Are Colors Influential in Changing the Attitudes and Behaviors of Customers in Their Purchase Decision-Making?

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Abstract

Color is a paramount factor that significantly influences the attractiveness of a product. This study investigates the impact of colors on human perception and their subsequent attraction to different colors, ultimately leading to product purchase decisions. The research methodology involved the collection of data from 406 customers in Saudi Arabia, utilizing a convenience sampling approach coupled with a correlation and causal research design. A survey questionnaire was employed to gather the necessary data, which was subsequently analyzed using PLS-SEM (Partial Least Squares Structural Equation Modeling) software. The findings of the study reveal a positive and statistically significant relationship between various factors and purchasing behavior, including mood regulation (0.048, $p < 0.05$), individual characteristics (0.056, $p < 0.05$), perceived usefulness (0.065, $p < 0.05$), perceived ease-of-use (0.146, $p < 0.05$), instant gratification (0.067, $p < 0.05$), and compatibility (0.567, $p < 0.05$). Therefore, based on these outcomes, it can be concluded that the results derived from color research possess qualities that are media-friendly and provocative, exerting a substantial influence on the audience and effectively stimulating product purchases.

Keywords: attitudes, colors, purchasing behavior, Saudi Arabia

1. Introduction

A great number of studies have been investigating the relationship between the influence of color and the behavior of customers in emerging markets. An important role is played by color psychology to determine the buying behavior of the customer, as well as the growth of firms (Motoki et al., 2019). In the 21st century, majority of the apparel firms have focused on their marketing activities that significantly affect the behaviors and attitudes of customers (Kotler & Armstrong, 2018). The reactions of people toward different colors and their assessment of certain aspects of an object are studied in color psychology (Singh, 2006). As light passes through an object, colors are observed as the atomic structure produces distinct colors. The color of different objects varies as there is variation in atoms from one object to another. One of the previous studies by (Wrigh & Murphy, 2009) reported that there is variation in color interpretation from one market to another because of different external influences.

The overall behavior of customers towards deciding on buying refers to personal preferences, perceptions, beliefs, and objectives. A company needs to understand the buying behavior of customers that includes their opinions towards certain products for surviving in a highly competitive market (Casas & Chinoperekweyi, 2019). Companies would be allowed to learn about emerging trends by tracing the changes in customer attitudes, which would help them in enhancing marketing strategies (Tantanatewin & Inkarojrit, 2018).

There are different activities and processes included in the clothing industry like; clothes, garments, and dresses that utilize the raw materials obtained from the textile industry (Prakash et al., 2019). Raw materials including fur, looms, wool, synthetic fiber, looms, and threads using sewing machines are processed and produced by the textile industry. The activities of clothing industry start with the textile industry, which is then followed by the fashion industry (Casas & Chinoperekweyi, 2019). The main responsibility of the fashion industry is to create the pattern, cut fabric, and sew it for producing unique apparel.

Information about the impact of color psychology on buying behavior of customers and effective marketing strategies is lacking. Companies are likely to lose customers if they produce unattractive apparel products (Kumar, 2017). Therefore, it is believed that buying behavior of customers and revenue growth can be determined based on color psychology. There is a significant influence of celebrity endorsement on consumers in

the contemporary market, despite unattractive products (Wang et al. 2020). Celebrity brands manipulate the majority of the customers; therefore, they do not consider the significant role of color psychology in the development of the market and products (Weinswig, 2016).

Minimal attention has been paid to color research in the marketing field and the effects of various colors on the choices of consumers. Their perceptions have been ignored in the literature although the majority of the product evaluations are based on colors only (Al-Samarraie et al., 2019). Previously, it was identified that color is one of the intrinsic quality cues that are strongly related to the expectations of consumers while shopping (Kareklas et al., 2019). Furthermore, colors have the same dominance as likely as naming products or brands shown on the perceptions of consumers when the color pursues the primary significance for the customers (Ashraf et al., 2019). The importance of color was approximately three times more essential as compared to the retail price to shape purchasing decisions of consumers. An extremely important role is played in packaging color to communicate with customers (Pilelienė & Grigaliūnaitė, 2017).

