



## THE INFLUENCE OF COLOR ON CONSUMER'S AFFECTIVE SIDE IN COMMERCIAL SPACE: A LITERATURE REVIEW APPROACH

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### Abstract

**Purpose:** This study aims to look at strategies for arousing consumers' affective side. The affective side studied is the desire to enter the room, the desire to shop, and the mood in a commercial space.

**Research methods:** This study uses the library study method. This method uses literature as a source of research answers. The literature obtained will be categorized and analyzed to find valid answers.

**Findings:** We need the right strategy in combining colors to form a space atmosphere that invites and arouses consumer shopping interest. Colors with a combination of blue or green-yellow are suitable for entrances, while cool colors are good for use in spaces. Cool colors will help influence shopping decisions and consumer moods. This combination is crucial in maximizing profits in commercial ventures.

**Implications:** The role of color in a commercial space is significant. Designers must be able to choose colors wisely and flexibly. This choice is because each color has a different role and function in evoking the affective side of consumers.

**Keywords:** space atmosphere, commercial space, consumer behavior, colour.

### INTRODUCTION

Color plays an essential role in everyday life but is ignored. Often color is considered only a part of life that provides visual beauty for humans. Nonetheless, over the decades, many studies on color have investigated its physiological and psychological effects on humans, for example, research by Bellizzi [1], Crowley [2], dan Middelstadt [3]. According to the study, color is psychologically capable of influencing human emotions, such as moods and habits. Furthermore, the relationship between color and retail is because many forms of marketing communications, such as packages, products, advertisements, and store environments, are presented to consumers in color, and the effect of color is very influential in various contexts of consumer behavior [2].

Consumer reactions form through the atmosphere in retail or commercial spaces [4]. The atmosphere can form a positive mood, shopping convenience, and even satisfying communication with retailers [5]–[7]. One of the shapers of the atmosphere is color, which according to research by Crowley [2], explains



that the dominant color can affect consumer reactions. Furthermore, some colors can provide more stimulus to the brain in a psychological and emotional context, which later plays a role in influencing mood, consumer habits in making purchase decisions, the length of time consumers spend shopping, and the feeling of being at home in a commercial space.

Through the explanation above, this research focuses on the role of color in retail interior design. The role in question is the extent to which color can influence consumers' psychological and physiological conditions in a retail space. The phenomenon to be studied is the affective side of consumers towards several things in the commercial space related to psychological conditions influenced by color. For example, the affective side to entering the room, the affective side to the desire to impulse buy, and the affective side to the mood in the room.

## RESEARCH METHODS

This research is a literature study. A literature study is a study whose research object is library data, for example, scientific articles, books, mass media, or trusted web articles [8]. This study uses a literature comparison to answer the research case objectives. The approach used is a descriptive analysis using secondary data. This method uses a synthesis from the literature and research results to answer the questions in this study in a balanced and scientifically justifiable manner.

## FINDINGS

### 1. Color in Interior Design

Color is one of the characteristics of visual perception that can be described by the attributes of hue, brightness, and color density (saturation, chroma) [9]. The eye can capture color because of the reflection of light on an object. Color, in essence, is the result of how an object absorbs or reflects visible light in the color spectrum. Objects the eye sees as red absorb every color except red, which it reflects. White is often described as the reflection of all colors, while black is the absorption of all colors [10, p. 136].

Color is an essential element in design. The uniqueness of color is that it can affect the eyes and brain and stimulate the observer's subconscious response. Color can affect feelings about room temperature, lower blood pressure, raise and lower pulse, affect breathing conditions, and display objects with the impression of being heavy or light, cheap or expensive, and far or near [11]. Selain itu, warna juga mampu memperkuat konsep dan tema yang digunakan dalam perancangan interior [12]. In addition, color can also strengthen the concepts and themes used in interior design [12]. In other cases, color is related to the formation of the character of the interior space from local identities in certain cultures [13], [14].

In interior design, color is one of the most challenging and often debated aspects. This phenomenon is because some aspects of color are subjective and emotive. Some people even have specific colors that remind them of a place and time. A great interior designer can play colors well to create an attractive interior design that captivates its users [10, p. 136].

