

# Information system design in the advertising industry

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**Abstract.** In all fields of business that use information technology, an information management system can improve the efficiency of administration, creating systematic content records and storing data as the foundation for effective management and goal development. However, there is one field in which there is no research on information systems, namely the advertising industry. Thus, this study aims to identify the features of advertisements, and explore the concepts of an information system for the advertising field, adopting a qualitative research method to consider the various designs and menu content of an information system for copy writers.

## 1 Introduction

Advertising belongs to the field of mass communication. It is about delivering messages, with the aim of improving lives and increasing cultural competence, and is an applied social science that can benefit the life of the general public. The purpose of advertising is to improve quality of life and increase knowledge and facilitate cultural exchange.

Advertising is an indirect tool for convincing people. Its coverage is very broad, including fields such as business, public welfare, and promotion. It attracts people's attention through the elements of images and text. Messages delivered through advertising are full of cultural meaning, offering information related to life, culture, economics, etc., incorporating knowledge and economic values. Although people's living conditions have improved with the advancement of technology, the ideal of pursuing a wonderful life remains. Thus, advertising not only aims to introduce new products to society, but also to portray life in an active way. If people felt nothing after seeing an advertisement, it would be a crisis for advertising. A successful advertisement is one that can achieve the goal of moving people. The core of its design must be some element that can touch people's hearts. Furthermore, what the advertisement presents must be authentic. Only authenticity can lead to a sound reputation. Thus, increasing the general public's understanding of the essence of advertising can help to enhance its meaning.

Advertising is often combined with social movements and is closely related to society. In times of prosperity, advertising is presented with a lively and vigorous atmosphere in response to the demands of society. In times of economic decline, advertisements with unique features can still efficiently increase people's willingness to make a purchase. From the perspective of commercial advertisements, due to the strong competition in the market, the content of advertisements is designed to address people's needs. Advertising is also the bridge between social cultures and people. People need to

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retrieve information through advertisements, which reveal the features of products. For the above reasons, advertising is a phenomenon of modern life.

Technological advances and people's living standards are associated with each other. Technology can aid in meeting society's demand for quality. In today's era of digital technology, advertisers have all started to develop related marketing strategies to follow the trend in technological development. The importance of designing an advertising information system is therefore clear.

An issue advertisers have been dealing with actively is to design advertising strategies according to modern conceptions while consolidating the social and cultural role of advertising. A review of the literature show that previous studies in Taiwan have researched numerous advertising-related issues, as follows: introspection in advertising [1], creative issues [2], government decree advertising [3], the persuasiveness of advertisements [4], image advertising [5], applications of rhetorical skills [6], images in advertisements [7], election advertising [8], advertising education [9], advertisement figures [10], public welfare advertising [11], advertisement humor [12], regional advertising [13], advertising effects [14], advertising communication culture [15], advertising and gender [16], advertising and photography [17], advertising sentiment [18], and advertising strategies [19], internet advertising [20]. However, there has as yet been no study on advertising information systems. Thus, in the age of the information economy, studying innovative concept of information systems is necessary, indeed essential.

## 2 Methods

This qualitative study employed content and concept analysis [21] to examine 200 advertisements collected from the print media in Taiwan published in 2013. The contents of the advertisements were analyzed through the following five steps: (i) reading the content of the advertisements; (ii) analyzing the aspects that construct the content, recording them, defining them, naming them based on the definitions, and listing the indicators for each construct; (iii) interpreting and diagnosing the overall content of the advertisement to explore its focus, the design method applied, and the style formed, naming the style based on its definition in accordance with the principle of choosing only one style to represent each advertisement, and listing the characteristics of the content that form this style; (iv) analyzing the copy writer's design of the advertisement, using indicators including literal meaning, lexical category, tone, tonal pattern, rhyme, pun, rhetorical skill, pronunciation, style, charm, and vigor, to determine the design type of the copy writer and name that design type in accordance with the principle of choosing only one style to represent each copy writer; (v) based on the results of the content analysis, design the information system menu and plan for related information.

