

The Effect of Information Signs and Laout Position of Print Advertisement on Purchase Behavior - Moderating Effect of Brand Awareness and Price Rang

El efecto de los letreros de información y la posición del diseño de la publicidad impresa en el comportamiento de compra: efecto moderador del conocimiento de la marca y el rango de precios

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Abstract: The purpose of this research is to discover the consumers' buying behavior influence of information symbols in print advertisements, and also added the brand awareness and price range of the products as the interference, and to find out whether to increase or decrease the information symbols and page layout on purchasing behavior influence. A 3C electrical appliance retail channel in Taiwan has been applied as the research object, concentrating on the advertisement DM during the four promotions in 2013 and the sales volume. There were 1,196 product information and 136 3C electrical appliance brands. According to the variance analysis, the results indicated: First, some information symbols included the positive and negative effects on purchasing behavior; Second, overall, the interference effects only influenced low to medium brand awareness and low price range. In sum, the research generated both theoretical and practical implications and also provided future research advice.

Keywords: DM; Information Signs; Layout Position; Purchase Behavior; Brand Awareness; Price Range.

Resumen: el propósito de esta investigación fue descubrir la influencia del comportamiento de compra de los consumidores de los símbolos de información en los anuncios impresos, y también agregó el conocimiento de la marca y el rango de precios de los productos como la interferencia, para averiguar si aumentar o disminuir la información, así como ver la influencia de los símbolos y el diseño de la página sobre el comportamiento de compra. Se ha aplicado un canal minorista de electrodomésticos 3C en Taiwán como objeto de investigación, concentrándose en el DM publicitario durante las cuatro promociones en 2013 y el volumen de ventas. Según el análisis de varianza, los resultados indicaron: Primero, algunos símbolos de información incluían los efectos positivos y negativos sobre el comportamiento de compra; En segundo lugar, en general, los efectos de interferencia solo influyeron en el conocimiento de la marca de bajo a medio y en el rango de precios bajo. En resumen, la investigación generó implicaciones tanto teóricas como prácticas y también brindó asesoramiento para futuras investigaciones.

Palabras clave: DM; Señales de información; Posición de diseño; Comportamiento de compra; Conocimiento de la marca; Rango de precios.

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Suggested Citation (APA, 7th edition)

Neng Wang, N., Pei Chao, H., & Xiao, Y. (2021). The Effect of Information Signs and Layout Position of Print Advertisement on Purchase Behavior - Moderating Effect of Brand Awareness and Price Rang. *Espergesia*, 8(2), 52–61.
<https://doi.org/10.18050/rev.espergesia.v8i2.855>



1. Introduction

Some scholars believe that exploring the relationship between advertising and sales is more difficult than finding a needle in a haystack (Aaker & Carman, 1982). Past studies have suggested that more than 70% of print advertising DMs are considered useful or interesting, and only nearly 30% are considered garbage (Rogers, 1989). Studies have also pointed out that even if a small number of consumers hold negative beliefs about print advertising DM, most of them are still quite positive about it and will buy goods because of this (Korgaonkar, et al., 1997). However, even if print advertising DM is one of the largest corporate advertising expenditures, many studies are focused on advertising, and there is less research on print advertising DM, so it has received less attention (Rogers, 1989. Korgaonkar, et al., 1997). In the 21st century today, with the development of the Internet and the development of many new advertising media, some scholars believe that this phenomenon will affect the space of traditional advertising media, including the print advertising DM discussed in this study. However, Addison (1999) pointed out that the future marketing trend should be towards integrated development, with the user's habits cutting in, and the Internet will not easily replace the traditional media.

What kind of print advertisement is DM effective? This research believes the consumer information processing procedure of the print advertisement DM, if failed to catch consumers' attention, explanation, and memory, will not affect consumers' purchasing behavior for increasing the sales volume. In the attention phase, since the reading order that humans are accustomed to is Z-shaped (Arnold, 1969), there will be no follow-up behavior if consumers are not paid attention. As for explanation and memory, we must start with the composition of print ads. Print ads are composed of information symbols and cultural symbols. Among them, information symbols also contain text and images (Komi Hoshino, 1988). However, Mitchell & Olson (1981) proposed that advertising can increase persuasiveness if graphic interactions. Houston, et al. (1987) also believe that graphic and text interaction can increase consumers' memory of advertisements and may also affect the memory of content due to the expected psychology.

