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The Effects of Comparative Advertising on Young Consumers' Perceptions: Cross-Cultural Comparison Between the United States and Taiwan

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ABSTRACT

This study aims to examine the effectiveness of comparative advertising of a high involvement product in two countries, the United States and Taiwan. The results show that different types of comparative advertising moderate the relationship in the proposed model and exert different levels of influences on consumers. The United States and Taiwanese consumers are significantly different in attitudes toward the ad, attitudes toward the sponsored brand, and purchase intention. The results show that direct comparative advertising might be suitable for promoting a new brand in countries with individualistic cultures. However, global marketers should be cautious when employing comparative advertising formats in collectivist cultures.

KEYWORDS

ad believability, attitude toward the ad, attitude toward the sponsored ad, comparative advertising, purchase intention, Taiwan, United States

Introduction

Comparative advertising has been employed as an advertising tactic to make explicit claims that a brand is superior to a comparison brand. Comparative advertising appeals are believed to have many strategic advantages over noncomparative advertising appeals. For example, comparative advertising can effectively encourage consumers to engage in relative judgments that generate either an association or differentiation effect (Chang, 2007; Dröge & Darmon, 1987; Pechmann & Ratneshwar, 1991; Pettit-O'Malley & Johnson, 1992). Dröge and Darmon (1987) find that comparative advertising helps a new brand achieve fast and accurate product positioning.

Advertisers have increasingly used comparative advertising to emphasize superiority of a focal brand by comparing the brand with a competitors' brand. The explicit comparative ads provide more product or brand information to consumers and therefore allow consumers to make more effective decision-making in the consumption process (Wilkie & Farris, 1975; Barry, 1993a).

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Despite the popularity of using comparative advertising in the United States and an increasing number of employing comparative ads in other countries such as Brazil, France, Japan, South Korea, and the United Kingdom (Shao, Bao, & Gray, 2004), a search for the study of cross-cultural comparison of comparative advertising found only a limited number of papers published between the 1990s and the early 2000s. Recently, some Asian countries have relaxed their restrictions on comparative formats and allowed them to be used in advertising. Due to regulations and cultural reasons, Asian advertisers use fewer comparative formats in advertising (Choi & Miracle, 2004; Donthu, 1998; Jeon & Beatty, 2002; Schwaiger, Rennhak, & Taylor, 2007; Shao et al., 2004). Recent cross-cultural studies of comparative advertising show either conflicting or inconclusive results (Choi & Miracle, 2004; Jeon & Beatty, 2002; Shao et al., 2004).

Most cross-cultural studies of comparative advertising predominantly compare the differences between the United States and South Korean consumers (Choi & Miracle, 2004; Donthu, 1998; Jeon & Beatty, 2002). However, how comparative advertising influences consumers is unknown in other Asian countries such as China, Hong Kong and Taiwan, where consumers are heavily influenced by Confucianism (Lu, Huang, & Chang, 2014). This study chooses to examine the differences between Taiwanese and American consumers' perceptions of comparative advertising based on their different cultural orientations. Although comparative advertising is not banned in Taiwan and even direct comparative advertising has been utilized (Bei, 2000), comparative advertising is not commonly used in Taiwan. Prior studies suggest that Asian consumers have more negative attitudes toward comparative advertising (Chang, 2000; Lu et al., 2014) because of its aggressiveness and derogatory nature (de Mooij, 2010).

Past research has shown conflicting results of the effectiveness of comparative advertising versus noncomparative advertising. Some investigators conclude that comparative ads provide advantages that are not associated with noncomparative ads (Miniard, Rose, Barone, & Manning, 1993; Pechmann & Ratneshwar, 1991; Rose, Miniard, Barone, Manning, & Till, 1993), while others argue that comparative advertising produces inconsistent results (Belch, 1981; Goodwin & Etgar, 1980). Grewal, Sumumar, Fern, Costley, and Barnes (1997) suggest that comparative ads are not always superior to noncomparative ads in persuasion. The relative effectiveness of comparative versus noncomparative advertising may vary and is a function of product characteristics, message content (Chang, 2007; Grewal et al., 1997; Neese & Hult, 2002; Putrevu & Lord, 1994), and cultures (Donthu, 1998; Jeon & Beatty, 2002; Shao et al., 2004). Among the studies of comparative advertising, indirect-comparative ads are less examined and only a few cross-cultural studies of comparative advertising have included indirect-comparative ads in the investigation (Choi & Miracle, 2004; Jeon & Beatty, 2002; Shao et al., 2004).

In the aforementioned discussion, most research on the effectiveness of comparative vs. noncomparative advertising is based on comparing the research subjects' attitudinal differences observed in experiments or considers only some functions

in the advertising function model dependent variables. Grewal et al. (1997) meta-analyzed two decades of empirical research data and developed a hierarchy of comparative advertising effects model to examine the effectiveness of comparative versus noncomparative advertising. Based on the dimensions proposed in Grewal et al.'s hierarchy of comparative advertising effects model, this study develops a theoretical model to compare the effects of three types of comparative ads in two countries, namely the United States and Taiwan.

Theoretical background and hypotheses

Comparative advertising types

In a comparative ad, competitors in the same product category are either directly or indirectly mentioned, and one or more product attributes are compared in the advertising message (Shao et al., 2004). There are at least three types, or levels, of comparisons in comparative advertising (del Barrio-García & Luque-Martínez, 2003; Donthu, 1992; Muehling, Stoltman, & Grossbart, 1990; Neese & Hult, 2002): direct-, indirect-, and noncomparative. The extant research on comparative advertising often discusses the difference between direct- and noncomparative advertising while the inclusion of indirect-comparative advertising is ignored (Kalro, Sivakumaran, & Marathe, 2013). Nevertheless, indirect-comparative ads can have very different effects than direct comparative ads on consumers' perceptions (Appleton-Knapp & Montonakis, 2009; Dianoux, Herrmann, & Zeitoun, 2013; Kalro et al., 2013). Thus, this study includes the three comparative advertising types: direct-, indirect-, and noncomparative advertising.