The study thus comprised two stages employing the above research methods. The first stage was the research and analysis stage, and the second was the construction of the advertising information system. The first stage aimed to address the following research issues through analysis: (1) identify the main elements of the content of advertisements; (2) categorize the style of advertisements; (3) categorize the copy writer's design type. The second stage integrated the advertisement concepts based on the research results as the basis for the design of an information system. The issues dealt with in this stage include: (4) design of the advertising information system and display interface; (5) plot the main aspects of the advertisement content and plan the information system for the indicator menu; (6) plot the advertisement style and plan the information system for the characteristics menu; (7) plan the information system for copy writer design; (8) design an interactive model and process to address satisfaction with the completed advertising product from the customer side and the system side.

## 3 Results

The research results obtained are discussed according to the two stages. In the first stage, the three research issues are resolved. The results include: (i) five aspects related to advertisement content; (ii) eight advertisement styles; (iii) eight copy writer design types. The research results in the second stage

are related to the five issues regarding the advertising information system display: (i) the main interface of the information system; (ii) the main menu interface of the advertising information system; (iii) the style menu interface of the advertising information system; (iv) the copy writer design type menu interface; (v) the interactive model regarding satisfaction from the customer side and the system side.

### 3.1 The five main aspects of advertisement content

The five main aspects of advertisement content identified are layout design, text arrangement, color application, pictures, and images. Of these, the first three are necessary for all advertisements, whereas the necessity of pictures and images depends on the style of the design. There are three indicators for each of the five aspects, as follows:

- layout: mainly text, mainly graphs, both text and graphs;
- text: title, slogan, and main text;
- color: main color, harmonious color, and depth; picture: figure, scene, and specific item;
- picture: figure, scene, and specific item;
- image: symbolic image, decorative image, and designated image.

The frequencies of the application of the five aspects is shown in Table 1.

**Table 1.** Frequencies of the application of the five aspects.

Aspect	Layout	Text	Color	Picture	Image
Frequency	200	200	200	186	138
Percentage	100%	100%	100%	93%	69%

### 3.2 The eight advertisement styles

A total of eight advertisement styles were identified: sense, function, affection, entertainment, intellectuality, literature & art, education, and value. Table 2 shows the frequencies of the styles.

**Table 2.** Frequencies of the eight advertising styles.

Style	Sense	Function	Affection	Entertainment
Frequency	200	200	200	186
Percentage	100%	100%	100%	93%
Style	Intellectuality	Literature & art	Education	Value
Frequency	16	6	26	9
Percentage	8%	3%	13%	4.5%

As can be seen, the most common style is sense. Each style has three characteristics. Sense includes the following: perception, i.e., fostering the feeling among audience members that they are personal recipients of the advertisement content; impression, which involves enhancing the fresh impression in the audience's mind; atmosphere, creating the effect of making the audience feel they are personally on the scene. Function incorporates the following: convenience, namely that the product or service being advertised can make life easier; efficacy, i.e., the effectiveness and benefits of the product or service; comparison, giving the audience a deeper impression through a comparison. Affection is related predominantly to messages of warm feelings, focusing on psychological factors:

happiness; love; aspiration, delivering the expectation of a dream coming true. Entertainment encompasses: humanity, delivering information on a humane event helping to relieve pressure; activity, delivering information on a tourist activity; theme, delivering information on a leisure activity of any kind of theme. Intellectuality includes: history, describing some meaningful history; culture, sharing knowledge regarding life and culture, such as knowledge about dietetic hygiene; specificity, describing knowledge from a specific professional field. Literature and art comprises: story, telling a touching story through exquisite wording; meaning, touching people using the art of language vividly; form, using different literary forms, such as classic poetry, modern poetry, and essays, to improve literary and artistic quality. Education includes: learning, aimed at teenagers as the target group to teach them something; goal, aiming to help the audience achieve a goal, such as obtaining a license or improving language proficiency; specialty, aiming to help the audience develop a professional skill. Finally, value encompasses: public welfare, through raising funds; behavior, for example, advising the audience not to drink and drive; promotion, describing an opinion or a claim from an individual or a unit in society.

