

Building an Understanding of Major Advertising Strategies for Location-Based Digital Signage: A Study of Korean Marketing Practitioners' Practice

Seung-Chul Yoo

¹ *Division of Communication & Media Ewha,
Womans University, South Korea,
communication@ewha.ac.kr*

Article Info

Volume 81

Page Number: 2522- 2533

Publication Issue:

November-December 2019

Article History

Article Received: 5 March 2019

Revised: 18 May 2019

Accepted: 24 September 2019

Publication: 12 December 2019

Abstract

Digital signage is “location-based media” that occupy both indoor and outdoor spaces. Digital signage has recently been highlighted in the media industry and is attracting attention as a major marketing tool. Based on grounded theory, the researcher conducted individual in-depth interviews with twenty experts who have more than ten years of work experience in the advertising industry in order to investigate and classify the key strategies for developing advertising campaigns with location-based digital signage. The study classifies five key strategies, and the author proposes additional strategies that can help increase advertising effectiveness. The study concludes by noting limitations and suggestions for future research.

Keywords: *Digital signage, smart signage, digital advertising, location-based media*

1. INTRODUCTION

While the scale of the advertising market in television, radio, newspapers, and magazines (collectively referred to as “traditional media”) is shrinking within the advertising industry, internet advertising, mobile advertising, and outdoor advertising (collectively classified as “alternative advertising media”) are attracting much attention [1]. Outdoor advertising, in particular, is steadily growing in the modern consumer environment; it capitalizes on an increase in outdoor activities, where it is difficult for advertisers to use existing media to reach consumers. The research company PwC (2018) predicted that the global outdoor advertising market will grow at a compound annual growth rate (CAGR) of 3.6% until 2020, when the market size will reach \$11.5 billion [2]. PwC reported that the growth of outdoor advertising is

being driven by digital outdoor advertising (i.e., digital signage) and predicted that the digital signage market is expected to grow at a compound annual rate of 8%, bringing it from 40.7% share of total outdoor advertising revenues.

No other advertising medium encompasses as many diverse media types and new technologies as digital signage. The most up-to-date information technologies, including 3D display, Augmented Reality (AR), Virtual Reality (VR), Beacon, and holograms, have recently been employed in digital signage. For this reason, digital signage integrated with Information & Communication Technology (ICT) has become an emerging trend in the media industry. This integration also promotes a convergence between technologies, industries, and products, and thus goes beyond the mere role of being an

advertising channel. In sum, digital signage is becoming a medium with a significant influence on the real-life touchpoints of the target audience.

2. LITERATURE REVIEW

2.1 What is Digital Signage?

The daily lives of modern people begin and end with screens. As consumers' daily contact points are rapidly digitized, multiple screens communicate with them not only at home but in numerous other places, such as convenience stores, workplaces, restaurants, shopping malls, public institutions, and even restrooms. Digital signage, which refers to small or large indoor or outdoor screens, is defined differently by various scholars and institutions, but it generally involves a media service that delivers commercial or noncommercial information on digital screens in public or commercial spaces [3]. Digital signage is "location-based media" that occupy both indoor and outdoor spaces, and it can be classified into four types: *outdoor digital signage vs. indoor digital signage*, depending on the place of installation, and *one-way vs. interactive*, according to the type of exposure (Figure 1).

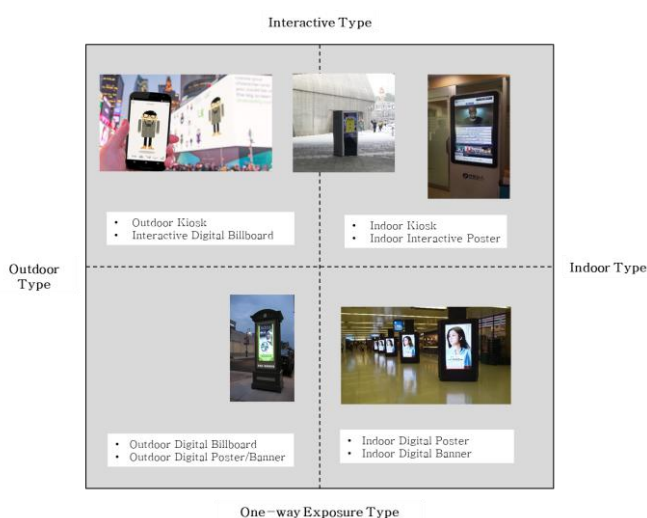


Figure 1: Digital Signage Types

The first advantage of digital signage is that it enables flexible advertisement execution by replacing advertisement contents in real time, via

a network at the central remote management center. Second, it has a cost advantage, as the content replacement cost is almost zero. Third, by utilizing a wide range of video and sound effects, digital signage attracts consumers' attention and enhances advertising effectiveness. Fourth, interactive digital signage can be used as a consumer research tool that quantifies consumer purchase patterns, which can be used for future marketing analysis.