The combination of colors in interior design also pays attention to the color characteristics of the material. Materials allow complex combinations to form colors and spatial atmospheres [15]. Certain materials are best left as they are, while there are also materials that require coating [10, p. 141]. The designer's sensitivity in determining the material and color according to the needs of the space will form an atmosphere for the objectives of the design. Finally, the atmosphere formed will affect the user's perception.

## 2. The Effect of Color on Human Emotions

Perception of color and emotion is in the realm of experience. At this level, feelings and intuitions are sometimes not based on rational, logical processes [16]. Color is also associated with emotions in terms of semantics and connotations, as well as the relationship between colors and certain emotions in a person [17]–[19].

On the other hand, the colors associated are unique to individuals and affect cultures and between cultures [20], [21]. Butterfield [22] states that color interprets the thoughts that shape the environment in the context of using color in interior spaces. This interpretation is an individual reaction to the color palette. Then, this reaction will lead to the perception of meaning formed in mind.

However, these opinions raise questions about the perception of color associations. Several opinions emerge, but all of them are related to the "memory color effect" theory. This theory is related to Helmholtz's view [23], which states that most images of human perception are closely related to experience and memory. This theory explains that human perception in defining objects is closely related to the color identity embedded in particular constant objects [24]. For example, bananas are yellow, leaves are green, and the sky is blue. These colors are constantly attached to these objects, but the range of possible color variations on similar objects is very relative. The key to embedding this identity is a repetitive experience. Just as emotions are associated with specific events involving color, this theory then developed in the context of psychology centered on the formation of the emotional perception of color.

There is a term for color affection in connection with color and emotion. This affection is associated with emotional stimulation that arises from certain colored stimuli. Affection is connotative and arises from a stimulus to a particular object [25]. However, to understand this relationship, a metaphorical approach is often used. Based on the metaphor theory, linguistic metaphors are commonly used to understand more deeply how we understand the world [26]. Metaphors bring a philosophical and fundamental understanding of the phenomena around humans. For example, white represents good, and black represents evil. This association valence can be seen from the influence of religious values in which there is a duality of good and evil, which is then associated with white and black. This example illustrates that when the meaning of color is drawn in terms of valence, it can be translated metaphorically and connotatively. Although meaning is very relative depending on experience,

culture, and education [27], valence can be directed objectively to find universal meaning.

Research on the effect of color on a person's feelings was also carried out by Wexner [28]; the results showed that the color red is associated with feelings of interest and stimulation; through this research, in general, the color red provides satisfaction as well as high stimulation of brain waves. Furthermore, the blue color is associated with a feeling of comfort and coolness; through this study, the blue color provides satisfaction as well as low stimulation of brain waves. The color orange is associated with disappointment and feelings of depression, so the color is thought to evoke dissatisfaction and has a significant influence on the brain waves. Furthermore, black is associated with strength and power, which is identified with the feeling of dominance.

Based on the description above, color affects the psychological condition of humans because color is related to experiences and memories, which are often connected with emotions. The existence of this condition forms affection in a person when he sees a color; then, an associative response appears to translate that color with certain emotional conditions. Then responsively, the emotions that arise will continue into specific actions or behaviors. However, it should be underlined that the association with color is very independent and relative because it contains a connotative side.

### **3. The Affective Side of Consumers in Commercial Spaces**

#### **a) Affective Side to Entering The Shop**

Entrance is significant because it becomes the face of retail. The entrance is crucial for conveying product and event information in a commercial space [29].

The willingness to enter a room is closely related to the human psychic condition to approach or stay away from an object. This condition is closely related to three things, namely pleasure, passion, and domination [30]. In particular, the passion and dominance in question are closely related to the ability of an entrance or the front of a commercial space to invite buyers to want to enter.