### 3.3 The eight copy writer design types

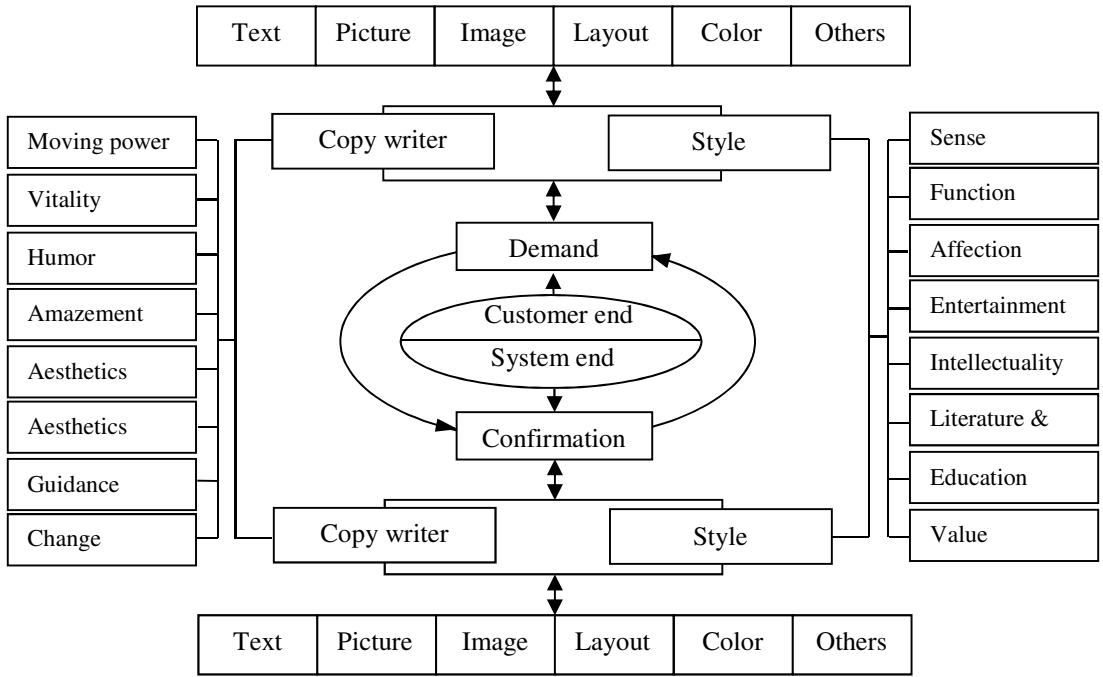
There are eight types of copy writer design, which exert different influences: (1) vitality, featuring a fresh life force and dynamics, creating an appealing resonance; (2) moving power, using a moving plot as the main design skill to achieve the effects of tugging at the audience's heart strings and generating sympathetic responses; (3) humor, generating a knowing smile, meaning that the audience already knows the implied meaning before smiling, and thus the effect is achieved naturally; (4) amazement, impressing audience with a surprising and novel message that is hard to forget; (5) aesthetics, delighting the audience's visual sense; (6) reflection, triggering the audience to memorize the message delivered through association; (7) guidance, achieving a guiding effect by integrating an influential person, event, or item into the design goal; (8) change, increasing the quality of life, or fulfilling a hope, triggering action on the part of the audience. The frequency of application of the eight design types is summarized in Table 3.

**Table 3.** Frequency of application of the eight copy writer design types.

Type	Vitality	Moving power	Humor	Aesthetics
Frequency	66	36	16	30
Percentage	33%	18%	8%	15%
Type	Amazement	Reflection	Guidance	Change
Frequency	12	6	13	21
Percentage	6%	3%	6.5%	10.5%

