discussion - In-store product ratings

The paired comparisons method allows us to determine not only how many respondents prefer, for example, product 6 over product 5, but also reveals the relative strength of the preference for each single respondent. Accordingly, separate preference structure for the six products and for the three stores, were calculated for each respondent. Product ratings were converted into numbers, one for each comparison, using the following method: The distance from the middle of

the scale to the mark noted by the respondent was measured, positively to the right and negatively to the left. The observations are denoted $y_{i,j}$, $(i,j) \in D$. It is assumed that the numerical score will increase with the strength of preference for one product over the other product, and that equal but upper site preferences would correspond with equal but upper site ratings. For each subject and each room, the six comparison ratings, $y_{i,j}$, $(i, j) \in D$ were combined into a metric rating scale. Therefore, for each subject and for each room, there exists six γ's; $\gamma 1$, $\gamma 2$, $\gamma 3$, $\gamma 4$, $\gamma 5$ and $\gamma 6$, corresponding to the six products, so that the expected value, E $(y_{i,j})$, of $y_{i,j}$ has the form $E(y_{i,j}) = \gamma j - \gamma i$. The estimation of the γ's is performed using the least squares method. Preference-scores for the six products are calculated as: scores for product $i = \exp\{\gamma i\}$.

Because respondents did not rate products individually, but as paired comparisons from within each space, the experiments and data from each of the test sites can be considered independent of the other two. It was therefore decided, that the importance of maintaining a natural flow from one space to the next outweighed the minimal risk of a mere-exposure effect, where a respondent might come to like a product or products more by being shown it multiple times.

Hedonic Product Ratings

In order to determine each respondent's product ratings when not influenced by the test atmospheres, respondents were then escorted to the neutral zone, where they rated each product individually. Chronologically, the neutral setting phase took place after the store ratings to allowed as much time as possible to pass between the two rating phases. In the neutral setting, ratings were collected using a VAS with the parameters 'I don't like at all' on the left, and 'I like very much' on the right. These ratings will be referred to in what follows as 'Hedonic Product Ratings.'

Results and Discussion - Hedonic Product Ratings

Each respondent's hedonic product ratings were converted into numbers by measuring the distance from the middle of the scale (0) to the mark noted by the participant. Positive scores from 1 to +50 to the right of zero and negative scores -1 to -50 to the left of zero. Products with high scores were considered to be products for which the respondent had a high degree of preference or liking.

Consumers buy products they like. To give focus to the results, it was decided to isolate the highest-rated product for each respondent. This was determined by locating each respondent's highest hedonic product rating. This product will hereafter be referred to as the

respondent's 'Favorite Product'. Having established each respondent's favorite product, it was possible to compare the three in-store ratings for that product. Fig. 1 shows the ratings given for the favorite products in all three stores. The results show that favorite products on average were rated rater homogeneously in the three stores: The favorite products were rated highest in Store B (mean score 19.8), lowest in Store A (mean score 18.0), and slightly higher in Store C (mean score 18.3).

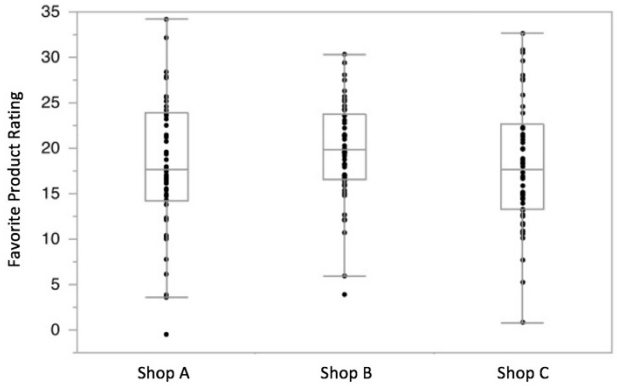


Figure 1. This Box-Plot covers each respondent's Favorite Product rating in store A, B and C.

However, when directing the focus on the one store where the very highest in-store rating of the favorite product was given, a more nuanced picture comes to view. Fig. 2. shows the highest in-store rating for each favorite product. Considering favorite product ratings in all three environments, shop A had the lowest impact on product ratings. In contrast, when isolating the store environment where the favorite products were rated the very highest, differences occurred: The mean score given in store A is now the highest (25.8), but is based on only 9 responses. The mean score in store C is almost as high (25.2), and is based on 13 responses, while the mean score in store B has gone from highest to lowest (21.7), but is based on a much larger sample size, namely 28 responses.

Fig. 2. This Box-Plot covers the highest in-store rating of each favorite product.

These two analyses show that we can in fact observe a measurable spillover effect from store design onto product ratings. We can see that the majority of favorite products (28 of 50) are rated most highly in store B, while relatively few respondents (9 of 50) rated their favorite product highest in store A. However, favorite product ratings given in store A are discernibly higher than those given in the other environments. This is a compelling observation, showing that the proposed method allows us to understand specific tendencies within a population, which might be of interest to retailers and design mangers. If, for example, the group of respondents who rated their favorite products highest in store A turned out to be trendsetters or very loyal customers, design managers could make a solid argument for paying more attention to the ratings given by this group of respondents in particular, and for paying more attention to design cues in this specific setting. Thus, data collected using this method can describe and differentiate tendencies that might otherwise be obscured by aggregate methods, and thereby form the basis of new design strategies.

Favorite products are now established, and it was indicated how the different store environments impacted the ratings. But in order to answer the question 'Do consumers rate products more highly when they are presented in stores which they find attractive?' we will need to compare product ratings with ratings of the interior spaces themselves.

Procedure for Store Ratings (Part 2)

After rating the products in the stores, but before rating the products in the neutral zone, each respondent was returned to the stores, one after the other. At the entrance of each store, the researcher asked the respondent to look into the store and describe the interior of the store in their own words. This task was intended to focus the respondent's attention on the environment, as

opposed to the products. These responses were typed by the researcher on the touch screen. For example, one respondent gave the following description of store A: 'white, cold, modern'; while another respondent used the words 'industrial, factory, bright'. Next, respondents were asked to rate each interior according to his or her personal taste. These ratings were taken on a VAS where 'I don't like at all' appeared on the left extreme, and 'I like very much' on the right. These ratings will be referred to in the following as 'Store Ratings.'

At the end of the interview, respondents were asked to provide their gender and age, and finally asked whether they would ever consider buying clothes from any of the stores in focus. The purpose of the last question was to eliminate participants who might have been in the stores for reasons other than shopping. This information was also typed on the touch screen, and stored along with the data for each individual.

Results and Discussion - Store Ratings

Store ratings were converted to numbers by measuring the distance from the middle of the scale (zero) to the mark noted by the respondent. Positive scores (to the right of zero) from 1 to 50 were marked to the right of the midpoint, and negative scores (to the left of zero) from -1 to -50 to marks placed on the left. A high score was interpreted as a high degree of preference or liking for that store. Fig. 3 shows store ratings for all respondents. Store B (mean score 30.1) and store C (mean score 30.8) were rated highest, while store A (mean score 21.1) was rated lowest (fig. 3). Store C was not only rated highest, but respondents were more closely in agreement in their ratings of store C than store A.

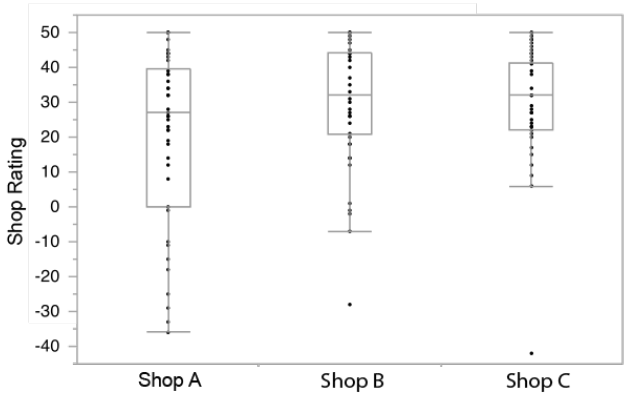


Fig 3. Box-Plot of the expressed store ratings for store A, B, and C.