Therefore, this research will focus on the print advertisement DM information symbol of the 3C retail channel to determine whether it will affect consumers' purchasing behavior. It sorts other print advertisement DM information—the product brand awareness and the price range, and analysis whether this information will affect the information symbol influence. Change Not only consumers' purchasing behavior but also change the sales volume.

2.Literature review

2.1Consumer buying behavior

2.1.1 Purchase decision process: The purchase decision process model has five stages: problem confirmation, information collection, program evaluation, purchase decision, and post-purchase behavior (Luce, et al, 2001. James, et al, 1994. Howard)

2.1.2 Information processing process: When advertising stimulates the consumer's visual nerve, exposure occurs. When the visual nerve transmits the perception to the brain and processes it, it produces attention. The definition of perception is interpretation. Memory is the short-term use or long-term retention of perceptions when consumers make decisions (Hawkins, et al, 2001).

2.2 Symbolic behavior of humans

2.2.1 Definition of semiotics

German cultural philosopher Ernst Cassirer (1874-1945) believed: "Man is a symbolic animal." Charles S. Peirce (1839-1914), the father of American semiotics, also proposed: "All human thoughts Experience is a symbolic activity." Symbols are the product of human society, and only humans can use symbols. De Saussure (2011), the father of modern linguistics, first defined semiotics as "a science that studies the role of signs in social life."

2.2.2 Signs and meaning

Charles S. Peirce, the father of American semiotics, believes that to humans, signs represent something or an object under a certain situation or condition. The symbol created by someone can be called the interpretive meaning of the original symbol, and the thing or thing represented by this symbol is the referent (J.J. Zeman, 1978).

2.2.3 The transmission of symbols

Visual information is generated by the perception code of visual perception (Hall 1980; Nichols 1981; Eco 1982; Fiske 1989). In the system of language and culture, the repeated behaviors of various codes are interrelated (Danesi 1994: 18; Danesi 1999: 29). Code is the mechanism for implementing symbols (Jacobson 1971; Eco 1976; Hoffmeyer and Emmeche 1991). They interconnected the various signs (Chandler 1994).

2.3 The meaning of classified information symbols and their influence on purchasing behavior

2.3.1 A symbol that conveys a sense of discount- price, specials, door number project price will move crazy price, lower right diagonal, down arrow

According to past research, consumers will be affected by the reference price (Winer, 1986. Raman, 2002). Emery (1969). However, Dickson & Sawyer (1990) believes that consumers will unintentionally obtain price information, which will then develop into consumers' internal reference prices. The external reference price is the retailer's selling price, the manufacturer's price, and the competitor's selling price of a commodity, and the external reference price will affect the internal reference price (Della, at el, 1981. Kalwani, at el, 1990).

Based on the above research results, this research establishes the following hypotheses:

H1a: In the print advertisement DM, the information symbol conveying a sense of discount has a positive effect on the purchase behavior.

2.3.2 A symbol that conveys a sense of trust-warranty

Olson & Jacoby (1972) research has pointed out that consumers believe that warranty can guarantee the quality and value of the product. Armstrong, et al (1975) also pointed out that the warranty can specifically increase consumer trust in the product. Many studies have also shown that warranty can reduce consumers' perceived risk (Perry & Perry, 1976. Priest, 1981. Ross, 1975. Shimp & Bearden, 1982). In addition, studies have also pointed out that warranty can affect consumers' perception of product quality and purchase intention and then affect purchase behavior (Kelley, 1988. Lehmann & Ostlund, 1972. Olson & Jacoby, 1972. Weiner, 1985).

Based on the above research results, this research establishes the following hypotheses:

H1b: In the print advertisement DM, the information symbol that conveys a sense of trust has a positive effect on the purchase behavior.

2.3.3 Symbols that convey a sense of added value-gifts

Research has pointed out that not only the promotion of gifts will reduce the value of the gifts themselves, but also the value of major commodities (Kamins et al., 2009). However, many studies believe that the attractiveness of gifts, the amount of information, and whether the gifts themselves meet the needs of consumers will affect purchase behavior (Simonson, et al, 1994. Raghurir, 2004. DelVecchio, 2007. Chandon, et al, 2000).

Based on the above research results, this research establishes the following hypotheses:

H1c: In the print advertising DM, information symbols that convey a sense of added value have a positive impact on buying behavior.

