INVESTIGATING FORM AND FUNCTION INFLUENCES ON FOLLOWER PRODUCTS' PERFORMANCE

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This research investigates how product form and product function influence a follower firm's product performance. Specifically, it draws on categorization theory to theorize how a follower product's form and functionality combine to influence consumers' willingness to buy a follower's product. An experiment exploring these relationships finds that, on average, consumers are more willing to buy a follower product with superior functionality relative to a pioneer. Furthermore, the influence of superior functionality is enhanced when the product's form is similar to the pioneer product's form. This research discusses the managerial and theoretical implications of these findings and highlights opportunities for future research.

INTRODUCTION

Pioneer firms are the first to commercialize a new product category (Golder & Tellis, 1993), and pioneer products often establish a strategic advantage over follower products through consumer-based or producer-based factors (Carpenter & Nakamoto, 1989; Golder & Tellis, 1993; Kardes & Kalyanaram, 1992; Lee & Ng, 2007; Zhang & Markman, 1998). While there are exceptions, the pioneering advantage (or first-mover advantage) tends to exist in many markets (Kardes & Kalyanaram, 1992; Kerin, Varadarajan, & Peterson, 1992), and pioneers tend to enjoy long-lived market share advantages in route to becoming market leaders (Bohlmann, Golder, & Mitra, 2002; Golder & Tellis, 1993; Kerin et al., 1992; Robinson & Fornell, 1985). As such, firms that compete as followers are challenged to establish an effective strategic position upon which they will compete with the pioneer and with other followers.

In markets dominated by manufactured products, followers tend to compete on product-specific dimensions (Bloch, 1985) or non-product dimensions, such as price (Wilkie, Johnson, & White, 2012). Regarding product-specific decisions, followers generally establish their position in the market based upon product form and product functionality properties. A product's form represents a number of elements chosen and blended into a whole by the design team to achieve particular sensory effects (Bloch, 1995; Lewalski, 1988). A product's functionality determines the potential actions the product allows consumers (Ziamou & Ratneshwar, 2003). In all, a follower firm's strategic form and function decisions are critical because they influence how consumers evaluate and respond to their product (Creusen & Schoormans, 2005; Loken, Barsalou, & Joiner, 2007; Loken & Ward, 1990; Mugge & Dahl, 2013; Sujan, 1985; Zhang & Markman, 1998).

Product form and product function design decisions are more critical and interrelated in some markets than others. For instance, in the disposable diaper market, products look similar and are expected to deliver on a small set of functional benefits, mainly leak prevention. In other markets consumers evaluate products on a wider arrange of potentially functional properties and product form can be more varied. For example, in the home game console market, product forms have evolved from the Atari joystick, to the flatter Nintendo controller designs, to the Wii motion-sensor controls and the Kinect system that uses motion and voice sensors without a hand-held controller. Products in that market also contain several key functional properties, including the number of

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compatible games, graphic capabilities, internet connectivity, and DVD or Blu-ray compatibility, among others.

In markets where consumers tend to place a high value on fewer product function properties and where product forms are more consistent, such as the disposable diaper market, evidence suggests pioneer firms face more difficulty defending their brands compared to markets where a wider array of design properties are salient to consumers (Bohlmann et al., 2002). In such markets, the follower firms fare better because they can focus on doing better on the key product properties. This allows them to find lower cost ways of competing for consumers. In contrast, in markets where consumers might value a broader set of functional properties pioneers tend to maintain their market share by establishing a strong position along specific properties valued by a significant number of consumers (Bohlmann et al., 2002). In such markets, followers face important choices regarding whether to compete directly with a pioneer or to differentiate their product with form and function design choices or on non-product dimensions.

In either market context, follower firms need to clearly understand the impact of product form and function design decisions on their market performance. Additionally, a growing amount of research suggests that these decisions should be viewed jointly (Bohlmann et al., 2002; Goode, Dahl & Moreau, 2012; Mugge & Dahl, 2013; Townsend, Montoya & Calantone, 2011; Townsend et al., 2013; Ziamou & Ratneshwar, 2003). Yet, as Townsend et al. (2011, p. 377) highlight, "relatively few studies have empirically examined the relationships among form, function, and consumer response."

Early research in this area highlights important design principles influencing a follower product's performance. For example, evidence suggests that followers most effectively compete when they achieve design superiority along alignable, or easily comparable properties (Zhang & Markman, 1998). This line of research does not necessarily differentiate between product form and function properties, rather it focuses on the comparability of properties between followers and pioneers. Of course, from a managerial viewpoint, follower firms must balance design decisions regarding where to be different and where to be similar, and as discussed, this decision is more complex in some markets than others.