Interestingly, store ratings fluctuated widely between the different periods of data collection. Notably, shop A's rating ranged from a mean rating of 11.7 in the first period to 30.8 in the

second, and 21.5 in the third. The mean ratings of shop B and C were more consistent throughout. Since the only change in the stores from period to period was the product collections and their presentation, we surmise that these variations are the result of changes in product presentation. For example, during the first period shop A contained some discounted products, and the merchandise varied more than during the second period, where a professional merchandiser had just organized the collection, which might have left the store with a cleaner impression. This suggests that it is not advisable to evaluate store design in isolation, since stores atmospheres are always subject to some degree to the collection of products displayed within them. Products should therefore always be a part of any evaluation of a store atmosphere.

Comparing Product Ratings and Store Ratings

To find out whether a highly rated store design has a corresponding effect on product perception, the task remains to correlate favorite product ratings with store ratings (model 2).

Model 2. Favorite products were selected and the study was delimited to focus on in-store ratings of favorite products and store ratings.

Each respondent reported three store ratings, and three favorite product ratings, one from each of the test environments. Linking store ratings with in-store ratings of favorite products in aggregate, we see a significant correlation ($p = .001$) (Fig. 5).

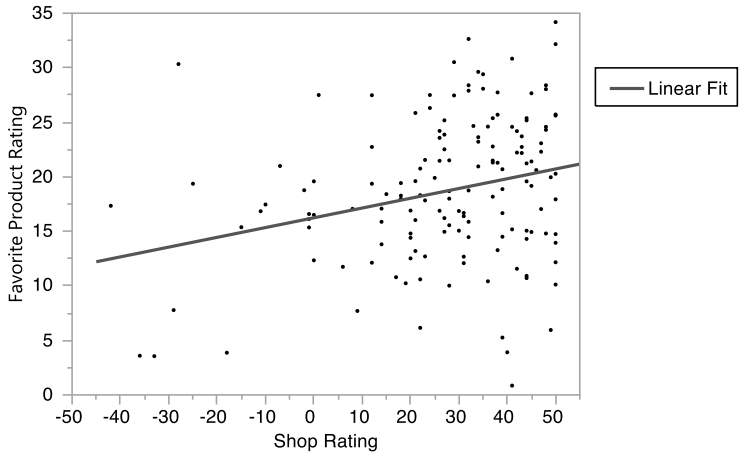


Fig 5. Correlation between Favorite Product Ratings in all stores against Shop Ratings.
Linear Fit, Favorite Product Rating = 16,240478 + 0,0895712 x Shop Rating.

However, if we consider the ratings given inside each store separately, differences occur. For example, comparison between favorite product rating and shop ratings from shop A for the same respondent reveals a positive correlation ($p < .001$) (Fig 6). But the same comparison for shop B shows a statistically insignificant correlation, $p = .206$ (fig. 7), and shop C also shows an insignificant correlation of $p = .708$ (fig. 8).

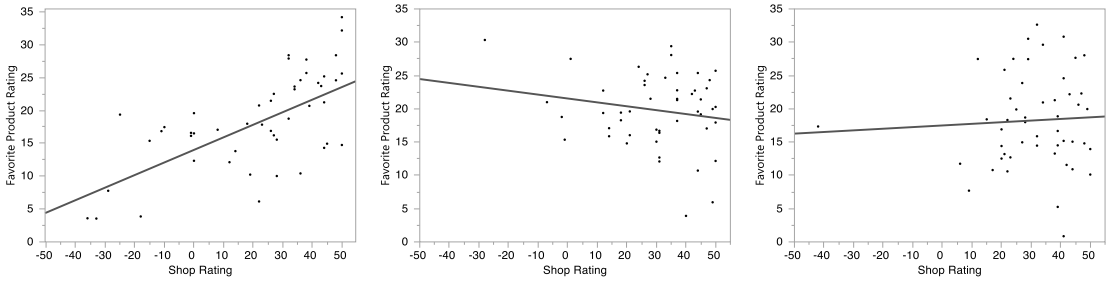


Fig. 6. Left. Significant correlation between Favorite Product Ratings against Shop Ratings in shop A (p < .001).
Fig. 7. Middle. Insignificant correlation between Favorite Product Ratings against Shop Ratings in shop B (p = .206).
Fig. 8. Right. Insignificant correlation between Favorite Product Ratings against Shop Ratings in shop C (p = .708).

In other words, taken in aggregate, a highly-rated store design seems to correspond with product ratings. But isolating the stores makes it clear that some designs influence product ratings more than others. In fact, only in the case of shop A a statistically significant correlation I found between favorite product rating and shop rating. Interestingly, shop A scored lowest among the

three interiors in terms of its mean shop rating, (fig. 3), which seems to indicate a discrepancy between consumers' expressed preference for a store environment and that same environment's effect on their responses, at least measured in terms of product preference.

Conclusion and General Discussion

The review of the literature revealed a gap in scholarly understanding of whether a so-called spillover effect exists between store design and product preference. Given that interiors affect people in ways that they cannot necessarily articulate, this study's primary objective was to propose a method for determining whether store design preference spill over onto product preference in a measurable way, and to do this without bringing the respondent's conscious attention to the store interior. A field experiment was designed to establish the extent to which a preference for three differently designed fashion stores affected the rating of fashion products from within those stores. Results from this project have theoretical, methodological, and managerial contributions to make. Each of these will be discussed separately below. Briefly: on the theoretical level, we expand theories dealing with the supportive aspect of retail design, and spillover effects; methodologically, we contribute to the study of the unconscious effects of interior spaces, and underscore the value of considering consumer data on the individual level as opposed to the aggregate; managerially, this project has implications for design managers and retailers, who can begin to understand the importance of how their designs are experienced by actual users, and how they might go about gathering this valuable information.

Theoretical Implications

The present study shows that individual consumers do indeed rate the same products differently in different contexts. From this we can conclude—as suggested in product placement literature (Cowley & Barron 2008; Gould & Gupta 2006)—that there is a measurable spillover effect from context to merchandise, and that this effect has a relation to the design of the interior. Considering respondent data in aggregate, a significant correlation between preferred store design and product preference exists. But considering results from the individual test stores shows that store preference supported favorite products with statistical significance in only one of three stores. Thus, a well-matched interior design can have a supportive or enhancing effect on product preference. Results also indicate that the existence of a supporting effect from an interior is not something that the average consumer is aware of. The store that influenced the product ratings most positively, store A, was not the store that consumers rated the highest in aggregate; stores B and C were both rated higher, in fact. In other words, the enhancing effect does not necessarily

go hand-in-hand with preferences that consumers express, which suggests that the practice of relying on consumer opinion, or on direct interrogation as a method of inquiry, should be viewed with circumspection.

Methodological Implications

Methodologically, the approach used in this study allowed us to investigate the extent to which atmospheric context and cues affected specific product ratings without directing the respondents' attention to the contexts themselves. Results showed a measurable effect. Repeated individual measurements enabled studying how each products' ratings was affected within various interiors, a methodological approach that made it possible to measure how much a particular store design influenced specific product ratings. This information cannot be gleaned from studying average or aggregated ratings. Focusing on favorite products revealed that most participants rated their favorite product highest in store B, but that the mean product rating in store B was lower than that in both store A and store C. In this way it is clear that our method of data collection and analysis allowed a more nuanced picture to emerge. Such information could enable decision-makers to define more specific consumer segments, allowing them to target these in productive ways.

