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Abstract

As a popular and important advertising style, Internet advertising has drawn substantial amount of scholarly attention. Previous studies have contributed to the understanding of the independent effects of various factors, such as product, consumer, website and ad per se, but few studies consider the impacts of the congruities between these factors on consumer's attitude toward the ads. In this paper, we propose an integrative model, product-consumer-website-ad model, to articulate how the congruity between factors exerts its effect. We propose that ad appeal (emotional vs. informational) should be designed consistent with the nature of the advertised product (hedonic vs. utilitarian), the nature of the website (hedonic vs. utilitarian) and the thinking styles of consumer (intuitive vs. rational). Personalization plays an important role in the process to achieve the congruity. We also propose that the ad on the website with high reputation will generate more favourable attitude toward it. Implications and future research are also discussed in the paper.

Keywords: Internet advertising, Congruity, Attitude toward the ad, Product-consumer-website-ad model, Personalization

1   INTRODUCTION

Internet advertising has become one of the most important advertising styles (Danaher et al. 2003; Lohtia et al. 2007; Palanisamy 2004; Ryu et al. 2007). According to the report of The Interactive Advertising Bureau (IAB) and PricewaterhouseCoopers (PwC) on February 25th, 2008 , "Internet advertising revenues for 2007 are estimated to grow to $21.1 billion, a 25% increase over the previous revenue record of nearly $ 16.9 billion for full year 2006".

Consequently, its huge potential as a powerful communication tool also attracts substantial amount of scholarly attention (Ryu et al. 2007). Prior studies mainly pay attention to three issues: (1) the unique properties of Internet advertising and comparisons between it and its conventional counterparts (Dijkstra et al. 2005; Philport et al. 1997), (2) factors influencing the effectiveness of Internet advertising, such as advertisement (ad, for short) design characteristics (Hong et al. 2004; Yoo et al. 2005; Zhang 2001), webpage design characteristics (Danaher et al. 2003), product characteristics (Cho 2003; Dahlen 2002), and consumer characteristics (Jin et al. 2007; Palanisamy 2004), and (3) the measurement of the effectiveness of advertising (Briggs et al. 1997; Lohtia et al. 2007; Pavlou et al. 2000).

However, previous studies still have two shortages. First, factors relevant to advertising effectiveness are considered partly rather than wholly, i.e., in a single study, scholars concentrate on certain aspect (e.g., ad design characteristics), but ignore other aspects (e.g., consumer characteristics). Second, these factors are regarded to be independent rather than correlated, i.e., one factor functions independently without the interaction with other factors. Therefore, in this paper, we try to develop an integrative model including ad characteristics, website characteristics, product characteristics and consumer characteristics. Furthermore, in our proposed model, we take congruities between different factors (interaction effects) rather than single factors (main effects) as independent variables.

The remainder of the paper is arranged as below. Firstly, we review the literature on the effects of ad congruity on advertising effectiveness. Second, following the congruity principle, we develop an integrative congruity analysis model, product-consumer-website-ad (PCWA). Third, according to the proposed model, theoretical and practical implications are discussed. Future research is pointed out at the end of the paper too.

2   LITERATURE REVIEW

2.1   Definitions and Statements

Arens and Bovee(1994) define advertising as, "nonpersonal communication of information usually paid for and usually persuasive in nature, about products, services, or ideas by identified sponsors through various media". From this definition, we can see that advertising is a type of communication related with three actors—products (or service, ideas), media and sponsors. However, there is another actor implicitly represented in the definition, i.e., consumers who receive ads. Because in the actual ad reading process, consumers pay little attention to sponsors who release it, we focus on products, media and consumers in this paper.

Based on the definition of advertising, we define Internet advertising correspondingly as one type of advertising through the medium of Internet. Among various types of communication on the platform of Internet, such as web, e-mail, instant messaging(Schumann et al. 2007), advertising on the websites (e.g., portal website, content website, online store) is the first developed and most popular advertising style. In this paper, we also take web-based ads as the main research object.