However, in Brengman's research [31, pp. 424–425], the effect of color on inviting or repelling conditions should affect feelings of pleasure and excitement and reduce tension. Thus visitors will be interested in coming and lingering in the room. It was further explained that the colors that can affect the maximum feeling of pleasure are blue and the green-yellow combination. However, if arranged to increase pleasure, the sequence is green-yellow/red/blue-green/purple-blue/green/yellow-red/yellow/blue [31, p. 424].

Meanwhile, increasing the feeling of joy is usually influenced by the intensity of hue x value x saturation and does not have a specific color that has an effect [31, p. 425]. Then, to reduce tension, it is better to maximize colors like blue, green, blue-green, and purple-blue [31, p. 425].

**b) The Affective Side to The Desire to Impulse Buy**

Furthermore, research on the effect of color on retail was conducted by Bellizi and Hite [1], and the results showed that a blue product background tends to make consumers buy more quickly, compared to a red background. This research also found that purple and blue colors are more capable of providing positive affection in arousing consumer purchase intentions than orange and red.

In the same study by Bellizi and Hite, it was found that cooler and cooler colors are more desirable than warm colors in a retail space. So far, the results of research by Bellizi are in line with research by Valdez and Mehrabian regarding the use of colors with short waves to provide comfort. Colors with short waves, such as blue, can reduce a person's emotional level so that when deciding to buy, there will be a greater chance of this occurring. The decrease in emotional consumer levels can calm consumers, making them more careful in choosing and buying products.

Regarding the influence of the atmosphere in the retail space on the shopping intention of visitors, according to research by Donovan et al. [32], things that need to be considered in the retail space are building consumer satisfaction, the ability to arouse consumer desires, and making consumers spend longer. All of this is to lead consumers to make unplanned shopping decisions (impulse buying). The atmosphere of a retail space that can influence consumer decisions in unplanned shopping is the primary goal. The results of Donovan et al.'s research state that the atmosphere of a retail space linearly shapes and leads consumers to spend more time in the retail space.

Even though shopping decisions are still made cognitively, the influence of the atmosphere can increase consumer shopping desires by 21% to 35%. This result is quite significant if utilized in shaping the atmosphere of a retail space that aims to lead consumers to make shopping decisions, whether planned or unplanned. Based on the results of this study, if related to the previous description, some colors with high levels of brightness, high saturation, and short color waves, such as blue and green, can be considered to "soften" consumer emotions, so they spend more extended time shopping. Then indirectly, this will lead consumers to make unplanned purchases and increase retailer profits.

Furthermore, there is research on colors that can make less tension by Gorn et al. [33], who stated the importance of brightness and saturation level in color to give the most significant effect in influencing the psyche. When associated with the previous description, colors with a high brightness level can significantly reduce emotional levels compared to dark colors, which tend to give the impression of aggression, domination, and anger. At this point, it can be assumed that dark colors can be used to give a dominating effect on some product displays. When used correctly, this dark color will increase the perception of the value of an item, as if the item has more value than other items. However, it is necessary to pay attention to the use of dark colors, so they are not dominant and to avoid creating an impression that makes consumers uncomfortable.

However, in several aspects regarding forming a retail space atmosphere, color cannot be separated from other aspects, such as lighting. If a color is combined with soft light in a room, cool and cold colors as the background for a product display will create the perception that the product has prestige and expensive value [1], [5], [34].

Conversely, when a warm color such as orange is combined with bright lighting using fluorescent lamps, it evokes perceptions of cheap goods or discounts in retail space [35], therefore, women's clothing retailers avoid using this color and light combination. This condition is caused because fashion for women is a personal image, so the clothes used ideally have prestige. The dominance of fashionable women will avoid retail spaces with bright colors and light combinations. They tend to look for a retail space atmosphere that can evoke prestige in the fashion products offered by retailers, such as spaces with warm colors and soft light.

In the direct application of color, at least three aspects need to be taken into account, namely color, light, and the price offered. In the research conducted by Babin [35], many things shape perceptions to predict consumers' decision to shop besides the three things above. However, it should be emphasized that the influence of color, light, and price is used to "drive" the consumer's affective side, even though the decision to spend money is made cognitively later. At this stage, an understanding can be drawn that color in a retail space can be used to lead perceptions and form shopping affection. Furthermore, according to research conducted by Crowley [2], blue color and soft light are preferred in building the affective side of consumers in shopping in general, in contrast to orange and bright light, which are more attractive to the affective side of consumers in looking for discounted products or products with low price.