Aggregated results indicated a positive correlation between store preference and product preference. On the surface, this seems to indicate that customers did in fact rate products higher in shops that they liked. But our individual measurements enabled the analysis of data from each store separately, which revealed that the effect was produced by only one of the three interiors, shop A. This observation underscores the risk of treating the average customer as representative of the market as a whole.

Managerial implications

The research presented here has several implications for retail and design managers. First and foremost is valuable information about how individual consumers experience retail environments, and how to access this information, which can be of obvious benefit in making strategic decisions about store design. For example, is it more profitable for a given brand to create a design that will appeal strongly to a smaller group of highly engaged customers, or is a broader, more lukewarm appeal to a larger consumer segment the better approach? In this regard, shop A was an interesting case: Individuals who preferred shop A also rated their favorite products higher in its interior. In fact, this effect was strong enough to have a significant effect on the average of all three stores. We can safely conclude that shop A's interior did indeed have a positive influence on product preference. Interestingly, shop A scored the lowest store rating of the three stores, which seems to indicate that managers should be very cautious about relying on consumer interviews to gather

information about a store design. A qualitative study of the respondents who were most positively affected by shop A might reveal a small group of enthusiastic individuals, who lifted the average disproportionately. If these specific consumers turned out to be just browsing and not willing to buy, an argument could be made for ignoring them. If, on the other hand, they turned out to be trendsetters, or loyal customers, a solid argument could be made for paying greater attention to their preferences.

Another observation that might be relevant for practitioners is the fact that the same stores were rated differently during the course of the data collection period. Since the store design was not changed during that period, this indicates that stores are perceived differently according to the products on display. In other words, the current collection and the presentation of the merchandise can significantly impact the overall impression of a store design. This is clearly relevant for design managers to bear in mind when evaluating store design concepts. The appearance of a store design cannot be considered in and of itself, as products themselves are an important part of the equation.

Limitations and further research

The method proposed and applied in this study has both advantages and disadvantages. Advantages include the fact that real-life studies of store environments provide a more realistic assessment of their effects than artificial settings (Baker et al. 2002, van Rompay et al 2011, Kent & Kirby 2009, Spence et al. 2014; Ballantine et al. 2015). Disadvantages include, unfortunately, the complications involved with performing research in actual stores, where control of all variables is quite simply impossible. Our research team, for example, faced challenges in controlling the location of the test products during the experiment; shoppers could—and did—walk away with test items when the researcher wasn't looking. Results also showed variations in store ratings among the different periods of data collection, which could very well indicate that the store environment as a whole is affected by changes in collections and displays. While this type of variation and uncertainty can be controlled in a laboratory setting, they are impossible to eliminate completely in a real-life, operating store environment. Furthermore, the possibility cannot be eliminated that respondents were distracted in one way or another during the experiment, and the possibility therefore exists that such distraction may have influenced the ratings to some extent. Having said these things, the state of mind present in an actual shopper in an actual store cannot be reproduced in an artificial setting, where the respondent will always know on some level that he or she is participating in an experiment or study.

Apart from these inherent complications, the following limitations deserve mention. First, the results are based on a field study with three stores, six products and 50 participants. The differences in the design between the three test stores were big enough that a difference was discernible, but it is conceivable—perhaps even likely—that bigger contrasts and wider stylistic variation would produce even bigger contrasts in the results. Next, none of the test products were part of the current collections; they were instead displayed as single items blended in among the collection itself. This somewhat artificial circumstance could also have had an influence, providing a clue for respondents that something was unnatural about the situation. We believe that possibility to be negligible for the results, however, since the same situation obtained in all test stores. But one possibility for making the experiment more realistic would be to select test products from the current collection in the test store(s). Doing so would also make it possible to record respondents' buying intentions in the different stores, which the present study did not address. It would certainly be relevant to know how many of the respondents actually purchased products from the study, with a view to finding out whether a threshold seems to exist where like equals buy. This data would be of obvious interest to retailers. Finally, the study was based on data from one mall, which introduces a geographic and cultural limitation; it was furthermore limited to respondents who were already in the stores, and therefore provides no information about potential customers.

With this background, we can suggest several directions for further research. First of all, it would be useful to establish a connection between highly rated stores and increased sales. Our study indicates that positively rated store atmospheres do in certain cases enhance product ratings but does not establish whether a highly rated store increases sales. Next, additional research on the particular environmental qualities or atmospheric cues that serve to amplify product evaluation is needed in order to determine whether other factors, apart from liking a store design, are at work. For example, it might prove interesting to employ our method to ascertain whether qualities like friendliness or exclusiveness have an influence, or whether specific interior styles affect preferences for specific products. It might be, for example, that specific kinds of atmospheric cues produce a feeling of well-being in consumers, that in turn creates a positive effect on their responses to products in that store, without giving them any explicit preference or liking for the interior itself. Additional research, including more complex, combinatorial studies, is needed in order to categorize the relevant influencing factors and their degree of influence.

The method applied in this study attempts to isolate unconscious effects that spill over from an environment onto objects within that environment and juxtaposes these results with evaluations of the interior gathered by direct interrogation. Combining this type of study with more detailed explicit responses from consumers might produce a more nuanced account of how

specific design cues are interpreted, whether the effect is conscious or unconscious, and to what extent. In this way, the method used here can be applied to other variables in order to determine which, if any, variables are more important for consumers. With further development, the method could become an effective aid in choosing between different design solutions. Rapid developments in virtual reality technology make it easy to imagine applications of this method as a tool for choosing between highly detailed interior drafts. Use of methods like the one proposed here in a virtual setting would allow testing of interiors at a much earlier stage, which could save a great many resources.

References

Areni, C.S. & 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(2), pp.117–125.

Arnheim, R., 1974. *Art and Visual Perception: A Psychology of the Creative Eye* 1974. New., University of California Press.

Ballantine, P.W., Jack, R. & Parsons, A.G., 2010. Atmospheric cues and their effect on the hedonic retail experience. *International Journal of Retail & Distribution Management*, 38(8), pp.641–653.

Ballantine, P.W., Parsons, A. & Comeskey, K., 2015. A conceptual model of the holistic effects of atmospheric cues in fashion retailing. *International Journal of Retail & Distribution Management*, 43(6), pp.503–517.

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

Bellizzi, J. a. & Hite, R.E., 1992. Environmental color, consumer feelings, and purchase likelihood. *Psychology and Marketing*, 9(5), pp.347–363.

Chebat, J.-C. et al., 2012. The effect of ambient scent on consumers' perception, emotions and behaviour: A critical review. *Journal of Business Research*, 30(4).

Chebat, J.-C., El Hedhli, K. & Sirgy, M.J., 2009. How does shopper-based mall equity generate mall loyalty? A conceptual model and empirical evidence. *Journal of Retailing and Consumer Services*, 16(1), pp.50–60.

Clark, A., 2006. Where Brain, Body and World Collide. *Journal of the American Academy of Arts and Sciences*, 127(2), pp.257–280.

Cowley, E. & Barron, C., 2008. When Product Placement Goes Wrong : The Effects of Program Liking and Placement Prominence. *Journal of Advertising*, 37(December), pp.89–98.

Custers, P. et al., 2010. Lighting in retail environments: Atmosphere perception in the real world. *Lighting Research and Technology*, 42(3), pp.331–343.

Damasio, A.R., 1995. *Descartes' Error: Emotion, Reason, and the Human Brain*,

Damasio, A.R., 1999. *The feeling of what happens: Body and Emotion in the Making of Consciousness*, New York: Houghton Mifflin Harcourt.

Donovan, R.J. et al., 1994. Store atmosphere and purchasing behavior. *Journal of Retailing*, 70(3), pp.283–294.

Donovan, R.J. & Rossiter, J.R., 1982. Store Atmosphere: An Environmental Psychology Approach. *Journal of Retailing*, 58(1), p.34.