Generally, there are three approaches to measure the effectiveness of web-based ad following the order of information processing: cognition, affect and behaviour (Bruner et al. 2000). Cognition measurement includes attention (measured through reaction time) and awareness (includes

recognition, cued recall and free recall). Affect measurement includes attitude toward the ad and intention to buy, whereas behaviour measurement includes click-through-rate and actually purchase behaviour. In this paper, we take individual's attitude toward the ad as our focus.

2.2 Congruity Model Applied in Prior Studies

Consistency or congruity is a common principle underlying much social psychological theory and research. It claims that people prefer consistency and avoid inconsistency regarding cognitions, actions and emotions (Eiser 1971; Heider 1958). Studies on television advertising have recognized the effects of ad congruity on the effectiveness of advertising (see table 1). This so called context analysis or environmental analysis helps TV advertisers to better deal with the relationship between ads and the context in which ads are embedded in (Sharma 2000).

Literature	Media	Findings	Congruity Type
(Johar et al. 1991)	TV	Value-expressive advertising appeals are effective when the product is value-expressive, while utilitarian appeals are effective when the product is utilitarian.	Product-Ad congruity
(Kamins et al. 1991)	TV	A happy commercial viewed in the context of a happy program was evaluated more favourably than the same commercial viewed after exposure to a sad program; while for the sad commercial, it performs more favourably in the context of a sad program relative to a happy one.	Program-Ad Congruity
(Celuch et al. 1993)	TV	Congruency between the sources (cognitive or affective) of program and ad involvement did not produce greater ad effectiveness than did incongruent.	Program-Ad Congruity
(Sharma 2000)	TV	Free recall and cued recall are significantly higher for the cognitively (affectively) involving commercial in the cognitively (affectively) involving program context than in the affectively (cognitively) involving program context.	Program-Ad Congruity
(Lord et al. 2001)	TV	Commercial messages generate greater recall when they are shown in programs that induce moods that are congruent with the mood of the commercial message than when they are incongruent.	Program-Ad Congruity
(Furnham et al. 2002)	TV	Ads are remembered better when placed within a program of dissimilar content.	Program-Product Congruity
(Moore et al. 2005)	Web	Incongruity has a more favourable effect on recall and recognition, whereas congruity has more favourable effects on attitudes. Web browsers will pay greater attention to an ad with a high background-colour/ text-colour contrast than to an ad with a low background-colour/ text-colour contrast.	Website-Product & Website-Ad Congruity

Table 1.   Congruity models applied in prior studies

Prior studies reveal that viewers' attitudes toward ads are more favourable when the congruity between programs and ads is achieved. Many styles of congruity are discussed, such as induced mood congruity (happy vs. sad) (Kamins et al. 1991; Lord et al. 2001), involvement type congruity (affective vs. cognitive) (Celuch et al. 1993; Sharma 2000) and content congruity (product category) (Furnham et al. 2002). General advertising research also claims that the congruity between the nature of product and appeal of ad makes the ad become more persuasive (Johar et al. 1991). Recently, congruity analysis is also applied to the Internet advertising. Moore et al. (2005) investigated the effects of congruity between website and ad on advertising effectiveness from two aspects: structural and content congruity. Conclusions similar with television advertising studies are gained. However, congruity analysis on web advertising is not fully developed yet, hence, we try to fill in this research gap by proposing a research framework based on the multi-congruity analysis in its initial stage.

Prior independent studies of various congruities between different factors contribute to the accumulation of the knowledge on this issue. However, no integrative view is provided yet. We believe that without a full understanding of relevant factors, the Web advertising strategies may lose their power for neglecting some important factors. For example, the product-ad congruity may not always bring consumers' favourable attitudes, because the context where the ads are delivered may not be congruent with the product or the ad. Promoting a book on a Website for reading is suitable, but promoting a book on an online game Website may irritate consumers. Therefore, we suggest considering the whole picture when making decision on the ads design. We also hope our research framework can serve as a checklist for Web advertising practitioners to facilitate their work.

