## Does the Frame of a Comparative Ad Moderate the Effectiveness of Extrinsic Information Cues?

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This research investigates how framing moderates the use of message cues on performance risk evaluations. Understanding the moderating impact of the frame is important from a theoretical perspective as the frame is a critical contingency factor in how evaluations are formed. This research extends previous results by testing whether framing affects the use of other extrinsic cues, determining the effect when there are multiple extrinsic cues, determining the impact when extrinsic information is not explicitly provided, and providing evidence that positively framed messages engender more thorough analysis of message cues than negatively framed messages and affect how extrinsic cues are used.

C omparative advertising, in which an ad identifies competitors either directly or by clear implication, is a popular communications format in U.S. media. Findings from a meta-analysis of 77 empirical studies demonstrated that comparative ads are most effective when a new brand compares itself to an established brand (Grewal et al. 1997). Comparative ads simultaneously communicate both positive information about the sponsor and negative information about the competition and, as a consequence, could be framed in either a positive or negative fashion. When a comparative ad is negatively framed, it focuses on the inferiority of the competitor and encourages consumers to think about potential losses they will incur from using the competitor's brand. In contrast, when a comparative ad is positively framed it focuses on the superiority of the sponsor

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and encourages consumers to think about their potential gains. In both frames, the information content conveyed is the same; only the valence differs.

The valence difference caused by the frame has a significant impact on consumer evaluations, preferences, and choices. This effect has been demonstrated repeatedly in a variety of situations (see reviews by Kuhberger [1998]; Levin, Schneider, and Gaeth [1998]). Yet, there is limited knowledge about the interactive effects of framing. The majority of the studies that do exist examine how factors moderate the effect of framing on outcomes (Maheswaran and Meyers-Levy 1990; Raghubir and Menon 2001; Shiv, Edell, and Payne 1997). We only know of one study that has examined the moderation from the perspective of how framing moderates the effect of message cues (Grewal, Gotlieb, and Marmorstein 1994).

That study found that when a comparative ad is framed positively (vs. negatively), people are less likely to use price in forming their evaluations of performance risk. Performance risk refers to uncertainty about whether the product will perform its intended function. Using prospect theory (Kahneman and Tversky 1979), Grewal et al. (1994) argued that consumers who are risk averse (e.g., exposed to a positively framed message) conduct a more thorough analysis of the available information prior to making a decision to ensure a well-thought-out evaluation that minimizes risk. They hypothesized that a consequence of this more thorough analysis is that consumers are less likely to be affected by nonphysical product characteristics (extrinsic cues), such as price.

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If their result holds, it means that framing can moderate the effectiveness of information cues on consumers' evaluations, preferences, and choices. As such, framing would be a critical contingency factor. Although Grewal et al. (1994) provided initial evidence concerning the effects of message framing, the article tested only one extrinsic cue and only alluded to the underlying process leading to the result. To have a more complete understanding of the moderating impact of framing, we extend their article in four ways—by (*a*) testing whether framing similarly affects the use of other extrinsic cues, (*b*) determining the effect when there are multiple extrinsic cues, (*c*) determining the effect when extrinsic information is not explicitly provided, and (*d*) providing process evidence for the results.

## BACKGROUND

Previous research has examined the interactive effects of framing, but always from the perspective of how other factors moderate the effect of framing on outcomes (Maheswaran and Meyers-Levy 1990; Raghubir and Menon 2001). Of course, these same results could be considered from the perspective of how framing moderates those other factors. For example, Maheswaran and Meyers-Levy (1990) showed that involvement moderated the effect of frame on message persuasiveness. Considering their results from the perspective of frame as the moderator, we find results consistent with those suggested by Grewal et al. (1994). The extent of consumers being affected by heart disease (their manipulation of involvement) has more of a differential impact in the negative frame than in the positive frame (mean difference negative frame = 1.43, positive frame = .56). Similarly, Raghubir and Menon (2001) demonstrated that information about how previous participants viewed the task (difficult vs. easy) moderated the effect of frame on perceived risk. Examining their results from the perspective of frame as the moderator, we find that in the negative frame, consumers view that they are more at risk of contracting AIDS when the task was labeled as difficult (causes AIDS) than in the positive frame (mean difference negative frame = 5.32, positive frame = 2.65). Thus, results from both studies in domains distinctly different than comparative advertising demonstrate that message framing moderated the effects of information cues on the dependent measures. The consistency of these results reinforces that framing may be a critical contingency factor. It highlights the need to understand more conclusively how framing moderates the use of extrinsic cues, such as retailer reputation.

