

## The Role of Color in the Attainment of Customers' Intensive Buying Intention: An Exploratory Descriptive Case Study (S.O.R Model Application)

Saleh AYAD<sup>1</sup>, Redouan AINOUS<sup>2</sup>, and Samir Baha-Eddine MALIKI<sup>3</sup>

<sup>1</sup>Doctor, Mecas Laboratory, Algeria

<sup>2</sup>Ph.D. candidate, Mecas Laboratory, Algeria

<sup>3</sup>Professor, Mecas laboratory, Algeria

---

Copyright © 2016 ISSR Journals. This is an open access article distributed under the *Creative Commons Attribution License*, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**ABSTRACT:** This research work studied the influence of colors in groceries, as an atmospheric variable, on the customer's impulsive intention of buying. In the literature review, the researcher introduced the theoretical and methodological bases responding to this problematic situation. An experiment made in the laboratory where 200 participants had visited a virtual grocery with four different color conditions (red, yellow, blue and green). They answered a questionnaire about the variables of this study. The results appeared that colors influence the customer's impulsive intention of buying either directly or through effect as the intermediary.

**KEYWORDS:** Colors, Impulsive Intention of Buying, Impulsion, effect.

**JEL CODES:** M31, M39.

### INTRODUCTION

That is more than two-thirds of purchase decisions made in the store (Breneman, 2002). The 'place' where a product is bought or consumed is, according to (Kotler, 1973), one of the most significant features of the 'total product'. Today, in the face of competitors who propose aggressive prices, many retailers are trying to stand out by conceiving stimulating atmospheres, which meant to result in customers experiencing some specific affective states, which might increase the probability of purchase as well as their satisfaction.

(Kotler, 1973) introduced the term 'atmospherics' to describe « the conscious designing of space to create specific effects in buyers ». He further defines it by stating that it is an effort to design buying environments to produce certain emotional effects in the consumer that enhance the probability of purchasing. He identified 'atmospherics' as a highly relevant marketing instrument for retailers and argued that 'spatial aesthetics' should be consciously used by marketing planners. (Bitner, 1990) confirms that atmospheric planning can make the difference between a business success and failure.

The accumulated empirical evidence, as reviewed by (Turley and Milliman, 2000), clearly shows that shoppers can be induced to behave in certain ways, based on the atmosphere created by retail management. Out of 28 articles examining the effect of the atmosphere on sales, cited in their review, 25 found some significant relationship between the environment and customer purchasing behavior. The review presented by Turley and Milliman indicates that atmospheric variables influence a wide variety of consumer evaluations and behaviors. The visual dimension is particularly important for our subject as pertains to the impact of variables such as sight. In this case, color has evident importance (Pelet, 2010). This study suggests that color serves largely to clarify and inform the consumer; therefore, the sound is not a focus of this research. Indeed, 80% of the information memorized by an individual comes from the visual sense, and other forms of perception of the environment also

heavily influenced by sight (Mattelart, 1996). This study investigates the behavioral effects of one visual dimension of retail store atmospheres retail display color. The works related to one variable of the sensational environment of the shop are rare, some researchers studied many variables of that environment at once (Ben Mimoun, 2007; Ettis, 2008) but this does not allow to understand the influence of each variable separately. Consequently, this research will focus on one variable, which is 'color', and the following research question will be considered:

**What is the role of color in the attainment of the customers' impulsive buying intention?**

## **LITERATURE REVIEW**

Over the years, many studies have conducted concerning the psychological effect of color. Fewer studies have reported with regard to marketing implications. Although many atmospheric variables have been extensively examined, (Turley and Milliman, 2000) draw, in their suggestions for further research with regard to atmospheric effects on shopping behavior, the attention to store interior color, which has not received the attention it probably deserves (Bregman, 2002). Although it has demonstrated that environmental color can actually influence the emotions and behaviors of retail shoppers (Bellizzi et al., 1983; Middlestadt, 1990; Bellizzi and Hite, 1992; Crowley, 1993), it is still unclear how exactly affects approach behavior color.