Comparative advertising and ad effectiveness

Criteria for evaluating an ad's effectiveness can be classified into memory, persuasion, and behavior (Gelbrich, Gätke, & Westjohn, 2012). According to Grewal et al.'s (1997) comparative advertising model, an ad has three hierarchical effects to create an impact on the consumer. These three functions include the effects of cognition, affection, and conation. Based on this model, this study includes ad believability as one cognitive function, attitudes toward the ad, and attitudes toward the sponsored brand as two affective functions, and purchase intention as a conative function.

Cognition

Advertising's cognitive functions provide information and facts to make consumers aware of and knowledgeable about the brand (Grewal et al., 1997). Grewal et al. (1997) point out that comparative ads are more likely than noncomparative ads to produce different effects on consumers' awareness and knowledge of the brand because comparative ads deliver different information to the consumers. Although the results of recall studies of comparative ads have been mixed, comparative

advertising tends to be more effective when it comes to the recall of unfamiliar brands (Barry, 1993a; Grewal et al., 1997). Previous research also reveals that a lesser known brand's ad gets more attention when the brand is compared with a leading or an established brand (Pechmann & Stewart, 1990). The reason is that a comparative ad might receive more attention because of its informative content (Muehling et al., 1990). If a comparative ad explicitly compares specific attributes of two brands, the information presented in the ad captures the attention of more consumers because of the newness, uniqueness, and usefulness of that information. Furthermore, consumers perceive comparative ads as more informative than non-comparative ads because the explicit attribute comparisons in comparative ads help them differentiate the brand from the comparison brand (Wilkie & Farris, 1975).

Believability of comparative ads consists of two components; one component is related to source credibility and the other refers to the perceived truthfulness of the advertising message (Grewal et al., 1997). Previous research shows that comparative ads are less believable in both source and messages, especially for users of the comparison brand (Swinyard, 1981). Instead of changing comparison brand users' prior beliefs, comparative ad messages induce supporters of the comparison brand to counter-argue with the advertising claims, as well as to disparage the source of the comparative advertising message (Belch, 1981; Swinyard, 1981). Confronted by noncomparative advertising, consumers would not discredit the claims because the ad message does not contain any comparative information of another brand. Therefore, comparative ads would entice more counterarguments from consumers than noncomparative ads and are perceived to be less credible. However, Barry (1993a) argues that, if the advertising claims can be substantiated by market research information, the credibility of comparative advertising claims would increase.

Affect

In the hierarchy model proposed by Grewal et al. (1997), awareness is generated first and then attitudes (affective responses) are developed. Attitudes are formed based on the information that is processed during the cognition stage. These attitudes act as predispositions toward brands leading to specific brand purchase behavior. Affective responses to comparative advertising include consumers' feelings about the ad and their evaluation of the brand.

The comparative ad format should directly influence consumers' affective responses. Previous research reveals that consumers have more unfavorable attitudes toward comparative ads than those toward noncomparative ads (Belch, 1981; Swinyard, 1981) because comparison brand users see the comparison as an attack on their favorable brand, causing them to counter-argue with the advertising claims (Grewal et al., 1997). However, some scholars argue that comparative advertising enhances consumers' attitudes toward the focal brand. Although comparative ads are viewed as impersonal, less friendly,

and less honest (Dröge, 1989), new brands using comparative ads can be more closely anchored to existing established brands' market positioning to create a more favorable impression (Grewal et al., 1997). It also appears that comparative ads comparing objective brand attributes (factual information) can generate more positive attitudes than those focusing on subjective brand attributes (evaluative information) (Barry, 1993a). Therefore, consumers' attitudes toward the ad can be transferred to the brand (the focal brand).

Previous research shows that feelings or attitudes toward the brand are positively influenced by attitudes toward the ad (MacKenzie, Lutz, & Belch, 1986; Muehling, 1987). The other factor that influences attitudes toward the brand is the association with the comparison brand. If attitudes toward the comparison brand are perceived in a positive way, similarity between the brand and the comparison brand may lead to more positive attitudes toward the comparison brand. Also, compared with the messages of a noncomparative ad, clear and focused ad messages in a comparative ad allow consumers to differentiate the benefits of the brand from those of the comparison brand and create a positive effect on consumers' attitudes toward the brand (Grewal et al., 1997).

Conation

The conative function is important because it stimulates desire that may eventually cause consumers to buy the brand (Pechmann & Stewart, 1990). Previous research shows that there is a stronger relationship between attitudes toward the brand and purchase intention caused by comparative ads than by noncomparative ads (Dröge, 1989; Grewal et al., 1997).

When a new brand is compared to an established brand or market leader, a novelty effect may occur. In this instance, the new brand in the comparative ad may receive more attention and the ad itself is also perceived as more informative than a noncomparative ad (Iyer, 1998; Grewal et al., 1997). This may result in a greater impact on consumers' attitudes and purchase intention. As Grewal et al. (1997) point out, when an ad is noncomparative, any consideration of market position by consumers is based on implicit ad cues and would not have a systematic effect on consumers' behavior. An outcome that measures sensitivity to an advertising effect depends on the framing of the advertising message. If the message is framed as a comparison between a new brand and an established brand, the message is likely to be more impactful. This contention is verified by Dianoux et al. (2013); direct comparative ads are more effective than indirect comparative ads. Chang (2007) also concludes that, when nonalignable attributes are featured in ads, comparative ads and noncomparative ads influence consumers' attitudes toward ad and purchase intention differently.

Based on the above discussion, a research model is developed to examine ad believability (ADBE), attitudes toward the ad (ATA), attitudes toward the sponsored brand (ATB), and purchase intention (PI). (Figure 1).

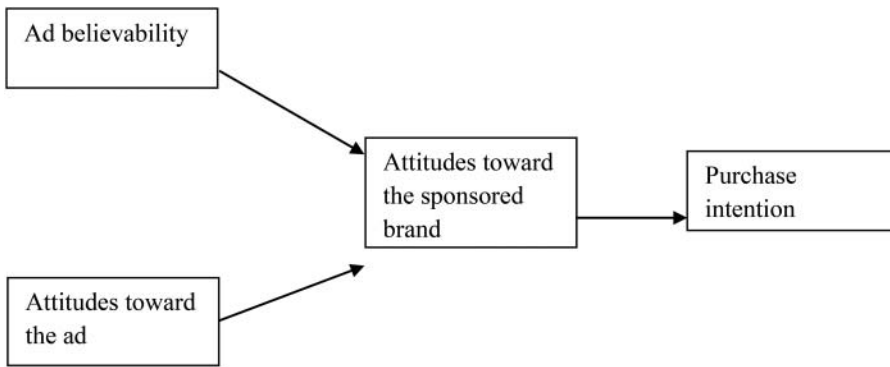


Figure 1. Research model.