Digital signage is also an essential tool for creating artistic public experiences. The recently coined word "techorating," which combines technology and decorating, means articulating a specific space using digital signage or other IT equipment [4]. Digital signage has proven itself as an essential media tool that creates a culture throughout its advertising space.

Table 1: Digital Signage Terminologies

Terms	Definitions
Digital Signage Network (DSN)	The ability to remotely control multiple media simultaneously based on an Internet-based network is a major advantage of digital signage.
Interactive Digital Signage	With this type, consumers interact with digital signage using interactive technology, such as a touch screen. These media have the advantage of allowing consumers to actively process information about the advertisement message through physical interaction.
Kiosk Type Digital Signage	A multimedia station (or self-service station), also called a kiosk, is an unmanned standalone outdoor automation device (or unmanned information center) with an interactive computer.
Point of Purchase (POP) Digital Signage	A digital display installed in a retail store that affects a consumer's final purchase decision. With the digitization of the media at the point of purchase (i.e., purchase touch points), advertisers can now strategically deliver real-time customized sales messages at the time of a consumer's final purchase.
Advertising Venue	The place in which the digital signage is installed. The installation area is diverse: hotels, large retail stores, concert halls, cinemas, and even inside restrooms. Diversification of the installation site has the advantage of increasing the probability and amount of exposure of the installed medium.
Wait Wrapping	The point of time at which consumers are most likely to be exposed to advertising messages is when they are stuck waiting (e.g., elevator, subway platforms).

Recently, digital signage has been highlighted in the media industry and has been attracting attention as a vital tool for advertising, yet related

academic research is still limited. Accordingly, this study attempts to identify and characterize the representational strategies that are used to plan digital signage advertising in the advertising industry through extensive interviews with digital signage experts. In the discussion section, the author also proposes additional strategic insights for increasing the effectiveness of digital signage advertising. The research question is as follows:

RQ: When planning digital signage, what strategies do advertising professionals primarily use, and how are these strategies put into practice?

3. METHODOLOGY

3.1 Overview

To answer the research question, the researcher conducted cultural and technological interviews with digital signage experts in the advertising industry, and the experts' answers were then synthesized. In-depth interviews with respondents enable the collection and analysis of surfaced perceptions and the depth of the informant through open dialogue [5] For this research, advertising and media professionals with significant work experience in digital media were carefully selected as interviewees.

The cultural and technical interview questions used in this study were designed based on *grounded theory*, which explores a phenomenon and draws out ideas through natural and fluid questions directed to the individuals under study, rather than based on any specific theory [6]. Through carefully worked out and detailed interviews, researchers can draw profound conclusions about topics that are difficult to grasp using other research methods, including quantitative analysis [5]. Ultimately, the present study aims to extensively comprehend the phenomena related to advertising effects, consumer variables, and context variables in digital signage implementation and to classify the key strategies used in digital signage

planning.

3.2 Data collection

To select the respondents, industry experts with rich experience in digital signage and at least five years of advertising planning experience were purposively sampled. The validity of the sample was ensured, as interviewees were repeatedly verified through a reference check by professionals in related fields. To gain a more precise understanding of the phenomenon and to comprehend the multi-faceted interrelations among the analyzed factors, interview subjects from various fields were invited to participate [7]. A total of 20 interviewees were selected; their characteristics are summarized in Table 2 and Table 3.

Table 2: Interviewees' Professional Characteristics

Participant	Business Sector	Company Category	Department/Role	Work Experience (Years)
1	Advertiser	Global Advertiser	Marketing Manager	12
2		Global Advertiser	Marketing Manager	14
3		Mid-sized Local Advertiser	Marketing CMO	16
4		Mid-sized Local Advertiser	Marketing CMO	14
5		Small-sized Local Advertiser	Sales and Marketing / CEO	17
6	Advertising Agency	Large In-house Agency	Media Manager	15
7		Large In-house Agency	AE/Senior Manager	13
8		Global Agency	Creative/Art Director	11
9		Global Agency	AP/Senior Manager	16
10		Independent Agency	Marketing CMO	15
11	Media Agency	Global Agency	Media Planning Manager	11
12		Global Agency	Media Planning Manager	15
13		Global Agency	Media Buying Manager	13
14		Local Agency	Media Planning Manager	9
15		Local Agency	Media Buying Manager	11
16	Creative Agency	Large In-house Agency	Creative/Art Director	14
17		Large In-house Agency	Creative/Copywriter	13
18		Global Agency	AE/Manager	11
19		Global Agency	Media Senior Director	14
20		Independent Agency	Marketing CMO	12

Table 3: Interviewees' Demographic Characteristics

Age	Gender		Total(n)
	Male	Female	
30-39	0	2	2
40-49	6	6	12
50-59	4	1	5
Over 60	1	0	1
Total	11	9	20

Face-to-face interviews were conducted for approximately 60 minutes in places where the informants could feel comfortable. The anonymity of information provided by the

interviewees in the course of the research was emphasized to alleviate any privacy concerns [5],[6].