### **c) The Affective Side of Mood in Space**

According to research conducted by Gerard [36]; Jacobs, and Hustmyer [37]; along with Wilson [38], colors that have long color waves, such as red and yellow, are more capable of influencing the psyche than colors with short waves, such as blue and green. Long color waves such as red and orange can affect brain waves to be more active, compared to colors with short color waves such as blue. This condition can be interpreted to reduce emotional levels; colors with short color wavelengths can be used.

Subsequent research by Guilford and Smith [39], said that a color's brighter and lower saturation (value) would cause a pleasant feeling. They were then exemplified by using pink to see the effect on the anxiety caused. The result turned out that pink causes less anxiety and tension than red. Similar studies have previously been conducted by Wright and Rainwater [40], as well as Weller and Livingstone [41], the results of which prove that the level of brightness (value) and color saturation (chroma) can evoke different emotions. Based on the description above, high brightness and low saturation colors can release tension and anxiety.



In line with the description above, in the study of Valdez and Mehrabian [42] through a sample of 250 people, several results were obtained; namely 1) The brighter and more saturated a color, the more pleasant it will be; it was further explained that the brightness level of color plays a more prominent role than its saturation level in influencing the psyche, 2) Colors with low brightness and high color saturation can arouse passion or evocative feelings, 3) High levels of color brightness and saturation create the impression of strength and dominance. A high level of color brightness creates a bold and powerful impression, while a high saturation creates an impression of domination and vigor.

This result also determines that the brightness level has a more robust result than the color saturation level. Furthermore, Valdez and Mehrabian tested these results on different genders between men and women. Through this test, it was found that the three results above did not affect gender differences. The explanation above shows that the level of brightness and color saturation can affect the feeling of being pleasant, arousing, and giving the impression of strength and dominance.

## CONCLUSION

Color selection in commercial space needs attention. The choice of color by the designer should be conditional and flexible. This condition can happen because both hot and cool colors have different functions in influencing consumer affection. Cool and hot color combinations can generate passion in inviting consumers. Meanwhile, it is better to use cool colors to influence shopping decisions and moods to stay longer in space.

## REFERENCES

- [1] J. A. Bellizzi and R. E. Hite, 'Environmental color, consumer feelings, and purchase likelihood', *Psychol. Mark.*, vol. 9, no. 5, pp. 347–363, 1992.
- [2] A. E. Crowley, 'The two-dimensional impact of color on shopping', *Mark. Lett.*, vol. 4, no. 1, pp. 59–69, Jan. 1993, doi: 10.1007/BF00994188.
- [3] S. E. Middlestadt, 'The Effect of Background and Ambient Color on Product Attitudes and Beliefs', *ACR North Am. Adv.*, vol. NA-17, 1990, Accessed: Nov. 21, 2022. [Online]. Available: <https://www.acrwebsite.org/volumes/7028/volumes/v17/NA-17/full>
- [4] P. Kotler, 'Atmospherics as a marketing tool', *J. Retail.*, vol. 49, no. 4, pp. 48–64, 1973.
- [5] J. Baker, D. Grewal, and A. Parasuraman, 'The Influence of Store Environment on Quality Inferences and Store Image', *J. Acad. Mark. Sci.*, vol. 22, no. 4, pp. 328–339, Sep. 1994, doi: 10.1177/0092070394224002.
- [6] W. R. Darden and B. J. Babin, 'Exploring the concept of affective quality: Expanding the concept of retail personality', *J. Bus. Res.*, vol. 29, no. 2, pp. 101–109, Feb. 1994, doi: 10.1016/0148-2963(94)90014-0.
- [7] E. R. Spangenberg, A. E. Crowley, and P. W. Henderson, 'Improving the Store Environment: Do Olfactory Cues Affect Evaluations and Behaviors?', *J. Mark.*, vol. 60, no. 2, pp. 67–80, Apr. 1996, doi: 10.1177/002224299606000205.
- [8] D. R. Buana, 'Analisis Perilaku Masyarakat Indonesia dalam Menghadapi Pandemi Virus Corona (Covid-19) dan Kiat Menjaga Kesejahteraan Jiwa',