Increasingly, research tends to address more of the complexity in these design decisions, but there is a clear need for more research investigating the relationships between product form and function decisions and consumer responses. For instance, research indicates that introducing a follower product with a new functionality, though not necessarily better functionality, can be most effective when that new product's form is dissimilar relative to existing comparable products (Ziamou & Ratneshwar, 2003). However, Mugge & Dahl (2013) find that, products with radically new functionality are viewed more favorably by consumers when they have dissimilar product forms rather than similar product forms. Furthermore, for products with incrementally new functionality, Mugge & Dahl (2013) report no difference in the influence which alternative product forms (low versus high design newness) have on consumer evaluations of new products. Thus, as Townsend et al. (2013) highlight, the joint influence of product form and product function design choices on product performance can be complex, and additional research is needed to continue to clarify these relationships.

Our research builds on this growing line of research and seeks to provide additional clarity in what can be a complex decision for firms marketing a follower product. In particular, we investigate whether a follower product's functional superiority relative to a pioneer product influences consumers' willingness to buy the product and whether this influence is dependent upon the similarity of the product's form relative to the pioneer product's form. In addition to building on this growing line of research, we also complement Mugge and Dahl's work (2013) in a meaningful way. Specifically, we examine the moderating role of product form in the context of product functionality superiority (similar vs. higher), whereas they examined its moderating role in the context of product functionality newness (innovative vs. incremental).

Multiple studies indicate that understanding how consumers categorize products may be the most promising route to understanding how product form and function decisions impact product success (Goode, Dahl & Moreau, 2012; Mugge & Dahl, 2013). As such, we utilize categorization theory to theorize how and why form-based and function-based design decisions influence consumers' willingness to buy a follower's product. We proceed by further defining form-based and function-based design principles and reviewing categorization theory (Cohen & Basu, 1987; Loken & Ward, 1990; Moreau, Lehman, & Markman, 2001b; Sujan & Bettman, 1989; Spalding & Ross, 1994). We then present our study's hypotheses, discuss the experimental design used to test our hypotheses, and present the results and implications of our experiment.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Form-based and Function-based Design

A product's form represents a number of elements chosen and blended into a whole by the design team to achieve particular sensory effects (Bloch, 1995; Lewalski, 1988), and form-based design refers to a product's physical form and appearance. Form-based design decisions can have cognitive and affective implications for consumers (Bloch, 1995), and consumers' responses to product form can develop instantaneously below the level of consciousness (Lewalski, 1988). As such, product form can influence consumers in ways distinct from the operational or functional purpose of the form. For instance, Creusen and Schoormans (2005) explain that a product's form can communicate symbolic and functional information, draw the individual's attention to the product, and aid in categorizing the product. Bloch (1995) also exemplifies the many facets of product form using the example of a Harley-Davidson Sportster. Elements of the Sportster's design include the chrome's sparkle, the engine's prominent V-configuration, the teardrop gas tank, the visible mechanical components, and the way in which these elements work together as a visual whole.

Functionality refers to the potential actions the product allows consumers, and functional-based design improvements can occur at any stage of a product's life (Ziamou & Ratneshwar, 2003). Functionality has been shown to influence consumers' categorization of single- and multi-functional products (e.g., Saaksjarvi & Samiee, 2011) and consumers' preference for specific products (Zhang & Markman, 1998). Research also suggests a need to further investigate the link between consumer's processing of form and function and their intentions and preferences for products (Creusen & Schoormans, 2005; Townsend, Montoya & Calantone, 2011; Townsend et al., 2013; Ziamou & Ratneshwar, 2003). We examine this link theoretically using categorization theory (Cohen & Basu, 1987; Loken & Ward, 1990; Moreau et al., 2001b) and experimentally to understand how form and function combine to influence consumers' willingness to buy a follower product.