H1: For both countries, ad believability is positively related to attitudes toward the sponsored brand.

H2: For both countries, attitudes toward the ad are positively related to attitudes toward the sponsored brand.

H3: For both countries, attitudes toward the sponsored brand are positively related to purchase intention.

H4: For both countries, the influence of ad believability on attitudes toward the brand varies among comparative ad types, that is, noncomparative, indirect-comparative, and direct-comparative.

H5: For both countries, the influence of attitudes toward the ad on attitudes toward the brand varies among comparative ad types, that is, noncomparative, indirect-comparative, and direct-comparative.

H6: For both countries, the influence of attitudes toward the brand on purchase intention varies among comparative ad types, that is, noncomparative, indirect-comparative, and direct-comparative.

Cultural influence on comparative advertising

Although past research suggests that comparative advertising might be more effective than noncomparative advertising (Donthu, 1998; Dröge & Darmon, 1987; Goodwin & Etgar, 1980), levels of comparative advertising effectiveness and attitudes formed by exposure to such ads are likely to be different between countries or cultures (Choi & Miracle, 2004; Donthu, 1998; Shao et al., 2004). Donthu (1998) finds that consumers from countries rarely exposed to comparative ads tend to have more negative attitudes toward comparative ads.

Culture has also been proven to influence the effects of advertising (e.g., Alden, Hoyer & Lee, 1993; Han & Shavitt, 1994; Hong, Muderrisoglu, & Zinkhan, 1987; Polyorat & Alden, 2005). The most frequently adopted views of culture in advertising studies are Hofstede's individualism/collectivism (Chang, 2000; Gelbrich et al.,

2012; Lee & Yoo, 2012). Studies based on Hofstede's individualism/collectivism find that members of individualistic cultures prefer clarity in conversation, whereas people living in collectivistic cultures are more concerned about face and prefer implicit and indirect communication (e.g., Choi & Miracle, 2004).

Past research shows that consumers in individualistic cultures and those in collectivistic cultures perceive comparative ads differently (Choi & Miracle, 2004; Shao et al., 2004). Since comparative ads are more informative (the attributes of two brands are explicitly compared) (Wilkie & Farris, 1975), consumers from an individualistic culture or low context culture may consider such ads more useful. In contrast, comparative advertising is considered aggressive and derogatory by consumers from a collectivistic or high context culture (Choi & Miracle, 2004). The negative attitudes could be even more obvious for consumers in Taiwan because of its Confucian centered culture. Confucianism, a traditional Chinese culture, emphasizes social harmony and humility (Chung, Eichenseher, & Taniguchi, 2008; Lu et al., 2014). Therefore, attacking a competing brand in advertising is deemed unacceptable. In this instance, U.S. consumers may consider messages in a comparative ad more believable (ad believability), have more favorable attitudes toward the ad and the brand, and have higher purchase intention.

H7: When exposed to a direct comparative ad, U.S. consumers will have more favorable
a) ad believability, b) attitudes toward the ad, c) attitudes toward the sponsored brand, and d) purchase intention than Taiwanese consumers.

The cross-cultural comparative advertising study rarely compares the effect of indirect-comparative advertising (Karlo et al., 2013) and the significance of indirect-comparative advertising's effects are not well understood. In an indirect-comparative ad, the brand is indirectly compared with one or more comparison brands. Under this circumstance, consumers, particularly those from an individualistic culture, may consider such an ad more informative (Wilkie & Farris, 1975), but not as hard sell as direct comparative ads. Choi and Miracle (2004) argue that when being shown an indirect comparative ad, U.S. consumers have more positive attitudes toward the brand and attitudes toward the ad, but not higher purchase intention than Korean consumers. Jeon and Beatty (2002) also compared United States and South Korean consumers regarding their perceptions of different comparative ads. Although the difference in the effect of the indirect comparative ad between the two consumer groups was not hypothesized, their analysis indicates that the U.S. consumers have more favorable brand beliefs, brand attitudes and purchase intention (Jeon & Beatty, 2002, p. 911). According to Hofstede's cultural orientation scales, Taiwan has a lower score in individualism than South Korea (Taiwan = 17; South Korea = 18) (<http://geert-hofstede.com/south-korea.html>). Therefore, an indirect comparative ad might have a stronger effect on U.S. consumers than on Taiwanese consumers.

H8: When exposed to an indirect comparative ad, U.S. consumers will have more favorable a) ad believability, b) attitudes toward the ad, c) attitudes toward the sponsored brand, and d) purchase intention than Taiwanese consumers.

In the cross-cultural comparison, the conclusions regarding the effect of non-comparative advertising are mixed. Although some studies show that the difference exists in the effects of noncomparative ads between the collectivistic and individualistic cultures (Choi & Miracle, 2004; Jeon & Beatty, 2002), others show that the response to noncomparative ads is not different between cultures (Donthu, 1998; Shao et al., 2004). Noncomparative advertising is regarded as traditional advertising. Cross-cultural studies of advertising effects have concluded that similar ads affect Asian and U.S. consumers differently and that Asian consumers (e.g., Chinese and Filipinos) have more positive attitudes toward the ads (Callow & Schiffman, 2004; Gao, Li, & Scorpio, 2012). Therefore, Taiwanese consumers may have more favorable attitudes toward noncomparative ads than U.S. consumers. Additionally, noncomparative ads might be preferred by Taiwanese consumers because such ads do not directly compare the brand with a comparison brand and hence are not aggressive (Choi & Miracle, 2004; Schwaiger et al., 2007). Based on the aforementioned reasoning, we hypothesize that, when exposed to a noncomparative ad, Taiwanese consumers would have more favorable responses than U.S. consumers.

H9: When exposed to a noncomparative ad, Taiwanese consumers will have more favorable a) ad believability, b) attitudes toward the ad, (c) attitudes toward the sponsored brand, and d) purchase intention than U.S. consumers.

