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Affective Marketing

Basic Model for Memory Retention of Advertising Content i...
Outdoor advertising, Nodate Kanban, Memory retention, Mod...

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Basic Model for Memory Retention of Advertising Content in Outdoor Advertising

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Abstract: The production of signboard advertisements with high advertising effectiveness has been achieved with some craftsmanship. The authors have consistently studied advertising effects on signboards in order to optimize the advertising effects of signboard advertisements. In this paper, we focused on modeling the memory retention structure among the advertising effects. This shows that it is possible to design billboard advertisements according to each purpose. Our final goal is to develop a model that can be used in practice.

Keywords: *Outdoor advertising, Nodate Kanban, Memory retention, Modeling of Kanban*

1. INTRODUCTION

There are a wide variety of advertising methods for companies (including stores) to provide their information to consumers. Recently, listing advertisements and WEB advertisements represented by SNS have become widespread. On the other hand, it is important to note that there is data that focuses on the advertising effect of outdoor advertising, which is real advertising.

According to the Nikkei Restaurant Editorial Department's "Motivation for Visiting Restaurants" the following interesting results were obtained [1]. That is, "at the recommendation of an acquaintance" = 60%, "because he / she passed by accident (look at the shop or shop sign)" = 40%. This may exceed the advertising effectiveness of the Nikkei Restaurant Editor's survey: "Word of mouth" = 36%, "Food and beverage search site" = 36%, "Flyer" = 14%, "TV" "= 13%," Magazine "= 11%," Newspaper "= 3%. Not only restaurants, but also visits to dental clinics [2] showed that 41.7% of the patients visited the hospital after seeing a clinic or signboard. In addition, it is 39.9% in "funeral company[3]". As can be seen from these, the effect of the signboard is high. In fact, there have been some cases in which new customers were attracted by 20% to 25% without any other promotional activities such as flyers just by changing the signboard design [4] [5].

As described above, regardless of the type of business, although outdoor advertising has a high advertising effect, there are few studies focusing on the advertising effect. At present, the means of optimizing the advertising effectiveness of signage in business is left to the Kansei/affection of craftsmen.

In order to maximize corporate profits, it is important to structure the advertising effect of signage advertising using an engineering approach.

2. ADVERTIZING EFFECT OF SIGNBORD

Based on previous studies on advertising effects from the hierarchy model" and "Nishina model", it can be seen that the advertising effect is separated into three elements: "memory retention", "favorability", and "motivation to purchase" [6]. Previous research on the current advertising effectiveness mainly investigates the following contents. In other words, it is a study of the effects of "design", "content", and "consumer attributes" on the existing advertisements on the "memory retention", "favorability", and "purchase motivation" of consumers.

These are mainly mentioned for TV commercials and posters to watch indoors. The authors focused on memory retention as the advertising effect of signboard advertisements (especially billboard signboards), and studied the reproduction and recognition of advertisement character strings in order to measure the advertising effect of general signboard advertisements.

According to the results, it was shown that the number of notice boards, the design of the signboards (series and color of characters), and the familiarity with character strings affect memory retention [7].

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In this paper, we aim to propose an initial model of the memory retention of a grass signboard based on the correlation between each element obtained by multiple regression analysis and the memory retention

3. INITIAL MODEL OF MEMORY RERENTION OF FIELD SRTANDING SIGNBOARD

3-1. Weber-Fechner's law

What kind of signboard structure will be used for `` signboard design '', `` number of signboards installed '', and `` intimacy with signboard contents '' to reach memory formation? Wimber et al.'S results show that whether or not a stimulus remains in memory is important in suppressing memory against other stimuli (active forgetting of other memories) [8]. The observer constantly selects and forgets information among the corporate information included in the signboard advertisement and various information that can be seen during "passing" (for example, information other than advertisements such as traffic information). In order to keep it in the observer's memory, it must first pass through a qualifying session in which there are many information options.

Therefore, it can be assumed that the difference from other information stimuli is detected, and the stimuli that are easily consciously or reflexively found by the observer are connected to the memory. We used Weber-Fechner's law to consider the ability to detect this difference in that there is an exponential (logarithmic) relationship between human sensation and physical stimuli.

Weber-Fechner's law shows that for a certain physical stimulus intensity φ(hue / brightness / saturation of color, size of characters, number of times signboards are seen, etc.) felt by a person, the "minimum stimulus intensity difference $\Delta\varphi$ that can be felt by a person" and the "ratio of stimulus intensity φ" are always constant regardless of φ.

Weber has formulated this as

$$\Delta \phi / \phi = c \qquad (1)$$

Later, Fechner integrates equation (1), generalized as follows [9].

$$\phi = k ln \phi \qquad (2)$$

From this equation, it can be seen that the observer recognizes the information having the larger physical quantity as having a difference from the other information, and has passed the qualifying for remaining in the memory.

3-2. Iterative priming

The number of Nodate signboards is related to the effect of repeated learning. In our experiments, the presentation intervals were set at random, so we did not distinguish between intensive learning and distributed learning effects. The number of presentations of stimuli for Nodate signboards is 1, 3, 5, 9 [times], and is plotted on the horizontal axis. The ratio [%] of the number of complete playbacks of the character string was plotted on the vertical axis, and the number of presentations at which the number of perfect playbacks was 100% was predicted 11 times or more from the existing data by the least squares method. Assuming that the ratio of the number of playbacks converges to 100% with the number of presentations, a regression curve was created again including the predicted data (displayed in gray plots) (Fig. 1). It can be seen that the learning effect according to the number of notices can be expressed by a higher-order curve.
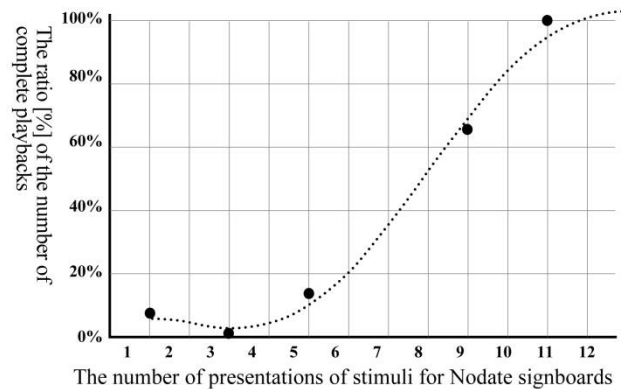