Both brand names and retailer's reputation have been shown to influence consumer perceptions of product quality (Miyazaki, Grewal, and Goodstein 2005). In the case of store brand products, the retailer is the brand, and, hence, the retailer's reputation is an extrinsic cue that is expected to affect performance risk perceptions. As Grewal et al. (1994) hypothesized, however, extrinsic cues are expected only to differentially affect perceptions when an ad is framed negatively such that consumers will perceive greater performance risk when the retailer's reputation is weak (vs. strong). Using prospect theory (Kahneman and Tversky 1979), they argued that consumers exposed to a positively framed ad will be risk averse and conduct a more thorough analysis of available information prior to forming an evaluation. As such they are less likely to be affected by an individual extrinsic cue. We, therefore, hypothesize:

**H1:** There will be an interaction between message framing and retailer's reputation such that when the frame is negative, consumers will perceive greater performance risk when the retailer's reputation is weak (vs. strong). When the frame is positive, consumers will perceive no difference in performance risk regardless of the retailer's reputation.

Warranties are another extrinsic cue that could behave in the same fashion. However, unlike the extrinsic cues of price and retailer's reputation, warranties are likely to be highly diagnostic of performance risk as they guarantee a minimum level of performance (Shimp and Bearden 1982). Consumers who conduct a thorough analysis of the information will recognize that offering a superior warranty with an inferior product could have disastrous financial consequences for a company. Thus, even customers exposed to a positive frame are expected to include warranty length in their performance risk evaluations. As a result, we expect a main effect of warranty length as opposed to an interaction.

**H2:** There will be a main effect of warranty length. Consumers will perceive greater performance risk when the warranty length is shorter (vs. longer) regardless of the frame.

## **EXPERIMENT** 1

## Method

A 2 × 2 × 2 between-subjects design manipulated framing (positive vs. negative), warranty length (short vs. long), and retailer reputation (strong vs. weak). Strong reputation was manipulated using a known, reputable retailer (Best Buy). Weak reputation was manipulated using a fictitious store (Jake's Electronic Store). In a pretest, Best Buy was rated as more reputable than Jake's Electronic Store ( $M_{\rm BB} = 6.20$ ,  $M_{\rm Jake's} = 2.73$ ; F(1, 14) = 79.53, p < .001). Our weak reputation manipulation could also be considered akin to no reputation.

A store brand digital camera was created and compared with an established brand on five attributes in each of eight advertisements (see appendix). In the positively framed conditions, the presentation indicated that "[Store's Name]'s Magion has superior . . . to Canon's Sure Shot." In the negatively framed treatments, the attributes were presented as "Canon's Sure Shot has inferior . . . to [Store Name]'s Magion." The warranty was described as lasting for 4 mo. (yr.), which was shorter (longer) than the industry standard of 2 yr.

Student participants (n = 240) were given the advertise-

ment and were asked to read it carefully and respond to the process measure (3 min. thought listing), the performance risk measure, and manipulation checks. Performance risk was measured using three items: "How confident are you that the Magion camera will perform as described?" "How certain are you that the Magion camera will work satisfactorily?" "Do you feel the Magion camera will perform the functions that were described in the advertisement?" The scale proved to be reliable ( $\alpha = .86$ ).

## Results

*Manipulation Checks.* Participants correctly recalled how the ad compared the cameras (superior or inferior;  $\chi^2(1) = 153.46$ , p < .001), remembered how long the warranty length was (short [long] warranty length condition; 88.4% [87.3%] of participants correctly identified the length), and viewed Best Buy to be more reputable than Jake's Electronic Store ( $M_{\rm BB} = 5.80$ ,  $M_{\rm Jake's} = 1.90$ ; F(1, 232) = 445.18, p < .001).

