Color Effects in Retailing and E-Tailing

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Color Effects in Retailing and E-Tailing
Οι Επιδράσεις του Χρώματος στο συμβατικό και στο ηλεκτρονικό Λιανεμπόριο

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Περίληψη

Ένα νέο ερευνητικό ρεύμα, σχετικό με την ατμόσφαιρα του ηλεκτρονικού καταστήματος, υπερβαίνει τα όρια της μελέτης των λειτουργικών χαρακτηριστικών του ηλεκτρονικού καταστήματος καθώς πραγματεύεται τα αισθητικά χαρακτηριστικά του ηλεκτρονικού καταστήματος και την επίδρασή τους στη συμπεριφορά καταναλωτή. Το παρόν άρθρο αποτελεί μία κριτική ανασκόπηση της βιβλιογραφίας στο θέμα της ατμόσφαιρας στο συμβατικό και το ηλεκτρονικό λιανεμπορικό κατάστημα. Πιο συγκεκριμένα, η παρούσα μελέτη αποτελεί μία συνοπτική αναφορά για την επίδραση του χρώματος στο συμβατικό και το ηλεκτρονικό κατάστημα. Η ταχεία εξάπλωση του ηλεκτρονικού εμπορίου και η μετάβαση από το συμβατικό κατάστημα στο ηλεκτρονικό κατάστημα, καθιστά απαραίτητη τη θεώρηση της ατμόσφαιρας ως σημαντικό στοιχείο του μίγματος μάρκετινγκ, τόσο για το συμβατικό όσο και για το ηλεκτρονικό κατάστημα.

Abstract

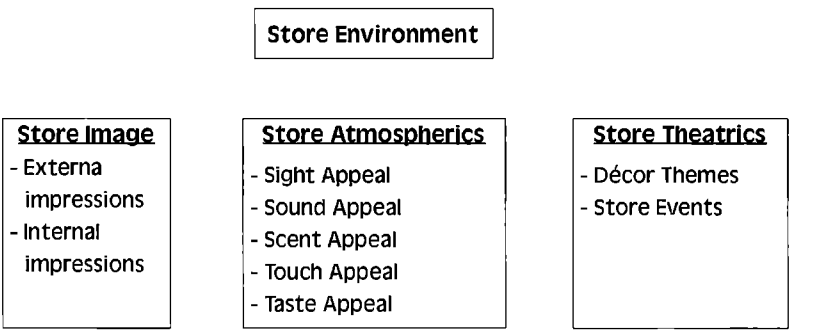
A relatively new research stream, web-atmospherics, goes beyond the functional qualities of online stores to the aesthetic qualities of online stores and their effects on consumer behaviour. The present paper constitutes a critical review of existent literature of atmospherics in retailing and e-tailing. Specifically, this study is a report of the impact of color in the traditional and the online store. The rapid expansion of e-commerce and the transition from "brick-and-mortar" retailers to "click-and-bricks" businesses imposes the consideration of store atmosphere as a critical element in the marketing mix for both the traditional and the online store.

Introduction

The interaction between the physical environment and human behaviour in many different settings (e.g., stores, housing, hospitals, prisons, etc) has been the focus of research in the field of environmental psychology. Environmental psychologists have argued many decades ago (Mintz 1954; Maslow and Mintz 1956) that the environment is capable of influencing a wide range of behaviours, providing a context in which these behaviours occur. In the field of marketing, Kotler (1973-4, p. 50) has claimed that consumers respond to something more than simply the tangible product. Consumers respond to the total product that includes -among others, things like sales policy, services and so on- the place at which this product is purchased or consumed.

Atmospherics is defined as "the conscious design of buying environments to produce specific emotional effects in the buyer that enhance his purchase probability" (Kotler 1973-4, p. 50). The seminal work of Kotler on the effects of store atmosphere on consumer behaviour and his definition of store atmospherics initiated an extended research initiative. The development of a cue typology serves as a theoretical basis in order to define the components of store environment. According to Lewison (1994), the store environment comprises three basic factors: a) store image, b) store atmospherics and c) store theatrics (Figure 1).

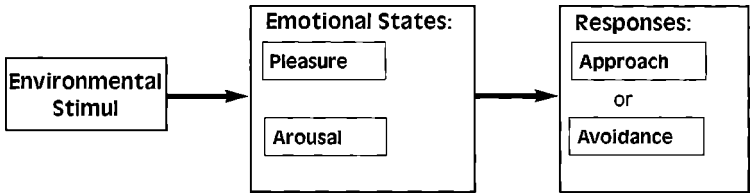
Figure 1: The Conventional Retail Store Environment



Based on the principles of environmental psychology, Mehrabian and Russelll (1974) used a Stimuli-Organism-Response (S-O-R) paradigm (Figure 2) for studying the effects of store atmosphere on consumer behaviour. Their approach lies in the contention that an individual's perceptions of, and behaviour within a specific environment are the result of the emotional states created by that environment. Specifically, Mehrabian and Russelll (1974) proposed that the environmental stimuli of the store influence the affective

states of pleasure and arousal, which, in turn, affect consumers' behavioural responses (i.e., approach and avoidance) to the store.

