Partial Comparative Messages in Competition

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Partial comparative messages comprise a mixture of comparative and non-comparative claims. This study demonstrates how the extent to which non-comparative (NC), partial comparative (PC) and complete comparative (CC) messages influence consumer preference depends on the comparisons (i.e. NC, PC or CC) made by the messages promoting the two competing brands. A 3 (brand A used NC, PC or CC message) $\times$ 3 (brand B used NC, PC or CC message) design was used. Two studies ($n = 284, 283$, respectively) show that participants preferred (1) the first brand they saw when both brands were promoted by NC messages, (2) neither brand when both brands were promoted by messages containing comparative claims, (3) the brand promoted by a PC message when the other brand was promoted by an NC message, and (4) the brand promoted by an NC message when the other brand was promoted by a CC message.

Comparative and non-comparative messages have received considerable attention (Belch, 1981; Chattopadhyay, 1998; Grewal *et al.*, 1997; Muehling, Stoltman and Grossbart, 1990; Rose *et al.*, 1993). Messages can be fully comparative, fully non-comparative or somewhere between these two extremes (Donthu, 1992). Numerous studies of comparative ads have failed to consider the share of message content devoted to comparison (Del Barrio-Garcia and Luque-Martínez, 2003; Hwang, 2002; Manning *et al.*, 2001). The studies of Barone and Miniard (1999) and Barone, Palan and Miniard (2004) were exceptions because they utilized partial comparative (PC) messages. PC messages were defined as comprising a mixture of comparative and non-comparative claims. However, those studies did not examine the effects of PC messages in competition, demonstrating a knowledge gap in PC message effectiveness. Since competing messages are pervasive, this gap must be addressed.

Numerous studies have investigated how messages promoting a single brand influence consumer retrieval of messages promoting other

brands (Burke and Srull, 1988; Jewell and Unnava, 2003; Keller, 1991; Kent and Allen, 1993, 1994; Kent and Kellaris, 2001; Leong, Ang and Heng, 1999; Unnava and Sirdeshmukh, 1994). However, exactly how the comparative/non-comparative nature of late-appearing messages promoting another brand influences consumer preferences for the brand promoted by the early-appearing message has seldom been addressed, showing a gap between academic study and practice. In practice, late-appearing messages are likely to affect consumer information processing regarding the early-appearing message, indicating the importance of research to fill this gap.

To fill the two aforementioned gaps, this study investigates consumer preferences for two brands promoted via non-comparative (NC), PC or complete comparative (CC) messages. These messages contain straight non-comparative claims, a mixture of comparative and non-comparative claims, and straight comparative claims, respectively. This study has two unique features. First, the study examines the effective-

ness of PC messages when consumers are exposed to two messages promoting two brands, respectively, rather than being exposed to one message promoting one brand. Second, this study examines how the effectiveness of the message promoting one brand depends on that promoting another brand.

To assist readers in following the literature review and hypotheses development sections, examples of NC, PC and CC messages are placed here. Taking a message promoting a single colour ink printer as an example, the NC message comprises two non-comparative claims, such as 'printing speed is high' and 'price is low'. The PC message comprises one non-comparative claim, 'printing speed is high', and one comparative claim, 'this printer is much cheaper than [the competitor's printer]'. The CC message comprises two comparative claims: 'this printer prints documents much faster than [the competitor's printer]' and 'this printer is much cheaper than [the competitor's printer]'.

The above discussion summarizes the existing knowledge as well as the objectives and contributions of this study. A literature review and hypotheses development are presented below. Next, two studies are presented, hypotheses are tested, conclusions and implications are drawn, and future research opportunities are identified.

Literature review

Comparative advertising intensity (CAI)

The dispute concerning the effectiveness of comparative versus non-comparative ads has long existed. Earlier studies employ various typologies (Droge and Darmon, 1987; Goodwin and Etgar, 1980; Pechmann and Stewart, 1990) regarding comparative and non-comparative ads. Although these typologies are insightful and useful, the debate regarding the relative effectiveness of comparative and non-comparative ads has not been successfully resolved.

To resolve the debate regarding the effectiveness of comparative ads, Donthu (1992) proposed the measure of CAI to characterize comparative ads, where CAI comprises four dimensions: (1) whether the comparison brand name was mentioned, (2) whether a comparison was made at the attribute level, (3) whether the comparison was one-sided rather than two-sided,

and (4) whether the amount of ad time spent on the comparison task exceeded 50% of total ad time. Each dimension is scored as 0 or 1. Summing the scores for all dimensions yields the CAI, which can range from 0 to 4.

Donthu (1992) found that consumer recall of one ad significantly increased with CAI, while their ad attitude initially increased slightly with CAI (from CAI = 0–3) and then decreased significantly when CAI peaked (from CAI = 3–4). Donthu successfully resolved some disputes regarding comparative ad effectiveness and encouraged subsequent researchers to apply CAI.