Indeed, color stimuli have not specified according to a standard color system, but only vague verbal descriptions have reported. For exact specification, colors should be described with respect to three different color characteristics (Trouvé, 1999):

- Hue (or chromatic tonality) is the attribute of the visual sensation defined according to the colors denominations such as blue, green, red...
- Saturation provides the proportion of chromatically pure color contained in the total sensation.
- Brightness corresponds to the component according to a surface illuminated by a source that seems to emit more or less light.

Although the color variable is a widely researched topic in various fields (Divard and Urien, 2001). However, due to several methodological caveats much of this general research on color and effect has also noted to be weak (Gelineau, 1981; Beach et al., 1988; Valdez, 1993). (Beach et al, 1988), point out that studying colors in isolation (e.g. color samples) provide us with little information, other than how a subject at that moment rates a given color on a given scale. They also argue that colors need to be studied in context. With regard to the "effects" of colors in the environment, actually, the literature seems to contain mostly anecdotal evidence, revealing a severe lack of systematic empirical research.

The study, presented here, aims to fill this gap in an extensive stream of research concerning the impact of store atmospherics on the consumer. As research on the impact of color in the store environment is scarce and methodologically flawed, it is our challenge to assess the impact of this store design element more thoroughly. It is our purpose to examine the effects of store color hue on the customers' impulsive buying intention either directly or indirectly through affection as an intermediary.

## **THE THEORETICAL MODEL AND RESEARCH HYPOTHESES**

Research on store atmospherics is based predominantly on environmental psychology and specifically on the Stimulus-Organism-Response model (Mehrabian and Russell, 1974), as introduced to the study of store atmosphere by (Donovan and Rossiter, 1982). In this context, it has proposed that approach/avoidance behaviors of customers determined largely by individual internal (cognitive, emotional and physiological) responses to the store environment (Bitner, 1992).

Based on the Stimulus-Organism-Response (S-O-R) Paradigm (Mehrabian and Russell, 1974) we will suggest this follows in thus propose a model of environmental psychological behavior relating features of the environment (S) to approach-avoidance behaviors within the environment (R), mediated by the individual's emotional states (O) induced by the environment. Colors affect consumer behavior in compliance with Mehrabian and Russell's psycho-environmental model: environmental stimuli (colors hue) engender primary emotional responses, which as intervening variables; determine reactions to that environment (impulsive buying intention). (Present in figure 1). Even within colors themselves, Bellizzi and Hite (1992), Dunn (1992), Druegon Lichtlé (1996), and Pantin-Sohier (2004) chose hue as the main variable.

