



Cross-Cultural Communication
Vol. 13, No. 6, 2017, pp. 1-10
DOI:10.3968/9801

ISSN 1712-8358[Print]
ISSN 1923-6700[Online]
www.cscanada.net
www.cscanada.org

A Study of Multimodal Banner Discourse on Chinese E-Commerce Websites From the Perspective of Discourse Information

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Received 11 April 2017; accepted 9 June 2017
Published online 26 July 2017

Abstract

The banner ads on the e-commerce websites offer the information of new goods, best sellers, and promotions etc., which aim to attract the consumers, arouse their desire for shopping, and then guide them to the pages of advertised products. In linguistic sense, a banner is multimodal ads discourse being composed of text and images. So far, most of the multimodal studies of ad discourse take traditional printed ads other than banners as research object, and analysis is conducted, with metafunctions of language from the systemic functional linguistics as the basis, and visual grammar by Kress & van Leeuwen as the theoretical framework, to describe their representational meaning, interactive meaning or compositional meaning as well as meaning-construction patterns in ad discourse. Supported by the ideas of defining ads as one way to transmit information and consuming behavior as the course of processing information, the banner ads sampled from three most popular Chinese e-commerce websites of amazon.cn, TMALL.COM, and JD.COM are analyzed in this paper to demonstrate the characteristics of information structure of both language and non-language discourse in banner ad discourse, and further the way in which images are interrelated with text through information to fulfil the banner's shopping guidance performance. The analysis also provides proof that the effectiveness of banners can be improved through perfecting the way in which text and images are interrelated.

Key words: Banner; Text; Images; Multimodal discourse; Information

Guang, X. (2017). A Study of Multimodal Banner Discourse on Chinese E-Commerce Websites From the Perspective of Discourse Information. *Cross-Cultural Communication*, 13(6), 1-10. Available from: <http://www.cscanada.net/index.php/ccc/article/view/9801>
DOI: <http://dx.doi.org/10.3968/9801>

INTRODUCTION

A banner is a rectangular-shaped graphic advertisement usually showing on the top and bottom of a web page (Rodgers & Thorson, 2000), which is composed of both text and images (Kumar, 2015). Since the first banner ad was launched in 1994, it has almost remained the most common, well-known and productive form of online advertising (Kumar, 2015; Busen, Mustaffa, & Bahtiar, 2016). The banner ads functioning just as the traditional printed ads in newspapers and magazines aim to inform and notify the customers about the advertised products (Briggs & Hollis, 1997). To be exact, in order to increase the demands or sales of the advertised products, banners are used by sellers to improve consumers' awareness of advertised products, arouse their interests and guide them to the webpages of advertised products.

So far, most of the studies on banner ads focus on their effectiveness from the perspective of advertising and marketing, as well as computer science. Very few studies on banners have been conducted from the perspective of linguistics according to the literature I've reviewed although banners are considered to be a subgenre of cybergenre, netadvertising (Fortanet, Palmer, & Posteguillo, 1999; Madrid, 2006). On the contrary, many linguists have shown great interest in the multimodal analysis of the traditional printed ads in newspapers and magazines, which, just as banner ads, are also composed of text and images. Linguists usually apply Halliday's three metafunctions of language and visual grammar by Kress & van Leeuwen or Conceptual Metaphor Theory to describe their representational meaning, interactive

meaning, compositional meaning or multimodal metaphor as well as meaning-construction patterns. A common feature to those multimodal analysis of traditional printed ads is that the text, as part of the ads, has not been given as much emphasis as images have been given.

In China with the amazing development of e-commerce and great popularity of online shopping, banner ads are widespread on every popular e-commerce website such as JD.COM, TMALL.COM and amazon.cn etc. Usually, on these e-commerce websites banners locate at the top of their homepages, which every e-shopper will see at first sight when visiting these websites.

Advertising is defined as a type of communication in the process of which sellers convey information about products to consumers and intend to persuade them to buy (Arens, Weigold, & Arens, 2012, p.11). Based on this definition, the banners sampled from JD.COM, TMALL.COM and amazon.cn are analyzed in terms of discourse information in order to explore how text and images composing a banner work together to attract and guide shoppers to the webpage of advertised products.

1. RELEVANT LITERATURE

In this chapter, the two classic hierarchical effects models of advertising as well as buying motives are reviewed first, which can explain how advertising affect and motivate consumers and perform shopping-guidance function; and then the multimodal discourse information analysis mechanism based on Discourse Information Theory is introduced.

