

# The Impact of Incomplete Typeface Logos on Perceptions of the Firm

This research investigates the influence of incomplete typeface logos on consumer perceptions of the firm. In these logos, parts of the characters in the company name are intentionally missing or blanked out, giving rise to a form of perceptual ambiguity. Three studies demonstrate that although incomplete typeface logos have an unfavorable influence on perceived firm trustworthiness, they have a favorable influence on perceived firm innovativeness. The former influence is tied to the logo's perceived clarity, while the latter influence is tied to its perceived interestingness. Furthermore, incomplete typeface logos have an unfavorable influence on overall attitude toward the firm, but only for consumers with a prevention, rather than promotion, focus. These findings suggest that firms should avoid incomplete typeface logos if perceptions of trustworthiness are critical or if consumers are likely to have a prevention focus. However, such logos may be successfully employed with promotion-focused consumers, and they may be used as a tool to position a firm as innovative.

**Keywords:** logo, ambiguity, innovativeness, trustworthiness, firm, consumer perceptions

In the IBM logo, there are blank stripes across the letters, as if parts of the characters are missing. This deliberate incompleteness creates a form of perceptual ambiguity, and it is not rare to see this type of ambiguity incorporated into logos. However, what influence do such incomplete typeface logos have on consumer perceptions of the firm?

Logos are ubiquitous in the marketplace, and the average consumer encounters a multitude of them on any given day. These logos are valuable company assets that firms spend a great deal of time and money promoting. Indeed, many firms spend substantially more on permanent media such as logos than on other forms of marketing communication (Henderson and Cote 1998). But what influence does the logo in turn have on consumer perceptions of the firm? This is an important question, not only because it represents a gap in the marketing literature and in the understanding of how consumers interpret visual stimuli but also because of the vast amounts of resources that firms expend on logos as a marketing tool. Research in marketing has begun to illuminate the influences that various logos have on consumers (Henderson and Cote 1998; Henderson, Giese, and Cote 2004; Janiszewski and Meyvis 2001). The current research contributes to this stream by investigating the influence of incomplete typeface logos, which constitute a form of perceptual ambiguity, on consumer perceptions of the firm.

More broadly speaking, both marketing textbooks and common sense suggest obvious potential benefits of promoting an unambiguous corporate and brand image: Consumers can thus have a clear understanding of what the firm

represents. Nonetheless, marketers provide consumers with a great deal of ambiguous information through, for example, product advertisements (Pieters, Wedel, and Batra 2010), product names (Miller and Kahn 2005), ad photos (Peracchio and Meyers-Levy 1994), and logos (Henderson and Cote 1998). There seems to be a common notion that ambiguity may somehow be useful; otherwise, it would not be so frequently employed as a device in marketing communications. The current research proposes one potential goal that may be achieved through the perceptual ambiguity of incomplete typeface logos, namely, the positioning of a firm as innovative in consumers' eyes. This is because the incomplete logo is perceived as interesting and creative, and this perception spills over onto the firm. However, a potential drawback of this practice is also uncovered: The incompleteness conveys a lack of clarity, leading to diminished perceptions of trustworthiness. Finally, regulatory focus is shown to moderate the influence of incomplete typeface logos on overall attitude toward the firm. Incompleteness has an unfavorable influence on attitude toward the firm for consumers with a prevention focus but not for those with a promotion focus.

Three studies are presented to empirically investigate these notions. The empirical findings presented not only extend previous findings in logo-related research (Henderson and Cote 1998; Henderson, Giese, and Cote 2004; Janiszewski and Meyvis 2001; Van der Lans et al. 2009) but also contribute to research on visual communication in general (Lurie and Mason 2007; Pieters, Wedel, and Batra 2010) and ambiguity specifically (Miller and Kahn 2005; Peracchio and Meyers-Levy 1994; Yi 1990). Furthermore, the theory and findings establish connections between these literatures and a nascent stream of art-related research (Hagtvedt and Patrick 2008; Joy and Sherry 2003), as well as a broader stream of research in aesthetics (Bloch, Brunel, and Arnold 2003; Hirschman 1983). Key managerial take-

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aways include the implications that firms should avoid incomplete typeface logos if perceptions of trustworthiness are critical or consumers are likely to have a prevention focus. However, such logos may be successfully employed with promotion-focused consumers, and they may be used as a tool to position a firm as innovative.

## **Logos, Ambiguity, and Perceptions of the Firm**

### ***Ambiguity in Marketing***

A widely held belief among marketers and scholars is that good logos should readily evoke the same intended meaning across consumers (Henderson and Cote 1998). Indeed, it is a common notion that, in general, marketing stimuli should communicate one clear message that is difficult to misinterpret (Keller 1993). This implies that logos, and any form of marketing communication, should be unambiguous.

