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Journal of Retailing xxx (xxx, 2017) xxx–xxx

Journal of Retailing

The Color of Choice: The Influence of Presenting Product Information in Color on the Compromise Effect

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Abstract

Consumers often find themselves challenged by the conflicting desires to seek uniqueness versus conformity, and thus seek some degree of balance. In a series of six studies we show that presenting each options' product-related information in a unique color, as opposed to all product-related information presented in black-on-white, partially satiates the desire for uniqueness, thus amplifying the compromise effect. Consumers facing color presentation formats choose the middle, conforming option more often, yet perceive their choice as more unique. This color effect is not realized if each option's attributes are presented in different colors, but all options use a consistent color scheme, as is often the case in on-line retailing sites such as Amazon.com. Having to justify one's choice moderates the color effect. The practical take-away is that consumers' choices can be influenced by using unique colors to present option-related product information, a variable that is entirely independent of the options' performance characteristics. Two field studies confirm this finding, one using a plain background versus a colored background in a product display and the other using product containers that are either in plain white or wrapped in unique colors.

Keywords: Compromise effect; Color effect; Uniqueness versus conformity; Consumer motivation theory

An Interesting Phenomenon

The basic color options for iPhone 6 and 6S are silver, gold, rose-gold, and gray/black. Apple added two new, distinctive color options of red and jet-black to the iPhone 7 and 7Plus series, each of which is available in three memory sizes. It seemed odd to find out from a large telecom company that the middle memory option was by far the most popular for those that chose one of the two new iPhone colors, whereas memory option preference was spread more evenly for those that selected one of the original colors of silver, gold, rose-gold, and gray/black.

The researchers investigated this unexpected sales pattern statistically. The detailed iPhone sales data came from one of three major mobile carrier companies in South Korea over the period October 21, 2016 to February 20, 2017. The total number of new iPhones sold by the carrier company during this period was 176,563. All customers had access to the array of six colors. Two groups were formed for analysis: customers that selected one of the original color options of black, gold, rose-gold or silver, and the other group of customers who chose one of the two new, distinctive color options of red or jet-black. The results of the statistical investigation of whether color and memory size are seemingly related yields intriguing support. The preference for choosing the middle size memory (128GB out of 32GB, 128GB and 256GB) is much higher for those who chose one of the new colored options (79.78% (55,866/70,021)) than for those who chose the original colored options (68.95% (73,466/106,542), $\chi^2(1) = 2{,}528.98$, $p < .0001$). Furthermore, this pattern is the same regardless of which version of iPhone is considered: iPhone7 (75.99% (30,542/40,190) vs. 64.20% (46,242/72,029), $\chi^2(1) = 1{,}661.02$, $p < .0001$) or iPhone 7Plus (84.89% (25,324/29,831) vs. 78.88% (27,224/34,513), $\chi^2(1) = 386.17$, $p < .0001$). The question that immediately springs to mind is: could this pattern of sales be explained by the new, different, color options that iPhone introduced?

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https://doi.org/10.1016/j.jretai.2018.01.002
0022-4359/

Consumers are regularly exposed to colorful content, not only in the images that they see, such as in-store products, brands in magazines, papers, and on websites, but also in the surrounding print (Coyle and Thorson 2001; Rosenkrans 2009). For instance, consumers who want to buy a camera on Amazon.com will see thumbnail pictures of the various product offerings, as shown in Appendix A. Based on different search keywords, the search shows different results in that the suggested products are mostly black (as in searching "DSLR camera") or many different colors (as in "digital camera" search). In addition, the products will feature brand-related information, often presented using a mixture of fonts and colors. The brand name and key feature(s) might be in blue, price is often displayed in red, and customer ratings may be in yellow. Regardless of the color or combination of colors used, we suggest that varying the color of brand-related information across options such that each brand has its own unique color scheme will influence consumers' choices.

Existing research already provides some insight regarding the impact of color on decision making and information processing. For example, Bellizzi and Hite (1992) found that blue generates more positive responses in a retailing setting than does red, and Bagchi and Cheema (2013) show that using these colors as backgrounds in on-line auction sites affects bidding behavior. For instance, a red background induces aggression, which leads to higher bid jumps in an auction, but to lower price offers in negotiations. At a brand level, Labrecque and Milne (2012) discuss the impact of color on brand perceptions, such as red generating an exciting brand image and blue a competent one. Kress and Van Leeuwen (2002) provide a summary of the semiotic aspects of color associations.