*Performance Risk.* As predicted in hypothesis 1, there was a significant interaction between frame and reputation (F(1, 232) = 3.85, p < .05; see fig. 1). Follow-up contrasts revealed that when the ad was framed negatively, a weak (vs. strong) reputation caused participants to perceive greater performance risk ( $M_{\text{weak}} = 4.44$ ,  $M_{\text{strong}} = 3.84$ ; F(1, 232) = 7.46, p < .01,  $\eta = .18$ ). There was no significant difference for positive framing ( $M_{\text{weak}} = 3.95$ ;  $M_{\text{strong}} = 3.94$ ; F < 1).

As proposed in hypothesis 2, there was a significant main effect for warranty length (F(1, 232) = 15.2, p < .001). Participants perceived higher performance risk when the warranty length was short (M = 4.35) than when it was long (M = 3.73). The warranty length by frame interaction was not significant (p > .17).

Process Results. Thoughts were coded by two reviewers as intrinsic or extrinsic (interjudge reliability = .90). Results showed a significant frame by reputation interaction for the number of extrinsic thoughts people had about the product (F(1, 232) = 3.90, p = .05) such that when the ad was framed negatively, a weak (vs. strong) reputation caused participants to have more extrinsic thoughts ( $M_{\text{weak}} =$  $3.82, M_{\text{strong}} = 2.95; F(1, 232) = 5.37, p < .05).$  There was no significant difference for positive framing  $(M_{\text{weak}} =$ 3.04,  $M_{\text{strong}} = 3.21$ ; F < 1). Additionally, there was a significant frame by reputation interaction for the number of intrinsic thoughts that people had about the product (F(1, 232) = 5.59, p < .05) such that when the ad was framed negatively, a weak (vs. strong) reputation caused participants to have fewer intrinsic thoughts ( $M_{\text{weak}} = .49$ ,  $M_{\text{strong}} = .94; F(1, 232) = 3.83, p = .05).$  There was no significant difference for positive framing ( $M_{\text{weak}} = 1.05$ ,  $M_{\rm strong} = .76; p = .19$ ). This supports that participants exposed to a negative frame have more extrinsic (less intrinsic) thoughts when the extrinsic cue indicates negative (vs. positive) information. In the positive frame, regardless of

#### FIGURE 1

#### EXPERIMENT 1—PERFORMANCE RISK RESULTS



whether the extrinsic cue indicates negative or positive information, there are no significant differences in the number of extrinsic (intrinsic) thoughts that participants had. Additionally, there was no significant frame by warranty length interaction for either intrinsic or extrinsic thoughts. This further supports that participants, in both frames, use warranty length information similarly.

Mediation procedures using ANCOVA demonstrate that when the mediators (extrinsic and intrinsic thoughts) are treated as covariates, the effects of frame and reputation on performance risk are eliminated (reputation by frame interaction, p > .2). Furthermore, the effect of the mediators is significant (intrinsic: F(1, 230) = 7.53, p < .01; extrinsic: F(1, 230) = 4.73, p < .05). These results reinforce the process exposition by empirically demonstrating that the extrinsic and intrinsic thoughts mediate the effect of frame and reputation on performance risk.

## Discussion

The results replicate the results of Grewal et al. (1994) with a different extrinsic cue, retailer's reputation, showing that when a message is framed negatively, the retailer's reputation affects product risk perceptions such that consumers perceive more risk for store brand products sold by stores with a weak (vs. strong) reputation. In contrast, when a message is framed positively, consumers' evaluations of the performance risk of the store brand product are not differentially affected by the retailer's reputation. However, as predicted, regardless of framing, all consumers perceived there to be higher risk when the warranty was short versus when it was long.

Two limitations are that an industry standard was provided that may have artificially made warranty length more diagnostic and that there was an extreme discrepancy in the warranty lengths provided, which may have swamped the message effect. A follow-up study was run to address these limitations. The follow-up study (n = 121) manipulated warranty length (4 mo. vs. 2 yr.), reference point (given vs. not given), and frame (positive vs. negative). Performance risk findings replicate the results of experiment 1 such that there was only a main effect for warranty length ( $M_{\text{short}} = 4.48$ ,  $M_{\text{long}} = 3.99$ ; F(1, 113) = 5.27, p < .05).