Frijda, N.H., 1989. Aesthetic Emotions and Reality. *American Psychologist*, pp.1546–1547.

Frontczak, M. & Wargocki, P., 2011. Literature survey on how different factors influence human comfort in indoor environments. *Building and Environment*, 46(4), pp.922–937.

Gehl, J., 2011. *Life between buildings: using public space (Original version: Livet mellem Husene, 1970)*, Washington: Islands Press.

Gould, S.J. & Gupta, P.B., 2006. "COME ON DOWN": How Consumers View Game Shows and the Products Placed in Them. *Journal of Advertising*, 35(1), pp.65–81.

Groeppel-Klein, A., 2005. Arousal and consumer in-store behavior. *Brain Research Bulletin*, 67(5), pp.428–437.

Hagtvedt, H. & Patrick, V.M., 2008. Art Infusion: The Influence of Visual Art on the Perception and Evaluation of Consumer Products. *Empirical Studies of the Arts*, XLV, pp.379–389.

Haug, A. & Münster, M.B., 2015. Design variables and constraints in fashion store design processes Article information : *International Journal of Retail & Distribution Management*, Vol. 43(Iss 9), pp.831–848.

Herrmann, A. et al., 2013. The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales. *Journal of Retailing*, 89(1), pp.30–43.

Heskett, J., 2005. *Design: A Very Short Introduction*, Oxford University Press.

Kent, A.M. & Kirby, A.E., 2009. The design of the store environment and its implications for retail image. *The International Review of Retail, Distribution and Consumer Research*, 19(4), pp.457–468.

Kent, T., 2007. Creative space: design and the retail environment. *International Journal of Retail & Distribution Management*, 35, pp.734–745.
Kirby, A.E. & Kent, A.M., 2010. Architecture as brand: store design and brand identity. *Journal of Product & Brand Management*, 19(6), pp.432–439.
Knoferle, K.M. et al., 2012. It the mix: The interactive effect of music tempo and mode on in-store sales. *Marketing Letters*, 23(1), pp.325–337.
Krackhardt, D., 1992. The strength of strong ties: The importance of Philos in organizations. *Networks and Organizations: Structure, Form, and Action*, 216, pp.216–239.
Kubovy, M., 2000. *Visual and design arts*, New York: Oxford University Press.
Lawson, B., 2001. *Language of Space*, Architectural Press, Elsevier.
Leder, H. et al., 2004. A model of aesthetic appreciation and aesthetic judgments. *British journal of psychology*, 95(Pt 4), pp.489–508.
Lynch, Jr., J.G., 1982. On the External Validity of Experiments in Consumer Research. *Journal of Consumer Research*, 9, pp.225–240.
MacKenzie, S.B., Lutz, R.J. & Belch, G.E., 1986. The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations. *Journal of Marketing Research*, 23(2), pp.130–143.
Martindale, C. & Moore, K., 1988. Priming, prototypicality, and preference. *Journal of Experimental Psychology: Human Perception and Performance*, 14(4), pp.661–670.
Mattila, A.S. & Wirtz, J., 2001. Congruency of scent and music as a driver of in-store evaluations and behavior. *Journal of Retailing*, 77(2), pp.273–289.
Milliman, R., 1982. Using background music to affect the behavior of supermarket shoppers. *The journal of Marketing*, 46(3), pp.86–91.
Mitchell, A.A. & Olson, J.C., 1981. Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude? *Journal of Marketing Research*, 18(3), pp.318–332.
Morin, S., Dubé, L. & Chebat, J.-C., 2007. The role of pleasant music in servicescapes: A test of the dual model of environmental perception. *Journal of Retailing*, 83(1), pp.115–130.
Murphy, S.T. & Zajonc, R.B., 1993. Affect, cognition, and awareness: affective priming with optimal and suboptimal stimulus exposures. *Journal of personality and social psychology*, 64(5), pp.723–39.
Newman, A.J. & Foxall, G.R., 2003. In- store customer behaviour in the fashion sector: some emerging methodological and theoretical directions. *International Journal of Retail & Distribution Management*, 31(11), pp.591–600.
North, A.C., Sheridan, L.P. & Areni, C.S., 2016. Music Congruity Effects on Product Memory, Perception, and Choice. *Journal of Retailing*, 92(1), pp.83–95.
La Pastina, A.C., 2001. Product Placement in Brazilian Prime Time Television: The Case of the Reception of a Telenovela. *Journal of Broadcasting & Electronic Media*, 45(4), pp.541–557.
Petermans, A., Kent, A. & Van Cleempoel, K., 2014. Photo-elicitation: Using photographs to read retail interiors through consumers' eyes. *Journal of Business Research*, 67(11), pp.2243–2249.
Quartier, K., Vanrie, J. & Van Cleempoel, K., 2014. As real as it gets: What role does lighting have on consumer's perception of atmosphere, emotions and behaviour? *Journal of Environmental Psychology*, 39.
Ramachandran, V.S. & Hirstein, W., 1999. The Science of Art A Neurological Theory of Aesthetic Experience. *Journal of Consciousness Studies*, 6(6/7), pp.15–51.
Reber, R., Schwarz, N. & Winkielman, P., 2004. Processing fluency and aesthetic pleasure: is beauty in the perceiver's processing experience? *Personality and social psychology review : an official journal of the Society for Personality and Social Psychology, Inc*, 8(4), pp.364–382.
van Rompay, T.J.L. et al., 2012. On Store Design and Consumer Motivation: Spatial Control and Arousal in the Retail Context. *Environment and Behavior*, 44(6), pp.800–820.
Shimp, T. a, 1981. Attitude toward the ad as a mediator of consumer brand choice. *Journal of Advertising*, 10(2), pp.9–48.
Sirgy, M.J., Grewal, D. & Mangleburg, T., 2000. Retail Environment, Self-Congruity, and Retail Patronage: An Integrative Model and a Research Agenda. *Journal of Business Research*, 49(2), pp.127–138.
Spangenberg, E.R., Grohmann, B. & Sprott, D.E., 2005. It's beginning to smell (and sound) a lot like Christmas: The interactive effects of ambient scent and music in a retail setting. *Journal of Business Research*, 58(11 SPEC. ISS.), pp.1583–1589.
Spence, C. et al., 2014. Store atmospherics: A multisensory perspective. *Psychology and Marketing*, 31(7).
Stern, B.L., Bush, R.F. & Hair, F., 1977. The Self-Image / Store Image Matching Process : An Empirical Test. *The Journal of Business*, 50(1), pp.63–69.
Thurstone, L.L., 1928. Attitudes Can Be Measured. *American Journal of Sociology*, 33(4), pp.529–554.
Turley, L.W. & Chebat, J.-C., 2002. Linking Retail Strategy, Atmospheric Design and Shopping Behaviour. *Journal of Marketing Management*, 18(1–2), pp.125–144.
Turley, L.W. & Milliman, R.E., 2000. Atmospheric Effects on Shopping Behavior. *Journal of Business Research*, 49(1990), pp.193–211.
Tversky, B., 2008. Embodied and situated cognition. *Artificial Life*, 11(1–2), pp.5–11.
Wright, B.D., 1997. Measurement. *Educational Measurement: Issues and Practice*, pp.33–45.
Yalch, R.F. & Spangenberg, E.R., 2000. The Effects of Music in a Retail Setting on Real and Perceived Shopping

Times. *Journal of Business Research*, 49(2), pp.139–147.
Yim, C.K. (Bennett), Chan, K.W. & Hung, K., 2007. Multiple reference effects in service evaluations: Roles of alternative attractiveness and self-image congruity. *Journal of Retailing*, 83(1), pp.147–157.
Zajonc, R.B., 1980. Feeling and Thinking: Preference Need No Inferences. *American psychologist*, 35(2), pp.151–175.
Zhao, M., Kim, Y.-S. & Srebric, J., 2015. Occupant perceptions and a health outcome in retail stores. *Building and Environment*, 93, pp.385–394.