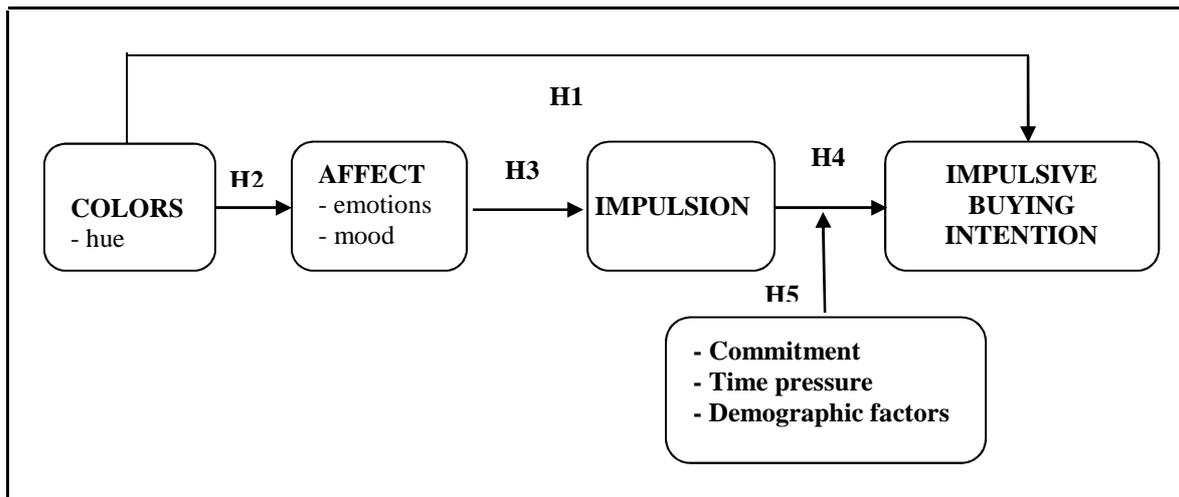


Figure 1: The conceptual model

Source: elaborate by authors

#### IMPULSIVE BUYING INTENTION

Researchers in marketing have shown the ambient store color affects purchase-related variables (Lee and Rao, 2010). A number of studies have examined the effect of color on a range of different behaviors, such as food choice...; most of these studies are methodologically flawed and unsystematic with regard to the selection and specification of color stimuli used. Nevertheless, they provide some evidence on actual color behavior effects. Indeed, the color appears to have the ability of the physical attract consumers toward a retail display (Bellizzi, Crowley, and Hasty, 1983). (Roll's, 1985) findings suggest that color is an important variable in food selection. Research on the influence of color in the store environment demonstrates that color also appears to influence shoppers' attitudes and behavior (Bellizzi, Crowley, and Hasty, 1983; Middlestadt, 1990; Bellizzi and Hite, 1992; Crowley, 1993). Color has strong associative meaning, it can communicate quickly, and it can elicit a powerful subconscious response (Paul and Okan, 2010). Finally, color can also affect behavior directly. (Brenngman, 2002) In this research, we will examine the impact of color within the food shop on purchase intent for impulsive customers.

The intention is activating by a desire or a need (Darpy, 1997) and desire is viewing as an active process (O'Shaughnessy, 1992). Howard (1994) and Belk (1985) "Intention results from a desire or a need handled at the cognitive level and leading to purchase clarification".

Additionally, the tendency to make the impulse purchase (impulsion) is interposing by situational influences as well as the shopper's past experiences (Rook and Fisher, 1995). Impulse buying is tying closely to reflexes or responses stemming from external or environmental stimuli as well as internal stimuli (Young and Faber, 2000). The action or reaction to stimuli is processing effectively. Based on the previous research, the investigator has put forward the following hypotheses:

**H1:** colors have a direct positive effect on the impulsive buying intention

#### EFFECT OF A MEDIATING VARIABLES

Another aspect we wish to bring to the fore concerns the effects of colors on the affective response, which includes the emotions and moods experienced when visiting the retail store. Emotions are short-lived but extremely intense. Their cause is often apparent and their cognitive content is obvious (joy, sadness, anger, fear, disgust) (Pelet, 2010). Their most obvious features are brevity and intensity. Mood refers to the affective states of mindless likely to reach our conscience. Moreover, they last longer than emotions, but are less intense (Forgeas, 1999). Based on this review of the literature, early studies with regard to color-emotion associations focused almost solely on the dimension of hue (Beach et al., 1988; Valdez and Mehrabian, 1994, Roullet, 2004). Bellizzi et al. (1983) found that warm colors (red in particular) appeared to score high on an activity factor of emotion. Hemphill (1996) asserts that: "few studies have focused on color-emotion associations". According Crowley (1993), it have a positive relationship between store color wavelength and store-induced arousal (emotion) with the stores with extreme long wavelength colors (red) expected to be judged more arousing than the stores with extremely short wavelength colors (blue). According Odom and Sholtz (2004), different colors tend to incur different moods. Color can have a

major impact on mood (Bregman, 2002). (Pelet, 2010), the researcher found out that the color positively influences the mood. Based on the previous research, the investigator has put forward the following hypotheses:

**H2:** *colors have a positive effect on the effect.*

Based on this review of the literature, early studies with regard the importance on the effect of effect on impulse buying. Browsing activity, mediated by affective state, has shown to relate to impulsive buying tendencies of mall shoppers (Beatty and Ferrell, 1989; Rook and Gardner, 1993; Young, 2000). The increased occurrence of impulse buying due to the consumer's desire to either change or prolongs a mood or emotional state has been evidenced in the findings of other researchers as well (Rook, 1987; Rook and Gardener, 1993). For some Shoppers, the mood may be the most important psychological consideration leading o impulse buying (Dittmar et al., 1996). In an observational study, (Weinberg and Gottwald, 1982) found that impulse buyers exhibited a greater feeling of amusement, delight, enthusiasm, and joy. (Donovan and Rossiter, 1982) found that the pleasure was positively associated with a likelihood of overspending in the shopping environment. Based on the previous research, the investigator has put forward the following hypotheses:

**H3:** *Affect has a positive effect on the impulsion.*

#### **IMPULSIVE BUYING**

Impulse purchases are akin to unplanned purchasing behaviors. Impulse buying behavior is a sudden, compelling, hedonic complex buying behavior in which the rapidity of an impulse decision process precludes thoughtful and deliberate consideration of alternative information and choices (Bayley and Nancarrow, 1998). Rook (1987) defined impulse buying as when "a consumer experiences a sudden, often powerful and persistent urge to buy something immediately". Impulse buying is a sudden and immediate purchase with no pre-shopping intentions either to buy the specific product category or to fulfill a specific buying task. The behavior occurs after experiencing an urge to buy and it tends to be spontaneous and without a lot of reflection (it is "impulsive") (Beatty and Ferrell, 1998). Impulsive buying intention or impulse buying tendency (IBT), addresses the differential proclivity of individual to buy on impulse (Rook, 1987; Rook and Fisher 1995; Weun, Jones and Beatty, 1998), which was defined by (Gerbing & al, 1987) as "a tendency to respond quickly to a given stimulus, without deliberation and evaluation of consequence". Again, we note the literature does not distinguish the action and the urge. Based on the previous research, the investigator has put forward the following hypotheses:

**H4:** *impulsion has a positive effect on impulsive buying intention.*

#### **COMMITMENT WEAK, TIME PRESSURE AND DEMOGRAPHIC FACTORS AS ALTERNATIVE VARIABLES:**

##### **COMMITMENT WEAK AS ALTERNATIVE VARIABLE**

Furthermore, the weak commitment: there has been a great disagreement among researchers in finding a unified definition to commitment due to its existence in various domains and to the different aims of each researcher. However, there is somehow a general definition used in recent research stating that "commitment is a non-determined state of excitement or motivation or interest created by external variables (circumstance, product, communication...) and also by internal ones, this generates specific behaviors, some forms of product searching, information processing and decision making" (Rothschild, 1984). As opposed to the permanent commitment (strong), there is the weak commitment (circumstantial) which is considering as a temporary customer's course towards the product (Ouzaka, 2001). It is evoked by two main factors, the specific characteristics of the product (color, shape, price...) and the socio-psychological connection between buying and consuming the product (the presence of people besides the customer)

**H5.1:** *Weak commitment has a mutually adjusted effect on impulsive buying intention.*

##### **TIME PRESSURE AS ALTERNATIVE VARIABLE**

Finally yet importantly, Time pressure: customers give paramount importance of time and they prefer any system or service that economizer their time (Marmo-Rstein-Fiche, 1992; pellet, 2008). Colors supposedly also make people lose track of time (Argue, 1991). The passage of time has observed to be overestimate in a room painted with warm colors and underestimated in a cool-colored room (Bregman, 2002). The phase that leads from buying impulsion to the action of buying impulsion itself may take time (Giraud, 2002). In addition, Antebian (2002) stated that time is very important to the

customer and her measures it. In the same context, Park et al (1989) finds out that time pressure effects the customer is buying, and Giraud (2002) found the same result.