For instance, Manning *et al.* (2001) manipulated CAI and found that high CAI generated high relative impressions while low CAI generated high non-relative impressions. Additionally, Hwang (2002) proposed that CAI gradually increases and thus enhances ad effectiveness. Meanwhile, Del Barrio-Garcia and Luque-Martínez (2003) noted that CAI was negatively related to consumer perceptions of believability, consistent with the findings of Donthu (1992) regarding ad attitude.

Moreover, the comparative/non-comparative nature of the claims of a single ad provides another indicator of the CAI of that ad. Using non-comparative (NC), partial comparative (PC) and complete comparative (CC) ads, the pioneering study of Barone and Miniard (1999) addressed the share of claims spent on the comparison task in one ad. Barone and Miniard proposed the concept of PC ads, which contained one direct comparative (DC) claim, three NC claims and one NC headline. Two ad types were used to contrast with the PC ads: NC ads (containing four NC claims and one NC headline) and CC ads (containing four DC claims and one DC headline). Barone and Miniard examined how and when PC ads cause deceptive beliefs. Moreover, Barone and Miniard examined the interaction between DC and NC claims, both of which were contained in a single ad. However, copies of the two ads sponsored by different brands are also likely to interact to generate different consumer preference patterns for each brand, an intriguing and seldom researched area.

A recent study by Barone, Palan and Miniard (2004) demonstrated that gender can interact with brand usage to moderate consumer susceptibility. For the comparison brand users (i.e. users of the brand being compared), males were more

susceptible than females, while female non-users of the comparison brand were more susceptible than male non-users.

Barone and Miniard (1999) indicated that PC ads evoked deceptive beliefs owing to the priming process. The priming process is the process through which one concept stored in long-term memory facilitates activation of associated cognitions in short-term memory upon encountering subsequent information (Barone and Miniard, 1999), and thus biases the information encoding of subsequent information (Herr, 1989; Srull and Wyer, 1979, 1980; Yi, 1990, 1993). This process tends to occur when consumers process information on multiple claims within a single ad. Moreover, this process may also occur when consumers process claim information from multiple ads, implying it is applicable to research on competing messages.

Competitive interference (CI) effects and competing comparative messages

While ads can differ in their intensity of comparison, they can also compete and interfere with the ad effects of one another, a process known as CI effects. The pioneering research of Burke and Srull (1988) and Keller (1987, 1991) described how competitive advertising impacts the effectiveness of target ads. Burke and Srull demonstrated that consumer recall for a particular ad decreased when consumers were subsequently exposed to ads for other products or for competing brands. Keller (1987) also showed that competitive advertising induced interference effects and significantly reduced brand claim recall. Keller further showed that CI effects can be offset by advertising retrieval cues.

CI effects may exist in brand name recall and attribute recall. Kent and Allen (1993) demonstrated the existence of strong CI effects in brand name recall but weak effects in attribute recall. Moreover, Kent and Allen (1994) showed that brand familiarity helped reduce CI effects in ad information for new products. More specifically, Kent and Kellaris (2001) demonstrated that brand familiarity increased the memorability of both brand names and ad claims. However, brand familiarity removed more CI effects in ad claim recall but less in brand name recall. Both brand name familiarity and presentation format similarity can reduce CI effects. Leong *et al.*

(1999) confirmed that recall was higher when format similarity (pictorial or verbal) between competing ads was high than when it was low.

Interestingly, variation helps reduce CI effects just as similarity does. Unnava and Sirdeshmukh (1994) showed that the use of varying ad executions can resist competing advertising more effectively than repeating the same executions. Ensuring the modality of target advertising was different to that of competitive advertising also helped reduce CI effects. Recently, Jewell and Unnava (2003) carried out another interesting study showing the favourable features of CI effects. Jewell and Unnava demonstrated that new attribute information of established brands was interfered with by that of old brand attributes, reducing new attribute information retrieval. The presence of competing advertising helped suppress retrieval of old brand attribute information and ensure the successful retrieval of new attribute information. The CI from competitive advertising thus becomes favourable to the established brand when the new attribute is deliberately promoted.

The literature on CI effects concentrates on message recall/memory (Burke and Srull, 1988; Jewell and Unnava, 2003; Kent and Allen, 1993, 1994; Kent and Kellaris, 2001; Leong, Ang and Heng, 1999; Unnava and Sirdeshmukh, 1994) rather than attitude, evaluation or preference, except for Keller (1991) and Laroche, Cleveland and Maravelakis (2002). Keller found that consumer attitudes towards a good (bad) target ad become worse (better) given competing ads with different valence to the target ad. Ad retrieval cue also increased recall and evaluations. Laroche, Cleveland and Maravelakis then discussed the relationships among attitude and brand share in the presence of CI effects.