Nonetheless, extant literature has provided examples of ambiguity that gives rise to favorable consumer responses. For example, Miller and Kahn (2005) demonstrate that consumers react favorably to products with ambiguous color or flavor names because they expect marketing messages to convey useful information. If the marketing information provided is ambiguous or uninformative, consumers attempt to fill in the blanks by searching for an explanation. This search in itself leads to favorable perceptions of the product. In the realm of ad photos, Peracchio and Meyers-Levy (1994) argue that the perceptual ambiguity stemming from a cropped or incomplete object prompts people to seek closure by supplying the missing part. This perceptual act leads to enhanced product evaluations by stimulating positive affect.

### ***Perceptual Ambiguity in Logos***

How, then, might the perceptual ambiguity of a logo influence consumer perceptions of the firm? To answer this question, it must be clarified what is intended by these terms. The word “logo” encompasses diverse graphic and typeface elements, but the current research is restricted to typeface logos that represent the firm’s name. Moreover, for the sake of clarity and consistency, only one basis for perceptual ambiguity was chosen, namely, incompleteness. In other words, the logo is styled such that parts of the characters in the company name appear to be missing or blanked out and must therefore be filled in by the consumer through a perceptual act. Thus, the perceptual ambiguity consists of the two or more simultaneously feasible interpretations of the visual stimulus, that is, blank spaces or implied continuations of the logo characters.

### ***Perceptual Ambiguity and Perceptions of the Firm: Innovativeness and Trustworthiness***

The drive to mentally complete a visual stimulus may be potent, as indicated by research that has demonstrated consumers’ desire to resolve perceptual ambiguities stemming from cropped images (Peracchio and Meyers-Levy 1994). Indeed, artists often stimulate this drive when using incompleteness as a device in the creation of interesting images. For example, in line drawing, an artist might leave parts of

the lines unfinished so that the eye of the viewer has something to complete. In visually interesting drawings, or ones that stimulate and are appreciated by the viewer, the blank spaces are often as expressive as the actual lines.

Previous research has extensively documented the power of perceptual ambiguity to stimulate interest in terms of physical, intellectual, and emotional response. Long and Toppino (2004, p. 748) discuss a popular argument among visual theorists that “ambiguity is the hallmark of the retinal stimulus in nearly all visual perception and that the visual system must routinely resolve the ambiguity for the organism’s effective adaptation to its environment.” Berlyne (1971, p. 156) illuminates the “arousal-raising possibilities of patterns that can have several alternative continuations and thus induce two or more divergent lines of expectation or hypothesis,” referring also to the theory that ambiguity causes content to become poetic through the process of recreation. Indeed, Zeki (2001) describes the unfinished sculptures of Michelangelo, stressing how much of their appeal lies in the need for spectators to mentally complete them. This, he says, “is only qualitatively different from finished works with the inestimable quality of ambiguity—a characteristic of all great art” (p. 52).

Drawing on these perspectives, this study theorizes that incomplete typeface logos spark interest and that, in line with extant research (Hagtvedt, Hagtvedt, and Patrick 2008), visual interestingness encourages the perception of creativity. In terms of how consumers view the firm represented by that logo, it is expected that this translates into the perception of firm creativity. Indeed, the marketing literature is replete with documented spillover effects of various types (Balachander and Ghose 2003). Given the function of a logo as a visual representation of the firm, it seems reasonable that perceptions of the logo would subsequently spill over onto the firm itself. Furthermore, similar to how artistic innovation is rooted in individual creativity, innovativeness is another word that might be used to describe a firm’s creative output. Indeed, a creative firm meets the changing needs of consumers by delivering highly innovative products (Im and Workman 2004). The preceding arguments can be formally stated as follows:

H<sub>1</sub>: An incomplete (vs. complete) typeface logo causes consumers to perceive the firm as more (vs. less) creative and innovative.

H<sub>2</sub>: This influence is mediated by the perceived interestingness of the logo.