We suggest that this result occurs because consumers exposed to a positively framed message conduct a more thorough analysis of the available information and recognize that warranty length is highly diagnostic in determining performance risk. Other extrinsic cues such as price or retailer's reputation are likely to be less diagnostic. Process measures support that those exposed to a positively framed message conduct a more thorough analysis of the warranty information (reference point by frame interaction, F(1, 113) =5.36, p < .05; interjudge reliability 93%). More specifically, participants exposed to a positively framed message had a similar number of evaluative thoughts about the warranty regardless of whether a reference point was provided  $(M_{\rm rp} = .31, M_{\rm no \ rp} = .41, p > .37)$ . Those exposed to a negatively framed message, however, only had more evaluative thoughts when a reference point was provided (vs. not provided,  $M_{\rm rp} = .36$ ,  $M_{\rm no rp} = .07$ , p < .05). Thus, when a reference point was not provided (a situation that would require deeper processing about the warranty to access its meaning), participants in a positive frame had more evaluative thoughts about the warranty than those in negative frame ( $M_{\text{pos.}}$  = .41,  $M_{\text{neg.}} = .07$ , p < .01), indicating a more thorough analysis about warranty when exposed to a positively framed message.

## **EXPERIMENT 2**

To understand further how consumers evaluate multiple extrinsic cues, we examine the joint effect of price and retailer's reputation. The explicit manipulation of reputation and discounted sale price is likely to create consistent and inconsistent extrinsic cue conditions (Miyazaki et al. 2005). The consistent conditions are when reputation and price both signal similar levels of risk (e.g., strong reputation [SR] and nondiscounted price [NDP] both signal low risk, and weak reputation [WR] and discounted price [DP] both signal high risk). The inconsistent conditions are when reputation and price signal different levels of risk.

Building on our prior results, we expect that framing will moderate how these multiple extrinsic cues are considered. More specifically, we expect that those exposed to a positively framed message, as a result of their more thorough analysis, will consider the consistency of the cues. According to cue consistency theory (Maheswaran and Chaiken 1991), when cues are consistent, they are more likely to be used jointly in evaluations. However, when cues are inconsistent, consumers focus on the negative cue and anchor their perceptions accordingly (Campbell and Goodstein 2001; Miyazaki et al. 2005). Hence, when the two cues are inconsistent, the overall risk evaluation is not reduced by the cue that signals lower risk and performance risk evaluations are similar to those derived when both cues signal higher risk. In other words, if a reputable retailer offers a product at a discounted price (inconsistent cues), consumers will focus on the discounted price and perceive greater risk. If a less reputable retailer offers a product at nondiscounted price (inconsistent cues), consumers will focus on the weak reputation and perceive greater risk.

When consumers are exposed to a negative frame, they are not expected to process as deeply and, as a result, will not focus on the inconsistency between the extrinsic cues. Instead, we expect that they will focus on the extrinsic cue deemed most relevant in evaluating risk. In the case of brand and price, we expect this to be brand—an article by Dodds, Monroe, and Grewal (1991) found that brand was more than five times as important as price on product evaluations (average  $\eta_{\text{brand}}^2 = .22$  vs.  $\eta_{\text{price}}^2 = .04$ ). Thus, we expect that consumers exposed to a negatively framed message will focus on the retailer's reputation (i.e., the brand) as opposed to the price cue and will evaluate a store brand product from a reputable retailer. Further, this is expected to occur regardless of the price. Thus, we hypothesize that:

- **H3:** There will be message framing and extrinsic cue consistency interaction such that:
  - *a*) When the frame is positive, consumers will perceive less performance risk when both cues consistently signal low risk than when the cues are inconsistent. When the cues are inconsistent, consumers will perceive performance risk similar to the risk perceived when both cues consistently signal high risk.
  - b) When the frame is negative, the consistency of the extrinsic cues will not affect consumers' performance risk evaluations. Instead the evaluation will be driven by the extrinsic cue deemed most relevant (retailer reputation). Therefore, we expect that consumers will perceive more risk when the product is offered by a less (vs. more) reputable retailer, regardless of the consistency between price and reputation.

## Method

A 2 × 2 × 2 between-subjects design (n = 187) manipulated framing (positive vs. negative), retailer's reputation (strong vs. weak), and price (discount vs. no discount). Similar procedures and measures were used. The reputation and framing manipulations were identical to those in experiment 1. In the discount condition, the Magion (\$99.99) was priced less than the PowerShot (\$139.99). In the no-discount condition, the Magion cost the same as the PowerShot (\$139.99).