Recent studies have addressed valence, i.e. whether respondents perceive comparative messages as positive (less derogatory) or negative (more derogatory) in references in messages to competition. Jain and Posavac (2004) defined positive comparative ads as messages based on 'you're OK, but I'm more OK' arguments and negative comparative ads as messages based on 'you're not OK; I'm OK' arguments. Jain and Posavac showed that negative comparative ads led to more counterarguments, fewer support arguments, lower believability, greater perceived bias and lower brand attitude. Moreover, Shiv,

Britton and Payne (2004) considered processing motivation and processing opportunities as moderators of comparative ad valence and effectiveness. The results presented by Shiv, Britton and Payne indicated that, when processing motivation is low, negative framing is more (less) effective than positive framing given low (high) processing opportunities. On the other hand, when processing motivation is high, negative framing is more effective than positive framing, regardless of the level of processing opportunities.

Hypotheses development

Following the literature review, this section develops hypotheses predicting consumer preference in scenarios with competing messages. Intuitively, brand promotion messages can claim benefits regarding a brand without mentioning other brands. When two brands are promoted via such NC messages, conventional theories of consumer choice can be applied to explain consumer preference. The feature matching model (Tversky, 1977) outlines the consumer information elaboration processes in which consumers compare and select one of two alternatives: subject and referent. It states that individuals map subject features onto referent features. The feature matching model has frequently been cited by subsequent studies regarding theoretical development in comparative advertising (Johnson and Horne, 1987, 1988) and in the consumer choice literature. For instance, focus effects describe the phenomenon of participants placing greater weight on the unique features of the subject (Houston and Sherman, 1995; Houston, Sherman and Baker, 1989), regarding the focal option as the subject, and preferring the focal option to the referent option (Dhar, Nowlis and Sherman, 1999).

Agostinelli *et al.* (1986) forewarned detection task participants before viewing the two stimuli, and then presented the paired items in immediate succession. The first item was then made the subject of comparison. In the present study, participants were forewarned of the preference task before viewing the two alternatives. The paired alternatives were presented in a left–right format, equivalent to the immediate succession presentation approach of Agostinelli *et al.*

Participants were instructed to first read the information regarding the alternative on the left. The alternative on the left was viewed first (the first brand) and, according to Agostinelli *et al.*, was made the subject of comparison. Participants tended to use the unique (good) features of the subject (the first brand) in decision making (Dhar, Nowlis and Sherman, 1999; Houston and Sherman, 1995; Houston, Sherman and Baker, 1989), and thus preferred the subject, namely the first brand they saw.

The arguments of Rose *et al.* (1993) regarding the importance of attribute comparability for NC messages do not contradict this hypothesis. One low-share brand (Ultra-Comp) in the study of Rose *et al.* was set to be superior to the established brand (IBM) in terms of four attributes, making attribute comparability influential in terms of relative formation of information regarding the low-share brand. However, each alternative in this study was set to be superior in terms of two attributes but inferior in terms of the other two attributes, creating balanced attractiveness rather than unbalanced attractiveness. In the balanced attractiveness setting, attribute comparability can facilitate intra-attribute comparison but may not increase the likelihood of consumers preferring the latter alternative.

H1: Controlling for equal attribute importance and attractiveness, the first brand seen by consumers is preferred when two brands are promoted by NC messages.

Comparative claims declaring attribute superiority increase consumer involvement (Muehling, Stoltman and Grossbart, 1990). Consumers thus have stronger motivation to process and verify information embedded in comparative claims. When two messages promoting two different brands contain comparative claim(s), consumers are motivated to process comparison information and verify the trustworthiness of the comparative claims by cross-checking the information in the messages promoting the two brands. The influence of the order of message appearance is thus reduced, interfering with feature matching (Tversky, 1977) and reducing the likelihood of focus effects (Houston, Sherman and Baker, 1989). Consumer preferences in this case thus depend less on which message appears first and more on the content information carried by the

two messages. The overall message attractiveness of both brands is likely to be the same when two brands with similar attractiveness are promoted by similar attractive messages that share the same PC/CC nature, resulting in consumers showing preferences for neither brand.

H2: Controlling for equal attribute importance and attractiveness, neither brand is preferred when both brands are promoted by PC messages or when both brands are promoted by CC messages.

The inference for competitive results differs when the comparison game involves only one comparative claim. Comparative claims can attract consumer attention and motivate consumers to view the information of the comparison brand (the brand being compared) for verification rather than performing feature matching, reducing the applicability of the feature matching model in this case.

Among NC messages that only contain non-comparative claims, one comparative claim declaring attribute superiority over the other brand may attract consumer attention. The original focus effects proposed by Houston and Sherman (1995) stated that consumers place greater weight on unique *features* (of the subject). More broadly, consumers may place greater weight on the unique *claim* compared to the common claims. This phenomenon is referred to herein as the *claim-focusing effect*. Among non-comparative claims, one comparative claim stands out as being unique, while other claims appear to be similarly non-comparative. By seriously elaborating the unique claim, consumer preferences may be more likely to be altered by the (PC) message containing the unique claim (comparative claim in this case) than by the (NC) message containing only common claims (non-comparative claims in this case), provided the messages are sufficiently convincing.