The purpose of the study was briefly explained before each interview. Next, using a semi-structured interview format, the researcher asked each interviewee about their career experiences related to digital signage, their general attitude toward digital signage as an advertising medium, the essential items that needed to be reviewed in planning the utilization of digital signage, and the methods that were employed and the difficulties encountered in digital signage advertisement planning.

3.3 Data analysis

For the analysis, the researcher applied an inductive methodology, which aims to systematically grasp the vital relationships between each identified category when a new field that lacks current research is studied [8]. Specifically, QSR’s Nvivo 11 program, which is widely used in qualitative research for systematic classification and in-depth analysis of data, was employed. The Nvivo program is useful for structuring qualitative data into core categories and subcategories and for discovering and reorganizing related topics in the coding process [9].

With the interviewees’ consent, the recorded voice data were transcribed by an assistant researcher, and after being converted to text format, the file was imported into the Nvivo program. While repeatedly reviewing the collected data, the researcher conceptualized it into related categories through interpretive reading, which synthesized the opinions of the respondents, and the researcher then confirmed the relationships between the discovered concepts [5]. Specifically, the Nvivo 11 program was employed to categorize the data into nodes relative to the meanings of related keywords identified throughout the interviews, and the open coding method was then employed to

record the associated characteristics [9].

4. RESULTS

After the first coding and analysis using the Nvivo 11 program, the researcher and assistant researcher sequentially edited and added nodes through secondary coding, with a final total of 87 nodes. The researchers tried to improve the credibility of the research results through repetitive interpretation while coding the raw data. In the end, the nodes were summarized into five digital signage strategy themes, as summarized in Table 4 and discussed in the subsections that follow.

Table 4: Digital Signage Major Advertising Strategies

Digital Signage Advertising Strategy	Number of Nodes	Portion (%)	
Theme 1	Wallpaper Strategy	27	31
Theme 2	Attention Strategy	25	29
Theme 3	Forced Exposure Strategy	18	21
Theme 4	Parasite Strategy	10	11
Theme 5	Relevance Strategy	7	8
Total		87	100

Strategy #1: Wallpaper Strategy

The fundamental of advertising effectiveness is that the target audience must be reached [10]. In faithfulness to this tenet, outdoor advertisements such as wall posters have long been placed in certain spots (as if plastering wallpaper) to make the ads visible to pedestrians passing through the location. In addition, by increasing the size of outdoor advertisements, companies attempt to attract consumers’ attention by showing off their brand presence in comparison to their competitors. Thus, “bigger is better” has become common sense for outdoor advertising, i.e., by occupying more space, companies are trying to attract consumers’ attention. The “wallpaper strategy,” which is also valid for digital signage, can be viewed as “machine-gun style media planning,” following the idea that if you fire 100 bullets, one will probably hit the target. This strategy is a general method to quickly increase advertising effectiveness, but it has the disadvantage of involving too large an advertising money investment.

Participant 3: *“Digital signage is not different from traditional outdoor advertising in that the most important thing is to be seen by consumers. That is why we are trying to install as much media as possible and run advertisements where most of the target consumers are located, especially in high-traffic areas. For example, to maximize exposure, two or three advertisements for the same advertiser might be installed at certain spots alongside a highway with high volumes of traffic.”*

Participant 6: *“The scale of outdoor advertising plays a decisive role. It is also important to deliver overwhelming impressions compared to competitors through the delivery of ads using mega-sized advertisements, or by using a large number of media. To attract consumers, outdoor advertising should maximize the volume of the media, as in the strategy employed by TV, which increases the exposure ratio of the ad by airing it multiple times.”*

Participant 11: *“Creating a mega-media outlet to raise the degree of attention is not accomplished overnight. As the technology of digital displays has improved, and the thickness of the screen bezel has become thinner, it is now possible to scale up to multi-vision. The bigger size does not guarantee better effectiveness, but I am sure it will draw more attention.”*