Categorization Theory and Follower Products

A consumer category is defined as a set of products, services, brands, or other marketing entities, states or events that appear related in some way to consumers (Loken et al., 2007). Categorization theory posits that consumers assign particular products or services to a category to help them better understand and draw inferences about the products or services (Loken et al., 2007; Loken & Ward, 1990; Sujan, 1985). Traditionally, categorization literature focuses on how people organize knowledge in memory and how they classify novel objects (Cohen & Basu, 1987; Loken & Ward, 1990; Moreau et al., 2001b; Sujan & Bettman, 1989; Spalding & Ross, 1994). Consumers can also use categories in making inferences or learning about new products, particularly in reference to ambiguous products (Gregan-Paxton & Cote, 2000; Gregan-Paxton & John, 1997; Moreau et al., 2001b; Murphy & Ross, 1994). In regards to making inferences about follower and pioneer products, it is important to clarify how familiar information, such as information about a pioneer product, influences the categorization of unfamiliar information, such as information about a follower product.

One way information is categorized is by single domain knowledge transfer, where knowledge

from a familiar domain (e.g., film camera) is transferred to an unfamiliar target (e.g. digital camera). This happens in three stages: accessing information, mapping it, and transferring it (Moreau, Markman, & Lehman, 2001a; Moreau et al., 2001b; Gregan-Paxton & John, 1997). If a familiar domain can be accessed, properties of that category are placed in a near one-to-one correspondence with properties of the less familiar target to facilitate knowledge transfer (Moreau et al., 2001a; 2001b). This general categorization process can help explain how a follower product's form and function relative to a pioneer's product influences consumers.

For example, let us first consider a situation wherein a consumer perceives a follower product's form as similar to a pioneer product's form. We begin this example by focusing on product form because a consumer's response to product form can develop instantaneously (Lewalski, 1988) and these instantaneous product form perceptions can communicate multiple types of information about a product (Creusen & Schoormans, 2005). Drawing on categorization theory, when a follower product's form is similar to a known pioneer product the consumer may be initially encouraged to categorize the follower product (the target) as familiar in relation to the pioneer product (the familiar domain). With this familiar domain identified, the consumer attempts to access information from this familiar domain and to map product form and product function information about the pioneer product onto the properties of the follower product. If successful, this mapping will facilitate knowledge about the pioneer being transferred to the follower. Thus, the follower's product is likely to be categorized with the pioneer's product and to be evaluated via a single-domain category-based processing (Sujan, 1985). With the category mentally accessed, the consumer engages in further one-to-one comparisons of the follower product's form and product function features with the pioneer product's form and function features. This categorization process is likely to be similar for each successive product that enters the market.

This conceptual example can be extended to a more tangible example of smartphones. Consider a newly released phone that looks similar to an iPhone (i.e., the pioneer). Consumers initially categorize the follower's product as a smartphone and transfer their knowledge and experience from the iPhone to the follower's product. Past experience with iPhone enables consumers to make one-to-one comparisons of the iPhone product features (e.g. voice-recognition, fingerprint recognition, camera pixels, screen resolution, screen size, etc.) with the features of the follower's new product.

However, when a follower product is less like anything a consumer has ever seen before, the consumer likely will not have a readily available family domain from which to categorize the target product (Gregan-Paxton, Hibbard, Brunel, & Azar, 2002). Thus, sometimes a consumer utilizes some more distant, yet plausible category to access knowledge that allows the consumer to suggest the new product's category membership. This may even include drawing inferences from multiple plausible categories (Gregan-Paxton, Hoeffler, & Zhao, 2005). Relative to the former case of single domain knowledge transfer, the categories in this case have far fewer direct connections with the new target product. Research indicates that, relative to instances where a more familiar domain is available, consumers in this circumstance tend to make more extensive mappings from the plausible category, or categories, to the target (Gregan-Paxton & Cote, 2000; Moreau et al., 2001b; Gregan-Paxton et al., 2005).

In the context of a follower product and pioneer product, if a follower product's form is perceived as different from the pioneer's, consumers may be less likely to perceive the pioneer's product as providing a readily available domain from which to access and transfer knowledge. Goode et al. (2012) find evidence of this, noting that consumers indicate lower categorization certainty for non-prototypical product forms if they only view the product's appearance. In such cases, consumers recognize far fewer direct comparisons with the pioneer product from which to access, map, and transfer knowledge to use in categorizing and evaluating the follower product. In such case, one-to-one comparisons are less like to occur between the follower product's features and a

pioneer product's features. Thus, while the relative functionality features may eventually place the follower and pioneer products in the same category after the consumer's complete categorization process, evaluation of the follower's product functionality is potentially less dominated by comparisons with the pioneer's product as in the previous example.

We posit that this underlying categorization process influences how consumers respond to the form and function design decisions made by firms marketing follower products. Next, we hypothesize how the relative form and function design decisions made by follower firms influence consumers' willingness to buy their product.