1.1 AIDA Model and Lavidge-Steiner Model

AIDA model and Lavidge-Steiner model are two classic hierarchical effects models in advertising that claim audiences of advertising generally go through three serial effects stages from when they look at an ad to when they make a buying decision. The three stages are cognitive, affective and conative, which focus on three main functions of advertising respectively. In the cognitive stage, advertising aims to convey information and ideas about products to the potential consumers; in the affective stage, advertising aims to arouse and cultivate customers' favorable attitudes and feelings towards products; and in the conative stage, advertising aims to convince ad audience to purchase products.

AIDA model was developed in the late nineteenth century and has been widely used in marketing and advertising to describe the effects that successful ads have on consumers. AIDA is the acronym of Attention, Interest, Desire and Action. Based on this classic hierarchical effects model, Attention, Interest and Desire are the three basic elements that contribute to a successful ad, because the mission of an ad is first to have cognitive effect on its audience by attracting them to read, and next to have affective effect by arousing their interest in continuing

to read, and then creating desire, which may lead ad audience into the conative stage (Lewis, 1899).

Lavidge-Steiner model was proposed by R. Lavidge and G. Steiner in 1961. Based on this model, each of the three hierarchical effects stages involves two progressive steps, and the six ordered steps are aware, knowledge, liking, preference, conviction and purchase. In the cognitive stage, customers become aware of advertised products and then begin to gain knowledge of products; in the affective stage, customers are motivated to like products and show preference; in the conative stage, customers are convinced and purchase products.

1.2 Buying Motives

People may be motivated to buy by a strong feeling, urge, instinct, desire or emotion. These factors are buying motives that are defined as "those influences or considerations which provide the impulse to buy, induce action and determine the choice in the purchase of goods and services" (Prasad, 2009, p.2). Motivation occurs when a need that consumers wish to satisfy is aroused (Kardes, Cronley, & Cline, 2011, p.103; Solomon et al., 2006, p.90). That is to say, advertising fulfils its missions through activating consumers' buying motives underlying needs, which motivate people to keep reading ads and further purchase advertised products.

Katz (1960) and McGuire (1974) classified buying motives into cognitive and affective motives. Cognitive buying motives describe the motivation underlying such needs for quality, price, or the functional performance of products (Grimm, Agrawal, & Richardson, 1999); affective buying motives are the motivation underlying such needs for self-expression, social belonging or ego gratification (McGuire, 1974; Vaughn, 1980).

The following common buying motives are listed and explained.

Economy: This cognitive motive underlies the need for price, and consumers driven by this motive tend to purchase products of more economy or cheap in price.

Quality: This cognitive motive underlies the need for quality, and consumers driven by this motive tend to buy products of good quality.

Utility: This cognitive motive underlies the need for functional performance of products, and consumers driven by this motive tend to buy functional products.

Fashion: This affective motive underlies the needs for social belonging or ego gratification, and consumers driven by this motive tend to buy fashionable products to copy movie stars, sportsmen or specific social groups etc.

Pride and prestige: This affective motive underlies the need for self-expression, and consumers driven by this motive tend to buy expensive and luxurious products that can display and maintain their status in the society.

Curiosity: This affective motive underlies the need for ego gratification, and consumers driven by this motive tend to buy creative or fancy products.

Fear: This affective motive underlies people's general fear of losing their health, wealth and life etc., and consumers driven by this motive tend to buy products to keep them healthy or safe.

Brand: This motive underlies the needs for quality or self-expression represented by good-reputation or expensive brands, and consumers driven by this motive tend to buy products of certain brand.

Beauty: This affective motive underlies the need for ego gratification, and consumers driven by this motive tend to buy products due to beauty.

Cognitive and affective buying motives result in differences in information processing. Consumers motivated by cognitive motives are attracted by and focus on the functional aspects of products and economic appeals; consumers motivated by affective motives are attracted by and focus on images, symbols and expression of personality (Johar & Sirgy, 1991; Park & Mittal, 1985; Snyder & Debono, 1985). Usually, consumers are driven by several motives to pay attention to ads, keep reading them and then purchase advertised products, and good ads trigger and enhance consumers' buying motives and encourage consumers to satisfy their needs through purchasing advertised products.