3   THE PRODUCT-CONSUMER-WEBSITE-AD (PCWA) MODEL

Web ads are fundamentally communication messages (Singh et al. 1999) that interact with other three actors: product, website and consumer. Product is the source of ad and can be described as different representations according to various advertising appeals. Website is the context in which ad locates and exhibits its content to web browsers. Consumer is the receiver of ad, and their cognitions, emotions and behaviours about the ad reflect the effectiveness of advertising. In the proposed model (see figure 1), not only interactions or congruities between theses three actors and ad are considered, but also effects of interactions between these three actors on ad effectiveness are taken into account.
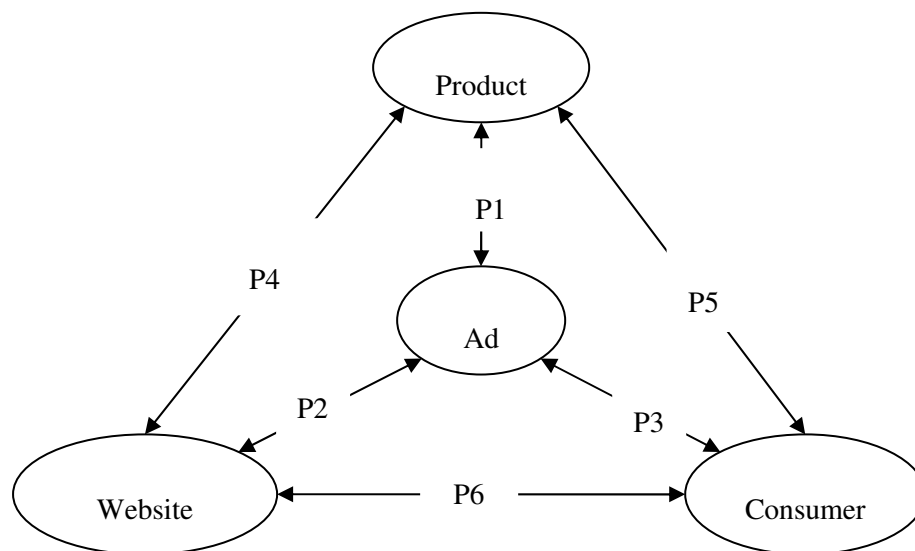

Figure 1.   The Product-Consumer-Website-Ad Model

It is worthy to note that, in the model, product and ad are viewed as two different actors. This is different from prior studies which regard product as ad content (Furnham et al. 2002; Moore et al. 2005). We do this separation based on two considerations. First, product and ad content are naturally different. Product is a real object with multiple attributes while ad content is mainly used by these researchers to narrate what the ad is about, i.e., product category. Hence, when discussing detailed attributes of product (e.g., hedonic vs. utilitarian), the term ad content is not suitable. Second, prior studies show that congruity between product and ad enhances ad effectiveness (Johar et al. 1991). If concepts about them are mixed together, it is difficult to illuminate their relationships. So in our model, the concept of product refers to the content of ad, as well as other characteristics of the product reality, whereas the concept of ad is used to refer to the appeal or representation styles of the ad.

3.1   Product-Ad Congruity

Bi-dimensional product model claims that the nature of product is constituted by two components: hedonic and utilitarian component (Batra et al. 1991; Holbrook et al. 1982). The hedonic component

is evaluated from sensory attributes and focuses on consummatory gratifications, whereas the utilitarian component is based on functional and non-sensory attributes, pursuing instrumental expectations (Batra et al. 1991). However, in the actual consumption of products, consumers frequently characterize the products as either hedonic or utilitarian according to the relative strength of these two components. When consumers feel hedonic component of a product is more important than its utilitarian component, they view this product as hedonic product, vice versa.