The interest in a product is aroused by colors and can encourage customers it is purchasing. This interest is developed based on normative color, color preferences, color attractiveness, color significance, and attitude toward color (Waheed & Ahmad, 2018). Color significance indicated that not all colors have the same importance for customers. For example, green seems cool while white is associated with peace. The shopping behavior of customers is predicted by their attitude towards a product's color (Bilgili, et al., 2020). In addition, customers are more potential to remember colored segments of advertisements as compared to non-colored segments. Customers pursue to affect by the external environment or factors in normative color (Zailskaitė-Jakštė et al., 2017). Specific colors will be preferred by customers over others in different products. For instance, a color preferred for automobiles by customers may not be perceived for furniture. Customers' purchasing preferences in an outlet will be predicted through color preferences (Pantano et al., 2017).

There is a need to study the relationship existing between the color psychology of customers and their buying behavior towards different apparel. Therefore, the present study discusses the available literature about these associations, comprehensively. The study mainly focuses on the impact of colors on the psyche of humans and their attraction toward different colors that motivate them for buying a particular product. The role of color in elevating sales has been discussed based on psychological theories used in marketing and branding, and psychological theories on buying behavior of the customers. This is very important to create a significant and positive impact on the development of a strong business reputation.

There is a deviation from the product development strategies and holistic marketing practices as the result of exclusive reliance on celebrity endorsers. Previously, it has been shown that color psychology plays an important role in product development and it is the centre of marketing activities. Emerging businesses are hindered to survive in the highly competitive market because of the increasing influence of celebrity endorsers. This has a significant impact on the indigenous businesses and producers, despite having improved features, as compared to the celebrity-endorsed brands. In a similar context, the present study aims to explore the impact of colors on the buying behavior of customers in the apparel industry. This would help the businesses in the integration of color psychology in marketing, as well as product development roadmaps. The main objectives of this study are as follows;

- Investigating the role of color on the behavior of customers.
- Determining the impact of a product's color on the psyche of customers
- Evaluating the impact of specific colors of apparel on the buying behavior of the customers.
- Assessing the factors affecting companies to choose specific colors for their fashion line.

2. Method

The study design has focused on a positivist philosophical approach to research to ascertain the influence of colors on the attitudes and behaviors of customers in their purchase decision-making. The approach was suitable because it aims to recognize the knowledge and understanding of behaviors based on individuals' experience, reasons, logic, and evidence (Hughes & Sharrock, 2016). However, the study focused on colors and individuals' attitudes and behaviors; therein, the deductive approach and quantitative correlational design have been apposite (Creswell 2002; Flick 2015). A survey strategy was used for the current study as it aimed to gather large-scale sample responses from individuals belonging to local customers in-person at a specific point in time (Gall et al., 1996; Kothari, 2004). To gain a perceptive viewpoint of local customers in their present situation, it was found appropriate to undertake individual units of analysis rather than dyads, groups, or geographical units (Sekaran & Bougie, 2016). Hence, cross-sectional time horizons and individual units of analysis have been employed.

Using a purposive sampling technique, the study collected a total sample of 406 responses from various localities of Saudi Arabia. The survey instrument was distributed and submitted in person with each respondent while focusing on local customers and was taken into serious consideration during the entire course of data collection.

For sample size estimation, (Soper, 2018) online sample size calculator for structural equation modeling. In this regard, the moderate effect size of 0.30 was anticipated while at 90% statistical power and 95% confidence interval, a minimum sample of 210 responses was identified. Therefore, the study distributed 500 questionnaires to the study population, whereas only 406 questionnaires were completed with a response rate of 81.2%, and the remaining 58 questionnaires were not filled accurately or were incomplete.

It is imperative to understand that PLS-SEM application in behavioral sciences based on numerous rationales such as smaller sample size (Hair et al., 2014), exploratory model testing, minimizing error terms and maximizing predictive relevance of endogenous latent constructs (Astrachan, et al., 2014), testing theoretical underpinning concepts rather than confirming theories (Hair et al., 2016), and importantly, assessment of discriminant validity using (Fornell & Larcker,1981) criterion and Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2016; Henseler et al., 2015). Thereby, this research has also employed PLS-SEM including algorithm, bootstrapping, and blindfolding techniques using SmartPLS version 3.2.8.