HYPOTHESES

Form, Function and Willingness to Buy

Our empirical investigation begins with the influence that product functionality has on follower product performance, with special consideration then given to whether product form impacts this potential influence. Zhang and Markman (1998) find that if late entrants' products are superior to earlier entrants' products on easily comparable properties, consumers prefer the late entrants' products over earlier entrants' products. The research by Bohlmann et al. (2002) similarly finds that followers compete more successfully against pioneers in markets where consumers view products upon narrowly defined, highly valued functional properties. Together, these studies suggest that, on average, consumers' preference for a follower's product will rise as perceptions of the product's functionality relative to a pioneer's product rises. We propose that this preference will be reflected in a consumer's willingness to buy the follower's product.

Whereas the previous studies we note examine this effect in relation to the comparability of properties (Zhang & Markman, 1998) and in relation to the market context (Bohlmann et al., 2002), we examine this relationship as a main effect, here, and in relation to a product's form, next. Additionally, recall that our examination complements that of Mugge and Dahl (2013). They examine the main effect of functionality newness (innovative vs. incremental) on consumer attitudes, and we exam the main effect of relative functionality superiority (similar vs. higher) on consumer willingness to buy. Thus, we first test the following hypothesis.

H_1: On average, a follower product's functionality relative to the pioneer's product is positively related to consumers' willingness to buy the follower's product, such that higher relative functionality leads to a higher willingness to buy the follower's product.

All categories have a prototype, or abstract image of the members of the category. Category membership tends to be determined by the target product's degree of similarity ("match") or dissimilarity ("mismatch") to this prototype (Rosch & Mervis, 1975; Sujan, 1985; Goode et al., 2012). In the case of a match, categorization will be successful and the object will be evaluated by way of category-based processing (Sujan, 1985). Moreover, when the new product is identified as belonging to a familiar category, the attitude of the familiar product will influence the evaluation of the new product (Boush & Loken, 1991). On the other hand, if the new product is dissimilar to the consumer's prototype knowledge, categorization will not be successful (Goode et al., 2012), and piecemeal processing will be evoked (Sujan, 1985).

Product form is the initial and one of the most important ways to gain consumer attention and communicate information to consumers (Bloch, 1995). Product form also provides visual cues with which the product is interpreted and from which some meanings are derived (Creusen et al., 2010; Rindova & Petkova, 2007). More specifically, Goode et al. (2012) shows that prototypicality of the new product's form and availability of category cues affect the categorization of new product which eventually influences the new product's evaluation. Thus, product form similarity between the follower and pioneer product can potentially determine the category membership of the follower product and subsequent processing of the product functionality.

If the follower's new product design is similar to the pioneer's, the product design is likely to

be perceived as a good match to the prototype and consumers will be engaged in a familiar category-based processing (Goode et al., 2012; Sujan, 1985). With the category mentally accessed, the category label encourages consumers to think of the object as a whole with one-to-one comparison, focusing on the features within the category (Moreau et al., 2001a; 2001b). Thus, we theorize that when consumers can categorize the follower's product based on similar form with the pioneer (or prototype), they are likely to focus more on one-to-one comparison of the functionality between the pioneer and follower products. In such cases, the positive aspects of the follower product's functionality are likely to stand out, and the influence of the follower's product functionality on consumer's willingness to buy the product is likely to be strengthened.

In cases where the follower's new product form is perceived as different from the pioneer product's form, we theorize that it is more likely that consumers will engage in piecemeal processing (Sujan, 1985). In this case, we theorize that the pioneer's product will be less influential on the consumer's categorization of the follower's product. Thus, we anticipate that if a follower's product form differs noticeably from the pioneer's product form then consumers are less likely to rely upon and to utilize knowledge about the pioneer product to assess the follower product's functionality (Moreau et al., 2001b). As a result, the follower product's relative functionality is less likely to stand out and its relative functionality will receive less encoding and elaboration (Zhang & Markman, 1998). As a result, we propose this will attenuate the positive impact of the follower product's higher relative functionality on the consumer's willingness to buy the follower product.

In sum, we expect that product form can moderate the positive relationship between relative functionality and a consumer's willingness to buy a follower product and examine the following hypothesis.

> **H_2**: Product form moderates the positive relationship between relative functionality and consumers' willingness to buy a follower's product such that the willingness to buy a higher functioning follower product is higher when the follower's product form is similar (versus dissimilar) to the pioneer's.