## Results

*Manipulation Checks.* Participants correctly recalled the frame (superior vs. inferior;  $\chi^2(1) = 121.03$ , p < .001) and the price (discount [no-discount] condition—97.8% [93.6%] of participants correctly identified the price) and

viewed Best Buy to be more reputable than Jake's Electronic Store ( $M_{\rm BB} = 5.83$ ,  $M_{\rm Jake's} = 2.47$ ; F(1, 179) = 390.38, p < .001). Finally, on a scale from price more important than brand (1) to brand more important than price (7), participants reported that brand was more important than price (M = 4.39 vs. neutral point [4], one sample t(186) = 3.60, p < .001). Also, the frequencies reveal that nearly twice as many participants rated brand as more important.

Performance Risk. The scale was reliable ( $\alpha = .83$ ). As predicted in hypothesis 3, there was a significant interaction among frame, price, and reputation (F(1, 179) = 4.55, p < .05,  $\eta = .16$ ; see fig. 2). When the ad was framed positively, there was an interaction between reputation and price (F(1, 179) = 5.87, p < .05). Follow-up contrasts revealed that, as predicted, in the positive frame, when both cues consistently signaled low risk, consumers perceived less risk than when the cues were inconsistent ( $M_{\text{incon. SR,DP}} = 4.14$ ,  $M_{\text{con. SR,NDP}} = 3.52$ ; F(1, 179) = 3.92, p < .05;  $M_{\text{incon. WR,NDP}} = 4.56$ ,  $M_{\text{con. SR,NDP}} = 3.52$ ; F(1, 179) = 11.01, p < .01). When the cues were inconsistent, participants perceived performance risk similar to the risk perceived if the cues were consistent and both signaled high risk ( $M_{\text{incon. SR,DP}} = 4.14$  vs.  $M_{\text{con. WR,DP}} = 4.11$ , p > .9;  $M_{\text{incon. WR,NDP}} = 4.56$  vs.  $M_{\text{con. WR,DP}} = 4.11$ , p > .15).

When the ad was framed negatively, there was no interaction between reputation and price (F < 1). The consistency of cues did not affect consumers' performance risk evaluations. Instead, the evaluations were driven solely by the retailer's reputation as indicated by the main effect of reputation ( $M_{\text{weak}} = 4.19$ ,  $M_{\text{strong}} = 3.81$ ; F(1, 179) = 2.90, p < .05, one-tailed). As expected, the less salient extrinsic cue (price) was not significant (F < 1).

Process results (interjudge reliability = .92) support participants thought more about both reputation and price extrinsic cues in the positive frame than in the negative frame (thoughts in positive frame divided by thoughts in negative frame results in a ratio = 4) as compared with only one extrinsic cue (ratio = 1.08) or with neither of the extrinsic cues (ratio = .77;  $\chi^2(2) = 8.65$ , p < .05).

## Discussion

Results support that the framing of a message influences how consumers evaluate multiple extrinsic cues. When a message is framed positively, consumers are more thorough in their evaluation and consider the cues' consistency when forming performance risk evaluations. When a message is framed negatively, there is no significant difference in risk perceptions regardless of the cue consistency.

In experiments 1 and 2, a single product was studied, and extrinsic cues were always present. Thus, those who thoroughly evaluated information could process the extrinsic cues. But what happens in the case when prices are bundled such that only the bundled price is presented and the prices of the components are not provided? Experiment 3 explores this issue.

#### **FIGURE 2**

#### EXPERIMENT 2—PERFORMANCE RISK RESULTS



## **EXPERIMENT 3**

Manufacturers often bundle prices because of the fact that consumers typically assume that they will save by purchasing the bundle rather than buying the items individually; hence, bundling will increase the likelihood of consumer purchase (Yadav and Monroe 1993). However, we suggest that this may not always be true. Framing may moderate how consumers use the bundled price information in their evaluation of performance risk.