Methodology

Design and procedures

A 2×3 (country \times comparative ad type) experimental design was used to test the hypotheses. Laptop computers were chosen in the experiment because of young consumers' high involvement in (Dholakia, 1997; Zaichkowsky, 1987), and familiarity with, the product. The ads promoted a fictitious brand of laptop computer called Matrix 2⁰. The comparison brand was the popular Sony Vaio, which is an established premium brand among the top laptop brands in the world. The information of the product and product attributes were gathered from three focus group interviews with college students. Advertising claims focused on salient product attributes that college students are interested in. The salient attributes, including weight, price, shape, speed, and overall quality, were utilized to create the levels (types) of comparative ad intensity. For the experimental manipulation, three types of print ads with three levels of comparative ad intensity (CAI, Donthu, 1992) were created for each country. The three ad types were direct-comparative (DCA), indirect-comparative (ICA), and noncomparative ads (NCA). All three ads are

identical in layout with a slight variation in the ad copy, which was written to suit the purpose (CAI) of each ad (Appendix).

As college students are actual users and buyers of laptop computers, two focus groups in each country (U.S. and Taiwan) were conducted to get insights about laptop computer usage and involvement among college students. Twelve students for each focus group were invited. Students from both groups expressed that purchasing a laptop computer was a long and involved process as there were many different product features and brands. Data were collected in the United States and in Taiwan. For the U.S. data, 195 undergraduates from one southern region university and one eastern region university participated in the survey. For the Taiwan data, 173 students from two universities in the southern region of Taiwan participated in the experiment. The sample frame is suitable since computers are important and relevant to college students who are interested in computer ads. In the United States, 88% of the college students own a laptop computer (Pew Research, 2011). A research study among Taiwanese college students showed that 24% of the freshmen would buy a laptop computer before the semester begins (FIND, 2000) and the recent trend (Liu, 2015; Wu, 2011) also shows that computers (laptops) and tablets are one of the top online shopping purchase for Taiwanese college students. Beltramini (1983) suggests that using college students as research subjects at the attitudinal level in marketing research is appropriate. College students have been widely used in many comparative advertising research studies (Barry, 1993b; Jeon & Beatty, 2002; Choi & Miracle, 2004) and the homogeneity of college student samples produce less noise and extraneous variation for stronger hypothesis tests (Brown & Stayman 1993). The sample consisted of 64% females and 36% males. All respondents were between 18 and 26 years old and the average age was 21 years old. In the web survey environment, three comparative ads were randomly assigned to participants. After viewing one randomly assigned ad, each respondent was asked for his or her perceptions.

Scale and measurements

Four variables were included in the survey. The ad believability scale (ADBE) was taken from Harmon and Coney's (1982) study and modified. Attitudes toward the brand (ATB) and purchase intention (PI) were relative measures suggested by Miniard et al. (1993); these items were measured on 7-point Likert scales anchored at "strongly disagree" (1) and "strongly agree" (7). Attitudes toward the ad (ATA) were measured by adapting Mitchell and Olson's (1981) 7-point semantic differential scales.

The questionnaire was originally written in English and a back translation process was utilized (Brislin, 1986) for the Taiwan version to ensure the questionnaire equivalence. All items that matched precisely were retained after minor discrepancies had been resolved. In this study, the substantive knowledge

about the constructs under examination fulfilled the equivalent requirement for comparative research (Douglas & Craig, 1983). Sample equivalence enhances the validity and reliability of measurements, as well as controls the exogenous variables that might confound the research results (Douglas & Craig 1983; Straub 1994).

Manipulation checks

Comparative ad intensity manipulation was checked by comparing scores between the three levels of intensity. This study expected the mean scores of the three levels of ad intensity to be different from one another. Two questions, “The ad compares the advertised brand to a competitor’s brand” and “The ad shows the superiority of the advertised brand to a competitor’s brand,” were analyzed using ANOVA to evaluate the effects of the three levels of ad intensity. The results indicated that the differences between the levels of intensity are significant [$F(2,364) = 24.72$, $p < .001$]. A post hoc Scheffe test showed differences in mean scores between direct-comparative ($M = 4.76$), indirect-comparative ($M = 3.92$) and noncomparative ads ($M = 3.48$).

A question was included in the survey to test the respondents’ knowledge about the Sony Vaio laptop computer. Ninety-five percent of the respondents from both countries recognized and were familiar with the brand.

Results

As a preliminary analysis, exploratory factor analysis (EFA) was used to assess the dimensionality of a set of variables. Four constructs (ad believability, attitudes toward the ad, attitudes toward the sponsored brand, and purchase intention) were identified and the coefficient alphas ranged from .87 to .95 (Table 1). Confirmatory factor analysis (CFA) was used to test the overall validity of the measurement model containing dependent variables. CFA results of the overall model indicated that the measurement model provided an appropriate fit ($\chi^2 = 140.87$, $df = 84$, $GFI = .95$, $TLI = 0.98$, $CFI = .99$, $RMSEA = .04$). No measurement items for source credibility in the ad believability construct were included in the final analyses because of low factor loadings. As a result, a 15 item CFA model was estimated. All factor loadings were between .73 and .94 ($p < .001$). The variance extracted estimates were .66, .76, .70, and .86 for ad believability (ADBE), attitudes toward the ad (ATA), attitudes toward the sponsored brand (ATB), and purchase intention (PI), respectively. Furthermore, the construct reliability estimates were all adequate, ranging from .87 to .95. Discriminant validity was examined by comparing the variance extracted for any two constructs with the square root of the correlation between these two constructs (Fornell & Lacker, 1981). The results indicated that convergent and discriminant validities of the model were supported and good reliability was established (Table 2).

Table 1. Measurement items and internal consistency.