However, as Henderson, Giese, and Cote (2004) assert, a given logo is unlikely to engender only a single response. Thus, a possible unfavorable influence of incomplete typeface logos is also theorized because ambiguity entails uncertainty and a lack of clarity (Peracchio and Meyers-Levy 1994; Sawyer 1992; Singh 1993). Communication influences perceptions of trust and trustworthiness, which, in the context of a firm, are conceptually linked to the reliability of that firm (Morgan and Hunt 1994), and thus unclear communications may adversely influence the perceived trustworthiness and reliability of the communicator (Vignovic and Thompson 2010; Yakovleva, Reilly, and Werko 2004). Although it might be obvious that some types

of vague or seemingly deceptive communication would influence this perception, it is less obvious that lack of logo clarity would do so. However, prior research has demonstrated this influence even with visual stimuli that do not seem to give rational grounds for it. For example, Gorn, Jiang, and Johar (2008) demonstrate that something as seemingly irrelevant as a chief executive officer that has a “baby face” influences perceptions of his or her trustworthiness. Thus, it is hypothesized that a logo with low clarity or readability has an adverse influence on perceived firm trustworthiness. Formally,

H<sub>3</sub>: An incomplete (vs. complete) typeface logo causes consumers to perceive the firm as less (vs. more) trustworthy and reliable.

H<sub>4</sub>: This influence is mediated by the perceived clarity of the logo.

### ***Attitude Toward the Firm: The Moderating Role of Regulatory Focus***

According to the previously explained theories, incomplete typeface logos may have both a favorable and an unfavorable influence on consumers’ attitude toward the firm. Although innovation may sometimes give rise to mixed emotional responses from consumers (Wood and Moreau 2006), in general, it is viewed favorably, as is further evidenced by the contribution it makes to increased firm value (Sorescu and Spanjol 2008). However, the importance of trust and trustworthiness for a firm’s success is also well documented, and some researchers even argue that trust is “the single most powerful relationship marketing tool available to a company” (Berry 1996, p. 42; Sirdeshmukh, Singh, and Sabol 2002). In addition, there may be other perceptions than those pertaining to innovativeness and trustworthiness that are influenced by incomplete typeface logos. Thus, it is unclear whether such logos have a favorable or unfavorable influence on consumers’ overall attitude toward the firm. Indeed, the current study theorizes that the influence of incomplete typeface logos on this attitude depends on the consumer’s regulatory focus.

Regulatory focus theory (Higgins 1997; Wan, Hong, and Sternthal 2009) indicates that people with a promotion focus are concerned with opportunities, openness to change, and the maximization of accomplishments and positive outcomes, whereas those with a prevention focus are concerned with safety, preference for stability, and the minimization of errors and negative outcomes. Therefore, there is reason to expect that consumers with a prevention focus will view perceptual ambiguity unfavorably. In contrast, this should not necessarily be the case for consumers with a promotion focus: Ambiguity connotes uncertainty (Singh 1993); on the one hand, uncertainty signals risk, but on the other hand, uncertainty may also signal opportunity. Although this connection is perhaps less obvious, it may be enough to counteract the unfavorable influence of risk, at least for consumers with a promotion focus, because they are not as concerned with risk avoidance as consumers with a prevention focus. The ambiguity here does not involve uncertainty about the strategy, operations, or economic viability of a firm but only the immediacy and straightforwardness with which a logo may be interpreted. However, in line with the preced-

ing discussion, given the extent to which a logo is perceived as representative of a firm, it is expected that this perceptual ambiguity will unfavorably influence attitude toward the firm for consumers with a prevention focus. Formally,

H<sub>5</sub>: For consumers with a prevention focus, an incomplete typeface logo gives rise to a less favorable attitude toward the firm than does a complete typeface logo. This is not the case for consumers with a promotion focus.

### ***Empirical Overview***

As outlined in the preceding section, it is expected that incomplete typeface logos will have a favorable influence on consumer perceptions of firm innovativeness but an unfavorable influence on consumer perceptions of firm trustworthiness. It is expected that the former influence is explained by the perceived interestingness of the logo, whereas the latter influence is explained by its perceived clarity. Moreover, incomplete typeface logos have an unfavorable influence on attitude toward the firm, but only for consumers with a prevention focus.

These notions are investigated with a set of three studies. Study 1 consists of three brief experiments, each of which demonstrates the favorable (unfavorable) influence of incomplete typeface logos on perceived firm innovativeness (trustworthiness). Study 2 investigates the moderating role of regulatory focus in the influence of such logos on overall attitude toward the firm. Rather than manipulating regulatory focus directly, firms were chosen that align with either promotion or prevention goals. Finally, Study 3 replicates the findings of the previous studies and also demonstrates (1) the mediating role of logo interestingness in the influence of incomplete typeface logos on perceptions of firm innovativeness, (2) the mediating role of logo clarity in the influence of incomplete typeface logos on perceptions of firm trustworthiness, and (3) the moderating role of regulatory focus in the influence of incomplete typeface logos on overall attitude toward the firm, using a standard manipulation for regulatory focus.