**H5.2:** *Time pressure has a mutually adjusted effect on impulsive buying intention.*

#### **DEMOGRAPHIC FACTORS AS ALTERNATIVE VARIABLES:**

Differences between shoppers are of great interest to an industry that is actively seeking methods by which they can better target consumers. As such, gender poses a timely avenue of investigation. In an exploratory study with regard to color in interior environments, (Khouw, 1999a, b) found reinforcing evidence that color responses are influenced by gender differences. Men found to rate interiors with highly saturated colors more favorable than women did. (Valdez and Mehrabian, 1994) found no significant difference in the emotional reactions of men and women. Additionally, it has arguing that women, because of their propensity to shop more than men in general, more impulsive purchases (Dittmar et al., 1996; Rook and Hoch, 1985). (Moschis, 1987) indicates that with increasing age, consumers are less sensitive to external stimuli such as light and colors. Their information-processing abilities appear to decline in general. D'Astous (2000), for instance, found the degree of perceived irritation in the shopping environment to be affect by shoppers' age. However, recent research shows that men aged 18-34 shop considerably more than older men every retail channel (Marks, 2002), and that men aged 16-24 are more openly shopping for health and beauty aids than in past years (Global cosmetic industry, 2002), possibly indicating a future trend towards less stereotypical shopping behavior.

**H5.3:** *Demographic factors have a mutually adjusted effect on impulsive buying intention.*

### **RESEARCH METHODOLOGY**

#### **DATA COLLECTION AND EXPERIMENT DESIGN**

A lab experiment was conducting with 200 participants in order to test the proposed hypotheses. A virtual grocery specially was designing for the experiment in the lab. The researcher chose this method because of many points: reduction of prices, which increase impulsive buying hypothesis, the interaction between colors and the attention of customers. All these factors increase the affected side of customers rather than the cognitive side. Each respondent visited the virtual grocery with a specific calorific condition that randomly was selecting among the four colorful screens prepared for the experiment, explained in the next section. A balanced distribution of the colorful screens among all respondents was ensuring. Later, the respondents were asking to complete a questionnaire with questions about impulsive buying intention, mood state, affect, commitment and time pressure. In addition, Demographic data were collecting. Valid responses are 200, were using for the analysis, with each colorful condition being visited by 50 respondents.

The literature with regard to the effects of colors in the environment, is replete with anecdotal evidence, rather than based on the systematic investigation. While there is no shortage of suggestions, they often lack empirical verification (Gorn et al., 1997). The research used the experiment in the lab in order to check the validity of the hypotheses since this allow him to control and manipulate the variables that he aims to explain. Carrying out this experiment under laboratory conditions allows us to draw valid conclusions about the groups surveyed (Jolibert and Jourdan, 2006). Studying color as the main expository variable allows the researcher to control three points (Pelet, 2008):

- The control of the screen show, and the celebration of colors in order to control them carefully.
- Checking whether the participants have got a good color perception, and checking their good intention in proceeding the experiment
- The dominant color of the virtual grocery and the lighting of the environment can be controlling this allows the researcher to put the participants in the context he wants. Hence, the results will have more credibility and emulation to reality.

Many researchers, selected color stimuli that they felt best-represented particular hues, such as red, green, yellow or blue. (Bregman, 2002). Some studies have chosen multiple colors over the complete color spectrum while others have used colors from the two ends of the spectral range (Lee and Rao, 2010). For instance, (Bellizzi, Crowley and Hasty, 1983) have shown that subjects are more attracted to warm colors (e.g., yellow and red) than to cooler colors (e.g., blue and green). (Valdez and Mehrabian, 1994) used red, yellow, green, blue and purple. In contrast, other studies chose colors from distant locations in the spectral range, i.e., a "cool" color such as blue or green is comparing to a "warm" color as orange or red. For example, (Nakshian, 1964) examined the behavior in the green or red surroundings, and (Gorn et al, 2004) compared responses to blue and yellow in one experiment and to blue and red in another. Four colorful conditions have experimented

with four different groups in a virtual grocery using a show screen; each group contains fifty participants randomly chosen. Based on the previous research in this field the researcher chose four main colors:

- 'Red' a warm color with a long wavelength.
- 'Yellow' a warm color with an average wavelength.
- 'Blue' and 'green' cold colors with a shorter wavelength.