Figure 2: The Stimuli-Organism-Response (S-O-R) Framework



Sourse: Mehrabian and Russell Model 1974

Color Research

Color research is scientifically inter-disciplinary as it is conducted by biologists, anthropologists, psychologists and marketing scholars. Human beings and other creatures have been found to respond to colors in certain ways. From an evolutionary perspective, the ability to discriminate colors and to subsequently respond to them may be a determinant of survival (Crozier, 1999).

When one refers to color (e.g., blue, red, pink), one refers to one of the three dimensions of color. This is the hue dimension which corresponds to the wavelength of light. The other two basic dimensions of color are value and chroma. Value refers to the luminance of color and chroma refers to the purity of the color and it ranges from high to low saturation.

Researchers have focused on examining the physiological and psychological responses to color. Gerard (1957) showed that respondents' blood pressure, respiratory rate and frequency of eyeblinks increased with red color, while they decreased with blue color. The emotional responses to color are quite steady although cultural differences should also be considered (Oyams et al., 1962). High wavelength colors (e.g., red, yellow and orange) have been found to elicit feelings of arousal and excitation, while low wavelength colors are associated with more sedate mood states and lower levels of arousal (Schaie and Heiss, 1964). In marketing, color research has mainly focused on advertising and packaging issues. Warden and Flynn (1926) reported that color is associated with perceived package weight and Luckiesh (1923) supported that yellow background, as opposed to white background, results in greater legibility in advertising. In this paper, color is examined as an atmos-

pheric element (Kotler, 1973-4) in commercial settings. In addition, the author accumulates and presents existent literature on the effects of color in retailing and e-tailing alike.

Color as an Atmospheric Cue in Retail Environments

Color is extensively used in retail settings. Some color combinations are so tightly associated with a specific company that they become the company's "trade dress" (Solomon et al., 2002). In these cases, the company has an important motive not only to communicate its products through the use of specific color, but to even claim the exclusive use of these colors. There are specific rules and conditions under which a company can be granted the exclusive use of colors, but this discussion is not within the scope of the present paper. Bellizzi et al. (1983) conducted a laboratory experiment in order to test the impact of color. The experimental area was neutral and only the wall of the experimental area was covered by fabric panels in five experimental colors, i.e., yellow, green, blue, red and white. The sample was divided into five groups, each including 25 subjects, and each group was exposed to a different experimental color. Subjects were shown two slides of a furniture store. The color of the wall, floors and ceilings were that of the five experimental colors. Results support that color is associated with attraction. Subjects sat closest to the yellow wall and furthest to the white wall. Another important finding is that participants sat significantly closer to warm colors (i.e., yellow and red) regardless their color preferences. Despite the fact that participants sat closer to the red treatment, they also evaluated it more negatively compared to the blue treatment. The red interior was also evaluated as more tense compared to all the other color treatments. In general, warm interiors were evaluated as more tense compared to cool interiors. A very interesting finding is that red store interior was evaluated with more up-to-date merchandise, compared to all other treatments.

Bellizzi and Hite (1992) examined the effects of red and blue in a retail context with two laboratory experiments. More specifically, they investigated the behavioral influence of display color. Red and blue were selected as they are opposite on the color spectrum and they were expected to produce extreme differences. Two retail environments, i.e., a red and a blue, were created, that were identical except for the color difference. The blue display produced higher purchase rates compared to the red display. Additionally, shoppers in the blue experimental condition consistently purchased

the highest-priced set compared to respondents exposed to the red treatment. In a second experiment, respondents exposed to the blue store reported more pleasant feelings, compared to respondents exposed to the red store condition (Bellizzi and Hite, 1992). Table 1 briefly presents research findings concerning the effects of colors on consumer behavior in retailing.

Table 1. The Impact of In-Store Color on Consumers' Responses in Retailing

In-Store Atmospheric Cues	Citation	Findings
In-store Color	[1,2]	No statistically significant difference was found between in-store color and perceived merchandise prices and quality.
Hue Dimension	[1]	The warm-color store interior was evaluated as more negative, brighter, tenser, compared to the cool-color store interior.
• Warm Colors		
- Red	[1, 2]	The red-color store interior was called the tensest, the most negative and the brightest. It was also associated with more up-to-date merchandise.
- Yellow	[1]	Subjects sat closer to the yellow experimental wall.
• Cool Colors	[1,2]	Cool-color store interiors were evaluated as more attractive compared to warm-color treatments. Cool treatments were associated with more pleasant shopping environment.
- Blue	[2]	Shoppers in the blue experimental condition purchased the highest-priced set and reported more pleasant feelings compared to respondents exposed to the red treatment.
• Chroma Dimension		No findings.
• Value Dimension		No findings.

