THE IMPACT OF COLOR ON PRICE PERCEPTION

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Abstract

Although the use of color in promotional advertisements is ubiquitous in the market, little is known about the impact of color on price perception. The aim of this paper is to present the results of a study made in Slovenia which assessed the impact of four colors on consumers' perceptions (blue, red, green, and black). We collected data with specially designed questionnaire in October 2018. We used the choice based conjoint analysis to evaluate the influence of price color on consumers. We found out that prices written in blue have the highest preference. We also expected that red prices are more attractive. However, the results of our research showed the opposite. At the end, theoretical and practical implications are discussed.

Key Words

Pricing; price perception; color.

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INTRODUCTION

In marketing literature, the authors define the price as one of the four instruments that enable comprehensive marketing management. In the definition of the price, there are series of interpretations and dilemmas. We can define a price (Kotler, Armstrong, 2004) as the sole component of the marketing net that brings revenue and, thus, opens the space for discussion in two directions: Is it true that only a price makes a profit? The price itself cannot guarantee success. Increasing the price without other measures related to other elements of the marketing will most likely reduce sales and consequently profit. However, sales can be increased by the appropriate positioning of the product by selecting the appropriate marketing channels and, in particular, by targeted market communication. On the other hand, what is actually a price? Does it have a wider definition? A wider aspect of the concept of a price means that in addition to the price level, we also consider other elements like payment terms, the method of payment, and the loan. An even broader concept involves non-monetary inputs needed to purchase a product. If the price is the amount or the transfer of a certain value to be paid by the buyer in order to obtain a certain tender (Solomon, Marshall, Stuart, 2016), then it can be considered as a measuring instrument that denotes the value, as a rule, in cash.

Besides the price of the product, there are many other factors that influence how and what consumers buy. The aim of this paper is to investigate the impact of color with which the price is written on the customer's decision. We were motivated by the color psychology which is widely used in marketing and branding (see also Jabbar, Baldwin, 2010; Puccinelli, Chandrashekaran, Grewal, Suri, 2013; Shin, Westland, Moore, Cheung, 2012). More precisely, colors are all around us and they affect us in everyday life. Colors influence perceptions that are not obvious, such as the taste of food. Colors can also enhance the effectiveness of placebos. Moreover, colors can be used to influence consumers' emotions and perceptions of goods and services. Each color has a different impact. For instance:

BLACK inspires power, class, elegance, grief, and prestige (used by: Johnnie Walker, Chanel, Nike)

GREEN inspires nature, money, balance, energy, and health (used by: Starbucks, Animal Planet, John Deere)

RED inspires**:** passion, anger, danger, energy, and attention (used by: Coca-Cola, Canon, Levi's, Virgin)

BLUE inspires trust, responsibility, security, and friendliness (used by: Facebook, PayPal, Skype, Ford)

In our research we created a 'Price Table' using specific colors to grab the customer's attention. We used four main colors for our price table: black, green, red, and blue. In the next section we presented the empirical part of the research. In the third section we discuss the results. At the end we summarize the obtained information and write some open problems.

EMPIRICAL RESEARCH

Current research was based upon structured questionnaire as one of the most valuable method of collecting a wide range of information from a large number of individuals. The questionnaire was carefully prepared to achieve goals of our research. Moreover, the questionnaire was pre-tested prior to the start of the official implementation on a pilot sample of students of GEA College - to make sure that questions accurately capture the intended information. We use Choice Based Conjoint (CBC) analysis as one of the most frequently used method for pricing decisions. The market simulators that resulted from CBC analysis enable us to test numerous product formulations and competitive scenarios.

The survey was conducted in October 2018. Potential respondents were Slovenian customers. 250 respondents were recruited to participate in the study (the structure of the respondents is shown in Tables 1–3). SSI WEB version 7.0.30 was used to collect data. We analysed the collected data with the statistical program IBM SPSS Statistics 22 and Excel 2013. In the next section we illustrate and discuss the most prominent findings.

Table 1: Gender

		Frequency	Percent	Cumulative Percent
Valid	female	146	58,4	58,4
	male	104	41,6	100,0
	Total	250	100,0	

Source: Own survey.

Table 2: Age

		Frequency	Percent	Cumulative Percent
Valid	To 25 year	2	,8	,8
	More than 25 to 50 yare	86	34,4	35,2
	More than 50 year	162	64,8	100,0
	Total	250	100,0	

Source: Own survey.

Table 3: Monthly Earnings

		Frequency	Percent	Cumulative Percent
Valid	Les than average	101	40,4	40,4
	Approcsimately average	68	27,2	67,6
	More than average	73	29,2	96,8

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A don have incam	8	3,2	100,0
Total	250	100,0	

Source: Own survey.

The survey was based on three attributes:
- brand (four different brands for woman and four different brands for man);
- price (1€, 2€, 3€);
- price color (black, blue, green, red).

Each price was shown in all four above mentioned colors and each respondent answered ten times on the question: *Which product I would choose if I had the choice of displayed options?* In addition to the four options shown in Figure 1, there was also one more possibility of a response: *NONE, I wouldn't choose any of these options*.