3. Results

Table 1 shows the result of the pilot study from the population to ensure the internal consistency of the data collection instrument. It has been suggested that the alpha coefficient should be at least 60% as an acceptable threshold for considerable internal consistency (Nunnally, 1978). In the above table, it has been shown that all the variables have a higher alpha coefficient than 60%. Thus, internal consistency has been achieved for all the variables of the study.

Table 1. Reliability test

Variables	No of items	Alpha value
Mood regulation	4	0.713
Individual	4	0.860
Perceived usefulness	6	0.666
Perceived ease of use	6	0.620
Attitude	4	0.864
Gratification	3	0.900
Compatibility	3	0/740

In regards to data screening, the univariate outliers should be checked at Zscore > 3.29 and multivariate outliers should be checked at Mahalanobis Distance (D2) < 0.001 (Tabachnick et al., 2001). In the current study, 10 univariate outliers and 4 multivariate outliers were detected in the entire dataset and after deleting them; the final data have been used for final data analysis. Table 2 shows descriptive statistics about respondents' demographic characteristics including their gender, age group, and monthly income.

Table 2. Respondents demographic

Variable		Frequency	Percent
Gender			
	Male	284	70
	Female	122	30
Age			
	18 to 24 years	185	45.6
	25 to 34 years	142	35
	35 to 44 years	68	16.7
	45 and above	11	2.7

The recommended thresholds for the KMO sampling adequacy measure and Bartlett's test of Sphericity are greater than 70 percent and statistically significant at a 95% confidence interval (Tabachnick et al., 2001). It has been proven evidence that the KMO coefficient was found higher than 70% and the Test of Sphericity was also

found statistically significant. Hence, KMO and Bartlett's tests have manifested appropriate foundations for exploratory factor analysis. Furthermore, in the following table results of exploratory factor analysis using principal component analysis and Varimax rotation has been shown. The following table comprises factor loadings, total variance, and cumulative percentage variance.

The recommended thresholds for appropriate exploratory factor analysis include factor loadings higher than 0.60, total variance higher than 1.00, and cumulative percentage higher than 60%. It has been exhibited that all the items were loaded into their particular components with factor loadings greater than 0.60. Whereas, the total variance was also higher than 1.00 eigenvalue and the total cumulative percentage variance was also found as approximately 74% i.e. higher than the recommended threshold of 60%. Hence, components were developed adequately and statistically acceptable.

Confirmatory Factor Analysis (CFA) is the next step after exploratory factor analysis to determine the factor structure of your dataset. Firstly, construct validity, as part of confirmatory factor analysis, has been estimated and exhibited in the following table. It has been demonstrated in the above table that all the measures have a considerable loading coefficient, greater than 0.60 as recommended by Hair et al. (2014). Hence, the study has achieved construct validity. Secondly, the study has gauged convergent validity to understand the extent of correlation among measures to represent their particular construct. In this concern, the table shows composite reliability and Average Variance Extracted (AVE) for all the variables in the model. Hair et al. (2014) recommended that composite reliability should be at least 70% or higher than 0.70, whereas, the acceptable threshold for average variance extracted was recommended as 50% or greater than 0.50 AVE coefficients. In the above table, composite reliability ranges from 75.4% (Compatibility) to 89.7% (Individual) providing that all the variables have considerable composed internal consistency. Moreover, AVE coefficients were ranging between 0.507 and 0.685, hence, convergences were also found acceptable. Therefore, the study has achieved convergent validity among the study variables. It is important to evaluate model fitness using various Goodness-of-Fit (GoF) indices for both the models i.e. CFA model and the SEM model. The following table shows statistics of each GoF indices that have been shown for CFA and SEM models.

Table 3. Model fit indices

Indices	Threshold	CFA	SEM
CMIN/DF	< 3.00	2.173	2.696
CFI	> 0.90	0.944	0.915
GFI	> 0.80	0.901	0.876
AGFI	> 0.80	0.873	0.849
TLI	> 0.90	0.934	0.904
RMSEA	< 0.08	0.054	0.065

In the above table, various model fit indices have been considered for assessing CFA and SEM models. These indices include Chi-Square (CMIN/DF), Confirmatory Fit Index (CFI), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Tucker-Lewis Index (TLI) and Root Mean Squared Error Approximation (RMSEA). Under these recommendations, the above table has shown that both models have achieved the required thresholds and acceptable considerations for model adequacy. The third and last statistical validity is known as discriminant validity and its results were shown in the following Table 4.