Similarly, value-expressive (image) or symbolic appeal and utilitarian (functional) appeal are two most common approaches used in advertising to influence consumer behaviour(Johar et al. 1991). They are also called as emotional and informational appeals in other studies (Singh et al. 1999). Emotional (or value-expressive) appeal involves building a "personality" for the product or creating an image of the product user, and attempts to appeal to one's feelings (Johar et al. 1991; Singh et al. 1999). In contrast, informational (or utilitarian) appeal involves "informing consumers of one or more key benefits that are perceived to be highly functional or important to target consumers" (Johar et al. 1991; Singh et al. 1999). An ad may adopt both informational and emotional appeal, but generally consumers characterize it as an informational ad or emotional ad according to the relative strength of these two appeals.

Congruity principle suggests that when the nature of product and appeal of ad are congruent, the ad generates more favourable attitude of consumers and become more persuasive (Johar et al. 1991). Emotional ad is congruent with hedonic product, while informational ad is congruent with utilitarian product. That is to say, the hedonic product should be advertised in an emotional approach, and the utilitarian product should be advertised in an informational approach.

Propositions 1a: Emotional (informational) ad is more effective than informational (emotional) ad when the product is hedonic (utilitarian).

Information systems studies indicate that types of web advertising appeal can be distinguished by the difference of ad design. Emotional ads typically are less wordy and contain more visual elements while informational ads are full of text narration (Singh et al. 1999). Further, when an ad is designed with rich media (e.g., animation), it looks like vivid, exciting and more sensory and is perceived as an emotional ad (Lai et al. 2007).

Proposition 1b: Rich media can enhance the hedonic perception of an ad.

3.2 Website-Ad Congruity

Users visit websites not only for information, but also for entertainment. Huang (2003) identified two aspects of web performance: hedonic and utilitarian. Similar with product, the hedonic aspect of web performance is related with the amount of fun, playfulness, and pleasure users experience or anticipate from the site, whereas the utilitarian aspect of web performance is related with information or other instrumental benefits provided by website(Huang 2003). Website can be characterized as hedonic or utilitarian by weighing which aspect is dominant.

Hedonic and utilitarian websites are designed with different structural features. Hedonic website has more images, animations and fewer words than utilitarian website. For example, the famous portal website Yahoo! is constituted with many sub-sites in terms of their different functions, e.g., finance, weather, games, movies, music. Finance and weather sub-sites are utilitarian websites because they mainly provide information for users, while games, movies and music sub-sites are hedonic websites that mainly bring enjoyment for users (see figure 2).
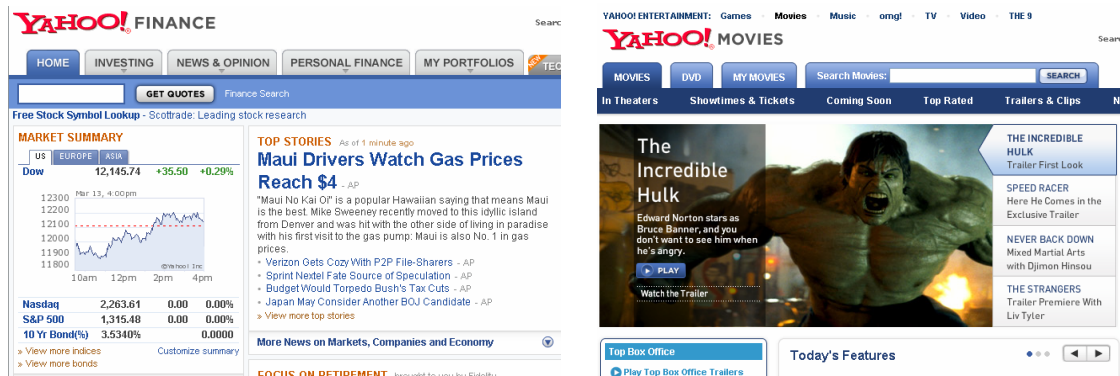
Figure 2. Utiltarian vs. Hedonic Website