1.3 Multimodal Information Analysis Mechanism Based on Discourse Information

Discourse Information Theory (DIT) grew out of the Tree Model of Discourse Information, which represents the general information structure of discourse (Du, 2007). Based on DIT, a discourse information unit is a proposition, which is the minimal and complete communicative meaning unit with a relatively independent structure. Macroscopically, Discourse is hierarchically structured like an inverted tree. This tree is composed of only one kernel proposition that displays the central idea of the discourse and functions like the root of the tree. Different types of information units at different levels support and develop the kernel proposition and function as the stem, branches or leaves of the tree based on their positions in the tree structure. There are 15 types of information units that may appear in discourse, and they are labeled with the abbreviations of 15 interrogative expressions, which are WT (What Thing), WB (What Basis), WF (What Fact), WI (What Inference), WP (What Disposal), WO (Who), WH (When), WR (When), HW (How), WY (Why), WE (What Effect), WA (What Attitude), WC (What Condition), WG (What Change), WJ (What Judgement) (Du, 2014, pp.30-31). Such a tree structure of discourse information can display vividly the information pattern of discourse.

Discourse information units are propositions carrying the information that a discourse producer wants to convey to his discourse audience. In terms of proposition structure, an information unit can be a complete proposition or incomplete proposition. A complete

proposition in structure is a statement sentence that has a true value and can be analyzed directly; an incomplete proposition in structure may be a statement sentence in which the subject term, predicate term or copula is absent, or may be not a statement sentence whose true value cannot be decided directly.

Microscopically, an information unit is composed of information elements. There are three types of information elements, which are Process, Entity and Condition, and each type has its subtypes. The Process information elements relate to the predicate term of a proposition, Entity information elements involve the objects relating to a predicate term of a proposition, and Condition information elements indicate the conditions like location, time or manner etc., in which the process is going (Ibid., p.140).

Information units in discourse may play the general role of describing or disposing. The information units of WT, WO, WN, WR, HW, WY, WE, WC, WA, WG are used to describe things or people, and the information units of WB, WF, WI, WP, WJ are used to show how things are disposed (Ibid., p.124).

According to the number of interlocutors and the form of communication, discourse can be classified into monologue, dialogue and question-and-answer discourse, in which discourse information functions differently (Ibid., p.56). Advertising discourse is the seller's monologue, which doesn't involve two or more than two interlocutors communicating with each other or raising and answering questions. In monologue discourse, discourse information may perform ten functions, which are regulating, stating, confirming, promising, approving, expounding, demanding, evaluating, claiming and denying.

DIT thinks that information lies between the surface layer of Language forms and underlying layer of cognition, therefore, on one hand, information is less flexible than language forms, which makes analysis across discourse or languages possible; on the other hand, information is more accessible than cognition, which makes concrete analysis convenient. In addition, since the mission of both language and non-language discourse is to convey information, it is theoretically possible to bridge non-language discourse with language discourse in multimodal discourse through the information carried by them; further, based on the relevance between language and non-language discourse in multimodal discourse the information pattern of multimodal discourse can be analyzed and described (Du, 2015). Generally, multimodal discourse information analysis involves three steps: categorifying information, discoursalization, and bridging language and non-language discourse.

In summary, advertising is a type of communication that attempts to persuade consumers to purchase advertised products (Arens, Weigold, & Arens, 2012, p.11; Iyama & Akpan, 2013); on the other hand, consumers' buying behavior is considered to be an ongoing process (Solomon et al., 2006, p.7). That is to say, advertising is

a communicative process, in which, in order to persuade consumers to buy, sellers code information of products into ads and consumers decode the information of products carried by ads and decide whether to buy. AIDA model places the emphasis on elements of successful ads that can affect ad audience and lead to purchase behavior from the perspective of marketing and ad design, which can be applied to the analysis of ad discourse from the perspective of discourse producers; Lavidge-Steiner model places emphasis on how ads audience are affected from the time when they look at ads to when they make a decision, which can be applied to the analysis of ads discourse from the perspective of discourse audience. DIT provides theory and approach to the analysis of information pattern of multimodal ads monologue discourse.

2. THEORETICAL FRAMEWORK AND METHODOLOGY

Supported by AIDA model, Lavidge-Steiner model, buying motives and DIT, the theoretical framework in Figure 1 is constructed to display advertising as a communicative process between a seller and his potential consumers and direct the analysis of banners in this study.