Figure 1 Complete regeneration learning curve

3-3. Reminiscence effect

In addition, our research has shown that the familiarity of the signboard character string as an observer's kansei evaluation affects memory retention [7]. It is a daily experience that interest in advertising information affects memory retention. The Reminiscence effect indicates that when information understandable and incapable parts coexist, interest in poorly understood parts arises and memory is promoted [10].

3-4. Ebbinghaus oblivion curve

In the previous study, we conducted an experiment using meaningless syllables in the character string of the signboard as a stimulus to be presented to the subject. Although not investigated in the previous study, it can be expected that the effect of Ebbinghaus's forgetting curve will appear on memorized advertising content. Ebbinghaus's oblivious curve implies that it expresses how much learning time (or number of times) is needed to completely forget the information and completely remember it again.

Ebbinghaus's forgetting curve is described by the following equation [11]:

$$b=100\times\{1.84/[(\log_{10}t)^{1.35}+1.84\} \qquad (3)$$

Here, b is the saving rate [%] and t is the time [minutes]. It is predicted that the antagonism between the reminiscence effect and Ebbinghaus's forgetting curve will affect the memory retention for the advertising character string.

3-5. Initial model of memory retention

As described above, an initial model shown in Fig. 2 is assumed based on the previous research results and each hypothesis. The physical elements of the signboard design, such as the colors, character classes, and the number of signboards installed, enhance the ability of the observer to detect the difference, that is, the signboard is easily noticed and rises to the level of memory. The familiarity of the character string, which is the sensitivity evaluation of the observer, raises interest in information due to the reminiscence effect. This is an early model in which the two effects enhance the memory retention of advertising content.

Elements not investigated other than those described above are expressed as e.

Also, the signboard has a strong difference from other information, so it cannot be said that it is good if it is flashy.

It has been revealed by our previous research that it has an appropriate size and color [12].

At the stage of the hypothesis, the possibility that the physical elements of the signboard design could affect the observer's affective/kansei evaluation was not negligible, and the model represented it with dotted lines.

4. Examination of experimental method

In order to examine the validity of this initial model, the following experimental method is examined. A conceivable method is to clarify, by a comparison method, how easily the stimulus adjusted for each value in color, character class, and number of signboards is stored more easily than other information. A presentation experiment is performed using data with different colors and character series, and the consistency between the approximate value and each effect is confirmed. The coefficient test of the model is performed by covariance structure analysis, and the fitness index is determined.

5. Conclusion

The production of signboard advertisements with high advertising effectiveness has a history that has been achieved with some craftsmanship. The authors have consistently studied advertising effects on signboards in order to optimize the advertising effects of signboard advertisements. In this paper, we focused on modeling the memory retention structure among the advertising effects. This shows that it is possible to design billboard advertisements according
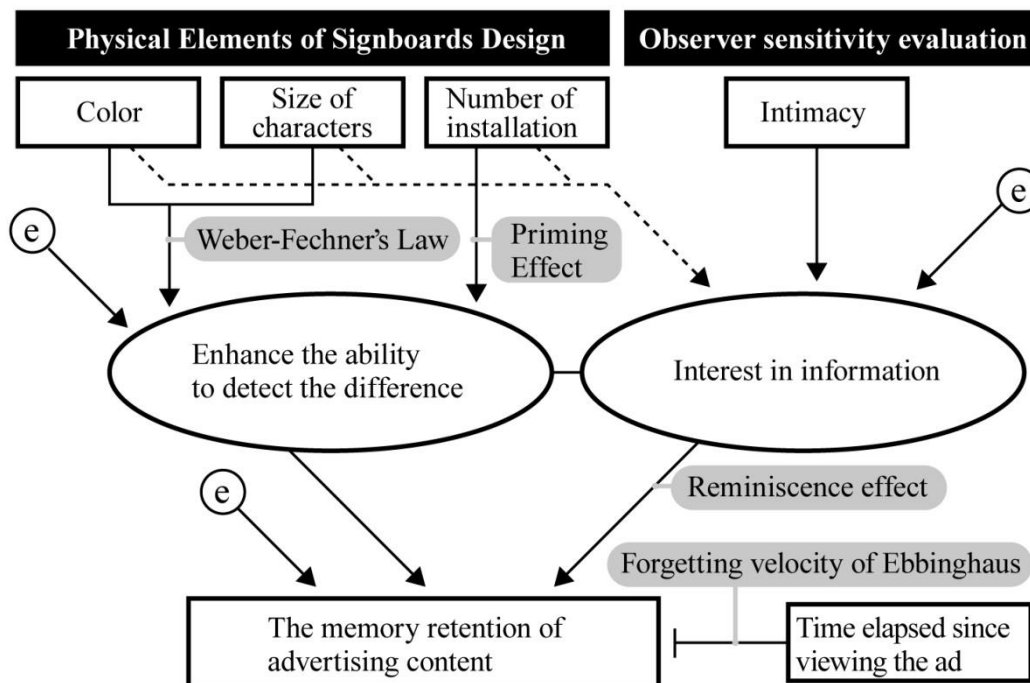

Figure 2. Initial model of Nodate signboard for memory retention.

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