		Coefficient Alpha
ADBE1	I think the ad is believable.	.883
ADBE2	I think the ad is helpful.	
ADBE3	I think the ad is logical.	
ADBE4	I think the ad is educational.	
	To me the advertisement is	.938
ATA1	Boring/Interesting	
ATA2	Unexciting/Exciting	
ATA3	Mundane/Fascinating	
ATA4	Uninvolving/Involving	
ATA5	Unappealing/Appealing	.869
ATB1	The Matrix2° laptop appears to have a better quality than the Sony VAIO laptop.	
ATB2	The Matrix2° laptop appears to be more reliable than the Sony VAIO laptop.	
ATB3	The Matrix2° laptop appears to have a better use interface than the Sony VAIO laptop.	.948
PI1	If I need to buy a laptop computer, I plan on buying a Matrix2° instead of a Sony VIAO.	
PI2	If I need to buy a laptop computer, I feel strongly that I would buy a Matrix2° over a Sony VIAO.	
PI3	I am likely to recommend a Matrix2° over a Sony VIAO to my friends.	

Notes. ADBE = Ad Believability; ATA = Attitudes toward the ad; ATB = Attitudes toward the sponsored brand; PI = Purchase Intention.

Measurement model

Prior to any comparisons of the relationships between the variables, metric invariance between U.S. and Taiwan samples was examined. First, the unconstrained model fits reasonably well, with $\chi^2 = 330.26$, $df = 168$, $p = .000$; CFI = .96; RMSEA = .05; PNFI = .74. Next, constraining the measurement weights to be equal between the U.S. and Taiwan groups, the model fits with $\chi^2 = 333.94$, $df = 174$, CFI = .97; RMSEA = .05; PNFI = .77. By adding these constraints, the change in

Table 2. Standard factor loading estimates.

	ADBE	ATA	ATB	PI
ADBE1	.730			
ADBE2	.876			
ADBE3	.822			
ADBE4	.807			
ATB1			.830	
ATB2			.903	
ATB3			.765	
ATA1		.845		
ATA2		.909		
ATA3		.905		
ATA4		.859		
ATA5		.815		
PI1				.919
PI2				.944
PI3				.919
Variance Extracted	65.75%	75.8%	69.67%	86%
Construct Reliability	.88	.94	.87	.95

χ^2 was 27.22 with 11 degrees of freedom ($p = .004$). The results suggested that full invariance could not be established. A subsequent test for partial invariance was run based on two loading estimates for each construct being equal between groups. The chi-square difference test results ($\Delta \chi^2 = 3.679$, $df = 6$, $p = .720$) satisfied the conditions for partial metric invariance that allowed valid comparisons of relationships between the United States and Taiwan samples (Lopez, Babin, & Chung, 2009).

Structural equation model

The SEM path model was used to examine the relationships between the constructs proposed by the model (see Figure 1). The one-group SEM model provided a satisfactory fit of data ($\chi^2 = 188.58$, $df = 86$, $p = .000$; CFI = .98; RMSEA = .06; TLI = .97). The two group structural model, overall fit measures of the “totally free” model indicated that the model was consistent with the data ($\chi^2 = 390.55$, $df = 172$, $p = .000$; CFI = .95; RMSEA = .06; TLI = .94). By constraining all structural coefficients to be equal in both groups, the analysis shows $\chi^2 = 393.68$, $df = 178$, $p = .000$; CFI = .95; RMSEA = .06; TLI = .94. Structural weights indicate $\chi^2 = 427.52$, $df = 186$, $p = .000$; CFI = .95; RMSEA = .06; TLI = .94. The SEM structural paths show that all constructs were positively related for both countries. Ad believability is positively related to attitudes toward the sponsored brand (U.S. $\beta = .35$, Taiwan $\beta = .45$). Attitudes toward the ad is positively related to attitudes toward the sponsored brand (U.S. $\beta = .28$, Taiwan $\beta = .31$). Also, attitudes toward the sponsored brand is positively related to purchase intention (U.S. $\beta = .64$; Taiwan $\beta = .73$). Thus, H1, H2, and H3 are supported (see Table 3).

The procedure turned to a moderation test using the country classification variable. The nested model comparison test shows that the moderation model is significantly different from the metric invariance model. Also, the moderation model is significantly different from the totally free model ($\Delta \chi^2 = 36.98$, $df = 14$, $p = .000$). Thus, the model was moderated by country.

The Influence of comparative ad types

A subsequent regression analysis was run to test H4–H6 in order to examine the influences of different comparative ad types (“DCA”, “ICA” and “NCA”). The regression results show that in the U.S. sample, only the beta coefficients of ADBE

Table 3. Comparisons of regression weights and t-values between constructs.

			Unstandardized Coefficients				t-values	
			U.S.		Taiwan		U.S.	Taiwan
ATB	←	ADBE	.35	***	.45	***	4.09	4.72
ATB	←	ATA	.28	**	.31	**	3.43	3.35
PI	←	ATB	.64	***	.73	***	8.66	9.62

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Regression results for the influences of ADBE and ATA on ATB and of ATB on PI.

Ad type Dependent variable = ATB	U.S.			Taiwan		
	DCA	ICA	NCA	DCA	ICA	NCA
ADBE (β)	.45**	.20(n.s.)	.37**	.60**	.45**	.36**
ATA (β)	.12(n.s.)	.30*	.30*	-.04(n.s.)	.19(n.s.)	.40***
Dependent variable = PI						
	DCA	ICA	NCA	DCA	ICA	NCA
ATB (β)	.54***	.46***	.67***	.68***	.38*	.69***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

in DCA format and NCA format are significant. The ADBE ($\beta = .45$) in DCA format is the strongest predictor of ATB among the three formats. In the Taiwan sample, the beta coefficients of ADBE in all three formats are significant. The ADBE ($\beta = .45$) in DCA format is also the strongest predictor of ATB between the three formats. The beta coefficients of ATA are significant in ICA format and NCA format for the U.S. sample. In the Taiwan sample, only the beta coefficient of ATA in NCA format is significant. ATA is not a significant predictor of ATB for both countries. Using ATB as a predictor of PI, the results are significant in all three comparative formats for both countries. (see Table 4). The coefficient betas of ATB in the NCA format are the strongest predictors of PI for both countries (U.S. $\beta = .67$, Taiwan $\beta = .69$). A follow-up t-test was utilized to examine whether the standardized betas of all paths were significantly different between DCA, ICA and NCA for the US and Taiwan respectively; the t-tests for both countries were run separately. The result shows that only standardized betas for ad believability ($t = 6.71$, $p < .05$) and for attitudes toward the sponsored brand ($t = 5.74$, $p < .05$) in the Taiwan sample and standardized betas for ad believability ($t = 4.61$, $p < .05$) and for attitudes toward the ad in the U.S. sample ($t = 9.10$, $p < .05$) are significant. Therefore, H6 is supported and H4 is partially supported, but H5 is not supported. Therefore, H4 and H6 are supported, while H5 is not supported.