## **Study 1**

### ***Method and Results***

A set of three preliminary experiments was conducted to investigate the influence of incomplete typeface logos on consumer perceptions of the firm. A sample (Qualtrics panel: 44% men,  $M_{\text{age}} = 45$  years), drawn predominantly from the U.S. population, but also from Canada and Western Europe, participated in the experiments online. The participant pool consists of more than 3 million unique panel members. To avoid self-selection and professional survey takers, Qualtrics utilizes by-invitation-only online panel recruitment, thus attracting a cross-section that better generalizes to the population at large. In each experiment, participants were randomly assigned to one of two versions (incomplete vs. complete) of the same logo. To ensure the cleanest manipulations possible, the logos used in the current research are representations of firm names without additional pictorial elements. In each study, the logos were styled by a professional graphic artist. In one version, the



logo was styled such that the characters were complete. In the other version, the logo was styled such that parts of the characters were blanked out. Fictitious names were used for the logos, such that the influence of incompleteness would not be confounded with influences stemming from existing perceptions of the firm: “Consul” for Experiment 1a, “Element” for Experiment 1b, and “April” for Experiment 1c (for stimuli, see Appendix A). Participants (71, 67, and 69 participants in Experiments 1a, 1b, and 1c, respectively) viewed the logo and then responded to a battery of questions. They reported their impression of the firm on seven-point Likert scales (1 = “not at all,” and 7 = “extremely”). Specifically, they reported the extent to which they perceived the firm as innovative and creative (subsequently combined to form an innovativeness index) and as trustworthy and reliable (subsequently combined to form a trustworthiness index). These items stem directly from the theoretical development elaborated in the preceding section. To rule out the possible influence of affect stemming from exposure to the logo, participants reported their feelings on seven-point semantic differential scales (“not at all happy/very happy,” “not at all excited/very excited,” “not at all hopeful/very hopeful,” “in a bad mood/in a good mood”; subsequently combined to form an affect index). A series of analyses of variance (ANOVAs) were run with incompleteness as the independent variable and the innovativeness index, trustworthiness index, and affect index as dependent variables. Table 1 presents the results for all three experiments, as well as correlations and scale reliabilities for the indexes.

## Discussion

As Table 1 shows, each of the three preliminary experiments revealed the same pattern of results. Incomplete (vs. complete) typeface logos resulted in perceptions of the firm that were higher (vs. lower) in terms of innovativeness (all three ANOVAs revealed significant main effects, except Experiment 1b, which was marginally significant) and lower (vs. higher) in terms of trustworthiness. (All three ANOVAs revealed significant main effects; for correlations between these two variables, see Appendix B.) Furthermore, there were no differences in affect, and the results were identical when controlling for affect. Affect was not a significant covariate in any of the analyses, except in the influence of the Consul logo on perceived firm trustworthiness. In other

words, the experiments largely support  $H_1$  and  $H_3$ , across three logos, with three formats to manipulate ambiguity.

However, it is not clear how incomplete typeface logos will affect consumers’ overall attitude toward a given firm. Therefore, the following study was designed to provide insights in this respect. On the basis of the preceding theorizing, it is expected that this influence depends on the regulatory focus of the consumer. Study 2 thus investigates the influence of incomplete typeface logos on consumer attitudes toward firms that align with promotion versus prevention goals.

## Study 2

One hundred thirty-five participants (Qualtrics panel: 59% men,  $M_{age} = 46$  years), drawn from the same pool as in Study 1, were randomly assigned to one of two versions (incomplete vs. complete) of the same logo for the fictitious firm “Centurox” (for stimuli, see Appendix A). Participants were also randomly assigned to one of two versions of the firm. In one condition, they read that Centurox was an entertainment company, and in the other condition, they read that it was an insurance company. The rationale for this manipulation was that an entertainment company would be associated with promotion goals, whereas an insurance company would be associated with prevention goals (Higgins 1997; Wan, Hong, and Sternthal 2009). As discussed previously, consumers with a promotion focus are concerned with attaining positive outcomes (e.g., the fun entertainment firms provide), while those with a prevention focus are concerned with safety, responsibilities, obligations, and avoidance of negative outcomes (aligned with the protection and security insurance firms offer).