2.3.4 Layout position of print ad DM

Humans have certain visual habits when reading. The visual movement habits of Li Lingxiao's (1994) Western typesetting prints are in the following order: (1) Eyes are more accustomed to moving to the upper left after leaving the starting point. (2) Move clockwise. (3) I am more accustomed to moving horizontally. (4) The direction of visual movement is generally from left to right and top to bottom. Therefore, according to the above sequence, the layout position value is deduced into four quadrants, namely upper left, upper right, lower left, and lower right. According to this order, they are assigned to quadrants one to four, and their visual emphasis will be in sequence with quadrants one to four. The shift towards. At the same time, this result is consistent with the reading order of horizontal typesetting proposed by Arnold (1969).

Based on the above research results, this research will establish the following hypotheses:

H2: In the print advertisement DM, the layout position of the information symbol has a positive effect on the purchase behavior.

2.4 Disturbing variable-brand awareness

2.4.1 The positive and negative narratives and buying behavior of framing effect

In the study of Levin, et al (1998), the framing effect is defined as the same problem but described from a different and objective perspective, which makes decision makers attracted by different perspectives and produce different responses. Based on many studies, it can be found that Kahneman & Tversky (1979) proposed Valence Framing Effects as the theoretical background of the framing effect, and its meaning is interpreted as using positive and negative information to describe the same thing.

2.4.2 The impact of brand awareness on buying behavior

Laurent, et al (1995) believe that brand awareness is a measure of how prominent a brand name is in the minds of consumers. Michael & Marks (1991) believes that consumers are more willing to buy brands they are familiar with. When consumers make purchase decisions, facing products with higher brand awareness, in addition to being more reminiscent, they will also have higher trust in them and increase their willingness to buy (Keller, 1993). Based on the above, this research establishes the following hypotheses:

H3a: As brand awareness increases, the influence of DM information symbols in print ads on buying behavior will be enhanced.

H3b: As brand awareness decreases, the influence of DM information symbols in print ads on buying behavior will be weakened.

2.4.3 The positive and negative impact of brand awareness on the product

Keller (2002) believes that brands can convey product attributes, functionality or emotional benefits to consumers, and high brand awareness will cause consumers to have a halo effect on products. Therefore, high brand awareness is easier for consumers to have a positive impact on products (Malhotra, 1993). Based on the above, this research establishes the following hypotheses:

H4a: With the increase of brand awareness, the influence of the layout position of the information symbol on the purchase behavior will be enhanced.

H4b: With the decrease of brand awareness, the influence of the position of the information symbol on the purchase behavior will be weakened.

2.5 Disturbance variable-price range

2.5.1. Examination of the definition of possibility theory (ELM)

The Elaboration Likelihood Model is defined as the theory of the process by which humans process persuasive information. It includes two paths: The Central Route, and the other is the Peripheral Route (Petty & Cacioppo, 1986). According to the Possibilities Model, the central path is that when consumers have high abilities and motivations, they will carefully consider all aspects of the message and analyze it in depth before deciding whether to change their attitude towards something. In contrast, the border path is the consumer When their ability and motivation are low, they will satisfy their current cognition, and will not consume thoughts to analyze the content of the message, and they will be more easily persuaded (Petty, 1995. Petty & Wegener, 1999).

2.5.2. The difference between the definition of involvement and the effect of purchase

The level of the price range of commodities will affect consumers' perception of financial risks, which in turn affects the degree of commodity involvement (Blackwell, et al, 1994). When faced with high-involvement products, they will enter the central path model, and make decisions after careful consideration based on all information content (Petty, et al, 1983); when consumers are faced with low-involved products At that time, it will enter the border path mode without spending too much thought on the message (Krugman, 1966). In summary, establish the following hypothesis:

H5a: When the price range is higher, the influence of the DM information symbol in the print advertisement on the purchasing behavior will be weakened.

H5b: When the price range is lower, the influence of the DM information symbol in the print advertisement on buying the purchasing behavior will be enhanced.

H6a: When the price range level is higher, the layout position influence of the information symbol on the purchase behavior will be weakened.

H6b: When the price range level is lower, the layout position influence of the information symbol on the purchase behavior will be strengthened.

3. Materials and Methods

The Taiwan 3C retail channel has been adopted as the research data. In 2013, the print advertisement DM sales volume and corresponding products in four times promotional activities had 1196 products and 136 brands.