Notably, the claim-focusing effect only explains consumer preferences for PC messages over NC messages, because the comparative claim in the PC message stands out as the unique claim, while all other claims (one in the PC message and two in the NC message) are non-comparative. The claim-focusing effect cannot explain preference patterns in other experimental cells considered in this study because (1) a claim can be 'unique' when its comparative/non-com-

parative nature differs from those of other claims and (2) a single non-comparative claim cannot be the focus even when the other three claims are comparative, because comparative claims strongly attract consumer attention (Muehling, Stoltman and Grossbart, 1990) and lead to non-comparative claims being overlooked and difficult for consumers to focus on.

Furthermore, the priming effect literature (Herr, 1989; Srull and Wyer, 1979, 1980; Yi, 1990, 1993) has indicated that previously primed concepts, i.e. concepts stored in memory, may bias the encoding of subsequent information in a manner consistent with the primed concept. Barone and Miniard (1999) used the priming perspective to predict copy $\times$ copy interaction involving attribute superiority beliefs regarding the brand promoted by PC messages. This study hypothesizes that consumers prefer brands promoted by PC messages to those promoted by NC messages because PC messages cause interaction between different copies and strengthen consumer belief regarding the attribute superiority of the brand promoted using PC messages.

H3: Controlling for equal attribute importance and attractiveness, the brand promoted by a PC message is preferred when the other brand is promoted by an NC message.

Since comparative claims may yield consumer beliefs regarding the attribute superiority of the promoted brand, CC messages containing straight comparative claims may be inferred to be the most effective. Additionally, positively framed comparative messages are less derogatory than negatively framed ones, and thus result in fewer counterarguments, more supporting arguments, and greater believability (Jain and Posavac, 2004). However, the effectiveness of a single comparative claim does not guarantee the effectiveness of a CC message containing straight comparative claims. Restated, two rights may actually produce a wrong.

The CC messages, regardless of whether positively or negatively framed, are fully devoted to comparison and claiming superiority (although in different manners) of the target brand (the promoted brand) over the comparison brand (the brand being compared). The high portion of message context devoted to comparison intensifies consumer perceptions of comparison (Donthu, 1992). Moreover, consumers are likely

to notice the straight declaration made by the CC message indicating the superiority of the target brand over the comparison brand, especially when the comparison brand uses an NC message which contains no comparative claim. Consumers thus sense that intense comparison derives solely from the CC message of the target brand, negatively impacting consumer attitude toward the CC message. Donthu (1992) demonstrated that attitude towards a message is significantly lower in the extremely high intensity condition (CAI = 4) (CC message) than in other cases (CAI = 0–3) (NC or PC message).

Furthermore, Jain, Buchanan and Maheswaran (2000) showed that comparative messages reduce message believability for recipients. The path from CC message believability to preference is straight because consumers are less likely to be positively influenced by suspicious messages. When two alternatives are equally attractive (without considering promotional messages), consumers are more likely to prefer the alternative promoted by a believable (convincing) message. CC messages thus are hypothesized to exert a less favourable influence than NC messages on consumer preferences regarding target brand.

The negative responses evoked by CC messages are congruent with the findings of current advertising research. Jain and Posavac (2004) used three studies to demonstrate that positively framed comparison yielded more favourable outcomes, with fewer counterarguments, more supporting arguments, and higher believability. Their studies indicated the superiority of positively framed comparison over *negatively framed comparison* but not over *no comparison*, and thus did not contradict this hypothesis. The meta-analysis of Grewal *et al.* (1997) suggested that comparative ads are superior to non-comparative ads, and did not include recent theoretical developments in advertising such as those of Jain, Buchanan and Maheswaran (2000). Hypothesis 4 considers the recent development and suggests a boundary for the findings of Grewal *et al.* (1997), rather than contradicting their findings.

H4: Controlling for equal attribute importance and attractiveness, the brand promoted by an NC message is preferred when the other brand is promoted by a CC message.

Hypothesis 3 hypothesizes that PC messages influence consumer preference more than NC

messages, and Hypothesis 4 hypothesizes that NC messages are more influential than CC messages. Thus, PC messages can be hypothesized to affect consumer preferences more than do CC messages.

H5: Controlling for equal attribute importance and attractiveness, the brand promoted by a PC message is preferred when the other brand is promoted by a CC message.

Study 1

Sample and experimental design

This study sampled 315 Taiwanese college students. The effective sample comprised 284 participants, yielding an effective response rate of 90.16%. All participants were approached on campus, and received a gift worth US\$2 as a reward for their participation. The participant ages ranged between 18 and 24 years, and approximately half were female.