Thus, the study was a 2 (incompleteness: incomplete vs. complete)  $\times$  2 (focus: promotion vs. prevention) between-subjects experiment. Participants viewed the logo and then responded to a battery of questions. They reported their attitude toward the firm on seven-point semantic differential scales (full scale taken from Hagtvedt and Patrick [2008]: “unfavorable/favorable,” “negative/positive,” “bad/good,” “unpleasant/pleasant,” “dislike very much/like very much”), later combined in an attitude index ( $\alpha = .96$ ). To ensure that there were no confounds stemming from preexisting notions of the firm, participants reported, on a seven-point Likert scale (1 = “not at all,” and 7 = “definitely”), whether they had heard of the Centurox firm before filling out the survey. As expected, the results revealed no differences and a sig-

**TABLE 1**  
**Results for Study 1 (Experiments 1a–1c): The Influence of Incomplete Typeface Logos on Consumer Perceptions of the Firm**

	Innovativeness					Trustworthiness					Affect			
	$r_1$	$M_i$	$M_c$	F	$\eta^2$	$r_2$	$M_i$	$M_c$	F	$\eta^2$	$\alpha$	$M_i$	$M_c$	F
1a	.78	4.36	3.67	5.33**	.07	.92	3.93	4.53	4.13**	.06	.83	4.85	4.89	.02
1b	.85	3.77	3.18	3.16*	.05	.87	3.18	3.87	4.67**	.07	.87	4.86	4.73	.21
1c	.81	3.93	3.34	4.09**	.06	.94	3.61	4.49	7.57**	.10	.82	4.88	4.83	.04

\* $p < .10$ .

\*\* $p < .05$ .

Notes:  $M_i$  indicates mean in the incomplete condition;  $M_c$  indicates mean in the complete condition;  $\eta^2$  indicates partial  $\eta^2$ ;  $r_1$  and  $r_2$  connote the correlations between the items in the innovativeness index and trustworthiness index, respectively; and  $\alpha$  connotes the scale reliability for the affect index.

nificantly low average ( $M = 1.43$ ). To rule out the possible influence of affect stemming from exposure to the logo, participants reported their feelings on the same measures as in Study 1 ( $\alpha = .83$ ). No differences were found for this variable, and controlling for it revealed identical results. Affect was not a significant covariate in the influence of incompleteness on attitude toward the firm. As a manipulation check for regulatory focus encouraged by the firm, participants reported on seven-point Likert scales (1 = “not at all,” and 7 = “extremely”) how relevant it is that a firm enables a consumer to have fun (revealing the expected main effect of focus ( $M_{\text{promotion (i.e., entertainment)}} = 4.19$  vs.  $M_{\text{prevention (i.e., insurance)}} = 3.39$ ;  $F(1, 131) = 7.77, p < .05$ ) and how relevant it is that a firm enables a consumer to protect him- or herself (also revealing the expected main effect of focus ( $M_{\text{promotion (i.e., entertainment)}} = 4.47$  vs.  $M_{\text{prevention (i.e., insurance)}} = 5.18$ ;  $F(1, 131) = 5.79, p < .05$ ).

An ANOVA with incompleteness and regulatory focus as the independent variables and the attitude index as the dependent variable revealed a main effect of incompleteness ( $M_i = 3.47$  vs.  $M_c = 4.23$ ;  $F(1, 131) = 9.63, p < .05$ , partial  $\eta^2 = .07$ ) and, more important, the expected incompleteness  $\times$  focus interaction ( $M_{(i, \text{prom})} = 3.85$  vs.  $M_{(c, \text{prom})} = 3.98$  vs.  $M_{(i, \text{prev})} = 3.13$  vs.  $M_{(c, \text{prev})} = 4.47$ ;  $F(1, 131) = 6.63, p < .05$ , partial  $\eta^2 = .05$ ). Contrast analysis revealed that the incomplete prevention condition was different from the other three conditions (all  $p < .05$ ). There were no other differences. These results support  $H_5$ .

The results support the theory that the influence of incomplete typeface logos on attitude toward the firm is moderated by regulatory focus. The main effect of incompleteness was not hypothesized but does not take away from this result. Nonetheless, in the following study, this was avoided by first pretesting the logos for equivalent influence on attitude toward the firm in the absence of a regulatory focus manipulation. Moreover, although the regulatory focus manipulation in Study 2, through type of firm, was noteworthy because of its clear applicability to firms in the marketplace, it also has weaknesses. It is an indirect form of manipulation that may also be related to different consumer goals, such as hedonic versus utilitarian goals. Therefore, a standard regulatory focus manipulation from extant literature was used in Study 3.