3.1 Information symbol of print advertisement DM

The research data is collected from the 3C retail channel print advertisement DM and its annual promotional activities sales volume. The print advertisement DM information symbol conveys discount information separate from a comparison method and a mark symbol next to the price in this research data. The price comparison method is especially disassembled into four items: market price, special price, membership price, and project price. Disassemble the mark symbol next to the price into two items: the lower right slash and the down arrow; the information symbol conveys the trust applied to the wrench picture and the phrase of a 2-year warranty. The information symbol of value is applied to the gift picture and the phrase of exclusive gifts. Also, use Excel to sort the information symbols mark in each product. Label 1 if there is a mark; label 0 if there is no mark.

3.2 Layout position of print advertisement DM

This research refers to Ling Xiao Lee (1994) 's literature and deduces the page position value into a Z-shaped area based on the human visual movement habits when reading Western-type printings. The research divides all the product grids in the print advertisement DM into nine blocks, and then divides the position of each product grid by the Z-shaped area, and gives the position score according to the visual order, from one to seven Z-shaped areas are obvious area, location score eight is a not obvious area (Figure 1). Therefore, this research set the obvious area as 1 and the not obvious area as 0.

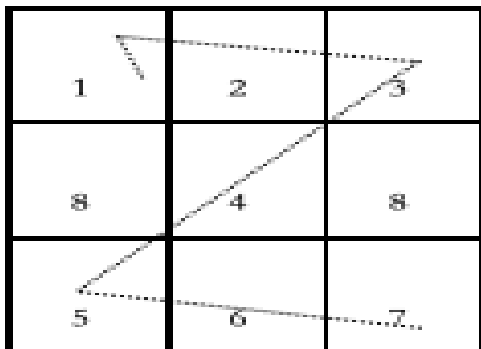


Figure 1. Z-shaped area

3.3. Purchase behavior

Assessment: This research sorts all the products and their corresponding sales volume in the four promotional print advertisements DM in a year and uses the sales volume as the buying behavior measurement.

3.4 brand awareness

Assessment: This research summarizes the 1196 products of research data, and there are 136 brands. Randomly selected six white-collar office workers between the ages 30-35 according to their subjective judgment in high, medium, and low levels. And then classified by the following rules of the judgment results.

3.5 Price range

Assessment: This research aggregates the prices of 1196 commodities, and the lowest to the highest price range is 79 to 89900 Taiwan dollars. Subsequently applied, the SPSS quintile statistic for dividing to five levels (Table 3-3), level one is 1 to 1290 Taiwan dollar; level two is 1291 to 3188 Taiwan dollar; level three is 3189 to 9990 Taiwan dollar; level four is 9991 to 18900 yuan Taiwan dollar; level five is 18901 to 40900 yuan Taiwan dollar, and the missing value is 0.

4. Results and Discussion

4.1 Independent sample t test

Since there are only two sets of sample data for the independent variable in this research, the t-test is adopted to verify H1a, H1b, H1c, and H2 and confirm whether the independent variable affects the dependent variable. In the independent sample t-test, if the p-value less than 0.05, means reached a significant level and also meant a significant impact. The independent-sample t-test result table of this research fills in the t value according to the above method (Annex 1). According to the research result, the discount sense—market price ($t=-5.907$, $p=0.000$), the discount sense—door number project price ($t=8.378$, $p=0.000$), the discount sense—will attract crazy prices ($t=-4.961$, $p=0.000$), the added value sense—good gifts ($t=5.285$, $p=0.000$), reaching a significant level; hence the market price, door number project price, crazy price, and good gift will all affect the purchasing behavior. In addition, after comparing the average result of a variable with significant effect, this research recognizes the variable with a positive impact on buying purchasing behavior are market price, which will attract crazy price, which means information symbol marked with the market prices will increase sales; in contrast, the negative variable affect is the project items and gifts, briefly speaking, marking the project item price or the gift information symbol on the print advertisement DM will reduce the sales volume. Since the interference variable sample data in this research is larger than the two groups, the variance analysis was used to test the interference variable effect brand awareness and price range on the independent and dependent variable respectively, to verify H3, H4, H5, and H6.