Consumers exposed to a positive framed ad are likely to conduct a thorough analysis of the available information prior to making a decision. A consequence of this analysis is that they will notice that price information is not explicitly provided and, thus, may lower their product evaluations (Ross and Creyer 1992). As a result, it is expected that consumers exposed to a positive frame will perceive higher risk when the prices are bundled (vs. not bundled). In contrast, when the message is framed negatively, consumers are not expected to examine information as carefully and will not focus on the fact that individual prices are not available. Hence, no differences are expected in performance risk perceptions, regardless of whether the offer is presented as one price (bundled) or individual prices with a total offer price (not bundled). More formally, it is hypothesized that: **H4:** There will be an interaction between message framing and bundling, such that when the frame is positive, consumers will perceive greater performance risk when the prices are bundled (item prices not available) versus when they are unbundled (item prices available). When the frame is negative, consumers will perceive performance risk similarly regardless of whether the prices are bundled or unbundled.

### Method

The experiment used a  $2 \times 2$  between-subjects design manipulating frame (positive vs. negative) and whether the individual prices of the warranty and product were bundled (individual prices not provided) or unbundled (individual prices explicitly available). Framing was manipulated similar to experiments 1 and 2. Bundling was manipulated by providing the individual product (\$269) and warranty prices (\$20) along with the total price (\$289) or listing just the total price (\$289). All participants were students at a large urban university (n = 86). The study employed the same three-item scale of performance risk ( $\alpha = .90$ ).

## Results

As predicted by hypothesis 4, the ANOVA revealed a significant interaction between the frame and bundling  $(F(1, 82) = 5.05, p < .05, \eta = .24)$ ; see fig. 3). Follow-up contrasts demonstrated that when the ad was framed positively, bundling (vs. not bundling) the prices caused participants to perceive greater performance risk ( $M_{\rm b} = 4.86$ ,  $M_{\rm not \ b} = 3.90$ ; F(1, 82) = 5.05, p < .05). In the negative frame, there was no difference ( $M_{\rm b} = 3.59, M_{\rm not \ b} = 3.97$ ; F < 1).

Results support that not having information explicitly available (bundled prices) only affects evaluations of risk for those consumers who are exposed to a positively framed message.

## **GENERAL DISCUSSION**

This research expands our understanding of the moderating role of message framing in consumer evaluations of performance risk. Developing a richer, more complete understanding of the moderating role of message framing is important not only in the comparative ad domain but also in the broader context of information processing. In this research, we test the moderating impact of framing in a variety of situations and find results that can be consistently explained by the fact that the positive frame engenders more thorough analysis of message cues than negative frames.

#### **FIGURE 3**

#### EXPERIMENT 3—PERFORMANCE RISK RESULTS



More specifically, we find that consumers exposed to a positively framed message engage in thorough processing of the ad and do not evaluate performance risk based solely on the reputation of the retailer, whereas the reputation of the retailer was a primary driver of performance risk evaluations for those exposed to a negative frame. We also find that framing does not moderate the use of warranty information in evaluations of performance risk. Those exposed to a negative frame use it because it does not require extensive thought. Those exposed to a positive frame are more evaluative in their thoughts about the warranty and realize that it is a highly diagnostic indicator of performance risk; hence, they use it in their evaluations.

We show that consumers exposed to a positive frame evaluate performance risk to be greater when extrinsic cues are inconsistent (vs. consistent and both signal low risk) and when information is not explicitly provided (vs. provided). In the negative frame, these factors do not differentially affect risk perceptions. Again, the results can be explained by the fact that those in the positive frame think more thoroughly about the extrinsic information provided and, hence, notice inconsistencies between extrinsic cues or when explicit information is lacking, whereas those in the negative frame do not think as thoroughly about the information.

It should be noted that our weak reputation manipulation was an unknown retailer. Future research should manipulate weak reputation using a known, but weakly reputable, retailer. Additionally, our studies exposed participants to only a single ad for the given product. Future research should examine whether the effectiveness of message framing would be reduced with ad repetition and the context of other ads.

## APPENDIX

# EXPERIMENT 1—STIMULI EXAMPLE (POSITIVE FRAME, REPUTABLE RETAILER, LONG WARRANTY CONDITION)

Imagine that you need to buy a camera. It is important that the camera last for several years and will capture all the important events of your college years.

While scanning the paper you saw the following ad for Best Buy's store brand camera, the Magion. Please read the advertisement carefully.



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