#### **SCALE MEASUREMENT**

##### **EMOTION**

Mehrabian and Russel (1974) confirm that all affection responses can be described by three dimensions: 'Arousal' which reflects the amount of interest and motivation of the person, 'Pleasure' which reflects joy and happiness of the person, and 'dominance' which is related to the ability or inability to control self under the influence of motives or environment. In order to measure emotions related to color in this research, the researcher will use the PAD measure (Pleasure, Arousal, Dominance) because it is the most commonly used in this type of research and it is the top measure in terms of sincerity and stability (Roullet, 2004; Pellet, 2008).

##### **MOOD**

Emotions related to colors are recognized either positively or negatively depending on the personal experience of the individual with the color (Boyatzy and Varghese, 1993), and the variety of colors lead to different moods between individuals (Odom-Sholtz, 2004), so the various emotions resulting from the influence of colors will be due to the different mood (Pellet, 2008). In order to measure the influence of color on customers' mood, the researcher will use the BMIS measure (Brief Mood Introspection Scale) developed by (Mayer and Gaschke, 1988), the "Brief Mood Introspection Scale". We selected it because it provides a quite exhaustive range of moods and is easy to implement.

##### **IMPULSION**

The researcher will use the measure framed by Jeon and Piron (1990, cited in Sermet, 1999) which is based on four items.

##### **COMMITMENT**

The 'P.I.A' measure (Strazzieri, 1994) used to measure customers' commitment. This measure has got three components: 'Pertinence' which shows the degree of correspondence between the customer and the product, 'Interest' which means the intensity of the relationship between the person and the subsistent under commitment, 'Attraction' which refers to the degree of emotional intensity of the person with the product. This measure had a good internal conjunction and a high degree of stability.

##### **TIME PRESSURE**

The researcher will use the measure of (Beatty and Ferrell, 1998) in order to measure time pressure on the customers.

#### **FINDINGS: HYPOTHESES TESTING**

We follow both the General Linear Model (GLM) to test the effect of the colors of the show screen on mood and impulsive buying intention and variance analysis (ANOVA) to analyze empirical data to test the significance of the links between variables and the validity of the scales.

##### **THE DIRECT RELATIONSHIP BETWEEN COLOR AND IMPULSIVE BUYING INTENTION**

The results of the linear model showed that the color of the grocery had a direct weak effect on the impulsive buying intention with a declension equation of :( $Y = 2.657 + 0.121X$ )

The results of ANOVA revealed a moral influence of color on impulsive buying intention because the value (P) was 0.01, which is less than the critical value of the level 5%. Hence, the hypothesis is valid (see Table 1).

**Table 1. Effect of Color on Impulsive Buying Intention**

Measure	Df	F	P-value
Regression	1	11.025	0.01
Residual	198		
Total	199		

Source: software SPSS v 22, (N= 200)

#### EFFECT OF AFFECT AS INTERMEDIARY

The GLM results confirmed that the color of the grocery has a direct influence on affect with a declension equation ( $Y = 2.657 + 0.121X$ ). The ANOVA results showed the morale influence of the four colors on the emotion, because the value (P) was limited at (0.01). In addition, ANOVA results showed the morale influence of the four colors on the mood since the value (P) was limited at (0.01). Thus, the hypothesis of color influence on the affect is valid.

As explained before in the theoretical part, we summarized the affect into two variables (emotion and mood). The linear model results showed the positive moral influence of emotion and mood on the rise of customers' impulsive buying with two declension equations as follow: ( $Y = 2.700 + 0.417X$ ) and ( $Y = 1.246 + 0.563X$ ). Furthermore, ANOVA results revealed the mutual moral influence of emotion and mood (affect) on the rise of impulsion, because the value (P) was 0.02, which is less than the critical value on the level 5%. Thus, the hypothesis is valid (see Table 2).

**Table 2. Effect of affect as Intermediary**

Effect of the color affect			
Measure	Df	F	P-value
Regression	3	3.99	0.00
Residual	196		
Total	199		
The influence of effect on impulsion			
Emotion	46	2.423	0.00
Mood	18	3.644	0.00
Emotion*Mood	40	2.059	0.02

Source: software SPSS v 22, (N= 200)

#### EFFECT OF IMPULSION ON IMPULSIVE BUYING INTENTION

The linear model results found out the existence of a massive moral influence between impulsion and buying intention with a declension equation of: ( $Y = 4.112 + 0.652X$ ).