Participant 20: *“Increasing the quantity and the physical dimensions of the medium is an effective strategy. However, there is a disadvantage wherein this strategy can significantly increase the advertising costs associated with it, which can reduce the efficiency of the advertising investment. From a media planner’s point of view, especially when the media mix must be carried out on a limited budget, it is difficult to allocate a high cost just to digital signage. This is because the cost of a specific medium is determined by the overall goal of the campaign.”*

Strategy #2: Attention Strategy

To deliver advertising messages, creating many

media placements or increasing the physical specifications of the media may be necessary, but it is also essential to employ powerful and stimulating messages to draw consumers’ attention [11]. Thus, advertisers have traditionally used eye-catching and provocative materials such as sensational imagery or controversial topics in outdoor advertising. Dynamic images in digital signage can be combined with stimulating material to attain a synergistic effect. However, there is a continuing concern that digital signage ads can cause traffic accidents as a result of stimulating drivers [12]. For this reason, digital billboards in many countries that have roadside digital signage do not feature an advertisement screen that uses functions with up and down movements, flickering lights, or fast-moving videos, to prevent possible traffic accidents. Billboards that contain only static images and do not generate motion using lights with shining, flashing, flickering, or varying light intensity in any part of the structure, design, or screen are called *Static Electronic Displays* (SEDs). On the other hand, billboards installed in cities with massive traffic jams, where dynamic videos can safely be transmitted, are called *Nonstatic Electronic Displays* (NEDs).

Participant 18: *“The creative message strategy is crucial, particularly for small and medium-sized advertisers who do not have sufficient budgets for media costs—they can attract consumers’ attention by relaying messages that are appropriate for the outdoor environment.*

Participant 8: *“First of all, since the video of digital signage contains movement, unlike traditional outdoor advertising, it is effective in drawing attention. However, digital signage installed beside the highway is a cause for some concern because it can cause traffic accidents by stealing the drivers’ gaze for too long. I think that proper regulation is needed, depending on the digital signage installation location.”*

Participant 19: *“Advertisers can get the consumers’ attention from the ad content itself. But we must also consider consumer complaints. If you create a much too exciting or sensational advertisement, or if you use too many moving images to stimulate drivers excessively, there will be negative reactions from citizens.”*

Strategy #3: Forced Exposure Strategy

The researcher asked, “What if you cannot afford much media expenditure, because you do not have enough funding for advertising?” In this case, advertisers will be more cautious and selective regarding the media they use. Even with a small amount of digital media, advertisers try to run ads in places where consumers cannot avoid looking (i.e., locations where forced exposure is possible). Consequently, a mantra commonly heard in the advertising industry says: “Location, location, location,” because in outdoor advertising, location selection is the most crucial factor. For example, the most popular locations for advertising practitioners to hold consumers’ eyes and feet are inside elevators, above escalators, in lounges, and on waiting room walls. This strategy is powerful for securing ad exposure, but it is also necessary to consider the negative impact that the unavoidable and forced exposure can have on brand perception (negative attitude formation). Advertising skepticism may bring about a negative ad effect, and consumers may develop ad-avoidance strategies to resist forced advertising [13]. Therefore, an approach that emphasizes only imposed exposure carries the risk of being rejected by consumers.

Participant 6: *“When you summarize the success factors in outdoor advertising, people often mention that the location comes first, the location comes second, and the location comes third as well (in terms of the priority order of success factors). Of course, many outdoor advertisements can be installed here and there to increase their visibility, but there are financial limitations. So, in many cases, it is as if you are*

strategically placing “traps.” You run ads in places where consumers “dwell” for a long enough time that they will be exposed to the ads. Such a strategy applies equally to digital signage.”

Participant 13: *“Recently, digital signage has been installed in places where consumers cannot avoid seeing it. The Wall Street Journal has installed digital signage in many buildings in areas where financial companies are concentrated, operates a network of offices that run financial ad-related digital signage, and runs advertisements on the upper part of gas pumps at major sites.”*

Participant 15: *“Place the media with attention to the flow of consumer traffic lines, especially if the media is installed within the consumer’s field of view, where the advertisement is continuously seen, and not just a part of it, but the whole advertising message is delivered. This is advantageous for advertisers.”*

Participant 7: *“I believe the impact is greater in places where you can specifically sub-categorize your target consumers. However, if forced exposure increases their fatigue or discomfort with the ads, ultimately, it will be hard to say that the strategy was effective.”*

Strategy #4: Parasite Strategy

The parasitic strategy is a strategy that most media, including the mass media, use in connection with digital signage. Ultimately, consumers do not intend to consume the content of advertising; thus, ads are generally avoided. For this reason, it is common to seek an advertisement type that is parasitic in relation to content that consumers are interested in [14]. It is easily seen that digital signage advertisements are displayed close to or concurrently with content programs that cover weather, fortune telling, economy, news, entertainment, and so forth, which are often desired by consumers in outdoor spaces. This juxtaposition has the advantage that the advertisements are readily

perceived by consumers, but at the same time it can also decrease the attention consumers pay to the content program. Unanticipated interaction with the content of the program that is not usually predicted by advertisers can also occur. For example, a consumer's mood has a direct impact on the processing of advertising message information [15].