Color as an Atmospheric Cue in E-tail Environments

Color is a variable that has been found to elicit physiological and psychological responses and is ubiquitous on Web sites. In a website, color directs a viewer's eye across the page or to a specific point of the page, ties together ideas, separates distinct visual or contextual areas, creates contrasts, captures attention and elicits feelings that shape attitudes and finally behaviors (Solomon et al., 2002). In a series of four experiments, Gorn et al. (2004) manipulated the three dimensions of color (hue, value, and chroma). The findings suggest that for each dimension, colors that induce more relaxed feeling states lead to greater perceived quickness of

the download. Respondents exposed to a blue-hue condition perceived the download as quicker. This effect was mediated by the greater level of relaxation that blue induces compared to yellow or red. In terms of the chroma dimension, respondents exposed to lower-chroma color (higher-value color) perceived the download as quicker than respondents exposed to higher-chroma color (lower-value color) and this effect was mediated by the greater level of relaxation that a lower-chroma color (higher-value color) elicits compared to a higher chroma color (lower-value color). The final experiment revealed that color also affects the users' evaluations of the Web site and their likelihood of recommending it to others. When undergraduate marketing students were assigned to a positive color experimental condition (blue hue, high value, low chroma), their evaluations of the website were more positive and the likelihood to recommend it to others was greater than the students that were assigned to the negative color condition (yellow hue, low value, high chroma). Wu and Yuan (2003) found that among four hue combinations examined, the best combination was white/blue under the condition of greater foreground luminance than background luminance and black/green under the condition of greater background than foreground luminance. White/black and black/white did not perform well compared to other color backgrounds. White/yellow had the poorest rating, because white fonts are difficult to recognize even on a dark yellow background.

Biers and Richard (2005) conducted a laboratory experiment in order to examine the effect of webpage background color (hue) on consumers' perceptions about selected product attributes. They created simulated web pages with fully saturated colors. Results revealed gender plays a significant role in the way participants perceived the product attributes when they were exposed to different background colors. Males prefer cool background colors, while females tended to evaluate more positively products that were featured in warm background colors. A similar research revealed that repeat customers respond more positively under the conditions of cool background color of a website (Biers and Richards, 2002). Additionally, when a perceived expensive item was featured on a cool background color, respondents indicated a higher likelihood of purchase. The effects of color in online stores are summarized in Table 2.

Table 2. The Impact of Website Color on Consumers' Responses in E-tailing

Online Atmospheric Cues	Citation	Findings
Website Color Scheme	[3, 4, 7, 17]	Perceived quickness of the download is greater with blue than yellow (or red). The effect of color on consumer responses is mediated by the greater feelings of relaxation that blue induces than yellow (or red). Respondents expressed higher likelihood of purchase when the perceived expensive product was featured on cool background color compared to warm background color.
Background Color		
▪ Hue Dimension		
▪ Chroma Dimension	[7,17]	Lower-chroma colors induce more relaxed feeling states and lead to greater perceived quickness of the download, compared to higher-chroma colors.
▪ Value Dimension	[7,17]	Higher-value colors induce more relaxed feeling states and lead to greater perceived quickness of the download, compared to lower-value colors.
Foreground Color		
▪ Hue Dimension	[17]	All three dimensions of color (i.e. hue, chroma, value) of text foreground affects reading performance.
▪ Chroma Dimension	[17]	
▪ Value Dimension	[17]	

Discussion and Future Research

The contribution of this paper lies in the review of the research on the effects of color in conventional and online store by constructing two comprehensive tables of the empirical studies and their findings. This paper may serve as a guide for researchers that conduct color research in retailing or e-tailing and who need a comprehensive reflection of the existing empirical insights.

Based upon the review of the literature, one can argue that research on color as an atmospheric cue in retailing is rather limited. Retailers usually "borrow" the knowledge acquired from color research on packaging or advertising in order to make decisions about the in-store color. Future research should examine color effects in a more thorough way. Field experiments would provide very useful insights in this field. The role of the two other dimensions of color, i.e.,value and chroma, has not yet been studied in in-store color research. Future research should also expand the findings presented for other product categories (Bellizzi and Hite, 1992)

The pervasiveness of the Internet and the commercial capabilities it offers have attracted the interest of marketers who are challenged by this

new marketing tool. Given that the online atmosphere influences consumers' perceptions of, attitudes toward and behaviors within the online store, it is important to define how consumers are affected by specific website color and the online atmosphere as a whole in order to design effective online stores. Future research should examine how specific atmospheric cues or their combination influence specific aspects of consumer behavior in the online store. For example, although four studies on the impact of color were identified herein, we cannot draw steady conclusions about the effects of color. At a first glance, one can argue that the conventional knowledge for colors was also confirmed in online settings, as cool colors were found to elicit more relaxed feelings as opposed to warm colors. Still, color can be studied in many different ways. For example, we can study the overall color scheme of an online store, or the color on the foreground and the background, or color congruency with the image of the e-tailer. Another future research avenue would involve the investigation of color congruency with other online atmospheric elements, e.g., the effects of color and vividness congruence of a website or the effects of color and animation congruengy of a website.

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