CHAPTER 6.

DISCUSSION

CHAPTER 6. GENERAL DISCUSSION AND CONCLUSION

This dissertation advances the understanding of how retail store environments are both created and perceived, and in the process addresses the issue of value creation through design. It offers empirical, theoretical, methodological, and managerial contributions that can prove useful in the fields of retail design, design management, consumer behavior, and the business of design.

Each of the four papers comprising the dissertation contains detailed discussions of both results and methodological approach. In the following, an overview of the main contributions is provided under the headlines: empirical, theoretical, methodological and managerial contributions. Certain of our findings fit into more than one of these categories; this overlap will be identified where possible. The chapter ends with a section describing limitations, and a section putting forward suggestions for future research.

6.1 Empirical Contributions

Results from case studies and field experiments comprise the dissertation's empirical contributions. The case studies in the first half of the dissertation propose a framework of the variables that are controlled by the designer in the creation of fashion stores. These case studies also shed light on the complexity of the store design process; a complexity that arises from the constraints that obtain between the various stakeholders in the process, and between the variables themselves, such that a change to one variable nearly always produces a corresponding effect on other variables. Furthermore, the case studies elucidate a dynamic aspect of the store design process, demonstrating the fact that some constraints cannot be known beforehand, emerging instead during the process itself, as decisions are made.

Interviews conducted for the case studies identified ten major constraint generators from the perspective of the fashion store designer. The relevance of these was supported with examples of the kind of constraints they impose. Of these ten constraint generators, consumers were the least significant. Explanations offered by the designers for this state of affairs were somewhat uniform: designers considered consumer preferences to be the store owner or brand owner's concern, and in their minds did not produce a direct constraint in the same way that the other constraint generators do. In spite of the relative uniformity of this view, I would argue that

if designers had a better understanding of how consumers perceive their design, they would be in a better position to target their designs to relevant consumers. They would also be in a better position to argue for the merits of their designs, and participate in a productive, professional dialogue with both brands and store owners. This realization, which came as a result of the data uncovered in the case studies, resulted in a desire to equip designers with a tool that could provide usable feedback on how a store design is perceived. The design of a field experiment for studying consumer perceptions of store design therefore became the goal of subsequent research. Resting on the belief that interiors affect people unconsciously, and therefore that consumers are generally not able to articulate these effects, the field experiments were designed to measure these effects indirectly. This field experiment was tested in two studies, described in papers 3 and 4.

Results from the experiments described in papers 3 and 4 showed that products presented in targeted, brand-specific interiors are evaluated differently from those presented in interiors designed for other products (paper 3); and that products are evaluated to a measurable extent in accordance with how aesthetically pleasing the consumer finds a given interior (paper 4). In the first experiment, two out of three customized interiors significantly affected the products which they were designed for. Furthermore, this effect was greater than the effect on products that were intended for other environments. One environment showed the greatest enhancing effect on products generally, but analysis of interactions between that interior and the individual product groups revealed this interior was the only one of the three that did not lend support to its native-designed products. Analysis also revealed that the positive general effect of this interior was in fact accounted for by the ratings for one specific product group. These products, however, were influenced by their home interior to an even greater extent.

Data from paper 4 suggests that, in aggregate, a highly-rated store design seems to enhance product ratings. But isolating data from the individual stores made it clear that some designs influenced product ratings more than others. In fact, only in one out of the three test stores was there a statistically significant correlation between favorite product ratings and shop rating. Interestingly, this particular shop scored lowest among the three interiors in terms of its mean shop rating. This indicates a discrepancy between the preference a given consumer expresses for a store environment on the one hand, and that same environment's effect on their responses—or behavior—on the other, which supports our contention that direct interrogation is an unreliable method of data collection in this particular circumstance.

Both of these field studies underscore the well-known fact that individual deviations are flattened out—and thereby lost—when data is exclusively considered in aggregate. Individual data revealed consequential differences between individual respondent's product preferences and store preferences. Previously hidden preference structures identifying smaller

groups of individuals whose preferences were in fact strongly influenced by certain designs, were thereby revealed. At the aggregate level these deviations were not discernible; this loss of information creates the potential for misunderstandings. In this way, our research demonstrates that taking measurements repeatedly at the individual level is an advantageous method for this kind of research.

6.2 Theoretical Contributions

This dissertation makes contributions to theories of retail design, design processes, design management and strategies, and product placement. Contributions to theories on design management and design strategy are made through the explication of both how store designs are created by designers, and how they are perceived by consumers. Numerous theorists call upon design managers to develop the necessary expertise so that they are in a position to use the right design cues for the right markets (Kotler, 1973, Heskett 2005). But few, if any, put forward any tools for measuring the effects of a proposed store design on a consumer segment. The present work proposes such a tool, suggesting a method for measuring spillover effects of interiors on product preference. This work thereby also puts forward a theory of how to measure effects of design that consumers are not able to articulate themselves.

The first two papers contribute to existing retail design theories, and theories on design processes. These include: explication and categorization of design elements controlled by the retail designer; introduction of a framework addressing the ways that design decisions interact with each other; and presentation of a model of stakeholders and the constraints that they imply. The models and frameworks developed and presented in papers 1 and 2 can be utilized as reference material for retail design studies, and in the education of future retail designers.

Empirical findings from the field experiments described in papers 3 and 4 indicate the existence of a relationship between interior design variables and product variables. Our research thereby contributes to the advancement of the understanding of how product valuation relates to the space surrounding the consumer. Results from paper 3 indicate that products presented in customized interiors were perceived more positively than those presented in interiors designed for other products. This indicates that a style match between store design and merchandise in fact enhances evaluation of that merchandise. Paper 4 demonstrates that interiors that respondents consider aesthetically pleasing had a positive influence on ratings of a favorite product in one interior; two other interiors failed to show this same effect. But linking store ratings with in-store ratings of favorite products in aggregate revealed a significant correlation. This indicates the existence of a mechanism between highly rated product and highly rated interiors,

but it seems that other factors are also at work here. The quality of the design could certainly have an influence. The one interior that did in fact enhance ratings of favorite products was very simple, with clean lines and white surfaces. It is possible that this design simply did not interfere with assessments of products that respondents already held, while the other interiors managed to get in the way, in one way or another. Further research is necessary in order to understand this mechanism more precisely.

The amplifying or enhancing effect of the store interiors was, in general, more pronounced on products that also received high hedonic ratings. This indicates that retail design cannot accomplish a success on its own; consumers must also like the products. This also suggests that the underlying cognitive processes associated with engagement might play a key role in making an individual more receptive to his or her surroundings. There is certainly potential for further investigation of this mechanism.

Finally, results from the field studies showed that individual consumers did indeed rate the same products differently in different contexts. From this we can conclude—as suggested in product placement literature (Cowley & Barron 2008; Gould & Gupta 2006)—that there is a measurable spillover effect from context to merchandise – also in fashion stores. Results also indicated that the existence of a supporting effect from an interior is not something that the average consumer is consciously aware of. The store that influenced product ratings most positively (store A) was not the store that received the highest rating in aggregate; in fact, stores B and C were both rated higher than store A. In other words, the enhancing effect of an interior does not necessarily go hand-in-hand with an interior that consumers like. This suggests that the practice of relying on consumer opinion, or on direct interrogation as a method of inquiry, should be viewed with circumspection.

6.3 Methodological Contributions

Methodological contributions arise from this dissertation's proposal and testing of a field study design for indirectly measuring the effects of store design on product preference; in other words, for measuring these effects without bringing the subject of the study to the respondent's attention. The method's effectiveness was documented in two field studies, demonstrating that differently designed environments did indeed have measurably different effects on product perception.