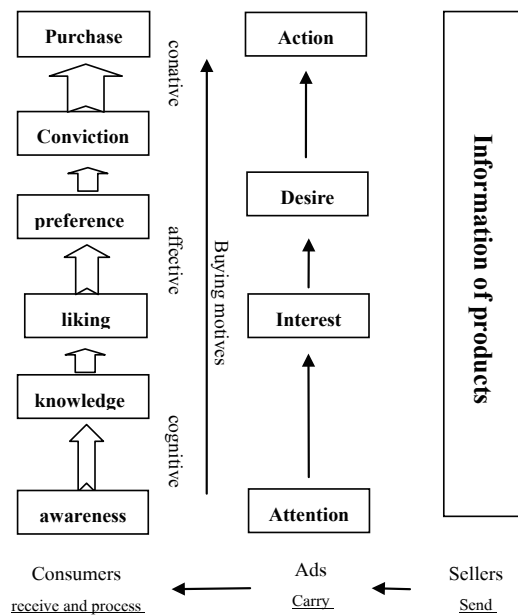


Figure 1
The Communicative Process Between Sellers and Consumers Through Ads

Figure 1 illustrates that in the communicative process between a seller and his potential consumers, the seller codes information of products into ads discourse to persuade ads audience to make an action. Several factors decide whether a seller's communicative goal can be realized. It depends on first whether ads can trigger consumers' buying motives through catching their

attention and leading them into the cognitive stage, next whether ads can arouse consumers' interest and liking for advertised products, and lead them into the affective stage, and then whether ads can motivate consumers' desire to persuade them to make a purchase. In short, to achieve the mission of advertising, the content and form of the information carried by ads should be able to cast expectant effects – cognitive, affective and conative – to consumers based on their buying motives underlying their needs.

This study aims to demonstrate how information is coded into banner ads posted on Chinese e-commerce websites to activate consumers' buying motives and guide them to click on banner ads. To achieve this research objective, 5 banners are randomly sampled respectively from the homepages of three most popular Chinese e-commerce websites, JD.COM, TMALL.COM and amazon.cn, whose advertised products involve clothes, electronics, health and beauty products, books and audible, food, home appliance and toys. All banners function to invite consumers to take part in advertised promotions or buy advertised products by encouraging them to click on banners and going to the promotions or products webpages.

A banner discourse is composed of text that is language discourse and images that are non-language discourse. To analyze this type of multimodal discourse, language discourse is analyzed first, and then non-language discourse is analyzed through bridging them in terms of information with language discourse. The exact analysis and discussion in this study follow the following steps.

- To categorify information: In a banner, there are three categories of information conveyed through the media of sight that is information carried by text, presentation mode of text and images. Information carried by text and presentation mode of text composes language discourse, which is the main discourse of banner discourse; and information carried by images composes non-language discourse; which is the complementary discourse of banner discourse;
- Analyze information pattern of language discourse;
- Analyze non-language discourse based on its relevance with language discourse through information;
- Based on above analysis, discuss how language and non-language in a banner work together to perform shopping-guidance function.

When language discourse is analyzed, first label the types of all information units and their levels in the information tree, and then draw the information tree of language discourse in each banner. To label information units in language discourse, the level of every information unit is decided according to the degree to which it is highlighted by color or typesetting as well as its space in a banner. Usually, the information units in the center of a

banner and highlighted by color or the biggest font size lie at the first level of the tree. Similarly, the information units at the second, third and fourth levels are decided in accordance with the space order from top to bottom and from left to right as well as font size from the biggest to the smallest. The precedence order of the information units at the same level also follows the space order from top to down and from left to right.

Take the banner from JD.COM in Figure 2 as an example. The subject of this banner is the promotion of “Midea” water heater, which is also the kernel proposition of this banner discourse. In language discourse, there are

altogether 5 information units. The WT information unit of “直击酷暑” (straightly attack the heating midsummer) lies at the first level of the information tree of language discourse in this banner; at the second level lie the HW information unit of “美的品牌日” (the day for the brand of Midea) and the WA information unit of “洗澡我们是认真的” (shower we take seriously); at the third level lie the WT information unit of “仅899 60升遥控” (only ¥899 for remote controlled 60 litres) and the WN information unit of “活动时间：仅限7月20日” (Time: only on 20th July). The information tree of the language discourse in this banner is displayed on the right of Figure 2.