The more impulsion is tense, the more there is an increasing probability of impulsive buying and so the hypothesis is valid (see Table.3).

**Table 3. Effect of Impulsion on Impulsive Buying Intention**

Measure	Df	F	P-value
Regression	1	5.63	0.00
Residual	198	-	-
Total	199	-	-

Source: software SPSS v 22, (N= 200)

#### EFFECT OF ALTERNATIVE VARIABLES

In order to study the alternative variables, the researcher accounted for the approach put forward by (Darpy, Pellet, 2008,p:340) in studying the influence of the alternative variable 'Z' on the relationship between the variables X and Y which reflects:

- X influencing Y.
- Z influencing Y.
- The mutual influence of X and Z on Y.

• **THE WEAK COMMITMENT AS ALTERNATIVE VARIABLE**

The results confirmed that the weak commitment influenced directly the impulsive buying intention because the value (P) was 0.00, which is less than the critical value on the level 5%. However, as being alternative variable, the weak commitment did not influence the relationship between the impulsion and the impulsive buying intention because the value (P) was 0.86, which is more than the critical value on the level 5%. Thus, the hypothesis is not valid.

**Table 4. The weak commitment as alternative variable**

Variables	Df	F	P-value
Impulsion	82	1.860	0.00
Weak commitment	34	1.710	0.00
Impulsion* Weak commitment	20	1.650	0.86

Source: software SPSS v 22, (N= 200)

• **TIME PRESSURE AS ALTERNATIVE VARIABLE**

The ANOVA results revealed that time pressure influence the relationship between impulsion and impulsive buying intention because the value (P) was 0.02 which is less than the critical value on the level 5%, so the hypothesis is valid (see Table 5).

**Table 5. The Time pressure as alternative variable**

Variables	Df	F	P-value
Impulsion	12	1.18	0.00
Time pressure	22	1.96	0.00
Impulsion* Time pressure	54	1.30	0.02

Source: software SPSS v 22, (N= 200)

• **DEMOGRAPHIC FACTORS AS ALTERNATIVE VARIABLES**

The data showed that there is no influence of gender or family status on the relationship between impulsion and impulsive buying intention because the value (P) was 0.18, which is more than the critical value on the level 5%. Hence, the hypothesis is not valid (see Table 6).

**Table 6. The Demographic Factors as Alternative Variable**

Variables	Df	F	P-value
Impulsion	12	0.666	0.78
Demographic factors	2	0.24	0.43
Impulsion* Demographic factors	0	-	0.18

Source: software SPSS v 22, (N= 200)

**CONCLUSIONS**

This research work aimed at studying the possibility of the existence of a causal relationship between the interior color environments of shops and customers' impulsive buying intention. Previous results showed the influence of warm colors in the provocation of customers' behavior more than the cold colors (Bellizzi and Hite, 1992). Besides that, the researcher took into consideration one intermediary variable, which is 'affection' with both its compositions 'emotion and mood'. The

adjusted variables in the research were the weak commitment towards products, time pressure, and individual demographic factors. This research results showed that:

- The influence of color directly on the impulsive buying intention, especially warm colors (red). This means that the wavelength has an effective role in provoking customers, similar to the previous results (Crowley, 1993; Rouillet, 2004).
- The influence of a variable of the affection as an intermediary between the expositor variable, the rise of impulsion and customers' impulsive buying intention. This result is similar to the ones of Giraud (2002) and Bessouh (2012).
- The direct influence between impulsion and impulsive buying intention.
- The weak commitment towards products in the shop under color influence, affect directly the impulsive buying intention and it not considered as a modifier variable in the standing relationship between impulsion and impulsive buying intention. This result was in opposition to the one of Pelet (2008) who confirmed that the commitment is a modifier variable.
- Time pressure considered as a modifier variable for the effect of impulsion on impulsive buying intention.
- Demographic variables (gender) have no direct influence, not even a modifier between impulsion and impulsive buying intention, as opposed to Rouillet (2004) who confirmed that women more influenced by the emotions resulting from the effect of color on their buying behaviors.