In order to identify hidden patterns and structures invisible to aggregate level analysis, the studies were designed to measure and analyze data at the individual level (Wright 1997; Leder et al. 2004). This statistical viewpoint is often ignored but may even become more important in our digital age, where consumers expect to be treated as individuals, and individual

data is available in unprecedented amounts. Moreover, techniques for analysis of this data—so called 'big data'—advance with increasing speed. Our research shows that repeated measures of individual respondents reveals differences that would not otherwise have been visible. Using this approach, we were able to identify smaller groups of individuals whose preferences were strongly influenced by certain designs.

6.4 Managerial Contributions

For retailers and designers, this dissertation provides a toolbox offering insights into the process of creating stores, and introduces a tool for giving design managers information about the effects of their design choices on real consumers.

The first two papers can help design practitioners understand and deal with the numerous variables at work in the retail design process. In addition, these papers suggest how designers and project managers can coordinate and control the design process for greater efficiency. Finally, these papers provide a clear explanation of which constraint generators play a role in the design process, and how. Practitioners should note the fact that the consumer, as a constraint generator, produced the least significant constraints to the design process. For the research team, this discovery led to the proposal of a tool for collecting information about how design is perceived by consumers. It is conceivable that the method proposed and tested here can be refined to the point where it can be employed by designers to measure the effects of a proposed design on a clearly defined market segment before its implementation. I am convinced that such a tool would have been invaluable in the Asian/European cooperation described in section 1.2, or in any situation where a design team is uncertain how a proposal will be received by a particular demographic.

Apart from the empirical findings concerning the interiors and products tested in paper 3 and 4, which of course had direct implications for the retailers and designers involved, these experiments also yielded some findings applicable in more general terms. For example, the fact that a store is experienced as a unified whole, consisting of the design variables that work together to create the atmosphere, and the products that reside within it. In those periods where the greatest synergy existed between these two components—for example when the store is freshly merchandised—the store was evaluated more highly than when these elements no longer harmonize well. The whole is greater than the sum of its parts, in other words, or at least it has the potential to be. This might seem a banal observation, but it is nonetheless relevant for retailers, who might make the mistake of evaluating a store concept based on its design variables only, without considering the products that will go in it.

Possibly the most important contribution this dissertation makes is in its advancement of an understanding of the potential for value creation through retail design. Our results show clear and measurable differences in how different store designs enhance product preferences. These insights can potentially enable retail designers to argue for the value creation intrinsic to the idea-generating aspect of their work, which is often a point of contention between retailers and retail designers. Should designers be paid for the ideas they generate, or only when they are executed, or actually built? Our method shows, among other things, that good design can create value, and that this value is quantifiable. These are compelling arguments for designers who create value-adding store interiors.

6.5 Limitations

This dissertation presents results from 8 case studies, and field experiments with 50 respondents; more extensive studies are needed in order to draw more concrete and widely applicable conclusions.

The case studies in papers 1 and 2 were limited to designs created by Scandinavian retail designers. It would certainly be relevant to make studies in other geographical areas, in order to uncover differences in the working methods designers use in other places. Interviews revealed, among other things, that as constraint generators, consumers did not exert a strong influence on the designer's work. It would be interesting to investigate whether this holds true in other cultures. Another interesting question is whether and to what extent designers can in fact decode results from experiments such as the ones presented here and integrate them in the creation of new design.

The setting for the field experiments in papers 3 and 4 proved to be an ideal setting for experiments where store design variables were to be tested against product design variables. However, design managers would rarely be able to employ this method in precisely the same way, since it would be prohibitively expensive to build different store designs in order to determine which of them supported the product best. A reduced version of this experiment is certainly realizable, where products are tested in one store, and results compared to data from a neutral zone. Alternatively, smaller mock-ups of proposed designs could be built and tested using the procedure proposed here.

The collection of data in connection with the field experiments was relatively time-consuming. I would therefore suggest investigating whether the method can be refined so that it is easier to work with—preferably so easy that designers and retailers can use it themselves in practice. Beyond that, I would suggest testing the efficacy of the method in a simpler setting, like

the one described above with one store location and a neutral zone. If this reduced version yields useful results, it could have extremely practical application, in that it would allow design proposals to be tested along the way, in the development process.

6.6 Future Research

The earlier in the design process that a proposed concept can be tested on consumers, the better. As noted in paper 2, the expenses involved in making changes to a design concept rise as the design process moves along. It would therefore be of great interest to determine whether the proposed methods can be effective in an artificial setting, where sketches could be tested as 3D images or a VR film.

The test stores utilized in this project are fully realized projects, which cost considerable sums to implement. But with the rate of technological development in this area, it won't be long before 3D sketches will be usable in the contexts described here. One can already experience approximations of this level of technology at design conferences and conventions today. Designers will, with accelerating pace and intensifying authenticity be able to present and test projects in virtual environments, without needing to build them first.

VR technologies have already gained a solid foothold as presentation tools. With films and pictures of virtual models, designers can give clients a spatial experience of how a future interior will feel (WebVR 2017; Architects 2016). Drawbacks such as low resolution, cumbersome 3D glasses, and relatively high costs will certainly be reduced with time. At *Hong Kong Business of Design Week* in December, 2017, I experienced virtual projections inside a 3 meter by 3 meter white box (HKU imseCAVE). With a pair of light 3D glasses and an antenna that calibrated the user's movements in the space, one could move freely through a virtual large and luxurious apartment, despite being in a small box in a convention hall. From here it seems a small jump to the applications we are talking about here.

The same kind of technology will certainly be able to test remodel or refurbishing projects in existing stores (Lowe’s 2017). With AR technology, it will be possible to place a client, or a consumer, in an existing space and present them with a new wall surface, an adjusted arrangement of furniture, new furniture, or a new collection of products (Augmented World Expo 2018). Tests of potential designs will be able to be carried out in this way, without building anything first. It is also easy to imagine that technology will be able to provide a more holistic experience in online shopping, and that brands and retailers will be able to create better symbiosis between virtual and physical shopping environments.

A final limitation is that the method proposed in this dissertation has been tested exclusively in fashion stores. Other retail settings, or other settings in general, would be interesting to

investigate, to see whether similar results can be obtained. There are numerous contexts where interior space has a spillover effect onto an object or an experience—music in a concert hall, for example, food in a restaurant, or services in hotels or institutions.

REFERENCES

Amazon, 2018. Amazon Go. Available at: https://www.amazon.com/b?node=16008589011 [Accessed February 18, 2018].

Areni, C.S. & 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(2), pp.117–125.

Armani Silos, Armani Silos. Available at: https://www.armanisilos.com/en_WW/ [Accessed February 17, 2018].

Bagdare, S. & Jain, R., 2013. Measuring retail customer experience. *International Journal of Retail & Distribution Management*, 41, pp.790–804.

Baker, J; Parasurama, A; Grewal, D.; Voss, G.B., 2002. The Influence of Multiple Store Environment Cues on perceived Merchandise Value and Patronage Intentons. *Journal of Marketing*, pp.120–141.

Ballantine, P.W., Parsons, A. & Comeskey, K., 2015. A conceptual model of the holistic effects of atmospheric cues in fashion retailing. *International Journal of Retail & Distribution Management*, 43(6), pp.503–517.

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

Bellizzi, J. a. & Hite, R.E., 1992. Environmental color, consumer feelings, and purchase likelihood. *Psychology and Marketing*, 9(5), pp.347–363.

Berman, B.R. & Evans, J.R., 2013. *Retail Management: A Strategic Approach (12th Edition)* 12th ed., Pearson Education Limited.

Bitner, M.J., 1992. Servicescapes: the impact of physical surroundings on customers and employees. *Journal of Marketing*, 56(2), pp.57–71.