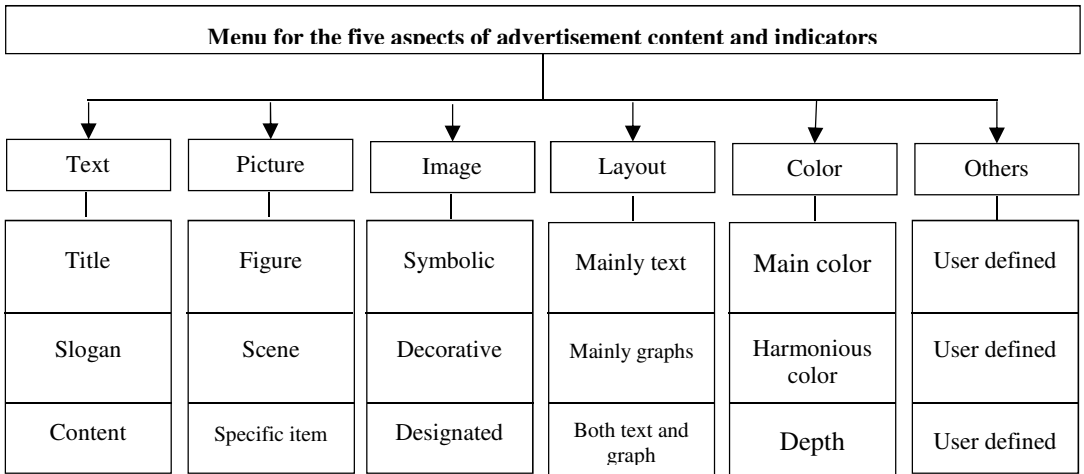
### 3.4 The design and interface of the advertising information system

The advertising information system designed based on the research results above contains two domains, the customer side and the system side, and three constructs, which include the five aspects of advertisement content, the eight styles, and the eight copy writer design types. The mapping between the customer side and the system side is shown in Figure 1.