Despite the important results reached in this study, there were some constraints and limitations such as:

- The principle of making the experiment based on calorific motive inside a lab: This cannot allow the respondents to live the experience as in the real environment even if they respond well in the lab.
- The nature of the motive used : the researcher took into consideration three factors to color, but 'hue' is the only factor that has been manipulated while 'brightness' was limited to 80% and 'saturation' was limited to 40%. This might decrease the effect of the colorific variable on the other subordinate variables (affect, impulsive buying intention), so it recommended that 'brightness' and 'saturation' should be manipulated in the future experiments.
- The interaction between colors themselves neglected, each colorific condition has experimented separately. Hence, the mutual effect between colors in the shop and their impact on customers' behavior should study
- In this study, the color was considered as the only expositor variable affecting customers' behavior, this doesn't deny the existence of other variables which were neglected in this research such as 'the crowd, music, the influence of salespersons,
- Limitations due to the methods themselves :
  - Some measures lead to confusion when the suggested oppositions are not clear. For instance, PAD proposes to oppose the terms "bored" and "relaxed", which are not bipolar.
  - We cannot rule out the presence of negative effects simply because of the presence of positive affective states. One might wonder how relevant it is to use a single continuum opposing positive and negative effects.

## REFERENCES

- [1] D'Astous, A. (2000). 'Irritating Aspects of the Shopping Environment'. *Journal of Business Research*, vol. 49, pp. 149-156.
- [2] Divard, R., & Urien, B. (2001), 'The Consumer Lives in a Colored World', *Recherche et Applications en Marketing*, pp.3-24.
- [3] Brengman. M., (2002), 'the Impact of Color in the Store Environment: An Environmental Psychology Approach', Ph.D. Thesis, Faculty of Economics and Business Administration, Universities Gent, p 5, 6, 211-219.
- [4] Lee, S., & Rao, V.S. (2010), 'Color and Store Choice in Electronic Commerce', *Journal of Electronic Commerce Research*, Vol11, N° 2, pp.110-124
- [5] Marks, J. (2002), 'More than a few good men', *Home Textiles Today*, Vol. 23 No. 35, p 12.
- [6] Odom, A. S., & Sholtz, S. S. (2004), 'the reds, whites, and blues of emotion: examining color hue effects on mood tones', department of psychology'. Missouri Western State University, Copyright 2004 MWSC.
- [7] Park, C.W., Iyer, E.S., & Smith, D.C. (1989), 'the effects of situational factors on in-store grocery shopping behavior: the role of store environment and time available for shopping', *Journal of Consumer Research*, 15, March, pp. 422-433.
- [8] Paul, S., & Okan, A. (2010), 'Color: Cross cultural marketing perspectives as to what governs our response to it', ASBBS Annual Conference: Las Vegas, Volume 17 Number 1, p 950-954.
- [9] Pelet, J.E. (2008), 'Effets de la couleur des sites sur la mémorisation et sur l'intention d'achat de l'internaute', PhD, Thèse de doctorat, Université de Nantes, CRGNA. pp. 328-330.
- [10] Pelet, J.E. (2009), 'The effect of colors of e-commerce websites on mood, memorization and buying intention', *Proceedings of the 4th Mediterranean Conference on Information Systems*, p. 2.
- [11] Pelet, Jean-Eric. (2010), 'The Influence of E-commerce Website Colors on Usability', ISG Paris, IEMN Nantes, France.
- [12] Roullet, B. (2004), 'L'Influence de la couleur en Marketing. Vers une neuropsychologie du consommateur', PhD, Thèse de doctorat en Sciences de Gestion, Université de Rennes I.
- [13] Turley, L. W., & Milliman, R. E. (2000). 'Atmospheric Effects on Shopping Behavior: A Review of the Experimental Evidence'. *Journal of Business Research*, vol. 49, pp.193-211.