Participant 1: *"It's also a good strategy to mix and match ads and contents that interest consumers. If in the past, outdoor advertising was able to maintain only one advertiser account, digital signage can operate multiple accounts due to the inherent nature of video. So it has the advantage that it can increase the revenue from the medium."*

Participant 2: *"Unlike television and newspapers, which consumers come into contact with inside their homes, they are exposed to digital signage in public spaces for a brief time. Consumers might pause for a while, drawn to interesting content, but at the same time, they can turn their attention to other things when the ad begins."*

Participant 14: *"Our company delivers weather information and brand advertisement at the same time. The problem is this: it is challenging to tell whether consumers are watching content as well as our ads, or just the content, even though we think we are grabbing their attention."*

Strategy #5: Relevance Strategy

The "relevance strategy," which is considered more consumer-centric than the four previously described basic strategies, is a reflection of the advertiser's willingness to expose consumers to the message. This approach attains advertising effects by delivering a message that consumers are intimate with and in need of. Consumers are more sensitive to information that is relevant to them than might usually be believed. In a phenomenon known as the "cocktail party effect," people often perceive their names in noisy environments, despite the low volume with

which they are called [16]. By the same logic, consumers tend not to pay attention to information (programs, advertisements) that is less relevant to them [17]. In other words, it is easier to automatically grab a consumer's attention when information that is customized to that individual is sent via digital signage. In particular, the effect of this advertising strategy is stronger at the point of sale or purchase decision-making [18], where it satisfies the principle of "media recency planning," which considers the timing of the ad arrival rather than the amount of exposure [10].

The drawback of this strategy is that there is so much digital signage and it is not possible to produce personalized messages for many people and deliver these messages to individuals. However, the future development of face-recognition sensors and various personal-information detection sensors will facilitate such personalization. Yet there may be an issue regarding consumer privacy protection in the generation and delivery of customized information [19]. For example, a U.S. Federal Trade Commission report on the privacy of U.S. citizens, "Protecting Consumer Privacy in an Era of Rapid Change," has a separate chapter that addresses digital signage using face detection technology [20].

Participant 18: *"Ultimately, I think that if the most useful and interesting information for consumers is provided to them in the form of advertising, we can expect the greatest effect. People have different levels of interest in specific information. If you understand this individual difference, you can send out personalized ads. In the past, analyzing target customers in real time was difficult, but with the help of digital sensors such as face recognition devices and RFIDs [radio frequency identifications], customer information is automatically gathered, and with that information we can communicate with customers. Customized ads based on consumer information will increase in the future."*

Participant 3: *“It’s noteworthy that we are improving customer satisfaction through customized ads. However, unlike mobile media, digital signage has real difficulties in recognizing consumers. Although face recognition devices perceive consumers relatively quickly and accurately, the diversity of outdoor spaces in which the media are installed makes it so that we cannot ensure that the recognition rate is consistently good. The lighting conditions in the installation space, and the pedestrian’s speed, etc., all of these affect recognitions. Not only that, but when installing face recognition devices in public spaces, civilian complaints about violations of their privacy can be expected.”*

5. DISCUSSION

This study is unique in that it derives the main strategies that advertising professionals utilize in planning the use of digital signage, which has recently been attracting attention in the media industry. Considering that research related to digital signage advertising is scarce, this study has very high academic value and, in addition, provides a useful guide for the advertising industry.

This study found that the interviewed advertising practitioners deployed five major advertising strategies: the wallpaper strategy, attention strategy, forced exposure strategy, parasite strategy, and relevance strategy. These strategies set forth the principles that many advertising industry practitioners implicitly use in their practice but that are often not explicitly recognized.

A review of the results of the analysis revealed that three of the five strategies—the wallpaper strategy, attention strategy, and forced exposure strategy—respectively accounted for 31%, 29% and 21% of 87 topic nodes. This shows that advertising practitioners mainly focus on relaying the advertiser’s message to target consumers. The analysis also found that

practitioners still consider digital signage to be a medium for delivering advertisements to consumers in a unidirectional manner, rather than as a bidirectional medium that can interact with consumers.