- SALAM J. Sos. Dan Budaya Syar-I*, vol. 7, no. 1, Art. no. 1, Mar. 2020, doi: 10.15408/sjsbs.v7i3.15082.
- [9] A. J. Elliot, M. D. Fairchild, and A. Franklin, *Handbook of Color Psychology*. Cambridge University Press, 2015.
- [10] M. Love and C. Grimley, *Color, Space, and Style: All the Details Interior Designers Need to Know but Can Never Find*. Rockport Publishers, 2007.
- [11] S. Bleicher, *Contemporary Color: Theory and Use*, 2nd Edition. Cengage Learning, 2012.
- [12] I. K. D. M. Putra, N. K. R. Primadewi, N. L. P. D. W. Astiti, N. P. D. Sujianti, and I. P. U. Wasista, 'APLIKASI KONSEP MANGA JEPANG PADA DESAIN INTERIOR SUSHI TSUKI', *J. Vastukara J. Desain Inter. Budaya Dan Lingkungan. Terbangun*, vol. 2, no. 2, Art. no. 2, Aug. 2022.
- [13] N. K. R. Primadewi, N. M. L. S. Wirasa, and I. P. U. Wasista, 'THE BEAUTY OF TABANAN AS AN INSPIRATION FOR INTERIOR DESIGN AESTHETIC ELEMENTS', *J. Aesthet. Des. Art Manag.*, vol. 2, no. 1, Art. no. 1, Apr. 2022.
- [14] I. W. B. Ika and P. A. Darmastuti, 'THE AESTHETICS OF KORI KUWADI', *J. Aesthet. Des. Art Manag.*, vol. 2, no. 1, Art. no. 1, Apr. 2022.
- [15] N. L. K. R. Kerdiati, 'UNDERSTANDING WOOD FINISHING USING THE JAPANESE WOOD BURNING TECHNIQUE (SHOU SUGI BAN) IN ARCHITECTURE', *J. Aesthet. Des. Art Manag.*, vol. 1, no. 1, Art. no. 1, Oct. 2021.
- [16] S. Epstein, 'Integration of the cognitive and the psychodynamic unconscious.', *Am. Psychol.*, vol. 49, no. 8, pp. 709–724, 1994, doi: 10.1037/0003-066X.49.8.709.
- [17] R. D'Andrade and M. Egan, 'the colors of emotion', *Am. Ethnol.*, vol. 1, no. 1, pp. 49–63, Feb. 1974, doi: 10.1525/ae.1974.1.1.02a00030.
- [18] N. Kaya and H. H. Epps, 'Relationship between color and emotion: A study of college students', *Coll. Stud. J.*, vol. 38, no. 3, pp. 396–405, 2004.
- [19] P. J. Lang, 'A Bio-Informational Theory of Emotional Imagery', *Psychophysiology*, vol. 16, no. 6, pp. 495–512, Nov. 1979, doi: 10.1111/j.1469-8986.1979.tb01511.x.
- [20] F. M. Adams and C. E. Osgood, 'A Cross-Cultural Study of the Affective Meanings of Color', *J. Cross-Cult. Psychol.*, vol. 4, no. 2, pp. 135–156, Jun. 1973, doi: 10.1177/002202217300400201.
- [21] S. E. Palmer, 'Color, consciousness, and the isomorphism constraint', *Behav. Brain Sci.*, vol. 22, no. 6, pp. 923–943, Dec. 1999, doi: 10.1017/S0140525X99002216.
- [22] L. M. Butterfield, 'Contemporary Danish Fiber Art: The Interpretation of Meaning.', Unpublished Doctoral Dissertation, University of Minnesota, St. Paul, MN, Minnesota, 1990.
- [23] H. von Helmholtz, *Treatise on Physiological Optics*. Courier Corporation, 2013.
- [24] B. S. Herring and M. P. Bryden, 'Memory colour effects as a function of viewing time.', *Can. J. Psychol. Rev. Can. Psychol.*, vol. 24, no. 2, pp. 127–132, Apr. 1970, doi: 10.1037/h0082840.
- [25] L.-C. Ou, M. R. Luo, A. Woodcock, and A. Wright, 'A study of colour emotion and colour preference. Part I: Colour emotions for single colours', *Color Res. Appl.*, vol. 29, no. 3, pp. 232–240, Jun. 2004, doi: 10.1002/col.20010.