Buch-Hansen, H. & Nielsen, P., 2005. *Kritisk Realisme* 1st editio., Roskilde Univesitetsforlag.

Chebat, J.-C. et al., 2012. The effect of ambient scent on consumers' perception, emotions and behaviour: A critical review. *Journal of Business Research*, 30(4).

Cheng, J.M.-S. et al., 2008. Do extrinsic cues affect purchase risk at international e-tailers: The mediating effect of perceived e-tailer service quality. *Journal of Retailing and Consumer Services*, 15(5), pp.420–428.

Cholachatpinyo, A. et al., 2002. A conceptual model of the fashion process – part 1. *Journal of Fashion Marketing and Management: An International Journal*, 6(1), pp.11–23.

Christian Dior Museum, Musee Christian Dior Grand Ville. Available at: http://www.musee-dior-granville.com [Accessed February 22, 2018].

Clark, A., 1997. *Being There: Putting Brain, Body and World TogetherAgain*, Cambridge MA: The MIT Press.

Clark, A., 2006. Where Brain, Body and World Collide. *Journal of the American Academy of Arts and Sciences*, 127(2), pp.257–280.

Corbin, J.M. & Strauss, A.L., 2015. *Basics of qualitative research: techniques and procedures for developing grounded theory* 4th Editio.,

Cowley, E. & Barron, C., 2008. When Product Placement Goes Wrong : The Effects of Program Liking and Placement Prominence. *Journal of Advertising*, 37(December), pp.89–98.

Custers, P. et al., 2010. Lighting in retail environments: Atmosphere perception in the real world. *Lighting Research and Technology*, 42(3), pp.331–343.

Damasio, A.R., 1995. *Descartes' Error: Emotion, Reason, and the Human Brain*,

Damasio, A.R., 1999. *The feeling of what happens: Body and Emotion in the Making of Consciousness*, New York: Houghton Mifflin Harcourt.

Danermark, B. et al., 2002. *Explaining society: critical realism in the social sciences*,

Davies, B.J. & Ward, P., 2005. Exploring the connections between visual merchandising and retail branding. *International Journal of Retail & Distribution Management*, 33(7), pp.505–513.

Deloitte, 2017. Retail Trends in 2017. Available at: https://www2.deloitte.com/uk/en/pages/consumer-business/articles/retail-trends-2017.html [Accessed September 10, 2017].

Diallo, M.F. et al., 2013. Factors influencing consumer behaviour towards store brands: evidence from the French market. *International Journal of Retail & Distribution Management*, 41(6), pp.422–441.

Donovan, R.J. & Rossiter, J.R., 1982. Store Atmosphere: An Environmental Psychology Approach. *Journal of Retailing*, 58(1), p.34.

Faultrier, B. De & Towers, N., 2011. An exploratory packaging study of the composite fashion footwear buying framework. *Journal of Retailing and Consumer Services*, 18(5), pp.463–470.

Frijda, N.H., 1989. Aesthetic Emotions and Reality. *American Psychologist*, pp.1546–1547.

Frontczak, M. & Wargocki, P., 2011. Literature survey on how different factors influence human comfort in indoor environments. *Building and Environment*, 46(4), pp.922–937.

Gallagher, S., 2005. *How the Body Shapes the Mind*, Oxford: Oxford University Press.

Goffman, E., 1959. *The Presentation of Self in Everyday Life*, Woodstock, NY: Overlook Press.

Grewal, D., Levy, M. & Kumar, V., 2009. Customer Experience Management in Retailing: An Organizing Framework. *Journal of Retailing*, 85(1), pp.1–14.

Grewal, D., Roggeveen, A.L. & Nordfält, J., 2017. The Future of Retailing. *Journal of Retailing*, 93(1), pp.1–6.

Groeppel-Klein, A., 2005. Arousal and consumer in-store behavior. *Brain Research Bulletin*, 67(5), pp.428–437.

Gucci Garden, Gucci Garden. Available at: https://www.gucci.com/dk/en_gb/st/stories/visions/article/gucci_garden

[Accessed December 20, 2017].
Harwood, T. & Jones, M., 2016. Chapter 9 in Multi-Channel Marketing , Branding and Retail Design - Consumer Response to Virtual- and Reail-World Retail Environment Convergence. In Emerald Group Publishing Limited.
Haug, A. & Münster, M.B., 2015. Design variables and constraints in fashion store design processes Article information : *International Journal of Retail & Distribution Management*, Vol. 43(Iss 9), pp.831–848.
Hendriks-Jansen, H., 1996. *Catching Ourselves in the Act : Situated Activity, Interactive Emergence, Evolution, and Human Thought*, Cambridge MA: The MIT Press.
Herrmann, A. et al., 2013. The Power of Simplicity: Processing Fluency and the Effects of Olfactory Cues on Retail Sales. *Journal of Retailing*, 89(1), pp.30–43.
Heskett, J., 2005. *Design: A Very Short Introduction*, Oxford University Press.
Hirschman, E.C. & Thompson, C.J., 1997. Why Media Matter : Toward a Richer Understanding of Consumers ' Relationships with Advertising and Mass Media Why Media Matter : Toward a Richer Understanding of Consumers ' Relationships with Advertising and Mass Media. *Journal of Advertising*, 26(1).
Hyun, J.-S. & Luck, S.J., 2007. Visual Working Memory as the Substrate for Mental Rotation. *Psychonomic Bulletin & Review*, 14(1), pp.154–158.
Instyle, 2016. Inside Lululemon Lab. *Instyle*. Available at: http://www.instyle.com/beauty/lululemon-lab-concept-store-fitness-nyc [Accessed November 1, 2017].
Jones, P. et al., 2010. Retail experience stores: experiencing the brand at first hand. *Marketing Intelligence & Planning*, 28(3), pp.241–248.
Kent, A. & Petermans, A., 2017. *Retail Design - Theoretical Perspectives* A. Petermans & A. Kent, eds., Routledge.
Kent, T., 2007. Creative space: design and the retail environment. *International Journal of Retail & Distribution Management*, 35, pp.734–745.
Kirby, A.E. & Kent, A.M., 2010. Architecture as brand: store design and brand identity. *Journal of Product & Brand Management*, 19(6), pp.432–439.
Knoferle, K.M. et al., 2012. It the mix: The interactive effect of music tempo and mode on in-store sales. *Marketing Letters*, 23(1), pp.325–337.
Kotler, P., 1973. Atmospherics as a Marketing Tool. *Journal of Retailing*, 49(4), pp.48–65.
Krackhardt, D., 1992. The strength of strong ties: The importance of Philos in organizations. *Networks and Organizations: Structure, Form, and Action*, 216, pp.216–239.
Kubovy, M., 2000. *Visual and design arts*, New York: Oxford University Press.
Lakoff, G. & Johnson, M., 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, Basic Books.
Lakoff, G. & Turner, M., 1989. *More Than Cool Reason - a Field Guide to Poetic Metaphor - Lakoff,G, Turner,M*, University of Chicago Press.
Leder, H. et al., 2004. A model of aesthetic appreciation and aesthetic judgments. *British journal of psychology*, 95(Pt 4), pp.489–508.
Lemon, K.N. & Verhoef, P.C., 2016. Understanding Customer Experience and the Customer Journey. *Journal of Marketing*, 80(JM-MSI Special Issue), pp.1–62.
Leong, S.T. & Weiss, S.J., 2001. Air Conditioning. In S. L. et al. C. Chung, J. Inaba, ed. *Chapter in Harvard Design School Guide to Shopping*. Tashen, pp. 93–127.
Lynch, Jr., J.G., 1982. On the External Validity of Experiments in Consumer Research. *Journal of Consumer Research*, 9, pp.225–240.
MacKenzie, S.B., Lutz, R.J. & Belch, G.E., 1986. The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations. *Journal of Marketing Research*, 23(2), pp.130–143.
Martindale, C. & Moore, K., 1988. Priming, prototypicality, and preference. *Journal of Experimental Psychology: Human Perception and Performance*, 14(4), pp.661–670.
McIntyre, C., Melewar, T.C. & Dennis, C., 2016. *Prelims In Multi-Channel Marketing, Branding and Retail Design*, Emerald Group Publishing Limited.
Menon, S. & Kahn, B., 2002. Cross-category effects of induced arousal and pleasure on the internet shopping experience. *Journal of Retailing*, 78(1), pp.31–40.
Milliman, R., 1982. Using background music to affect the behavior of supermarket shoppers. *The journal of Marketing*, 46(3), pp.86–91.
Mitchell, A.A. & Olson, J.C., 1981. Are Product Attribute Beliefs the Only Mediator of Advertising Effects on Brand Attitude? *Journal of Marketing Research*, 18(3), pp.318–332.
Morin, S., Dubé, L. & Chebat, J.-C., 2007. The role of pleasant music in servicescapes: A test of the dual model of environmental perception. *Journal of Retailing*, 83(1), pp.115–130.
Murphy, S.T. & Zajonc, R.B., 1993. Affect, cognition, and awareness: affective priming with optimal and suboptimal stimulus exposures. *Journal of personality and social psychology*, 64(5), pp.723–39.
National Retail Federation, 2017. *https://nrf.com/blog/retail-predictions-2017*,
Newman, A.J. & Foxall, G.R., 2003. In-store customer behaviour in the fashion sector: some emerging methodological and theoretical directions. *International Journal of Retail & Distribution Management*, 31(11), pp.591–600.
North, A.C., Sheridan, L.P. & Areni, C.S., 2016. Music Congruity Effects on Product Memory, Perception, and