The five strategies are not deployed independently; rather, several are used simultaneously. Therefore, practitioners’ efforts and experiments regarding how to synergistically bring these approaches together to increase marketing outcomes has the potential to make a significant contribution to enhancing advertising effectiveness. As mentioned earlier, this study is important in that the practitioners summarized the main strategies they use in planning advertising that involves digital signage. At the same time, this study also uncovered the present reality of how advertising strategies utilize digital signage, which makes it difficult to predict future directions for more advanced strategies. The researcher therefore proposes three additional strategies that can complement the five strategies that are presently used, and these can be further elaborated through future studies.

Strategy #6: Subconscious Strategy

The subconscious strategy can easily be described as “hitting the consumer’s hidden sweet spot.” The five advertising strategies described above emerged from the viewpoint that the consumer, the receiver of the message, is a rational being who mainly makes logical decisions. In other words, as is assumed in economics, this viewpoint regards consumers as ‘homo economicus(economic man),’ a rational person with infinite knowledge and a sizeable memory who can make logical judgments [21]. However, humans are complex beings who are greatly influenced by their emotions and environment, and psychology and decision-making studies have found that most of our judgment is subconsciously determined without being perceived [22]. For example, one psychological experiment found that when a

wine shop exposed consumer to French music, they tended to buy French wines, and the same thing happened when they were exposed to German music—that is, they tended to buy German wine. Thus, the music to which consumers were exposed at the store affected their choices: 70% of all consumers chose wines produced in the same region as the music they heard at the store [23]. In designing a digital signage advertising plan, it is essential to consider consumers' subconscious and automatic decision-making patterns. These factors will be especially important when planning the installation of digital signage in key locations such as retail stores, where consumers make their purchase decisions.

When digital signage is installed in the pharmaceutical section of a retail store, it is common practice to sensibly place ads for drugs based on the sales characteristics of the space. However, when we reflect more deeply on such elements as the characteristics of the consumer looking for the pharmacy section (e.g., older people rather than young people), or their hidden psychology (e.g., anxiety/safety-oriented mindsets) and behavior (e.g., deeper concentration, greater brand comparison, increased search behavior, longer dwelling time), we can find greater advertising opportunities. For example, if a life insurance advertisement is installed instead of a drug advertisement, a good advertising effect might be obtained. What if an ad is installed in the infant and toddler section? What about running an ad in a bookstore? In digital signage application, it is necessary to have marketing imagination that goes beyond stereotypes or one-dimensionality. Careful observation of consumer contact points and extensive research into consumer psychology in the relevant space will become even more important for successful digital signage advertising campaigns.

Strategy #7: Consumer Context Strategy

Media exist in the context of consumers.

Especially in the case of digital signage, the desired advertising effects can be difficult to attain even if the most up-to-date, cutting-edge hardware is utilized and proven advertising plans are deployed. This is because the effectiveness of digital signage depends heavily on its context. Digital signage is not just about communicating with individual consumers. It happens within the overall context of the specific place where it is installed. The context includes: (1) the space, e.g., shopping mart, restroom, office, or school; (2) the time, e.g., morning office-going commuting hours or weekends; and (3) the country or culture. Therefore, it is essential to correctly grasp the characteristics of these contexts and understand in detail the human behavior and psychology that are operant within a specific space, time, and culture. For example, in a shopping mall, a consumer's walking speed is, on average, approximately 1.1 to 1.5 m/s [24]. This speed varies depending on the time, the culture, and the shopping mall congestion. Consumer behavior—including browsing activity, which observes the periphery—also varies greatly depending on the culture, the consumer's situation (e.g., shopping during the weekend, shopping on the way home from work), and the items purchased (e.g., groceries or handbags). The digital signage advertising strategy should adapt to consumer behavior in the contexts described above. For example, during commuting hours, when pedestrians' walking pace accelerates, still images can be used for accurately delivering advertisement messages to consumers. In contrast, during a time when consumers' walking pace is slower and the congestion in the surrounding environment is reduced, it would be more suitable to try to increase the attention they pay to advertisements by actively making use of videos.

Strategy #8: Engagement Strategy

A final strategy is the “engagement strategy.” This strategy encourages the increased feeling of immersion that consumers experience

via attractive hardware (media devices) and captivating software (contents), which can be irresistible to consumers. For example, new digital signage is attracting consumers' interest in the form of interactive media that exchange information with consumers through touchscreens. When they are compared, interactive digital signage is often considered superior to traditional digital signage, but it should be kept in mind that the usages of these differ and that interactive digital signage has many disadvantages. Consumers tend to altogether stop using a device too quickly if its interface is complicated, and they lose interest when the device is used many times or when they feel uncomfortable. If interactive digital signage is to increase customers' engagement with it, sustainable interest should be studied, that is, ways to create fun elements that are easily updated. Consideration should be given not only to competing with expensive hardware and high content production costs, but also to competition using mobile media [27-30].