- [26] G. Lakoff and M. Johnson, *Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought*. Basic Books, 1999.
- [27] D. T. Sharpe, *The psychology of color and design*. Oxford, England: Nelson-Hall, 1974, pp. xiii, 170.
- [28] L. B. Wexner, 'The degree to which colors (hues) are associated with mood-tones', *J. Appl. Psychol.*, vol. 38, pp. 432–435, 1954, doi: 10.1037/h0062181.
- [29] L. Mesher, *Basics Interior Design 01: Retail Design*. Ava Publishing, 2010.
- [30] G. R. Foxall, 'The behavioural perspective model: Consensibility and consensuality', *Eur. J. Mark.*, vol. 33, no. 5/6, pp. 570–597, Jan. 1999, doi: 10.1108/03090569910262143.
- [31] M. Brengman, 'The impact of colour in the store environment: An environmental psychology approach', PhD Thesis, Ghent University, 2002.
- [32] R. J. Donovan, J. R. Rossiter, G. Marcoolyn, and A. Nesdale, 'Store atmosphere and purchasing behavior', *J. Retail.*, vol. 70, no. 3, pp. 283–294, Sep. 1994, doi: 10.1016/0022-4359(94)90037-X.
- [33] G. J. Gorn, A. Chattopadhyay, J. Sengupta, and S. Tripathi, 'Waiting for the web: how screen color affects time perception', *J. Mark. Res.*, vol. 41, no. 2, pp. 215–225, 2004.
- [34] A. E. Schlosser, 'Applying the Functional Theory of Attitudes to Understanding the Influence of Store Atmosphere on Store Inferences', *J. Consum. Psychol.*, vol. 7, no. 4, pp. 345–369, 1998, doi: 10.1207/s15327663jcp0704\_03.
- [35] B. J. Babin, D. M. Hardesty, and T. A. Suter, 'Color and shopping intentions: The intervening effect of price fairness and perceived affect', *J. Bus. Res.*, vol. 56, no. 7, pp. 541–551, 2003.
- [36] R. M. Gerard, 'Differential effects of colored lights on psychophysiological functions', PhD Thesis, University of California, Los Angeles., 1958.
- [37] K. W. Jacobs and F. E. Hustmyer Jr, 'Effects of four psychological primary colors on GSR, heart rate and respiration rate', *Percept. Mot. Skills*, vol. 38, no. 3, pp. 763–766, 1974.
- [38] G. D. Wilson, 'Arousal properties of red versus green.', *Percept. Mot. Skills*, 1966.
- [39] J. P. Guilford, 'The affective value of color as a function of hue, tint, and chroma', *J. Exp. Psychol.*, vol. 17, pp. 342–370, 1934, doi: 10.1037/h0071517.
- [40] B. Wright and L. Rainwater, 'The meanings of color', *J. Gen. Psychol.*, vol. 67, no. 1, pp. 89–99, 1962.
- [41] L. Weller and R. Livingston, 'Effect of color of questionnaire on emotional responses', *J. Gen. Psychol.*, vol. 115, no. 4, pp. 433–440, 1988.
- [42] P. Valdez and A. Mehrabian, 'Effects of color on emotions', *J. Exp. Psychol. Gen.*, vol. 123, pp. 394–409, 1994, doi: 10.1037/0096-3445.123.4.394.