Building on the concept of learning costs (Mukherjee & Hoyer, 2001), Mugge and Dahl (2013) propose that product form only impacts consumers' response to innovative (vs. incremental) new functionalities. Because their research focusses on innovation, they highlight that "specific differences (i.e., advantages and disadvantages) between the radical and incremental innovations are not the central focus of the analysis" (Mugge & Dahl, 2013, p. 39). Thus, while we examine the moderating impact of product form on the relationship between product functionality superiority and consumer responses, we recognize and wish to highlight that this is only a portion of the complexity underlying the joint influences which product form and product function have on product success (Townsend et al., 2013)

PRE-TEST EXPERIMENT

Methodology

We test our hypotheses using an experimental design, and we first identify product form stimuli (similar vs. dissimilar) for the experiment. For the form design pre-test, 31 undergraduate business students at a major southeastern university in the U.S. participated in an experiment designed to test the similarity and aesthetic attractiveness of alternative product designs. We followed the work of Zhao, Hoeffler, and Dahl (2009) and used mock advertisements with stimuli based on actual products but with all distinguishing brand markings removed. The stimuli for the pioneer were also developed according to Zhao et al., (2009), and the pioneer was called the XIO.

In the pre-test, participants were given a brief description and picture of the pioneer product, "a new Audio PC, the XIO," and eight different pictures of another Audio PC, the APC. The eight different pictures of the APC were counter-ordered in two different formats to eliminate any ordering effects. Prior to viewing the eight different Audio PC pictures, participants first read the following statement, 'The following pictures are designs of another

Audio PC (APC). Please look at the picture and answer the questions below.'

Results

The purpose of the pre-test is to select a pair of designs for the APC that are statistically different in terms of the perceived similarity relative to the pioneer, the XIO, but have comparable aesthetic values. Paired comparison analysis was performed to test the similarity of pairs of designs. We identified a statistically significant difference ($p < .000$) for 19 of the pairs. Then, another paired comparison analysis was performed to test the aesthetic value of different design pairs. Out of 20 pairs, 3 were identified as having no significant difference in aesthetic value. Tests to determine whether there was any ordering effect indicated no ordering effects. Based on this pre-test, one pair of stimuli was chosen to represent the followers' dissimilar and similar form stimuli. This pair was one of the 19 with significantly different similarity ratings which also revealed no significant difference in aesthetic value [stimuli 5 & stimuli 8; $t(32) = 1.31$, $p = .199$],

MAIN-TEST EXPERIMENT

Methodology

In exchange for extra credit, 64 undergraduate students in a major southeastern university in the U.S. participated in an experiment designed to test the effects of form and functionality of a follower's new product on consumers' willingness to buy (WTB). A between-subject experiment was conducted in which two factors were manipulated (2 x 2 ANOVA): relative functionality of a follower's new product (similar vs. higher) and form of the follower's new product (similar vs. dissimilar). Students were randomly assigned to one of four conditions in a 2 x 2 between subject experiment. The sample sizes are 16 in the similar function and dissimilar form condition, 15 in the lower function and similar form condition, 16 in the higher function and similar form condition, and 17 the in higher function and dissimilar form condition. In this experiment, every participant saw the same picture and functionality description for the pioneer product.

To introduce the pioneer product, participants were presented a picture of the pioneer's product, the XIO, along with a description of its functionality. Participants first read directions which stated, 'The following provides detailed information of a new product, the XIO. This is the first product in the Audio PC market. Please read it carefully.' Then, subjects saw a picture of the pioneer product with a headline, short product description, and functionality specifications. Table 1 shows the functionality specifications for the pioneer product along with the relative functionality descriptions (similar vs. higher) for the follower product. The headline accompanying the pioneer picture stated 'The Audio PC, the XIO, is the mobile product for people on the go' (Zhao et al., 2009), and the following short product description accompanied the headline:

> The Audio PC, the XIO ultra–portable notebook, gives users outstanding performance in a small and light notebook. The XIO can recognize users' handwriting and voice. So, users can revise or annotate documents whenever or wherever they want. XIO also attaches a wearable eyeglass mounted monitor which provides 3D color image with QVGA resolution (Zhao et al., 2009).