This study used two between-subject factors (the NC/PC/CC nature of messages promoting brands A and B, respectively) and one within-subject factor (four decision problems for every participant), thus establishing a 3 (brand A used an NC, PC or CC message) $\times$ 3 (brand B used an NC, PC or CC message) mixed experimental design. Participants were randomly assigned to the nine cells, each of which contained 30–34 effective questionnaires.

Stimuli

Four decision problems were adapted from those used by Dhar and Sherman (1996), and included selecting an apartment to rent, a travel package, a date, and a group member for a term project. Every problem involved two alternatives with similar attractiveness (the maximal attractiveness difference was 0.50 as measured using a single item on a nine-point scale, $t = 0.81$, $p = 0.43$) in a pilot test involving 40 subjects. The alternatives available for selection in each problem included information on four key attributes provided by a pilot test involving 13 subjects and verified via another pilot test involving 32 subjects. Restated, high attribute importance was maintained. Each alternative performed well in two of the key attributes and poorly in the other two. Restated, each alternative contained two unique good

Scenario:

Please imagine that you have just graduated and have to rent an apartment. Two alternatives are available, and their owners give you the following messages. Please read the left alternative first.

Owner of Apartment A	Owner of Apartment B
It is convenient for you to go to work because the MRT stop is within a five-minute walk.	The rent is cheap, and must be affordable to you.
A large supermarket is within a ten-minute car drive.	Security is good, meaning you will not suffer from the same risk of theft as if you lived in Apartment A .

You then find the following information from reliable sources.

Apartment A	Apartment B
Transportation is convenient.	The rent is cheap.
A supermarket is nearby.	Security is good.
The rent is expensive.	Transportation is inconvenient.
Security is poor.	The nearest supermarket is far away.

Which apartment would you choose?

- ☐ I would choose **Apartment A**.
- ☐ I would choose **Apartment B**.
- ☐ I would like to see other alternatives.

Figure 1. Exemplar stimuli (NC message versus PC message) for Study 1

features and two unique bad features. Each pair of comparative and non-comparative claims regarding an attribute were found to have similar attractiveness (the maximal attractiveness difference was 0.39 as measured using an item of a nine-point scale, $t = 1.13$, $p = 0.26$) in a pilot test involving 64 subjects.

Each decision problem in the questionnaire contained four sections. Figure 1 shows the exemplar decision problem. First, participants were instructed to imagine that they were about to make a decision in a pre-constructed scenario. Participants were also instructed to read the message on the left of the next section. This study was conducted in a country where written texts read from left to right. This instruction was thus consistent with existing participant habits and likely to be followed. Second, two claims promoting brand A were placed on the left while two claims promoting brand B were placed on the right. The left–right layout was consistent with that used by Dhar (1997) and Dhar and Sherman (1996). No brand name was used, to avoid brand-specific image, thoughts and loyalty.

The term ‘brand choice’ was used to keep terminology consistent throughout this paper. The term ‘choice’ is most appropriate for describing alternatives in Study 1.

Notably, NC/PC/CC messages were operationally defined below. For each brand, the *NC/PC/CC message* contained *two/one/zero non-comparative* claims presenting the merits of the advertised brand and *zero/one/two comparative* claims declaring the attribute superiority of the advertised brand over the other brand. Where the same message included a comparative claim it was placed after the non-comparative claim to minimize the within-message copy $\times$ copy interactions noted by Barone and Miniard (1999).

The third section comprised generic descriptions of the attributes of brand A on the left and brand B on the right. This section remained unchanged across all nine cells for the same decision problem. The final section required participants to choose among brands A, B or an ‘I would like to see other alternatives’ option. Each participant was allowed to choose only one option.

Table 1. Number of participant choices for a certain option for Study 1

Brand A's message	Brand B's message								
	Non-comparative			Partial comparative			Complete comparative		
	A	B	N	A	B	N	A	B	N
Non-comparative	55*	32	37	29	49*	42	49*	25	46
Partial comparative	68*	35	33	40	33	59	30	28	62
Complete comparative	20	77*	35	38	48	46	28	28	64

Notes: A, B, N indicate 'choose A', 'choose B' and 'no choice', respectively.

*The number in the cell is significantly different from that in the nearby cell (A for B or B for A) using $\chi^2(1)$ with the criterion $p < 0.05$.

Process and measurement

This study was conducted in classrooms during regular class time. Participants joined the study on a batch basis (with 30 to 50 participants per batch). Each participant was issued one questionnaire and told that there were no right or wrong answers. Participants were also instructed to read and complete the questionnaire at their own pace. Participants were prevented from interacting with one another while completing the questionnaire. This study used the number of participant choices (each participant made four choices) choosing brand A/B to represent the strength of consumer preference for brand A/B. Meanwhile, the number of participant choices choosing the 'I would like to see other alternatives' option was taken to represent consumer preferences for the 'no choice' option.

Results

Table 1 lists the numbers of participant choices choosing each brand in each experimental group.