Choice. *Journal of Retailing*, 92(1), pp.83–95.
Parsons, A. & Conroy, D., 2006. Sensory stimuli and e-tailers. *Journal of Consumer Behaviour*, 5, pp.69–81.
Pauwels, K. & Neslin, S.A., 2015. Building With Bricks and Mortar: The Revenue Impact of Opening Physical Stores in a Multichannel Environment. *Journal of Retailing*, 91(2), pp.182–197.
Petermans, A., Kent, A. & Van Cleempoel, K., 2014. Photo-elicitation: Using photographs to read retail interiors through consumers' eyes. *Journal of Business Research*, 67(11), pp.2243–2249.
Pine, B.J. & Gilmore, J.H., 1998. Welcome to the Experience Economy. *Harward Business Reveiw*.
Puccinelli, N.M. et al., 2009. Customer Experience Management in Retailing: Understanding the Buying Process. *Journal of Retailing*, 85(1), pp.15–30.
Quartier, K., Lommelen, T. & Vanrie, J., 2016. Chapter 2 in Multi-Channel Marketing, Branding and Retail Design - Combining the Best of Both Worlds in Retailing and Design. In Emerald Group Publishing Limited.
Quartier, K., Vanrie, J. & Van Cleempoel, K., 2014. As real as it gets: What role does lighting have on consumer's perception of atmosphere, emotions and behaviour? *Journal of Environmental Psychology*, 39, pp.32–39.
Rangaswamy, A. & Van Bruggen, G.H., 2005. Opportunities and challenges in multichannel marketing: An introduction to the special issue. *Journal of Interactive Marketing*, 19(2), pp.5–11.
Reber, R., Schwarz, N. & Winkielman, P., 2004. Processing fluency and aesthetic pleasure: is beauty in the perceiver's processing experience? *Personality and social psychology review : an official journal of the Society for Personality and Social Psychology, Inc*, 8(4), pp.364–382.
REI, 2018. Find Classes, Outgoings & Events by Activity. Available at: https://www.rei.com/learn.html [Accessed February 22, 2018].
Rigby, D.K. & Vishwanath, V., 2006. Localization the revolution in consumer markets. *Harvard Business Review*, 84(4).
van Rompay, T.J.L. et al., 2012. On Store Design and Consumer Motivation: Spatial Control and Arousal in the Retail Context. *Environment and Behavior*, 44(6), pp.800–820.
Shimp, T. a, 1981. Attitude toward the ad as a mediator of consumer brand choice. *Journal of Advertising*, 10(2), pp.9–48.
Spangenberg, E.R., Grohmann, B. & Sprott, D.E., 2005. It's beginning to smell (and sound) a lot like Christmas: The interactive effects of ambient scent and music in a retail setting. *Journal of Business Research*, 58(11 SPEC. ISS.), pp.1583–1589.
Spence, C. et al., 2014. Store atmospherics: A multisensory perspective. *Psychology and Marketing*, 31(7).
Spielberg, S., 2002. *Minority Report*, USA.
Statista, 2018. Consumer Markets. Available at: https://www.statista.com [Accessed February 20, 2018].
The New York Times, 2015. For Brands Like Toms, It's All About the Experience. Available at: https://www.nytimes.com/2015/11/15/fashion/for-brands-like-toms-its-all-about-the-experience.html [Accessed February 20, 2018].
Thurstone, L.L., 1927. *The Method of Paired Comparisons for Social Values*, University of Chicago.
Turley, L.W. & Chebat, J.-C., 2002. Linking Retail Strategy, Atmospheric Design and Shopping Behaviour. *Journal of Marketing Management*, 18(1–2), pp.125–144.
Turley, L.W. & Milliman, R.E., 2000. Atmospheric Effects on Shopping Behavior. *Journal of Business Research*, 49(1990), pp.193–211.
Turley, L.W. & Milliman, R.E., 2000. Atmospheric effects on shopping behavior: A review of the experimental evidence. *Journal of Business Research*, 49(2), pp.193–211.
Tversky, B., 2008. Embodied and situated cognition. *Artificial Life*, 11(1–2), pp.5–11.
Varela, F.J., Thompson, E. & Rosch, E., 1991. *The Embodied Mind: Cognitive Science and Human Experience*,
Verhoef, P.C. et al., 2009. Customer Experience Creation: Determinants, Dynamics and Management Strategies. *Journal of Retailing*, 85(1), pp.31–41.
Verhoef, P.C., Kannan, P.K. & Inman, J.J., 2015. From Multi-Channel Retailing to Omni-Channel Retailing. Introduction to the Special Issue on Multi-Channel Retailing. *Journal of Retailing*, 91(2).
Ward, J.C., Bitner, M.J. & Barnes, J., 1992. Meassuring the Prototypicality and meaning of retail stores.pdf. *Journal of Retailing*, 68(2).
Weiss, S.J. & Leong, S.T., 2001. Escalator. In C. J. Chung et al., eds. *Chapter in Harvard Design School Guide to Shopping*. Tashen, pp. 336–358.
Wong, A. & Sohal, A.S., 2006. Understanding the quality of relationships in consumer services. *International Journal of Quality & Reliability Management*, 23(3), pp.244–264.
Wright, B.D., 1997. Measurement. *Educational Measurement: Issues and Practice*, pp.33–45.
Wu, W.-Y. et al., 2013. How can online store layout design and atmosphere influence consumer shopping intention on a website? *International Journal of Retail & Distribution Management*, 42(1).
Yalch, R.F. & Spangenberg, E.R., 2000. The Effects of Music in a Retail Setting on Real and Perceived Shopping Times. *Journal of Business Research*, 49(2), pp.139–147.
Zajonc, R.B., 1980. Feeling and Thinking: Preference Need No Inferences. *American psychologist*, 35(2), pp.151–175.
Zhao, M., Kim, Y.-S. & Srebric, J., 2015. Occupant perceptions and a health outcome in retail stores. *Building and Environment*, 93, pp.385–394.

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