Figure 2
Example Banner 1 and Its Information Tree of Language Discourse

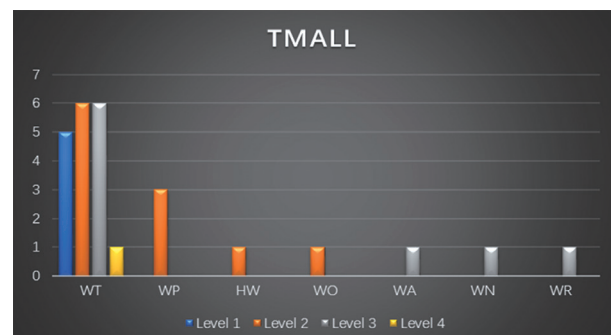
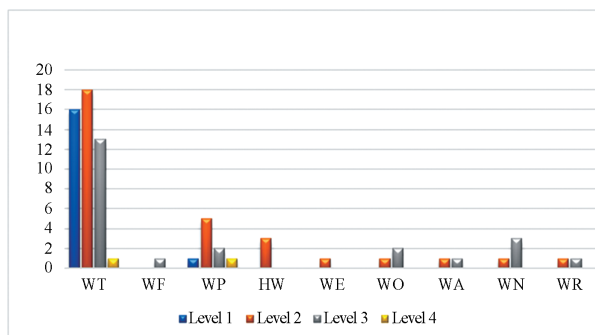
To analyze non-language discourse, the first step is to discursalyze the non-language discourse by bridging it with language discourse through information. In Figure 2, the image of Number 7 on the left is connected with “酷暑” (heating midsummer), the Entity information element in the first-level WT information unit; the images of two water heaters are connected with the brand name of “Midea” in the second-level HW information unit; the image of the round water heater on the right is connected with the Entity information element of 60 升遥控 (remote controlled 60 litres) in the third-level WT information unit. The way in which non-language discourse is connected with language discourse through the information they carry and convey makes it easier to analyze the way in which text and images cooperate to guide consumers.

in sampled banners and the roles language discourse plays in guiding consumers are analyzed first; next the structure characteristics of propositions in sampled banners and the way in which images are connected through information with language discourse are described; at last, how language and non-language discourse co-work to guide consumers is discussed.

The histograms in Figure 3 are drawn based on the statistics of information unit types from all 15 sampled banners, which show how different types of information units in language discourse from all 15 sampled banners distribution at different levels. It is obvious that in language discourse of the sampled banners, WT information unit has the largest percentage, and next to it is WP information unit. Besides, language discourse in banners usually includes three or four levels of information units, and at the first level is there always WT information unit, and information units assemble at the second and third levels, among which WT information unit still has the largest percentage.

3. ANALYSIS AND DISCUSSION

In this part, the information pattern of language discourse



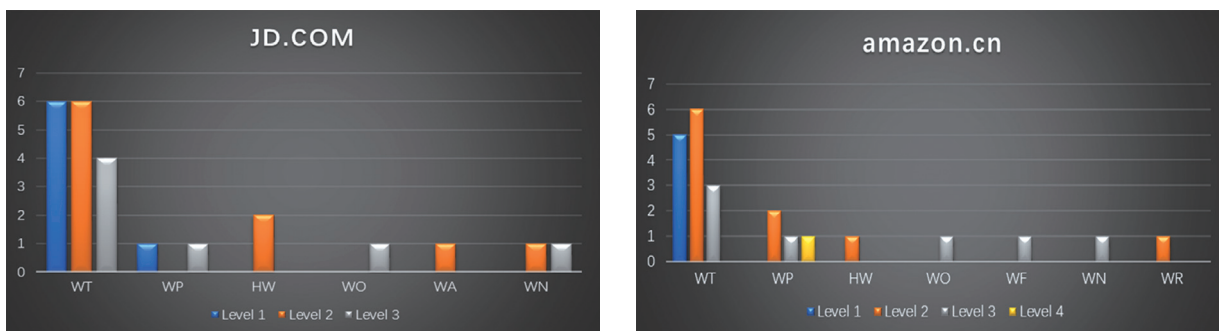


Figure 3
Distribution of Different Types of Information Units in Language Discourse

Note. The top graphic on the left shows the amount of different types of information units at different levels in language discourse in all 15 sampled banners; the top graphic on the right shows the amount of different types of information units at different levels in language discourse from 5 TMALL.COM banners; the bottom graphic on the left shows the amount of different types of information units at different levels in language discourse from 5 JD.COM banners, the bottom graphic on the right shows the amount of different types of information units at different levels in language discourse from 5 amazon.cn.