This study performed a generalized linear model (GLM) analysis with consumer preference as a dependent variable and ad strategies of brands A and B and product type as the independent variables. The two-way interaction of the ad strategies of brands A and B significantly influences consumer preference ($F = 6.93$, $p < 0.05$), demonstrating the need to test the hypotheses developed in this study. The three-way interaction among the ad strategies of brands A and B and product type significantly influences consumer preference ($F = 1.96$, $p < 0.05$). Since observations indicated similar consumer preference patterns across the four decision problems in most cells, this study

aggregated the data regarding each decision problem used for hypotheses testing to increase the power. Experimental results showed that the number of participant choices choosing brand A significantly exceeded the number choosing brand B (55 versus 32, $\chi^2(1) = 6.08$, $p < 0.05$) when both brands were promoted by NC messages. Restated, participants preferred the first brand they saw (brand A), supporting Hypothesis 1. The numbers of participant choices choosing brands A and B did not differ significantly when both brands were promoted by PC messages (40 versus 33, $\chi^2(1) = 0.67$, $p = 0.41$) or when both brands were promoted by CC messages (28 versus 28, $\chi^2(1) = 0.00$, $p = 1$), supporting Hypothesis 2.

As expected, participants preferred the brand (brand A/B) promoted using a PC message when the other brand (brand B/A) was promoted using an NC message (68 versus 35, $\chi^2(1) = 10.57$, $p < 0.05$; 49 versus 29, $\chi^2(1) = 5.13$, $p < 0.05$), supporting Hypothesis 3. Furthermore, participants preferred the brand (brand B/A) promoted using an NC message when the other brand (brand A/B) was promoted using a CC message (77 versus 20, $\chi^2(1) = 33.50$, $p < 0.05$; 49 versus 25, $\chi^2(1) = 7.78$, $p < 0.05$), supporting Hypothesis 4.

Surprisingly, participants had no brand preference when one brand used a PC message and the other used a CC message. Restated, the number of participant choices choosing brand A did not significantly differ from the number choosing brand B when one brand (brand B/A) used a PC message and the other (brand A/B) used a CC message (48 versus 38, $\chi^2(1) = 1.16$, $p = 0.28$; 30 versus 28, $\chi^2(1) = 0.07$, $p = 0.79$). Thus Hypothesis 5 was not supported. This surprising finding may result from the avoidance-avoidance conflict. When both brands

Table 2. Outcomes of the comparison game for Study 1

Brand A's message	Brand B's message		
	Non-comparative	Partial comparative	Complete comparative
Non-comparative	A wins (n = 31)	B wins (n = 30)	A wins (n = 30)
Partial comparative	A wins (n = 34)	Tie (n = 33)	Tie (n = 30)
Complete comparative	B wins (n = 33)	Tie (n = 33)	Tie (n = 30)

made convincing claims of shortcomings in the other, consumers faced an avoidance–avoidance conflict and thus tended to favour a ‘no choice’ option ($62/(30+28+62) = 52\%$ and $46/(38+48+46) = 35\%$). Participant tendency to favour a ‘no choice’ option reduced their preference for the brand promoted by a PC message over that promoted by a CC message.

Given that each brand is seeking to expand its own market share at the expense of its rivals, the results in the comparison game can be classified as: *A wins*, *B wins* and *tie*. This study used these labels to reconstruct the payoff table, listed in Table 2.

Alternatives for the four decision problems in Study 1 do not always have brands in practice. To ensure that the findings of this study can be applied to branded products, Study 2 was designed and implemented as an enhanced replication for Study 1. Details in Study 2 identical to those of Study 1 are omitted to save space.

Study 2

Sample, experimental design and stimuli

This study sampled 360 college students. The effective sample comprised 283 participants, yielding an effective return ratio of 78.61%. The design of Study 2 was the same as that of Study 1. Each cell contained 30–34 effective questionnaires.

The four decision problems considered in this study involved mobile phone, colour ink printer, MP3 (MPEG Audio Layer 3) player, and digital camera. Each problem involved two alternatives with similar attractiveness, as confirmed by a pilot test involving 36 subjects. Each alternative included information on four key attributes, provided by a pilot test involving 13 subjects and verified via another pilot test involving 40 subjects. Each pair of comparative and non-comparative claims regarding an attribute had

similar attractiveness, as confirmed by a pilot test involving 52 subjects. Figure 2 shows the exemplar decision problem.

Results

Table 3 lists the number of participant choices choosing each brand in each experimental group.

The two-way interaction of the ad strategies of brands A and B significantly influences consumer preference ($F = 2.43$, $p < 0.05$), suggesting that it is necessary to test the hypotheses. The three-way interaction among the ad strategies of brands A and B and product type does not significantly influence consumer preference ($F = 1.07$, $p = 0.39$), supporting data aggregation across product categories.