To test H7-H9, two-way ANOVAs was run to examine the effects of each of comparative ad types on ad believability, attitudes toward the ad, attitudes toward the sponsored brand, and purchase intention respectively. The findings show that there are significant interaction effects between country and ad type on attitudes toward the sponsored brand [$F(2,362) = 7.83$, $p < .001$, $\omega^2 = .05$] and purchase intention [$F(2,362) = 4.29$, $p < .05$, $\omega^2 = .03$] (see Table 5). These results indicate that the effects of comparative ad type on subjects' attitudes toward the sponsored brand and purchase intention are different between U.S. and Taiwan. However, the interaction effects on ad believability [$F(2,362) = .48$] and attitudes towards the ad [$F(2,362) = 2.26$] are not significant. These results suggest that the influences of different ad types on subjects' attitudes toward the ad and attitudes toward the sponsored brand in both countries do not differ (Table 5).

Subsequent simple effect analyses (Field, 2011) were conducted (see Table 6) to test H7-H9 with regard to the effects of ad types on the respective variables in the

Table 5. ANOVA results for the 2(country) x 3(comparative Ad type) design.

Variables	Source of Variation	df	Mean Square	F	P
ADBE	Country	1	1.02	.61	.430
	Ad type	2	1.80	1.08	.340
	Country x ad type	2	.79	.48	.620
ATA	Country	1	11.14	6.10	.140
	Ad type	2	1.55	.85	.430
	Country x ad type	2	4.14	2.26	.110
ATB	Country	1	46.94	34.14	—
	Ad type	2	4.54	3.24	.040
	Country x ad type	2	10.76	7.83	—
PI	Country	1	104.43	63.21	—
	Ad type	2	2.08	1.26	.290
	Country x ad intensity	2	7.08	4.29	.014

United States and Taiwanese subjects. For H7, when subjects from both countries were exposed to the direct-comparative ad, they were different only in purchase intention and Taiwanese subjects had a higher level of intention [U.S.: $M = 2.73$, $SD = 1.61$; Taiwan: $M = 3.37$, $SD = 1.36$] (Table 7). Although H7d is significant, the result is contrary to what was predicted; this result contradicts the conclusions drawn by past studies that direct-comparative ads are more effective in an individualistic country such as the United States. With regard to H8, when both countries were exposed to the indirect-comparative ad, they were significantly different only in attitudes toward the sponsored brand and purchase intention (Table 6); Taiwanese subjects have more positive attitudes toward the sponsored brand [U.S.: $M = 3.06$, $SD = 1.33$; Taiwan: $M = 3.91$, $SD = .77$] and higher purchase intention than U.S. subjects [U.S.: $M = 2.24$, $SD = 1.09$; Taiwan: $M = 3.30$, $SD = 1.19$] (Table 7). Again, although the differences for H8c and H8d are significant, the result is opposite from what was predicted.

For H9, the noncomparative ad results show both countries are significantly different in all dependent variables except ad believability [ATA: U.S.: $M = 2.98$, $SD = 1.43$; Taiwan: $M = 3.74$, $SD = 1.18$; brand beliefs: U.S.: $M = 2.77$, $SD = 1.33$; Taiwan: $M = 4.02$, $SD = 1.03$; purchase intention: U.S.: $M = 2.13$, $SD = 1.13$; Taiwan: $M = 3.71$, $SD = 1.26$] (see Table 7). Therefore, all hypotheses in H9, except H9a are supported.

Table 6. Results for simple effect analysis for each variables (compare country).

Ad Type Variable	DCA		ICA		NCA	
	U.S. vs. Taiwan		U.S. vs. Taiwan		U.S. vs. Taiwan	
	Mean Square	F	Mean Square	F	Mean Square	F
ADBE	2.07	1.25	.23	.14	.07	.04
ATA	1.74	.95	.09	.05	20.75	11.35*
ATB	.22	.16	18.65	13.56***	57.21	41.61***
PI	11.01	6.67*	29.25	17.70***	89.98	54.46***

Notes. MS = Mean Square. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7. Descriptive statistics for each variable.

Ad Type Variable	DCA		ICA		NCA	
	U.S.	Taiwan	U.S.	Taiwan	U.S.	Taiwan
ADBE	<i>M</i> = 4.05 (<i>SD</i> = 1.31)	<i>M</i> = 3.78 (<i>SD</i> = 1.14)	<i>M</i> = 3.84 (<i>SD</i> = 1.50)	<i>M</i> = 3.74 (<i>SD</i> = 1.12)	<i>M</i> = 4.01 (<i>SD</i> = 1.40)	<i>M</i> = 4.06 (<i>SD</i> = 1.14)
ATA	<i>M</i> = 3.15 (<i>SD</i> = 1.42)	<i>M</i> = 3.41 (<i>SD</i> = 1.32)	<i>M</i> = 3.11 (<i>SD</i> = 1.51)	<i>M</i> = 3.17 (<i>SD</i> = 1.18)	<i>M</i> = 2.98 (<i>SD</i> = 1.43)	<i>M</i> = 3.74 (<i>SD</i> = 1.18)
ATB	<i>M</i> = 3.72 (<i>SD</i> = 1.38)	<i>M</i> = 3.81 (<i>SD</i> = .89)	<i>M</i> = 3.06 (<i>SD</i> = 1.33)	<i>M</i> = 3.91 (<i>SD</i> = .77)	<i>M</i> = 2.77 (<i>SD</i> = 1.33)	<i>M</i> = 4.03 (<i>SD</i> = 1.03)
PI	<i>M</i> = 2.73 (<i>SD</i> = 1.61)	<i>M</i> = 3.42 (<i>SD</i> = 1.40)	<i>M</i> = 2.24 (<i>SD</i> = 1.09)	<i>M</i> = 3.30 (<i>SD</i> = 1.19)	<i>M</i> = 2.12 (<i>SD</i> = 1.13)	<i>M</i> = 3.71 (<i>SD</i> = 1.26)

Notes. DCA = direct-comparative advertising; ICA = indirect-comparative advertising; NCA = noncomparative advertising.