What's more, based on the statistics, the WT information units at the first level perform the function of claiming or stating. The information that the first-level claiming WT information unit carries is of such promotions as clearance and reduction, or popular life style and theories. For instance, in Figure 4, the first-level claiming WT information units in banners from JD.COM are “七月大放价” (great reduction in July) and “12期免息” (12-period interest free), the first-level claiming WT information unit in a banner from amazon.cn is “托马斯

暑期大放价” (great reduction of Thomas brand products in summer vacation), which all claim price reduction; the first-level claiming WT information unit in a banner from TMALL.COM is “带你去巴黎” (take you to Paris), which claims that the advertised products are about fashion. The first-level stating WT information unit often contains some brand name that is well-known or newly introduced, just as it is shown in a banner from amazon.cn in Figure 4, which says the brand of the advertised product is “黑柠檬” (black lemon).



Figure 4
Example Banners 2

Note. The two-row banners from left to right are from in turn JD.COM, TMALL.COM and amazon.cn.

According to DIT, an information-sender uses claiming information units to express directly his own opinions and ideas, which an information-receiver does not need to decide its true value, and what he needs to do is just to decide to accept or refuse the information; the information-sender uses stating information units in the form of statement to declare some facts, which can enhance the objectivity of the information carried by those information units and makes it more acceptable for an information-receiver. Because ad audience do not have to bother to decide the true value of the first-level claiming and stating information units they read at first sight when visiting e-commerce websites, and the information of

promotions or products carried by those information units are direct or objective, consumers usually will become aware of advertised promotions or products before they realize it, and what they need to do next is just to feel whether they are interested in and attracted by the advertised promotions or products.

In terms of proposition structure, most of language discourse information units in banners are incomplete propositions. Very often, the Entity information element clarifying the advertised promotions or products is absent in the first-level claiming and stating information units. Those incomplete propositions are supplemented into complete propositions with the information from

their neighbor or subordinate information units as well as images. Figure 5 displays the functions that the information units at the second, third and fourth levels of language discourse in 15 sampled banner performance. It is clear that at the second and third levels, WT and WP information units have the bigger percentage, and the main function that WT information units perform is to expound, WP information units are used to demand. In addition, some WT information units perform the function of claiming, and some perform the function of stating as

WN, WR, and WO information units do. The expounding, claiming and stating information units are used to provide details for their superordinate information units, and the demanding information units are used to invite consumers to take part in the advertised event. That is, the information units at the second and third levels function to provide more details about advertised promotions or products that consumers become aware of when they read the first-level information units and to persuade consumers to click on banners.

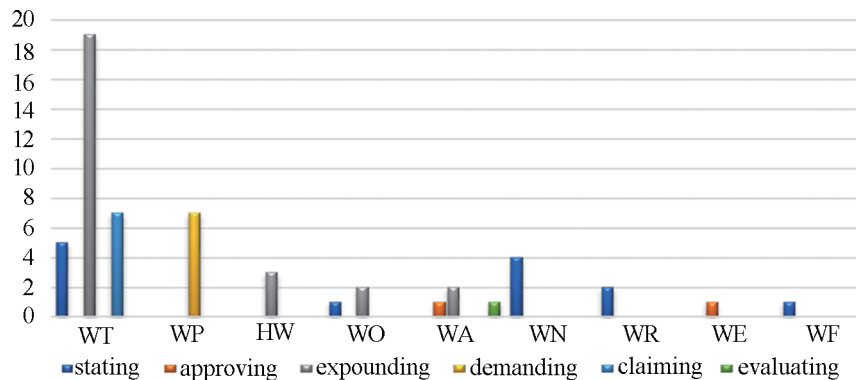


Figure 5
Types of Second- and Third-Level Information Units and Their Functions

Still taking the banners in Figure 4 as examples. In the language discourse of one banner from JD.COM, the first-level claiming WT information unit of “七月大放价” is an incomplete proposition, in which the entity information element is absent, as a result the advertised product is not clear for consumers. But the outstanding images of health products on the right of the banner are connected with this information unit and supplement the incomplete proposition into a complete proposition that conveys the information of health products with reduced price. Its subordinate expounding information unit of “满25减20” (for each ¥25, ¥20 is reduced) provides the information of the price in this promotion.

In the language discourse of another banner from JD.COM, there are two claiming WT information units of “苹果专场” (special event for Apple) and “12期免息” at the first level. The claiming WT information unit of “苹果专场” clarifies only the brand of advertised products and does not supply relevant details, but it is connected with the image of cell phones on the right of the banner, which makes it clear that the advertised products are Apple cell phones, not other Apple electronics, and conveys the complete information of promotion of Apple cell phones. At the same time, its subordinate claiming WT information unit of “iPhone6 399元起” (iPhone6 from ¥399) provides the detailed information of price for the newly-launched iPhone6. The HW information unit of “白条” (IOU) at the second level and the WO information unit of “京东金融” (JD finance) at the third level support the first-level WT information unit of “12期免息” and make it clear that this 12-period-interest-free promotion is

guaranteed with the IOU event sponsored by JD finance.