Testing results of Study 2 agree with those of Study 1. The number of participant choices choosing brand A significantly exceeded the number choosing brand B (62 versus 35, $\chi^2 = 7.52$, $p < 0.05$) when both brands were promoted using NC messages, supporting Hypothesis 1. The number of participant choices choosing brands A and B did not differ significantly when both brands were promoted using PC messages (58 versus 43, $\chi^2 = 2.23$, $p = 0.14$) or CC messages (38 versus 41, $\chi^2 = 0.11$, $p = 0.74$), supporting Hypothesis 2. Participants preferred the brand (brand A/B) promoted using a PC message when the other brand (brand B/A) was promoted using an NC message (53 versus 34, $\chi^2 = 4.15$, $p < 0.05$; 65 versus 43, $\chi^2 = 4.48$, $p < 0.05$), supporting Hypothesis 3. Participants preferred the brand (brand B/A) promoted using an NC message when the other brand (brand A/B) was promoted using a CC message (69 versus 20, $\chi^2 = 26.98$, $p < 0.05$; 61 versus 34, $\chi^2 = 7.67$, $p < 0.05$), supporting Hypothesis 4. The number of participant choices choosing brand A did not differ significantly from the number choosing brand B when one brand (brand B/A) used a PC message and the other (brand A/B) used a CC

Scenario:

Please imagine that you wish to buy a new colour ink printer. Two alternatives exist, and their ads present the following messages. Please read the left alternative first.

Ad for Printer A	Ad for Printer B
This high-resolution printer can create clear and high quality documents for you.	Printing speed is high, meaning you will not waste your time waiting as you would if you used Printer A .
An extremely large-scale network of repair centres makes repair of your printer very convenient.	This printer is much cheaper than Printer A , saving you a lot of money.
You then find the following information from reliable sources.	
Printer A	Printer B
Resolution is high.	Printing speed is high.
Repair service is convenient.	Price is low.
Printing speed is slow.	Resolution is low.
Price is high.	Repair service is inconvenient.
Which printer would you choose?	
☐ I would choose Printer A .	
☐ I would choose Printer B .	
☐ I would like to see other alternatives.	

Figure 2. Exemplar stimuli (NC message versus CC message) for Study 2

message (59 versus 41, $\chi^2 = 3.24$, $p = 0.07$; 49 versus 37, $\chi^2 = 1.67$, $p = 0.20$), not supporting Hypothesis 5.

Table 4 shows the payoff table for two brands in Study 2, which resembles that of Study 1, demonstrating the robustness of the findings of this study.

Discussion

This study has shown that the effect of NC, PC and CC messages on consumer preference depends on the comparative nature (non-comparative, partial comparative or complete comparative) of the messages regarding the two competing brands. Experimental results demonstrated that participants preferred (1) the first brand they saw when both brands were promoted by NC messages, (2) neither brand when both brands were promoted by messages making comparative claims (PC or CC messages), (3) the brand promoted by a PC message when the

other brand was promoted by an NC message, and (4) the brand promoted by an NC message when the other brand was promoted by a CC message.

Theoretical implications

The findings of this study have several theoretical implications. First, empirical data supported Hypotheses 3 and 4, indicating that copy $\times$ copy interactions can be between-message in addition to within-message, as found in previous studies (Barone and Miniard, 1999; Barone, Palan and Miniard, 2004). For instance, an NC message promoting one brand may not always have a strong effect but may interact with a CC message promoting the competing brand and thus strongly influence consumer preference.

Second, this study examined the effectiveness of PC messages in a competitive setting, extending the applications of PC messages proposed by Barone and Miniard (1999). Specifically, PC messages were found to influence consumer

Table 3. Number of participant choices for a certain option for Study 2

Brand A's message	Brand B's message								
	Non-comparative			Partial comparative			Complete comparative		
	A	B	N	A	B	N	A	B	N
Non-comparative	62*	35	23	43	65*	24	61*	34	25
Partial comparative	53*	34	33	58	43	31	49	37	42
Complete comparative	20	69*	35	41	59	36	38	41	41

Notes: A, B, N indicate 'choose A', 'choose B' and 'no choice', respectively.

*The number in the cell is significantly different from that of the nearby cell (A for B or B for A) using $\chi^2(1)$ with the criterion $p < 0.05$.

Table 4. Outcomes of the comparison game for Study 2

Brand A's message	Brand B's message		
	Non-comparative	Partial comparative	Complete comparative
Non-comparative	A wins (n = 30)	B wins (n = 33)	A wins (n = 30)
Partial comparative	A wins (n = 30)	Tie (n = 33)	Tie (n = 32)
Complete comparative	B wins (n = 31)	Tie (n = 34)	Tie (n = 30)

preferences more when the competing brand uses NC messages than when the competing brand uses PC or CC messages.