Putting all the strategies together, it is possible to instantly attract consumers' attention through the wallpaper strategy, the attention strategy, and the forced exposure strategy. The duration of consumers' attention should then be increased through the parasite strategy, the relevance strategy, and the subconscious strategy. Finally, consumers should be led to voluntarily interact with the media by employing the engagement strategy. A shared strategy to be used with all of these is the context strategy, which provides information that is tailored to the consumer's lifestyle and context. As summarized in Figure 2, these eight strategies can enable effective digital signage advertising through complex interactions.

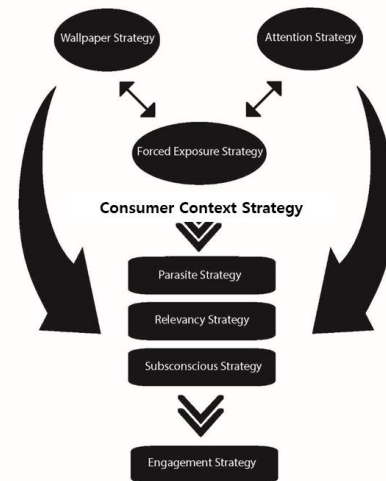


Figure 2: Conceptual Map

Digital signage is expected to grow as an advertising medium. However, some challenges need to be addressed. Verification of the effectiveness of media advertising, an integrated implementation plan involving a wide variety of media, including mobile media, effective use of a large amount of consumer-related big data collected from a wide range of sensors, including face recognition technology, data security, consumer privacy protection, and other factors. All of these are representational issues that need to be solved.

6. CONCLUSION

The interviewed practitioners in this research were limited to the advertisement industry in South Korea. Therefore, there are limitations for generalizing the digital signage strategy to a global context. However, 17 of the 20 subjects of the in-depth interviews had experience in implementing advertising projects for global clients. In addition, regarding the size of the advertising market, not only has the proportion of global advertisers in Korea increased (the nation is ranked 8th in terms of advertising spending) [25], but similarities to other countries' marketing environments have also increased due to globalization. Nevertheless, each country or region is industrially and culturally unique, and it must be kept in mind

that this can greatly influence advertising planning [26]. Therefore, it is important to further investigate this study's research question by including advertising practitioners from other countries in future research.

Outdoor advertising has evolved throughout its long history, but with the development of new technologies and changes in consumer lifestyles, the next big evolution is digital signage. It is the author's hope that digital signage will be designed in a way that maximizes advertising effectiveness, so that it can act as an alternative advertising channel for industry professionals, through active utilization of the currently used five essential strategies along with the three strategies that the author has suggested in this study.

ACKNOWLEDGEMENT

This study was supported by the Korea Creative Content Agency's 2017 Culture Technology R&D program.

REFERENCES

1. Ingram, M. (2015, December 16). **In 2016, Media Companies Will Lose Even More Control**, Retrieved April 2, 2016, from Fortune Web site: <http://fortune.com/2015/12/16/2016-media/>
2. PwC (2018, June 25). **Global Entertainment & Media Outlook**, Retrieved August 12, 2019, from Fortune Web site: <https://www.marketingcharts.com/featured-104785>
3. Schaeffler, J. **Digital Signage: Software, Networks, Advertising, and Displays: A Primer for Understanding the Business**, Burlington, MA: CRC Press, 2012.
4. Hall, C. (2015, October 30). **The Digital Signage Evolution of 'Techorating'**, Retrieved Mar 2, 2016, from Digital Signage Today Web site: <http://www.digitalsignagetoday.com/articles/the-digital-signage-evolution-of-techorating/>
5. Lincoln, Y. S. and E. G. Guba. **Naturalistic Inquiry**, Beverly Hills, CA: Sage Publications, 1985.
6. Strauss, A., & Corbin, J. **Basics of qualitative research**, Newbery Park: CA: Sage Publications, 1990.
7. Yin, R. K. **Case Study Research: Design and Methods**, Newbery Park: CA: Sage Publications, 1984.
8. Schumacher, S. K., and J. H. McMillian. **Research in Education: A Conceptual Introduction**, New York, NY: Harper Collins, 1993.
9. Paulus, T., M. Woods, D. P. Atkins, and R. Macklin. **The Discourse of QDAS: Reporting Practices of ATLAS.ti and NVivo Users with Implications for Best Practices**, International Journal of Social Research Methodology 1, 35-47, 2015.
<https://doi.org/10.1080/13645579.2015.1102454>
10. Ephron, E. **Recency Planning**, Journal of Advertising Research 37, 61-6, 1997.
11. Batra, R., J. G. Myers, and D. A. Aaker. **Advertising Management. Upper Saddle River**, NJ: Prentice Hall, 1996.
12. Sisiopiku, V. P., M. M. Islam, and A. Sullivan. **Traffic Safety Risks from Digital Advertising Billboards in Alabama**, International Journal of Engineering Research and Development 10, 30-6, 2014.
13. Rumbo, J. D. **Consumer Resistance in a World of Advertising Clutter: The Case of Adbusters**, Psychology and Marketing 19, 127-148, 2002.
<https://doi.org/10.1002/mar.10006>
14. Soldow, G. F., and V. Principe. **Response to Commercials as a Function of Program Context**, Journal of Advertising Research 21, 59-65, 1981.
15. Mathur, M., and Chattopadhyay, A. **The Impact of Moods Generated by Television Programs on Responses to Advertising**, Psychology and Marketing, 8(1), 59-77, 1991.
<https://doi.org/10.1002/mar.4220080106>