In the first-level claiming WT information units of “带你去巴黎” and “榜单在此” (the list of tops is here) in the two banners from TMALL.COM in Figure 4, the advertised products are still not clarified, but it is easy to identify the advertised products as clothes of “ΛMII” brand and facial masks thanks to their subordinate expounding WO information unit of “ΛMII” and expounding WT information unit of “全球面膜” (facial masks from all over the world) as well as the images of a beauty in a fancy dress and facial masks on a displaying platform, which all function to expound the first-level claiming WT information units.

There is only one information element in the first-level stating WT information of “黑柠檬” in the language discourse of one banner from amazon.cn in Figure 4, which identifies just the brand of the advertised product but doesn’t provide other details about the product. Its subordinate claiming WT information unit of “颠覆防晒” (overturn sunscreen) and the image of sunshade tell the consumers that the advertised product is the outstanding sunshade of “黑柠檬” brand. The image of sunshade is connected with the first-level stating WT information unit to expound the advertised product. The third-level stating WF information unit of “99.9% 紫外线阻隔” (block 99.9% ultraviolet rays) provides exact data to support its superordinate claiming information of “颠覆防晒”, which enhances the objectivity of this banner ad.

As for the guiding function of information units at different levels, the first-level claiming WT information unit plays the main role in arousing consumers’ buying

motives of economy or fashion, and the first-level stating WT information unit plays the role in arousing consumers' buying motives of brand, pride and prestige, quality, utility or curiosity, which motivate consumers to pay attention to banners and keep reading them. The information units at the second, third and fourth levels play the role of further arousing or enhancing consumers' buying motives of economy, quality, utility or brand and persuading consumers to purchase through providing objective details about price, quality, utility or brand. For instance, in the language discourse of one banner from JD.COM, the first-level WT information units of “苹果专场” and “12期免息” are used to arouse the buying motives of pride and prestige, brand, quality and economy; the second-level WT information unit of “iPhone6 399元起” is used to enhance the buying motive of pride and prestige, economy and brand, and at the same time the second-level information unit of “白条” and the third-level information unit of “京东金融” expound the way to save money and guarantee to get 12-period free interest for advertised products, which enhances the buying motives of economy and brand. In a word, in this banner the first-level language discourse information units aim to trigger the buying motives of economy, brand, quality and pride and prestige, and the motives of pride and prestige, economy and brand are further enhanced by the second and third level information units. Similarly, to encourage and persuade the consumers to make an action, the second-level WT information unit of “颠覆防晒” claims the good quality and utility of the advertised product to trigger the buying motives of quality and utility, which is enhanced by the third-level stating WT information unit of “99.9%紫外线阻隔” that uses objective data to prove its good quality and utility.

What's more, the non-language discourse in banners – the images – plays the role of triggering or enhancing affective buying motives through being connected with information units and performs the function of expounding. For instance, the images of popular health products being connected with the information unit of “七月大放价” in the banner from JD.COM tend to activate consumers' buying motives of pride and prestige, fashion, fear and brand; the background of sky with stars is connected with the first-level WP information unit of “约‘惠’健康” (date health economically) to create the romantic atmosphere of a date, which aims to activate the buying motive of beauty as well as buying motive of curiosity. Meanwhile, the way to highlight the first-level information units through typesetting is in fact one way to highlight and enhance the buying motives that those information units aim to activate.

Further, as for the psychological effects that information units of different functions have on consumers, usually claiming information units are easy to trigger consumers' positive feelings towards advertised promotions or products due to the fact that they are easier to process. For example, in Figure 4 the claiming WT

information units of “苹果专场”, “榜单在此”, “颠覆防晒” and “托马斯暑期大放价” convey the objective and positive information that consumers don't have to spend time and energy to process, and consequently can easily arouse consumers' liking feelings towards advertised products or promotions due to their buying motives of fashion, pride and prestige, brand, quality, utility and economy. Expounding and stating information units used to describe things provide objective details about advertised products and are also easier for consumers to process and accept, which work to persuade consumers and lead them into the conative stage.