Table 4. Discriminant validity

Variables	Mood Regulation	Individual	Perceived Usefulness	Perceived Ease-of-Use	Attitude	Instant Gratification	Compatibility
Mood Regulation	0.826						
Individual	-0.047	0.828					
Perceived Usefulness	0.035	0.074	0.806				
Perceived Ease-of-Use	-0.037	-0.003	0.529	0.762			

Attitude	0.198	0.117	0.240	0.271	0.762		
Instant Gratification	0.167	-0.012	0.053	0.193	0.157	0.809	
Compatibility	-0.104	0.117	-0.034	-0.113	0.109	-0.359	0.712

The study has gauged the discriminant validity of the recommended methodology of (Fornell & Larcker, 1981). The stated methodology for discriminant validity refers to the squared root of the AVE coefficient for a particular variable that should have a higher estimate than its inter-correlation to other variables of the model. In the above table, all the variables have achieved higher coefficients than their inter-correlation to other variables, hence, the study has achieved discriminant validity.

Henceforth, achieving all the statistical validity estimates in Confirmatory Factor Analysis (CFA) model, the study has finally estimated path coefficients for assessing the relationship among variables. Therefore, Table 5 exhibited the results of path analysis for the current study.

Table 5. Multiple regression analysis

Path	Estimates	S.E.	T-Statistics	Prob.
Mood Regulation	0.048	0.021	3.918	0.000
Individual	0.056	0.022	2.133	0.033
Perceived Usefulness	0.065	0.034	2.607	0.009
Perceived Ease-of-Use	0.146	0.046	3.782	0.000
Instant Gratification	0.067	0.039	2.514	0.012
Compatibility	0.567	0.059	3.151	0.002
R-Square: 0.165				

It has been shown that mood regulation (0.048, p < 0.05) has a positive and statistically significant influence on purchasing behavior. Individual characteristics (0.056, p < 0.05) also have a significantly positive impact on purchasing behavior. Perceived usefulness (0.065, p < 0.05) and perceived ease-of-use (0.146, p < 0.05) have also been found as statistically significant and positively related to purchasing attitude. However, instant gratification (0.067, p < 0.05) and compatibility (0.567, p < 0.05) both have a statistically significant and positive impact on purchasing behavior.

4. Discussion

A very important role is played by color in the decision-making and purchasing of apparel products by customers. The findings have indicated that there is a significant positive association between color usage and with purchasing preferences of consumers whereas a significant weak positive association was identified between time pressures and purchasing preferences of consumers. The moderating effects of time pressure on purchasing preferences of consumer were also validated, which indicate that time pressure was an essential aspect influencing the role of the visual package on purchasing decisions of consumers. Thereby, purchasing preference of a consumer comparatively more relied on the color scheme as compared to on-time limitations.

On the contrary, the association between the color schemes of products and purchasing preferences of consumers was moderately affected by time limitations. It was identified that the majority of the preferences of consumers differ with the color scheme utilized in the product's packaging design (Cunningham, 2017). Consumers were majorly affected by the colorful packaging of attractive products when they were assumed to do shopping instantly under time pressure in markets or shops. The perceptions of consumers about various products were affected by their experiences with the colors utilized in the packaging (Garaus & Halkias, 2020). This preliminary viewpoint confirmed their decision of whether to buy or not the service or product. The study has further indicated the significance of overlooked areas of marketing communication management. Customers had more options as well as less time selecting and purchasing a product with elevating competition (Kim & Choi, 2018).

Color is an essential aspect that influences the purchasing decision process of consumer. It is not a simple procedure when it comes to company branding and product packaging (Ahmed, 2020). Sufficient time is invested by businessman and marketers in order to select colors that reflect the company's values and preferences of the targeted audience. The initiative for doing this is elevated sales, consumer loyalty, and brand

recognition. Branding, consumer awareness, and product packaging all regulate on different psychological aspects (Van Esch et al., 2019). Color has a major role in boosting success. Therefore, it is essential to identify that color trends are not permanent, and can vary over a predefined time period. It is vital to be updated with existing marketing research on color for making the effective decisions for a company (Widjayanti & Pare, 2017).