## Study 3

### Method

Study 3 was designed to replicate the results from the previous studies and to demonstrate (1) the mediating role of logo interestingness in the influence of incomplete typeface logos on perceptions of firm innovativeness, (2) the mediating role of logo clarity in the influence of incomplete typeface logos on perceptions of firm trustworthiness, and (3) the moderating role of regulatory focus in the influence of incomplete typeface logos on attitude toward the firm, using a different manipulation.<sup>1</sup> One hundred twenty par-

<sup>1</sup>A preliminary study with 85 undergraduate participants not only replicated the results from Study 1 but also revealed that the incomplete (vs. complete) logo resulted in more (vs. less) perceptions of logo interestingness and less (vs. more) perceptions of logo clarity.

ticipants (Qualtrics panel: 56% men,  $M_{\text{age}} = 45$ , modal income = \$50,001–\$75,000), drawn from the same pool as in Study 1, participated in the experiment online. Participants were subjected to a standard manipulation to induce a promotion versus prevention focus (Wan, Hong, and Sternthal 2009). Those in the promotion (prevention) condition were asked to think about a positive (negative) outcome they might want to achieve (avoid) and briefly describe the strategies they could use to successfully promote (prevent) this outcome. Participants were also randomly assigned to one of two versions (incomplete vs. complete) of the same logo, with the fictitious name “Salient” (for stimuli, see Appendix A). The study was a 2 (incompleteness: incomplete vs. complete)  $\times$  2 (focus: promotion vs. prevention) between-subjects experiment. Participants viewed the logo and then responded to a battery of questions.

### Measures

The same measures as in Study 1 were used for the innovativeness index ( $r = .85$ ), the trustworthiness index ( $r = .90$ ), and the affect index ( $\alpha = .86$ ). As expected, no differences were found for this latter variable, and it was not a significant covariate in the main analyses. Participants also reported, on seven-point Likert scales (1 = “not at all,” and 7 = “definitely”), their impression of the logo as interesting, artistic, and engaging (later combined in an interestingness index;  $\alpha = .91$ ) and as clear, complete, and immediately readable (later combined in a clarity index;  $\alpha = .89$ ). They further reported, using the same measures as in Study 2, on their attitude toward the firm, the results of which were later combined to form an attitude index ( $\alpha = .96$ ). To ensure that there were no confounds stemming from preexisting notions of the firm, participants reported, on a seven-point Likert scale (1 = “Not at all,” and 7 = “Definitely”), whether they had heard of the Salient firm before filling out the survey. As expected, results revealed no differences and a significantly low average ( $M = 1.39$ ).

### Results

**Innovativeness.** A 2 (incompleteness: incomplete vs. complete)  $\times$  2 (focus: promotion vs. prevention) ANOVA with the innovativeness index as the dependent variable revealed the expected main effect of incompleteness ( $M_i = 4.18$  vs.  $M_c = 3.39$ ;  $F(1, 116) = 9.30, p < .05$ , partial  $\eta^2 = .07$ ), supporting  $H_1$ . There were no other differences.

**Trustworthiness.** A similar ANOVA with the trustworthiness index as the dependent variable revealed the expected main effect of incompleteness ( $M_i = 3.29$  vs.  $M_c = 3.80$ ;  $F(1, 116) = 5.07, p < .05$ , partial  $\eta^2 = .04$ ), in support of  $H_3$ . There were no other differences.

**Mediating role of interestingness.** Bootstrap estimation (Preacher and Hayes 2004) with 5000 resamples, as well as a Sobel test, confirmed that interestingness mediates the influence of incompleteness on perceived innovativeness ( $M = -.31$ ,  $SE = .10$ , 95% confidence interval =  $-.50, -.12$ ; Sobel test:  $z = -3.08, p < .05$ ). This supports  $H_2$ .

**Mediating role of clarity.** Bootstrap estimation with 5000 resamples and a Sobel test confirmed that readability mediates the influence of incompleteness on perceived trust-

worthiness ( $M = .23$ ,  $SE = .11$ , 95%, confidence interval =  $.03, .46$ ; Sobel test:  $z = 2.50$ ,  $p < .05$ ). This supports  $H_4$ .

*Attitude toward the firm.* A 2 (incompleteness)  $\times$  2 (focus) ANOVA with the attitude index as the dependent variable revealed the expected incompleteness  $\times$  focus interaction ( $M_{(i, \text{prom})} = 4.01$  vs.  $M_{(c, \text{prom})} = 3.66$  vs.  $M_{(i, \text{prev})} = 3.24$  vs.  $M_{(c, \text{prev})} = 4.04$ ;  $F(1, 116) = 5.67$ ,  $p < .05$ , partial  $\eta^2 = .05$ ). Contrast analysis revealed that the incomplete prevention condition was different from the complete prevention condition ( $p < .05$ ) and the incomplete promotion condition ( $p < .05$ ). There were no other differences. These results support  $H_5$ .