The Elaboration Likelihood Model (ELM) postulates that persuasion occurs through two different routes: central route that emphasizes cognitively elaborating on the message and peripheral route that stress the affectively feeling about context cues (Petty et al. 1986). When users browse a hedonic website with the purpose for entertainment, peripheral route determines their information processing behaviour. If ad on the hedonic website is represented in an informational way which relies on the central route (Johar et al. 1991), users have to change their information processing mechanism from peripheral route to central route. However, if ads are represented in an emotional way, no route change is needed. According to the congruity principle, people prefer consistency and avoid inconsistency regarding cognitions, actions and emotions (Eiser 1971; Heider 1958). It is very likely that consumers will form a relatively negative attitude toward ads when they need to change their information processing modes. Therefore, in contrast with informational ads, emotional ads are more effective on the hedonic website. For the same reason, informational ad is more effective than emotional ad on the utilitarian website.

Proposition 2: Informational (emotional) ad will be more effective than emotional (informational) ad when the context is utilitarian (hedonic) website.

3.3   Consumer-Ad Congruity

Cognitive-experiential self-theory (CEST) proposes that people process information by two parallel, interactive systems: a rational system that operates at the conscious level and is intentional, analytic and an experiential system that works at the preconscious level and is automatic and holistic (Epstein et al. 1996). There are important individual differences in the usage of these two systems during the information processing process (Epstein et al. 1996), i.e., someone prefers relying on rational system, while others adopt experiential system for most of time. According to this individual difference, consumers' thinking styles can be characterized as rational or intuitive, and consumers can be called as thinker or feeler correspondingly (Myers 1984).

For the consumers who prefer rational thinking, they expect ads to provide adequate information for their cognitive analysis and decision making; in contrast, those who prefer intuitive thinking dislike too much thinking about the purchase behaviour, but expect ad to provide them with a holistic image that can be easily recognized by their feelings or intuitions (Epstein et al. 1996). Therefore, informational ad meets rational consumers' needs for cognition but involves intuitive consumers into the pain of thinking, whereas emotional ad accords with intuitive consumers' faith in intuition but irritates rational consumers for lack of information. Thus, the congruity between consumer thinking style and ad appeal is closely related with consumer's attitude toward the ad. Emotional ad is considered as congruent with rational thinking style, while informational ad is considered as congruent with intuitive thinking style. So, we propose:

Proposition 3: Emotional (informational) ad is more effective than informational (emotional) ad for intuitive (rational) consumers.

3.4   Website-Product Congruity

Furnham et al. (2002) investigates how the congruity of product and program content influences consumer's attention to ads. Two conflictive hypotheses are examined: one supposes that content congruity produces better recall of ad, while the other supposes that dissimilar content attract more attention of consumer. They conclude that when product and website content is dissimilar rather than congruent, consumers pay more attention to them. However, the attention to the ad and the attitude toward the ad may be not consistent (Moore et al. 2005). That an ad can draw more attention doesn't mean that it is able to generate consumer's favourable attitude. According to the information processing theory (e.g., Tam and Ho 2006), there are three sequential stages of the whole information processing process: attention, elaboration or cognitive processing, behavioural response (S-O-R paradigm). Attention occurs before the elaboration (i.e., perceptions, attitude, etc.). If Web ads draw attention based on the loss of attitude, it still cannot lead to product purchase behaviour, because attitude is an essential mediator (Baron and Kenny 1986). We believe that overemphasis on attention without considering its consequence which may more directly influence behaviour will mislead online marketers and Website designers. In this case, we think attitude should be firstly considered, and in the condition where favourable attitudes are formed, attention attraction strategy should be used.