In the research reported here we explore how altering the color of brand-related information in an on-line B2C environment, such that each brand has a unique color, influences consumers' motivations and, consequently, their choices from a compromise effect perspective. Thus, in contrast to the aforementioned studies, we are not interested in how a specific color per se affects behavior (see, e.g., Bagchi and Cheema 2013; Bellizzi and Hite 1992; Kress and Van Leeuwen 2002; Labrecque and Milne 2012), but rather how the mere presence of using different, unique colors alters the balance of internal motivations, and hence choices from a compromise effect perspective. This is the issue addressed here, both theoretically and empirically.

Consumer motivation theory suggests that consumers have two important, but often conflicting, motivations that they endeavor to balance when decision-making, the needs for uniqueness and conformity (Hornsey and Jetten 2004; Maimaran and Simonson 2011; Nail 1986; Tian, Bearden, and Hunter 2001). Our main theoretical contribution is that using different colors to present option-related information partially satiates the need for uniqueness, thus amplifying the need for conformity – choosing the middle option – and hence increasing the compromise effect. Confirming this supposition in controlled settings has clear, practical import. The key take-away is that presenting each option in a unique color scheme affects consumers' choices, an insight relevant to both offline and online retailers that currently use a consistent color scheme across all options, as is the case, for example, on some pages of Amazon.com and TripAdvisor.com.

This paper is organized as follows. First, we review two separate literature streams, one pertaining to the compromise effect and the other the effect of color on consumer decision-making. By linking these literature streams we develop our key hypothesis, that the compromise effect will be greater if each brand uses a unique color to present relevant information compared to all brands using black-on-white font. USA-based survey findings are then presented that confirm that the retail sales of the Korean telecom company are not caused by some local phenomenon, such as some ethnic or competitive bias, and that there is a relationship between the need for uniqueness and the strength of the "color compromise" effect. Three laboratory and two field experiments are then presented. Empirical findings provide evidence that the compromise effect is amplified if brand-related information is presented in different colors as opposed to black-on-white (or all options using an identical color scheme), and that consumer motivation theory rather than cognitive resource-based theory accounts for this outcome. Finally, we summarize our findings and discuss the theoretical and practical implications of our research.

Theoretical Framework and Hypothesis

The compromise effect refers to the higher probability of an option being selected when it is positioned in an intermediate position in a choice set of three (Simonson 1989), a finding broadly supported despite some criticism (Bettman, Luce, and Payne 1998; Chernev 2004; Simonson and Tversky 1992). Research has focused on investigating potential antecedents and moderators affecting the magnitude of the compromise effect, such as time pressure, regulatory focus, reference groups, physical balance, and product category (Dhar and Simonson 2003; Kim and Kim 2016; Larson and Billeter 2013; Mourali, Böckenholt, and Laroche 2007). Thus, for example, Mourali, Böckenholt, and Laroche (2007) show that, compared with promotion-focused individuals, prevention-focused individuals prefer the compromise option more in order to reduce the potential risks associated with making a poor choice. More recently, Kim and Kim (2016) found that the type of product moderates the magnitude of the compromise effect, in that the compromise effect is stronger for utilitarian products than for hedonic products.

How information is presented also affects the compromise effect. For example, Nowlis and Simonson (2000) demonstrated that in contexts featuring brands of different price–quality tiers, the compromise effect is weakened when the low price–quality option is actively promoted, as this provides a reason for choosing it. Novemsky et al. (2007) found that individuals who have difficulty reading the font of the various options choose the compromise option more often than those who experienced no difficulty – or simply deferred the decision. The authors concluded that this is because individuals attribute the difficulty of processing the information to choice difficulty, rather than difficulty in reading the information.

Please cite this article in press as: Kim, Jungkeun, et al, The Color of Choice: The Influence of Presenting Product Information in Color on the Compromise Effect, *Journal of Retailing* (xxx, 2017), https://doi.org/10.1016/j.jretai.2018.01.002