## Discussion

This study replicates the results of the previous studies as well as provides some additional insights. Logo interestingness was demonstrated to mediate the influence of incomplete typeface logos on perceived firm innovativeness, while logo clarity was demonstrated to mediate the influence of incomplete typeface logos on perceived firm trustworthiness (for correlations between these four variables, see Appendix B). These mediation analyses not only support the current study's theories but, in the current experimental context, also align with an argument of straightforward logic: The judgment of the firm must perforce be based on the perception of the logo, because it is the only basis provided to the respondent. In addition, the study demonstrates that regulatory focus moderates the influence of incomplete typeface logos on overall attitude toward the firm. As expected, an incomplete (vs. complete) logo gave rise to a less (vs. more) favorable attitude toward the firm, but only for consumers with a prevention focus.

## General Discussion

### Theoretical Contributions

Incompleteness is an element of both art theory and practice, and its demonstrated implications in terms of perceived innovativeness and trustworthiness contribute not only to marketing theory but also back to the literature on art and aesthetics. Furthermore, both innovativeness and trustworthiness are important constructs in the marketing strategy literature, and little research has investigated how visual communication or promotional materials influence these types of perceptions among a firm's customers. Perhaps this is because common intuition suggests that such perceptions result over time from the resources firms bring to bear on daily operations, on building strategic competencies, or on inculcating a specific corporate culture. However, as the current research illustrates, such perceptions are also influenced by visual inputs that might, on the surface, seem irrelevant or of minor importance. Some extant literature (Henderson, Giese, and Cote 2004) has argued that logos may engender specific consumer perceptions of the firm but that there are likely to be multiple responses to the same logo, such that corporations must consider trade-offs. The current research builds on and exemplifies this argument.

The current research also establishes new connections between the regulatory focus literature and the perceptual

ambiguity literature, and it contributes to the literatures on visual communication and ambiguity in general. Whereas prior research on perceptual ambiguity has demonstrated enhanced evaluations resulting from positive affect (Peracchio and Meyers-Levy 1994), the current research demonstrates specific judgments arising from perceptual ambiguity, regardless of affect. The conceptual specificity of innovativeness and trustworthiness also diverges from prior observations of the general visual appeal and arousal-raising capacity of perceptual ambiguity (Berlyne 1971; Zeki 2001). In addition, the current research answers a call for more research to determine the extent of impression transfer from typeface to the brand and company itself (Henderson, Giese, and Cote 2004). In the current context, not only does perceptual ambiguity engender specific conceptual judgments, but when coupled with a prevention focus, it also has a potentially unfavorable influence on overall attitude toward the firm. This finding also diverges from prior findings of favorable consumer responses to perceptual ambiguity (Peracchio and Meyers-Levy 1994).

### Managerial Implications

Although it is well established that consumer perceptions of the firm arise from sustained corporate efforts or from a well-documented track record, the current research demonstrates that such perceptions also arise from minor differences in the visual promotional material the firm employs. For example, managers may use incomplete typeface logos as a tool to position a firm as innovative, as indicated by the finding that such logos encourage this perception among consumers. This may be useful for a new firm aiming to position itself as cutting-edge or for an old, stodgy firm aiming to reinvent its brand image. However, caution may be called for in the use of this tool, especially if the perception of trustworthiness is of central importance. The current findings suggest that managers should avoid incomplete typeface logos if their goal is to encourage the perception of a trustworthy firm.

The finding that regulatory focus moderates the influence of incomplete typeface logos on attitude toward the firm suggests that managers should be especially careful to avoid such logos in connection with firms whose product offerings align with a prevention focus (e.g., insurance companies). However, although incomplete typeface logos may give rise to unfavorable consumer attitudes toward these types of firms, this seems not to be the case for firms whose product offerings align with a promotion focus (e.g., entertainment companies). This suggests that the ideal firm with which to utilize incomplete typeface logos is one whose offerings align with a promotion focus and that managers want to position as innovative (e.g., companies offering creative entertainment or innovative consumer products, such as Apple or Sony). In addition, managers of firms with incomplete typeface logos may intentionally use advertising copy and other promotional materials to encourage a promotion focus in their consumers.

### Directions for Further Research

There are many other variables that also influence consumer attitudes and consumer perceptions of firm innova-



tiveness or trustworthiness. For example, an established track record may counteract the unfavorable influence of incomplete typeface logos on perceived trustworthiness. One reason fictitious firms were used in the current research was to avoid confounds tied to existing consumer perceptions of the firm. However, further research could explore possible interactions between the influence of incomplete typeface logos and influences stemming from existing consumer perceptions of real firms. Such research could rely on existing logos, or it could incorporate alternate or modified logos for these firms.