According to the congruity principle, individuals prefer keeping the consistence of everything including information processing (Eiser 1971; Heider 1958). When users enter a web page, both ads and web content are showed together in front of them. The web content provides information or entertainment to satisfy users' needs for visiting, while ads are considered as non-primary or secondary stimuli (Zhang 2000). Thus when users' attention is switched from web content to ad, they have to interrupt the processing of primary information to process secondary information. If the product is not consistent or related with primary information, users have to spend lots of efforts during the switch process, and negative attitude toward ad is generated too. In contrast, when the product and web content is congruent, efforts expended during the switch process are relatively few. Furthermore, the congruent ad even can satisfy users' information needs, so users will have a favourable attitude toward it.

Evidences are provided in the previous studies. For example, when investigating the congruity effects of television program and advised product, Mandler(1982) finds that program-product incongruity can increase the difficulty for consumers to resolve the disparate information and arouse negative evaluation. Russell (2002) explains that, if program and product is not congruent, consumers will perceive that the product is out of place. A recent study in the context of web by Moore and colleagues (2005) reconfirms the positive effect of congruity between web content and product on consumer's attitude.

Proposition 4: Congruity between web content and product is positively related with consumer's attitude toward ads.

3.5   Consumer-Product Congruity

Consumer-product congruity refers to the extent to which the advised product is relevant to the consumer's processing goal or consistent with their preference. If viewing ads on the web as a mini information system, many arguments about technology acceptance can be applied. According to DeLone and McLean's information system success model, relevance is an important component of information quality which closely related with information satisfaction (DeLone et al. 1992). Consequently, information satisfaction directly or indirectly (via perceived usefulness) leads to user' attitude toward system acceptance and usage (Delone et al. 2003; Wixom et al. 2005). Thus, congruity between consumer and product positively influences consumer's attitude toward the ad.

One effective way to achieve consumer-product congruity is personalization of ad (Nowak et al. 1999). As an important technology, personalization has drawn lots of IS (information systems) scholars' attention(Baraglia et al. 2007; Liang et al. 2006-7; Tam et al. 2005; Tam et al. 2006). The tenet of personalization is to provide consumers with relevant content that matches their preference.

This is carried out by constructing accurate, comprehensive consumer profiles based on their usage (Adomavicius et al. 2006).

Proposition 5: Consumer-product congruity is positively related with consumer's attitude toward ads.

3.6 Consumer-Website Congruity

Consumer-website congruity refers to the extent to which consumers perceive that website matches their preference. Consumer's attitude toward the website can be seen as an indicator of the congruity, because when their needs and website are congruent, they will have favourable attitude toward it (with the same reason in 3.5). Hence, we focus on how consumer's attitude toward the website influences their attitude toward the ad.

MacKenzie et al. (1986) propose four hypotheses to describe the relationships between ad cognitions, attitude toward the ad (A_{ad}), brand cognitions, attitude toward the brand (A_b) and intention to purchase the brand (PI). Thereinto, the affect transfer model identifies that Aad leads to Ab. Brown and Stayman (1992) reconfirm the hierarchy-of-effects, i.e., $A_{ad} \rightarrow A_b \rightarrow PI$. For the web advertising, a new construct—attitude toward the website (A_{ws})—is also considered as playing an important role in the hierarchy-of-effects. The attitude toward the website is expected to influence the attitude toward the ad, because consumers will transfer their attitude toward website to their attitude toward ad too (Bruner et al. 2000; Stevenson et al. 2000), i.e., $A_{ws} \rightarrow A_{ad} \rightarrow A_b \rightarrow PI$.

Proposition 6: Consumer-website congruity is positively related with consumer's attitude toward the ad.