The above analysis illustrates that a banner ad is in fact composed of three parts, which are language discourse – text, and non-language discourse-presentation mode of text and images. Language discourse is the primary discourse whose information units compose the stem, branches and leaves of multimodal banner discourse information tree, and non-language discourse is the secondary discourse which is connected with language discourse information units. The position and level of language discourse information units in a tree are decided by such mode of presentation as font, size, color, and space in the banner etc. Limited by the space and nature of banner ad, most information units are incomplete propositions, which are supplemented into complete propositions with the information from images or their neighbor information units and subordinate information units. All sampled banners show that there are at most 6 language discourse information units in a banner. The kernel proposition showing the subject of a banner is the root of an information tree of multimodal banner discourse, the first-level information units are the stem of a tree, the information units at the second, third and fourth levels are branches and leaves of a tree, and images become part of the stem, branches and leaves through being connected with language discourse information units. These three parts interrelate with each other to compose an information tree of multimodal banner ad discourse to arouse consumers' cognitive and affective buying motives and guide consumers to click on a banner.

Usually, the information units locating in the center of a banner and highlighted with biggest font size or color are the first-level information units. The first-level information units are WT information units being connected with the main image in a banner in sampled banners, and perform the function of claiming or stating advertised products, which is more effective to arouse the cognitive and affective buying motives at the same time than single text or images. In general, the first-level claiming WT information units being connected with images on one hand convey the information of promotions or products and aim to activate and enhance such motives as economy, pride and prestige, quality or brand, which makes consumers pay attention and keep reading; on the other hand, they advocate popular fashionable or healthy

life styles, ideas and attitudes etc., in order to arouse and enhance the motives of fashion, beauty or fear, which makes consumers resonate with the ad and pay attention to and get interested in them and keep reading. The first-level stating WT information units usually connect with images and recommend popular or new brands to arouse the motives of pride and prestige, quality, curiosity or brand etc, to get attention from consumers and motivate them to keep reading and find out details about the promotions or products.

Next, there are two types of information units at the second, third and fourth levels. One type is such information units used to describe objective things and situations as WT, WO, WN, and WR etc., which play the roles in expounding, stating or claiming and provide details to support their superordinate information units to arouse or enhance the motives of economy, fashion, quality or utility etc. Another type is dynamic information units used to dispose things, and they play the role in demanding, which encourages consumers to follow their motives and act.

To sum up, all the analysis shows that language and non-language discourse in banners are interconnected through information to construct a multimodal banner discourse information tree. Such a tree with stem, branches and leaves being composed of both text and images has clear veins of information, which is lively, vivid, and pleasing to eyes. This type of multimodal discourse is not only attractive to consumers, but also easier to be processed cognitively and affectively for consumers, which tends to arouse both cognitive and affective buying motives more effectively and drive consumers to click on banners to take part in promotions or purchase products than single text and images can do.

SUMMARY

With the rapid development of e-commerce and the popularity of e-shopping, although banners play an important role in guiding shopping, linguistic studies of banners focused more on the analysis of images than text.

Based on DIT, this study proposes that text and images in banners interrelate with each other through information and work together to guide consumers to click on them. To achieve this research objective, 5 banners are randomly sampled respectively from the homepages of three most popular Chinese e-commerce websites, JD.COM, TMALL.COM and amazon.cn. Supported by the definition that advertising is a type of communication between sellers and consumers, a theoretical framework is constructed based on AIDA model, Lavidge-Steiner model, buying motives and DIT to illustrate the communication process in which a seller codes information into ads and consumers are affected and encouraged to decode the information in ads.

The analysis clarifies how text and images in banners interrelate with each other and why text and images in

banners work together may achieve better results than single text or images may do. Firstly, the presentation mode of text helps to outline information units of different levels, which saves consumers' time and energy to process information carried by text. Next, the interrelation between text and images through information, on one hand, makes fewer and shorter text possible and understandable, which saves the readers' time to read and process text. As a result, it is easier and faster for such banners to guide consumers into the cognitive state. On the other hand, the interrelation makes information carried by text pictorial, which changes abstract information into concrete pictures of products. As a result, it is easier for such banners to trigger affective buying motives, cultivate consumers' positive feelings towards advertised products and guide them into affective stage.

Although only 15 banners are sampled, the analysis displays that text and images are connected to each other through information in banner ads and they complement each other and should not be analyzed separately. Also, the analysis provides theoretical and practical proof that one way to improve the effectiveness of banner ads is to perfect the way in which images are connected to text and text is presented.

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