Discussions and implications

This study proposes a theoretical model based on the Grewal et al. (1997) advertising model to examine the hypothesized relationships between constructs in different cultural settings. Further, the influences of “comparative ad type” on these relationships are also examined to understand the effects of direct-, indirect-, and noncomparative ads on consumers’ perceptions. Finally, the influences of interaction between country and comparative ad type on the variables in the proposed model are also investigated.

In this study, the findings show that Taiwanese consumers have higher intentions to purchase the advertised product than their American counterparts. This finding might imply that Taiwanese consumers are less brand conscious than the U.S. consumers in making a purchase decision. Similarly, the result is consistent with de Mooij’s (2010) thesis that Asian consumers are less brand conscious. As Dianoux et al. (2013) suggest, comparative ads that use established brand names and prices as informational cues would increase the purchase intentions for the brand. However, Taiwanese consumers that exhibit higher purchase intentions in noncomparative ad conditions contradict the effects of direct-comparative ads asserted by Grewal et al. (1997). This could be due to the consumers’ unfavorable attitudes toward the direct comparative ads.

The t-test results show that in both countries the type of comparative ads moderates influences of ad believability on the attitudes toward the sponsored brand and of the attitudes toward the sponsored brand on purchase intention. Based on the standardized betas in Table 4, the effect of ad believability on attitudes toward the sponsored brand is the strongest in the case of direct comparative ads for both countries. Regarding the effect of attitudes toward the sponsored brand on purchase intention, noncomparative ad is the most effective among the three types of comparative ads in the US, while noncomparative and direct-comparative ads are equally effective in Taiwan. The significant effects of direct comparative ads on both paths and the highest standardized betas in Taiwan could be due to the novelty of such an ad design in the country (Iyer, 1998; Grewal et al., 1997).

Also, the results show that the influence of attitudes toward the ad on the attitudes toward the sponsored brand does not vary across different types of comparative ads in both samples. These results contradict the assertion from MacKenzie et al. (1986) and Muehling (1987) and may imply that consumers, even those from an individualistic culture, are still uncomfortable about direct-comparative ads. In the case of direct-comparative ads, attitudes toward the ad do not significantly influence Taiwanese consumers' attitudes toward the sponsored brand and the negative relationship might imply that Taiwanese consumers could feel uncomfortable about viewing a direct-comparative ad (Table 4). These results are consistent with the conclusions from Belch (1981), Swinyard (1981), and Grewal et al. (1997). Besides, the difference between Taiwan and the U.S. samples (TWN $\beta = -.04$ vs. U.S. $\beta = .12$) also indicates that cultural differences exist.

The findings also reveal that Taiwanese consumers' beliefs about the advertising claims in direct-comparative conditions strongly influences their attitudes toward a new brand while such an influence is not evident in the U.S. sample. Therefore, if using direct-comparative advertising in Taiwan, the ads must deliver a credible message to elicit favorable responses to a new brand. The ANOVA results show that the interaction between country and ad type on ad believability is not significant. The findings also suggest that the effects of different ad types on ATB and purchase intention are subject to cultural characteristics of the countries (see Table 5). The simple effect analyses (see Table 6) show that both countries are significantly different only in purchase intention across the three levels of ad types. Taiwanese subjects have higher purchase intention than the U.S. subjects. In direct comparative conditions, the nonsignificant results of ad believability, attitudes toward the ad, and attitudes toward the sponsored brand are consistent with the results of Donthu (1998) and Shao et al. (2004), but do not support the findings of Choi and Miracle's (2004) study on Korean consumers. The inconsistency may be explained by the different attitudes toward advertising among consumers in Asia (La Ferle & Lee, 2003) and the influence of Confucianism (Chung et al., 2008). In Chinese-speaking countries, collectivist culture is still heavily influenced by Confucianism, which emphasizes social harmony and humility (Chung et al., 2008; Lu et al., 2014), but collectivist culture in South Korea has been heavily influenced by the Western media (Chung et al., 2008). In this instance, Korean consumers could be more open to comparative advertising.

In noncomparative ad conditions, subjects from both countries are different in attitudes toward the ad, attitudes toward the sponsored brand, and purchase intention. This contrast indicates that it is easier to detect the cultural difference under the condition of noncomparative advertising. For U.S. subjects, the noncomparative ad does not provide the brand's points-of-difference and, therefore, is not as informative as the direct- and indirect-comparative ads (Muehling et al., 1990). These findings are consistent with the argument in past studies (e.g., Wilkie & Farris, 1975).

When an indirect-comparative ad format is presented, subjects from both countries are different only in attitudes toward the sponsored brand and purchase

intention. The results reveal that Taiwanese subjects have higher scores than the U.S. subjects in both attitudes toward the brand and purchase intention. The significant differences contradict the findings of Jeon and Beatty (2002) and Shao et al. (2004). In this instance, the Taiwanese consumers could be more receptive to the product attributes and prices than the brand information presented in the ad.

In all conditions, Taiwanese subjects in general have more favorable attitudes toward a new brand than a leading brand. These results contradict Donthu's (1998) findings that individualistic consumers (e.g., United States) are more receptive to direct-comparative ads than consumers in a collectivistic country. Taiwanese subjects' positive responses to the direct-comparative ad could be ascribed to the novelty effects of the ad format (Jeon & Beatty, 2002). Although comparative ads are not banned by law in Taiwan, they are heavily regulated and therefore Taiwanese consumers rarely see these types of ads in the media. On a rare occasion, in which a direct-comparative ad is shown and provides objective information, consumers may consider that the ad provides useful information and helps them make purchase decisions. In the case of the indirect- and noncomparative ads, because they do not compare the focal brand directly with established brands, Taiwanese subjects might consider that these two types of ads are not aggressive and therefore the subjects are more receptive to these ads (Choi & Miracle, 2004).