4.2 Interference variable—the interference effect of brand awareness on independent and dependent variable

According to the interference variable analysis through the variance analysis in this research, the research result on brand awareness showed (Annex 2), the discount sense—the lower right slash ($F=4.769$, $p=0.009$), the discount sense—the downward arrow ($F=4.664$, $p=0.010$), the trust sense—warranty ($F=4.664$, $p=0.023$) has reached a significant level, indicating a significant impact, which means in the above variable, brand awareness has an interference-effect. The research hypothesis compares the interference variable—the independent variable average (without information symbol/with information symbol) under the brand awareness condition. When the independent variable (not included) with the low brand awareness average is higher than the independent variable (included) with the low brand awareness average; the independent variable (not included) with the high brand awareness average has a significant interference effect than the independent

variable (included) with the low brand awareness average. In order to understand the interference effect in each brand awareness level specifically, this research compares the variable average with interference effect in brand awareness, and the result showed all of the variables with significant interference effect mentioned above are in the middle and low brand awareness. In contrast, high brand awareness has no obvious effect. Therefore, the research indicates the higher brand awareness will not interfere with the print advertisement DM information symbol on purchasing behavior influence, and the lower brand awareness will indeed weaken the print advertisement DM information symbol on purchasing behavior influence.

4.3 Interference variable—the interference effect of the price range on the independent variable and the dependent variable

According to this research, the analysis result of the interference variable-price range through the variance analysis showed (Annex 3), the discount sense — will attract crazy price (F=19.968, p=0.000), the discount sense — the backslash (F=3.477, p=0.008) down arrow (F=3.639, p=0.006), added value-good gift (F=4.841, p=0.001) all reached a significant level, generally speaking, in the above variable, the price range has interference-effect. According to the research hypothesis, compare the interference variable—the independent variable average (information symbol not included vs. information symbol included/ non-obtrusive area vs. eye-catching area) under the price range condition. When the independent variable (not included) and the average price range level (cheaper) is lower than the independent variable (included) and the average price range level is low (cheap); the independent variable (not included) and the high price range level (expensive) average is higher than the independent variable (included) and the average of the price range level (expensive), it has a significant interference-effect. In order to understand each level interference effect of the price range specifically, this research compares the variable average with interference effect in the price range and found according to all of the variables with interference effect mentioned above. They are all in the low price range (Levels one and two) with significant interference-effect. However, in the high price range, there is less significant interference. Therefore, this research indicates when the price range is higher, it will not interfere with the print advertisement DM information symbol on purchasing behavior influence. When the price range is lower, it will weaken the print advertisement DM information symbol effect on purchasing behavior influences. The results of the study are as follows (Figure 2).

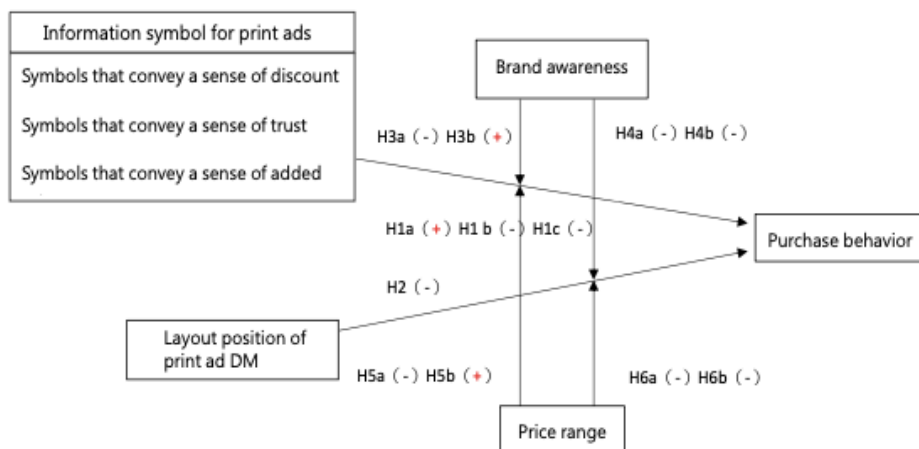


Figure 2. Research structure results

5. Conclusions

5.1 Re-allocate the information symbol of the print advertisement DM.

The research results have a deep understanding of the consumers' purchasing behavior in this 3C retail channel and provide future print advertising DM design strategies, which can be developed in the following directions: Continue to use the positive results symbols, but there is no need to without increase the using frequency; and recommended to stop using the no effect information symbols temporarily or replace them with other information symbols. Afterward, the print advertisement DM visual effect will be clearer instead of messy and focus on more effective information symbols.

5.2. Review the promotional activities

Inferred from the research result, the conditional promotion discount activities have a negative impact on consumers. In other words, when consumers see this promotion, they will reduce the purchasing possibility. The research has shown that normally, the gift promotion activities have a negative impact, but the low price has a positive impact on sales. Therefore, the research suggests it recheck the conditional promotion activities' value or replace by other promotions. In addition, the gift promotion should focus on low-price products.

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