Related theoretical perspectives may also be incorporated into further research. For example, researchers could investigate the influence of incomplete typeface logos or different types of logo design, or perceptual ambiguity in general, on brand personality (Aaker 1997). Moreover, extant research has suggested that incomplete typeface logos could adversely influence consumer perceptions as a result of low processing fluency (Song and Schwarz 2008). It would perhaps be difficult to make a convincing argument that an unfavorable influence on perceptions such as firm trustworthiness should stem from low processing fluency, but other influences may be tied to this mechanism. For example, the influent processing of an incomplete typeface logo might give the impression that the firm's products are complex or effortful to use. In general, researchers in the future should investigate the impact of logo incompleteness and of other forms of perceptual ambiguity on information processing on perceptions other than innovativeness and trustworthiness, which may in turn influence overall attitude toward the firm, as well as on variables such as recognition and recall, purchase behavior, and customer satisfaction.

Although the current research reveals an unfavorable influence of incomplete typeface logos on overall attitude toward the firm for consumers with a prevention focus, it may also have a favorable influence on consumers with a promotion focus under certain circumstances, presumably when perceptual ambiguity is interpreted as a strong signal of opportunity. Researchers should investigate this as well as other possible moderators. The responses to logo incompleteness and other forms of perceptual ambiguity may also vary across individual consumers according to chronic individual differences, as responses to aesthetic stimuli often do (Bloch, Brunel, and Arnold 2003). They may also vary across cultures. Furthermore, the environment in which the logo is displayed may moderate its influence on various consumer responses. For example, a logo in a retail environment may not necessarily have the same impact on consumers as a logo in a magazine, on packaging, or on a website.

Further research could also investigate the influences stemming from different levels of logo incompleteness. It seems likely that extreme forms of incompleteness might have different influences on firm perceptions than the ones uncovered here. For example, the influence of logo incompleteness on perceived firm innovativeness may reveal an inverted U shape, with both complete and extremely incomplete logos engendering the least favorable responses. Moreover, affect did not play a role in the current research, but researchers in the future should explore consumers' levels of enjoyment and positive affect when resolving various

types and degrees of perceptual ambiguity, as well as the impact this has on consumer attitudes. Perhaps it is possible to systematically map out the circumstances under which affect plays a role.

Whereas the current research focuses on incomplete typeface logos as the basis for perceptual ambiguity, further research could expand on this by using different types of logos, including different variables such as color, and incorporating various bases for perceptual ambiguity, such as abstractions versus concrete images, different levels of obscurity, distortions, the use of reversible figures, and so on. The influence of conceptual ambiguities might also be investigated. For example, researchers could investigate what influences arise from the use of a name like "Fidelity," which has a clear meaning, versus a name like "TIAA-CREF," which does not, for a financial services firm. Extending the findings of the current research, it might be expected, holding aside any preexisting consumer perceptions of these firms, that Fidelity would be viewed as more trustworthy and TIAA-CREF would be viewed as more innovative. Furthermore, it might be expected that consumer attitudes toward the latter firm would depend on whether consumers are predominantly focused on the prospects for achieving profits or the likelihood of preventing losses and maintaining financial security.

Broadly speaking, the findings that incomplete typeface logos have a favorable influence on perceived firm innovativeness but an unfavorable influence on perceived firm trustworthiness, as well as the moderating role of regulatory focus in the influence of such logos on attitude toward the firm, underscore the complexity of consumer response that can arise from logo design, or from perceptual ambiguity in general. The various influences of perceptual ambiguity are not adequately understood and merit a great deal of further attention, not only because of the vast amounts of resources that firms expend on logos as a marketing tool, but also because the influences of both perceptual and conceptual ambiguity represent gaps in the marketing literature and in the understanding of how consumers interpret visual stimuli.

## APPENDIX A

### Complete and Incomplete Typeface Logos Used as Stimuli in Studies 1–3

#### A: Stimuli Used in Study 1 (Experiments 1a–1c)

<b>CONSUL</b>	<b>CONSUL</b>
<b>ELEMENT</b>	<b>ELEMENT</b>
<b>APRIL</b>	<b>APRIL</b>

#### B: Stimuli Used in Study 2

<b>CENTUROX</b>	<b>CENTUROX</b>
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#### C: Stimuli Used in Study 3

<b>SALIENT</b>	<b>SALIENT</b>
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## APPENDIX B

### Correlations Between Key Variables for Studies 1 and 3

		Innovativeness	Trustworthiness	Interestingness
Study 1a	Trustworthiness	.53		
Study 1b	Trustworthiness	.55		
Study 1c	Trustworthiness	.57		
Study 3	Trustworthiness	.37		
Study 3	Interestingness	.76	.43	
Study 3	Clarity	-.04	.31	.06

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