16. Cherry, E. C. **Some Experiments on the Recognition of Speech, with One and with Two Ears**, The Journal of the Acoustical Society of America 25, 975-79, 1953.
<https://doi.org/10.1121/1.1907229>
17. Warshaw, P. R. **Application of Selective Attention Theory to Television Advertising Display**, Journal of Applied Psychology 63, 366-72, 1978.
<https://doi.org/10.1037/0021-9010.63.3.366>
18. Gordon, W., and V. Valentine. **Buying the Brand at Point of Choice**, Journal of Brand Management 4, 35-44, 1996.
<https://doi.org/10.1057/bm.1996.25>
19. Acquisti, A. R. Gross, and F. Stutzman. **Face Recognition and Privacy in the Age of Augmented Reality**, Journal of Privacy and Confidentiality 6, 1-20, 2014.
<https://doi.org/10.29012/jpc.v6i2.638>
20. Federal Trade Commission (2012, March 26). **FTC Issues Final Commission Report on Protecting Consumer Privacy**. Retrieved Mar 3, 2016, from Federal Trade Commission Web site:
<https://www.ftc.gov/news-events/press-releases/2012/03/ftc-issues-final-commission-report-protecting-consumer-privacy>
21. Weilbacher, W. M. **How Advertising Affects Consumers**, Journal of Advertising Research 43, 230-34, 2003.
<https://doi.org/10.2501/jar-43-2-230-234>
22. Acker, F. **New Findings on Unconscious Versus Conscious Thought in Decision Making: Additional Empirical Data and Meta-Analysis**, Judgement and Decision Making 3, 292-303, 2008.
23. North, A. C., and D. J. Hargreaves. **Music and Consumer Behaviour**, In The Social Psychology of Music, D. J. Hargreaves and A. C. North, eds. Oxford: Oxford University Press, 1997.
24. Healthline(Mar 14, 2019). **What Is the Average Walking Speed of an Adult?**, Retrieved August 8, 2019, from healthline Web site:
<https://www.healthline.com/health/exercise-fitness/average-walking-speed>
25. Statista (2019, July 16). **Advertising spending in the world's largest ad markets in 2018**, Retrieved Aug 1, 2019, from Statista Web site:
<https://www.statista.com/statistics/273736/advertising-expenditure-in-the-worlds-largest-ad-markets/>
26. Albers-Miller, N. D., and B. D. Gelb. **Business Advertising Appeals as a Mirror of Cultural Dimensions: A Study of Eleven Countries**. Journal of Advertising 25, 57-70, 1996.
<https://doi.org/10.1080/00913367.1996.10673512>
27. Wagdi, O., Hasaneen, A. 2019. Obstacles and success factors for entrepreneurship: a comparative analysis between Egypt and Nigeria. Entrepreneurship and Sustainability Issues, 7(2), 962-976.
[http://doi.org/10.9770/jesi.2019.7.2\(12\)](http://doi.org/10.9770/jesi.2019.7.2(12))
28. Baltgailis, J. 2019. The issues of increasing the effectiveness of teaching comparative economics, Insights into Regional Development 1(3): 190-199.
[https://doi.org/10.9770/ird.2019.1.3\(1\)](https://doi.org/10.9770/ird.2019.1.3(1))
29. Jabarullah, N.H. & Othman, R. (2019) Steam reforming of shale gas over Al₂O₃ supported Ni-Cu nano-catalysts, Petroleum Science and Technology, 37 (4), 386 – 389.
30. Hussain, H.I., Kamarudin, F., Thaker, H.M.T. & Salem, M.A. (2019) Artificial Neural Network to Model Managerial Timing Decision: Non-Linear Evidence of Deviation from Target Leverage, International Journal of Computational Intelligence Systems, 12 (2), 1282-1294.