Neuromarketing is a new idea in marketing, which can have a major effect and role in playing its part to understand consumer behavior in terms of colors. It is recommended that neuromarketing can be boosted in consumer psychology in terms of colors. It is essential to understand that the current empirical and theoretical work is at the promising development phase when reviewing developments in and realizing limitations of the literature on psychological functioning and color. Findings from color research can be media-friendly and provocative, and the audience can be encouraged for reaching conclusions before the area is fully developed. There is a significant promise in research on color and psychological functioning, but significantly additional empirical and theoretical work should be conducted so that the entire level of this promise can be fulfilled and discerned.

5. Conclusion

In conclusion, this study examined the influence of colors on human perception and its impact on product purchase decisions. The results demonstrate that various factors, including mood regulation, individual characteristics, perceived usefulness, perceived ease-of-use, instant gratification, and compatibility, play a positive and statistically significant role in influencing purchasing behavior. These findings highlight the importance of considering color as a strategic element in marketing and product design, as it can significantly influence customer attitudes and behaviors. Moreover, the study reveals that the outcomes of color research possess qualities that are media-friendly and provocative. This implies that leveraging the power of color can have a substantial impact on the audience, effectively stimulating their desire to purchase a product. Overall, this study contributes to the existing body of knowledge by emphasizing the influential role of color in changing customer attitudes and behaviors during their purchase decision-making process. The findings provide valuable insights for marketers and product designers, enabling them to make informed decisions regarding color choices to enhance product attractiveness and optimize consumer engagement. Future research should delve deeper into specific color preferences across different product categories and cultural contexts, further enriching our understanding of the intricate relationship between color and consumer behavior.

5.1 Implications

The implications of this study are significant for various stakeholders, including marketers, product designers, and researchers. Firstly, marketers can benefit from the insights gained regarding the influential role of colors in shaping consumer attitudes and behaviors. By strategically selecting and implementing colors in product design, packaging, and branding, marketers can enhance the attractiveness of their offerings and effectively engage their target audience. Understanding the specific emotions and perceptions associated with different colors can enable marketers to create more impactful advertising campaigns that resonate with consumers on a deeper level. Secondly, product designers can utilize the findings to inform their decision-making process. By incorporating colors that evoke positive emotions and align with the intended product experience, designers can create visually appealing and emotionally engaging products. Moreover, considering the individual characteristics and preferences of the target market concerning color can lead to greater customer satisfaction and increased purchase intention. Thirdly, researchers can build upon this study to delve deeper into the nuances of color preferences and their impact across different product categories and cultural contexts. Exploring how colors interact with other elements of product design, such as shape and texture, can provide a more comprehensive understanding of the holistic sensory experience and its influence on consumer behavior. Additionally, the media-friendly and provocative nature of color research findings suggests the potential for leveraging colors in advertising and communication strategies. Advertisers can employ colors strategically to capture attention, evoke desired emotions, and create memorable brand experiences. This highlights the importance of considering color as a powerful tool for effective storytelling and communication.

5.2 Future Research

Future research can build upon the findings of this study to expand our understanding of the influence of colors on consumer attitudes and behaviors in purchase decision-making. Cross-cultural investigations are essential to determine the generalizability of the findings across different cultural contexts. By examining color preferences and their effects in diverse cultural settings, researchers can identify cultural variations and tailor marketing strategies accordingly. Further exploration within specific product categories would provide deeper insights into

the impact of colors on consumer behavior. Analyzing how color influences decision-making in industries such as fashion, technology, or food can uncover industry-specific patterns and inform targeted marketing approaches. This line of research can contribute to the development of color guidelines and best practices for different product categories. Examining the emotional responses elicited by colors is crucial for understanding their persuasive power. Future studies can employ advanced techniques such as psychophysiological measures and neuroimaging to map emotional responses in real time. This approach can provide a more comprehensive understanding of the underlying cognitive and affective processes through which colors influence consumer behavior. Additionally, investigating the long-term effects of colors on consumer attitudes and behaviors would be valuable. Understanding how color associations and preferences evolve and their impact on brand loyalty and repeat purchases can provide insights into the lasting influence of colors in the consumer decision-making process. Longitudinal studies tracking consumer responses and behaviors over extended periods would be instrumental in this regard.

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