4 DISCUSSIONS AND IMPLICATIONS

This paper has two main contributions to the research. First, different from prior studies that only focus on the isolated effects of different relationships between ad and other factors, in the proposed model, most of factors related with advertising effectiveness are considered. The integrative model can provide scholars with an overview about this issue rather than part of it. Second, although prior studies have taken these factors into consideration, most of them adopt them independently. Synergies between factors are not taken seriously. According to this shortage, the model articulates how the congruity between ad, product, consumer and website influences consumer's attitude toward the ad.

Congruity Type	Implications
Product-Ad	Ad of hedonic product should adopt emotional appeal, while ad of utilitarian product should adopt informational appeal. Emotional appeal can be achieved by using more images, animations and fewer words.
Website-Ad	On the hedonic website, ad should adopt emotional appeal rather than informational appeal; while on the utilitarian website, ad should adopt informational appeal rather than emotional appeal.
Consumer-Ad	For rational consumer, ad should adopt informational appeal; while for intuitive consumer, ad should adopt emotional appeal. Personalization is helpful for knowing what thinking style the consumer is.
Website-Product	Advised product should be related with the content of website.
Consumer-Product	According to consumers' ads reading or clicking behaviour to decide the type of product should be advertised to them.
Consumer-Website	Advertising on the website with high reputation.

Table 2. Summary of implications

Practical implications are summarized in the table 2. Generally, two aspects are discussed. The first implication is about how to design ad. This derives from the congruity between ad and other three factors: ad should be designed consistent with the product type (hedonic vs. utilitarian), website type (hedonic vs. utilitarian), and consumer type (rational vs. intuitive thinking styles). The second

implication is about ad release: when, where and to whom. Ad should be arranged on the website with high reputation (consumer-website congruity) and consistent with product type (website-product congruity). Ad also should be sent to consumers according to their preference (consumer-product congruity).

As an approach to achieve congruity, ad personalization plays an important role. Firstly, personalized advertisement can satisfy consumers' information needs. For example, one consumer who likes games will pay more attention to websites about games or products related with games, thus personalization technology can help advertiser to know that advertising product relevant to games is appropriate. Secondly, personalization also can help advertiser to know what appeal should be adopted for consumers. For example, emotional appeal is more suitable for female consumer because female prefer intuitive thinking (Epstein et al. 1996).

Another critical issue is about the perceived and objective characteristics of referred factors. For example, when we say a product belongs to hedonic products, there is an assumption that all consumers consider it is hedonic. But it may not keep true at all time due to the individual differences: some think a product is hedonic, while others think it is utilitarian. The inconsistency between perceived and objective characteristics may bring confusions in practice. The similar problem exists in research on gender. Generally, there are two schools of research on gender difference: one focuses on the biological differences (i.e., male vs. female), while the other stresses on the cultural differences (e.g., masculine vs. feminine) (Bem 1981; Eagly 1987; Hofestede 1980). There is inconsistency between the biological and cultural characteristics of gender too. However, there are still several approaches to apply our framework in practice. First, although people may think differently, there may be an opinion accepted by most of consumers. Then online advertisers can plan the advertising strategy based on the dominant population, since it indicates a relatively high probability of satisfying consumers. Second, the personalization technology also helps online advertisers to collect consumer information about these factors. For example, consumers can categorize products into hedonic or utilitarian products by themselves. Then, Web advertisers can deliver Web ads according to consumers' categorizations.

5   FUTURE RESEARCH

A great deal of future work should be done about the congruity analysis of web advertising. First, empirical investigations based on this model should be carried out. In the empirical study, we should identify whether the congruities between factors make sense or not, and which congruity influences consumer's attitude toward the ad more strongly than others. Second, it is interesting to think about the problem that how to deal with the conflicts between different congruity. For example, if an ad is congruent with the product but incongruent with the website, what should we do? Maybe we should advertise on another website, or maybe we should modify the appeal of ad. Following these question, we can find some rules about the congruity arrangement, e.g., keeping the congruity between product and ad firstly, then considering the congruity between website and ad. However, we don't know it yet, and all of these still need the confirmation of future research.

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