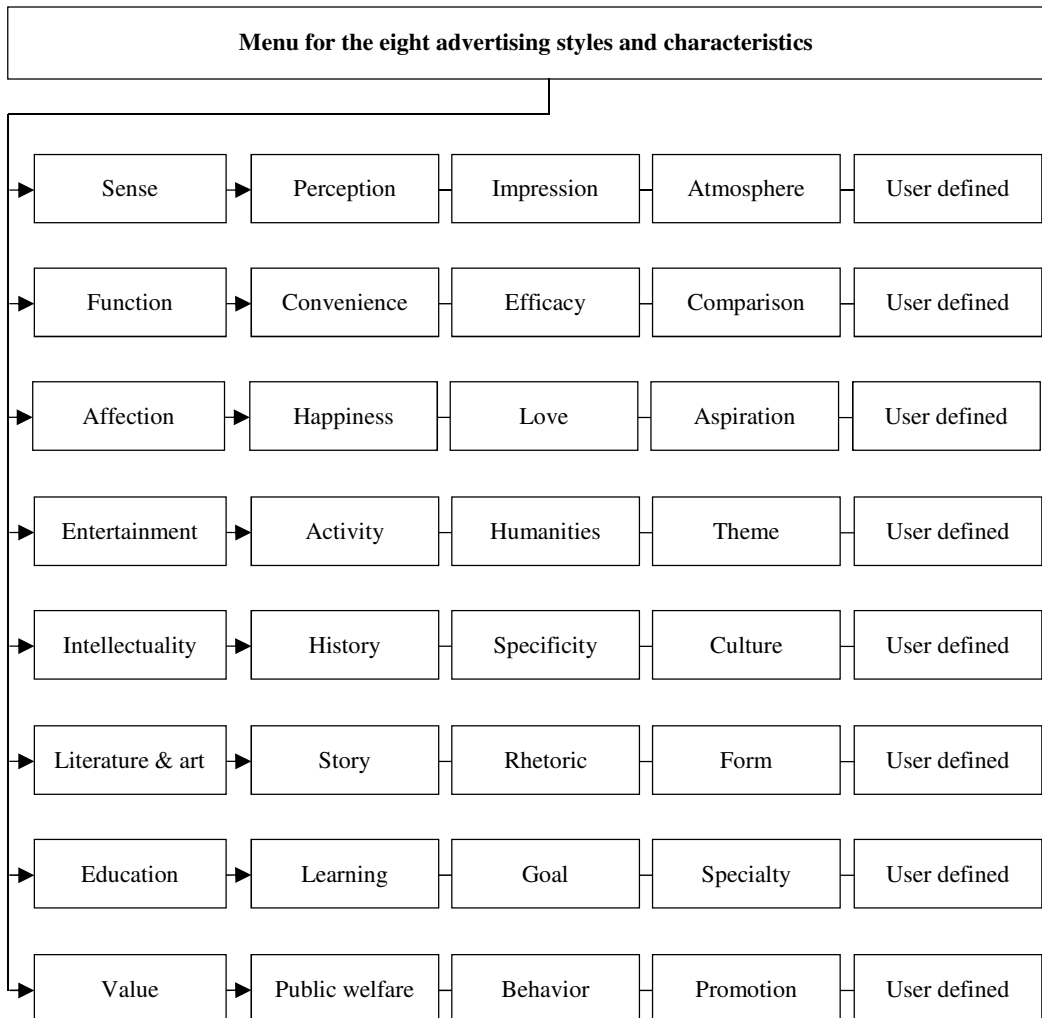


**Figure 1.** The interface of the advertising information system.

The menus in the information system are not designed as drop-down menus but as lists. The advantage is the visual effect, in that visitors from the customer side can see every item at first sight. Also, they can reflect on or compare the meanings of the items on the menu. For example, for each of the five aspects, there are three indicator menus, which are displayed instead of hidden, as shown in Figures 2 and 3. Moreover, to help visitors obtain information related to each menu, the design is that when clicking on a menu, the information related to the secondary menu will pop up, including example, frequency of use, date of use, percentage of use, number of satisfied use, number of modification, feedback, etc. The interface of the menu for the five main aspects of advertisement content and the interface of the menu for the eight advertising styles are shown in Figure 2 and Figure3.



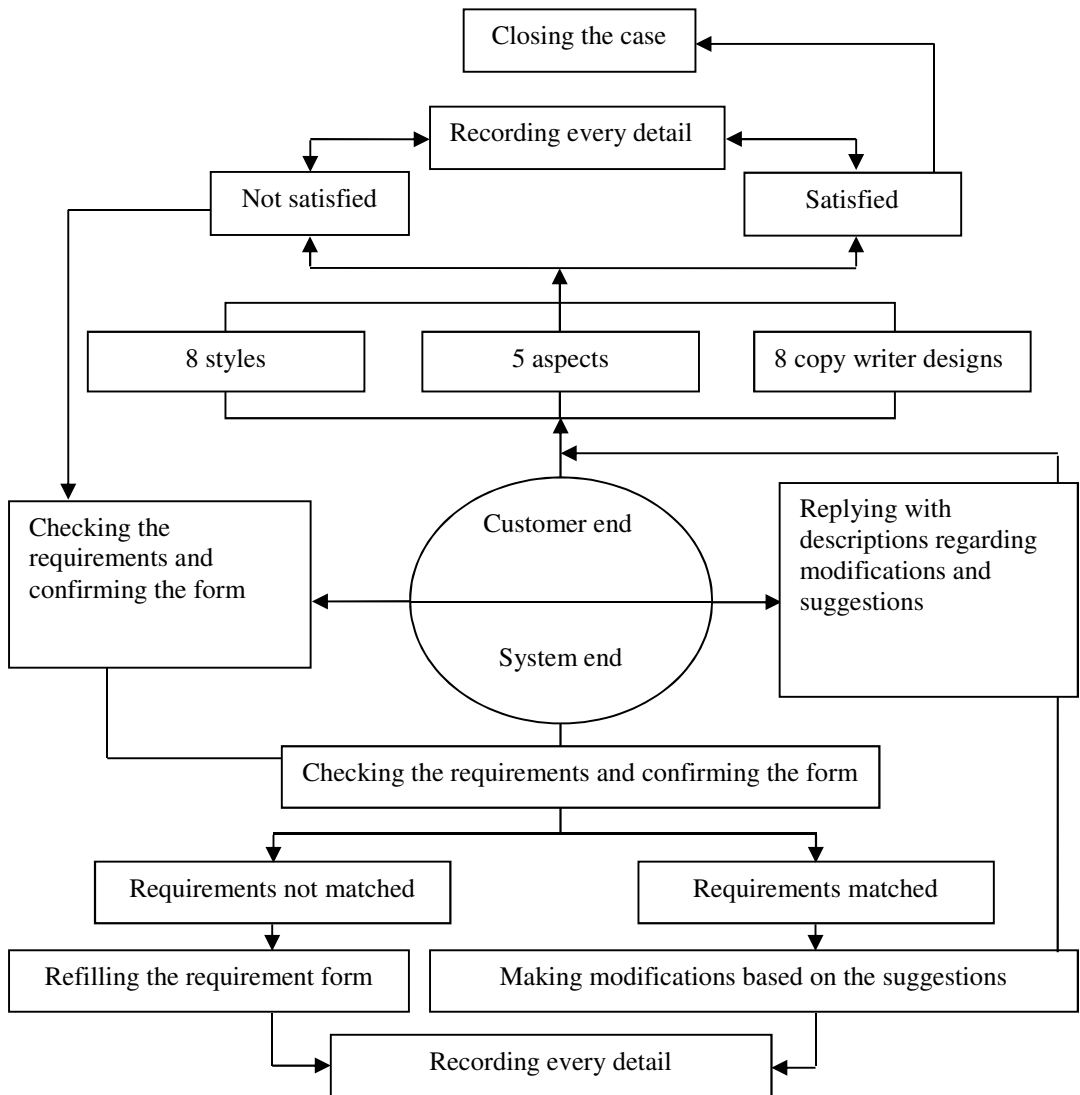
**Figure 2.** Interface of the menu for the five main aspects of advertisement content.