Figure 1: Four options
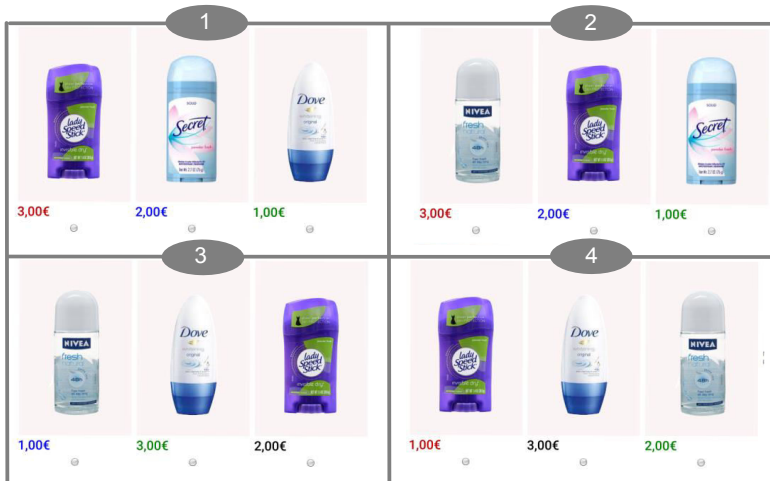
Source: Own survey.

RESULTS

As already mentioned, we firstly used Choice Based Conjoint (CBC) analysis which is used for discrete choice modelling and it is the most popular conjoint-related technique in use today (Orme, 2013). The main characteristic distinguishing choice-based from other types of conjoint analysis is that the respondent expresses preferences by choosing from sets of concepts, rather than by rating or ranking them. In our research a CBC question was referred to as a task. Respondents were shown multiple product concepts (and an optional "None" alternative) and were simply asked which one they would choose. Results for each chosen attribute (brand, color, price) are presented in Tables 4-6.

Table 4: Brand

Brand	BRAND 1	BRAND 2	BRAND 3	BRAND 4
% of respondents*	11%	34%	23%	44%

* Percentage of respondents that chose the brand
Source: Own survey.

Table 5: Color

Brand	BLACK	GREEN	RED	BLUE
% of respondents*	29,98%	27,70%	26,69%	27,28%

* Percentage of respondents that chose the color
Source: Own survey.

Table 6: Price

Brand	1 €	2 €	3 €
% of respondents*	33%	29%	21%

* Percentage of respondents that chose the brand
Source: Own survey.

In the next step we used CBC/HB tool for estimating individual-level results of our CBC experiment. The generally preferred method for analysing CBC data is hierarchical Bayes (HB) estimation which develops individual-level part worth from choice data (Orme, 2000). This improves the accuracy of our simulations.

**Table 7:** CBC Hierarchical Bayes Module

Total Respondents			
	Total		
Total Respondents	250		
Average Utility Values			
Rescaling Method:	Zero-Centered Diffs		
	Total		
Brand 1	-67,10		
Brand 2	19,22		
Brand 3	-10,97		
Brand 4	58,85		
black	1,50		
gren	-0,08		
red	-6,06		
blue	4,64		
price 1€	19,10		
price 2€	9,38		
price 3€	-28,47		
None	-68,39		

Source: Own survey.

According to our results, the most suitable price color is blue followed by black. Less suitable for showing prices are green and red.

Moreover, we also analysed the impact of the three attributes on the product selection: price, brand and price color. The results are showed in Graph 1.

Graph 1: Price, brand and price color
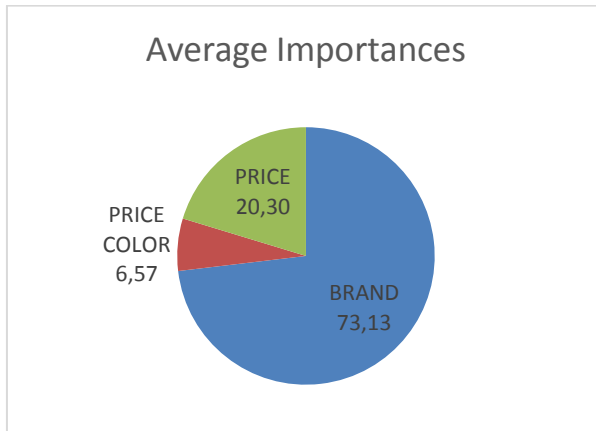
Source: Own survey.

At the end, we created four concepts and compute in market simulator. They all involved Brand 4 and had the price 2€. Results are in Table 8. Most prefers color was blue with 31,79%.

Table 8: Four concept simulation

CONCEPT	BRAND	COLOR OF PRICE	PRICE	SHARE OF PREFERENCE
Concept 1	Brand 4	Black	2€	27,39 %
Concept 2	Brand 4	Red	2€	23,84 %
Concept 3	Brand 4	Green	2€	16,97 %
Concept 4	Brand 4	Blue	2€	31,79 €

Source: Own survey.

DISCUSSION

From the above results, it is obvious that the price color has an impact on the consumer's choice. However, this impact is very small. The greatest impact on the consumer's choice has brand, followed by price. in this research we used price promotions as are presented routinely in store flyers and newspaper inserts. Given growth of the online and mobile media, additional research needs to examine. Moreover, we should also examine the format in which price information in product advertisements is displayed. There are also other open problems, for example, the color effects on different type of products and the detection of color on low and high prices.