Third, message effectiveness not only depends on the message nature (namely NC/PC/CC) but also on the nature of competing messages, extending the message effectiveness examination of Donthu (1992) to competing message effectiveness. For example, NC messages strongly affect consumer preferences when competitors use CC messages but exert only a weak effect when competitors use PC messages. Similarly, the influence of the PC message of the advertised brand on consumer preference is strong when its competitor uses an NC message but moderate when its competitor uses a PC or CC message.

Practical implications

The findings of this study also provide insights for practitioners in various industries, e.g. banking (McGoldrick and Greenland, 1992). First, practitioners who favour passivity in business competition (specifically comparison games) can use PC messages to promote their brand and exploit priming effects if their competitors use NC messages. When their competitors fully engage in comparison (by using CC messages), this study suggests such passive practitioners should use NC messages so that the messages of

their competitors appear offensive and difficult to believe, thus eroding consumer preference for their competitors. Finally, it is recommended that PC messages be used whenever competitors also use PC messages.

On the other hand, business practitioners may prefer to be active in business comparison games. In such cases, PC messages are recommended because they moderately to highly impact consumer preference. NC messages can strongly impact consumer preferences in certain cases (such as when the competitor uses NC or CC messages) but there is a risk of low impact on consumer preference when competitors use PC messages.

Business practitioners may prefer to be proactive in business comparison games. In competitions, late movers can observe the actions of early movers and determine their own move accordingly. If the first brand uses an NC message, the second brand may use a PC message to win the game (in terms of consumer preference). If the first brand uses a PC message, the second brand may as well also use a PC message so that the game results in a tie. Finally, if the first brand uses a CC message, the second brand may use an NC message to achieve victory. According to the max-min (maximizing the worst outcomes) criterion, the rational action for the first brand is to use a PC message.

An additional consideration is that changing the message nature (NC/PC/CC) may confuse consumers and make them suspicious regarding why the change has occurred. The analytical results presented here indicate that brands should utilize PC messages to avoid the above costs of changing message nature.

Future research opportunities

This paper used *messages* rather than *advertisements* as stimuli because the nature of the comparison message was considered a factor significantly complicating experiments. Headlines, pictures and artificial (or real) brand names may further complicate the experiment and become confounding factors. This study thus omitted these factors to avoid possible confounding effects. However, omitting these factors makes the stimuli resemble messages rather than real advertisements, limiting the ability to directly apply the findings of this study to advertising. Considering those factors individually offers potential for expanding the scope of this study in the future.

This study used negatively framed comparative claims as stimuli owing to the widespread use of negatively framed comparative claims by businesses. However, Jain and Posavac (2004) demonstrated that positively framed comparison had several advantages over negatively framed comparison. Thus, the replacement of the negatively framed comparisons in this study with positively framed comparisons may improve the effectiveness of PC and CC messages. Additionally, future studies can explore consumer preferences in situations involving two brands in which no-comparison, positively framed comparison, and negatively framed comparison are used in a single comparison game. In such situations, positively framed comparisons may not always outperform negatively framed comparisons.

In the literature on political advertising, Lee and Benoit (2004) classified candidate messages in elections into categories of acclaim, attack and defence. To date, studies on comparative ads have ignored the issue of defence, namely when and how to respond to superiority claims by rivals. Additionally, argument strength and preference consistency–inconsistency have been demonstrated to influence information persuasiveness (Jain and Maheswaran, 2000). Furthermore, the compatibility of the consumer mode of

information processing (imaginary versus analytical) and ad format also enhanced ad effectiveness (Thompson and Hamilton, 2006). Future work can examine whether strong or weak comparative arguments and the compatibility of the information processing mode and ad format exert more influence on consumer preferences in competitive contexts.

This study allowed participants a ‘no choice’ option for two reasons. First, the no choice option is available in most real world situations. Second, Nowlis, Kahn and Dhar (2002) indicated that forcing subjects to choose among existing alternatives may create biases. To avoid such biases, it is thus reasonable to provide a no choice option. However, the inclusion of such an option may lead to the results being distorted by interaction between the no choice option and the present stimulus options. Specifically, the no choice option may draw respondents away from different brands at different rates. The frequently demonstrated assumption of proportionality (Luce, 1959) assumed that a new offering will take from existing offerings in proportion to their original market share. In this study, the no choice option resembles a new offering, which attracts participants who prefer each of the alternatives proportionally to the share of participants preferring them. Thus, the provision of the no choice option was unlikely to create false preferences.

One limitation of this study is that although it provided a rationale for the presented hypotheses it did not simultaneously measure all the intervening changes that are purported to have occurred. Future studies can replicate this study in other contexts and simultaneously measure intervening variables to provide further evidence regarding the psychological processes experienced by consumers.

Johnson and Horne (1987, 1988) applied the model of Tversky (1977) and found that comparative advertising strengthens associations between brands, which is not a focus of this study. While brand similarity is important in competition, future studies may replicate the studies of Johnson and Horne in a competitive setting to obtain further insights.

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