Although the two countries are not different in ad believability, a point worthy of noting is that the mean scores of ad believability for both countries is greater than 3.50; these results indicate that, in general, subjects in both countries considered comparative ads believable, regardless of the comparative ad type. Also, these findings do not support past research that comparative ads are less believable (Swinyard, 1981). A plausible explanation is that the test ads used in this study compared objective attributes of laptops and therefore they were deemed more believable (Barry, 1993a). Another reason could be the subjects in this study are not loyal customers of the comparison brand and therefore they do not discredit the advertising claims in the ad.

Theoretical implications

Theoretically, this study contributes to comparative advertising studies by examining different types of comparative ads effects on consumers' cognitive, affective and conative evaluations of a new brand between two countries with different cultural orientations. In this study, the proposed model explains the positive relationships between the constructs in two different cultures. The positive relationships between the constructs suggest that ad believability and attitude toward the ad are recognized as the antecedents of the attitude toward the sponsored brand construct and attitude toward the sponsored brand is a strong predictor of purchase intention. Regarding the moderating effect of ad type, the results reveal that regardless of comparative ad type, consumers' attitudes toward a new brand strongly affect their intentions to purchase the product in both countries. However, further analyses suggest that

culture moderates the effects of attitudes toward the brand on purchase intentions. The findings suggest that Taiwanese consumers have more favorable attitudes toward the sponsored brand and higher purchase intentions than U.S. consumers when viewing indirect- and noncomparative ads. The results contradict past research that a direct-comparative ad format affects Asian consumers' attitudes toward the sponsored brand. These findings help provide further understanding that past international comparative advertising research might not be a good indicator for studying cultural effects on advertising across similar Asian cultures, as the results might fail to provide consistent and generalizable results.

Managerial implications

Asian advertisers should consider using different comparative ad formats in different Asian markets instead of using the confrontational direct format. Among the three ad types, noncomparative ads are still the safest format to introduce a new product into the Taiwan market. On the other hand, direct-comparative ads are more suitable for Western markets, as long as the ad messages deliver credible claims to support the new brand. If Taiwan advertisers have to use comparative advertising to promote a new brand, an indirect-comparative ad format displaying less aggressiveness is more suitable because it may elicit favorable responses from Taiwanese consumers. When using the indirect-comparative ad format in Taiwan, the advertising messages/claims should focus explicitly on the product attributes that could make the ad more appealing to Taiwanese consumers. Although comparative advertising is not banned in Taiwan, the results of this study may encourage advertisers to adopt the indirect-comparative ad format as a less confrontational advertising tactic to promote their products or services.

Conclusions

This study is the first to examine the influence of comparative advertising on Taiwanese consumers' attitudes toward laptop computer brands since the Taiwanese government has lifted the ban of comparative advertising in recent times. Comparing Taiwan and the United States provides a further understanding of the differences between Eastern and Western consumers' responses to comparative advertising formats. Past cross-cultural comparative ad studies (e.g., Choi & Miracle, 2004; Donthu, 1998; Jeon & Beatty, 2002) provide disparate findings for either comparative ad types or consumers' perceptions. Most past analyses were based on ANOVA tests to investigate the differences across cultures. This study provides a comprehensive study of all three types of comparative ads (direct-comparative, indirect-comparative, and noncomparative ads) and develops a theoretical model to explain the relationships between the constructs that are related to consumers' perceptions of comparative advertising.

The inconsistent findings between this study and the past research (Choi & Miracle, 2004; Jeon & Beatty, 2002), indicate that the direct-comparative ad format

strongly influences Asian consumers' attitudes toward the sponsored brand, but fails to predict their purchase intentions. In this instance, there might be attitudinal and behavioral differences between Asian consumers who share similar cultural orientations. Therefore, when an international marketer plans to implement a trans-regional ad campaign in different Asian countries, caution must be taken due to the variance exists in countries with similar cultural configurations.

Limitations and future research directions

The limitations of this study provide directions for future research. First of all, this study considered only affective attitudes toward the ad in the proposed framework. Since attitudes could contain both cognitive and affective quality (Webber, 2013; Zhang, 2013), future research might investigate whether cognitive attitudes and affective attitudes exert a similar level of influence on attitudes toward the sponsored brand. Furthermore, this study used only one high involvement product; future research should also include a low involvement product to investigate whether a difference exists between product categories. Another limitation is that this study uses a variety of brand attributes, such as lower price, lighter-in-weight, and thinner-in-design, as objective advertising claims for the brand. However, the findings are insufficient for revealing which attributes make consumers like the brand and ads. Future research should look into the effects of separate brand attributes featured in the ad. Future research should also replicate this study by using other advertising media such as broadcast or online media to help examine the differences between media. Finally, instead of using college students as research subjects, future research should consider a random sampling, and survey different market segments to address the generalizability issue in this experiment. Thus, a better explication of comparative ads effectiveness can be formed by analyzing the similarities and differences between segments.

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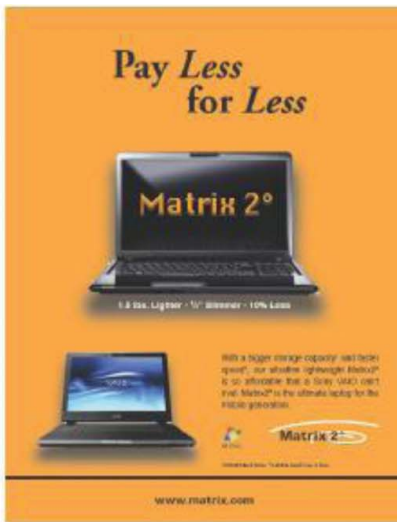
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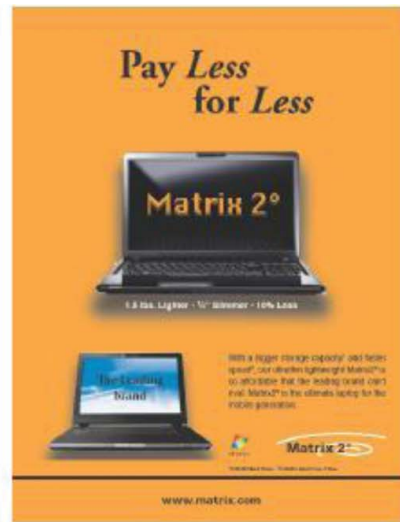
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Appendix



Direct-Comparative Ad



Indirect-Comparative Ad