**Figure 3.** Interface of the menu for the eight advertising styles.

### 3.5 Interactive mode between the customer side and the system side

The main feature of the management design of the advertising information system is that the system provides the choices of five aspects of advertisement content, eight styles, and eight copy writer design, as well as user defined options through menus with examples. To avoid and reduce non-specific communications, the requirement form on the customer side offers detailed and specific descriptions for all the menus, so that users can decide which action to take after fully understanding the options. Should a user on the customer side not be satisfied with a completed product, he or she can review the requirement form to check the selected items at the system end. If the problem is at the system end, the company is responsible for modification. If the cause of the problem is a new requirement from the customer side, and there is no record in the form, the user can go through the requirement form process all over again and submit the new form to the system. The system automatically records every detail related to the menus and requirements for future inquiry and as a reference for structural data analysis. Figure 4 shows how the advertising information system works.



**Figure 4.** Interactive mode between the customer side and the system side.

## 4 Discussion

In the age of the knowledge economy, one of the important indicators of modern culture is the management and application of the combination of technology and information. As a result, the research and development of computer software, related applications, and management is very current, bringing about the age of the information economy. No studies in the field of advertising have thus far been related to the development of an advertising information system. This study aims to explore the design of an advertising information system, based on the concept of innovation, and integrating menus and various options for styles and designs. This advertising information system offers characteristics and aspects that can be applied to design in the hope of making a start in this field. The advertising information system is merely a platform linking the system side and the customer side, and enabling communication and interaction. To come up with a successful advertisement, a designer is still required to operate the advertising information system. The convenience and efficiency of the

advertising information system designed by this study are improved through the concept of innovative management.

## 5 Conclusion

Advertising can do more than just deliver a message. It has the potential to create a trend. Thus, the style of an advertisement must be unique to gain the public's attention. Moreover, computers are now very popular and a part of people's lives, resulting in the age of the advertisement economy. The use of an advertising information system is a trend in the field of advertising innovation and management. Therefore, this study has designed an advertising information system comprising eight styles and eight copy writer designs based on the innovation, authenticity and accuracy. The application of the concept of innovative technology management helps to improve the efficacy of the advertising information system. With the design of various interfaces of functions and indicators, this study hopes to present the best descriptive effort for applications in practical advertisement design.

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