After being introduced to the pioneer product, one week was allowed to pass before introducing the follower's new product. When the participants were introduced to the follower's product, each participant was again given the pioneer's picture. The directions accompanying the follower's product stated, 'The following provides detailed information of another Audio PC (the APC). APC is the later entrant in the Audio PC market. Please read it carefully.' The information each participant then read contained a picture that was either similar or dissimilar to the pioneer product and a description of the follower product functionality that was either higher or similar relative to the pioneer.

The follower product functionality (similar vs. higher) was manipulated by two different functionality descriptions (Zhao et al., 2009). Following Zhao et al. (2009), we included three components in product functionality descriptions: the headline, a short description of

the product and a set of product features. The headline stated 'The APC is the mobile product for people on the go.' This short description accompanied the headline:

> The APC ultra–portable notebook gives users outstanding performance in a small and light notebook. The APC can recognize users' handwriting and voice. So, users can revise or annotate documents whenever or wherever they want. APC also attaches wearable eyeglass mounted monitor which provides 3D color image with QVGA resolution.

As shown in Table 1, four functionality features for the follower product were common to the pioneer, and four features were distinctive in the higher relative functionality condition (Zhao et al., 2009). After the pioneer and follower product functionality and pictures were presented, participants were asked to indicate their willingness to buy the follower product (Zhang & Markman, 1998).

Measures

The subject's willingness to buy the follower product was assessed by asking respondents to fill out three seven-point scale items (α =.91).To assess the pioneer and follower manipulation, participants were asked to indicate 'which of the following was the first entrant in Audio PC market? Please check the blanks,' and 'which of the following was the later entrant in Audio PC market? Please check the blanks: (A. _____XIO, B._____APC).' To assess the product form manipulation, participants were asked, 'Does the product design of the APC look similar to the XIO?' using a 7-point scale where 1=similar and 7=dissimilar. To assess the functionality manipulation, participants were asked, 'Based on the above functional descriptions of the APC, please rate how good you think APC is compared with the XIO' using a 7-point scale where 1=similar and 7=much better. To investigate the extent to which categorization theory explains the underlying mechanism affecting consumers' product evaluation, respondents were asked, 'Do you perceive that product APC belongs to the same product category as the product XIO?' and responses were measured using a 7-point scale where 1=same product and 7=very different product. After participants evaluated the products, they were also asked questions measuring their motivation, familiarity with the product, innovativeness, need for cognition, and knowledge.

Results

Participants' ability to properly distinguish between pioneer and follower is a basic and critical factor in this experiment. Based on the respective manipulation check, we removed five data points from analysis because they

TABLE 1:
Product Functionality Stimuli Statements

Pioneer Product Functionality	Follower Product Higher Relative Functionality	Follower Product Similar Relative Functionality
Biometric smart pen recognizes, stores, and converts handwritten text, Chip-based audio recorder synchronizes with handwritten notes, PDF file enhancer allows for onscreen annotation, wearable computer attachment has eyeglass, Mounted LCD display, Light-weight (weighs about 4.5 pounds), 14" TFT screen, Intel Pentium M processor at 1.73 GHz. and Three-year limited warranty (Zhao et al., 2009).	Biometric smart pen recognizes, stores, and converts handwritten text, Chip-based audio recorder synchronizes with handwritten notes, PDF file enhancer allows for onscreen annotation, Weara-ble computer attachment has eye-glass-mounted LCD display, Lightweight (weighs about 2.5 pounds), 20" TFT screen, Intel Pentium M processor at 4.52 GHz and Ten-year limited warranty.	Biometric smart pen recognizes, stores, and converts handwritten text, Chip-based audio recorder synchronizes with handwritten notes, PDF file enhancer allows for onscreen annotation, Wearable computer attachment has eyeglass -mounted LCD display, Light-weight (weighs about 4.4 pounds), 14" TFT screen, Intel Pentium M processor at 1.74 GHz and Three-year limited warranty.

failed to identify the XIO as a pioneer and APC prior to testing our hypotheses. Further manipulation check results demonstrated that the higher functionality condition recorded a higher perceived functionality level (5.13) than similar functionality condition (2.58) [F (1, 60) =40.79, p=.000]. Also, the dissimilar product design condition recorded a higher perceived dissimilarity level (6.22) than the similar product design (4.97) [F (1, 60) =15.02, p=.000]. The result of the process mechanism check demonstrated that similar product form is perceived as a more similar product category (2.29) than the dissimilar product form (2.88) [F (1, 62)=2.82, p=.098] suggesting that, as theorized, the product form manipulation plausibly influenced the participants' categorization of the stimuli.

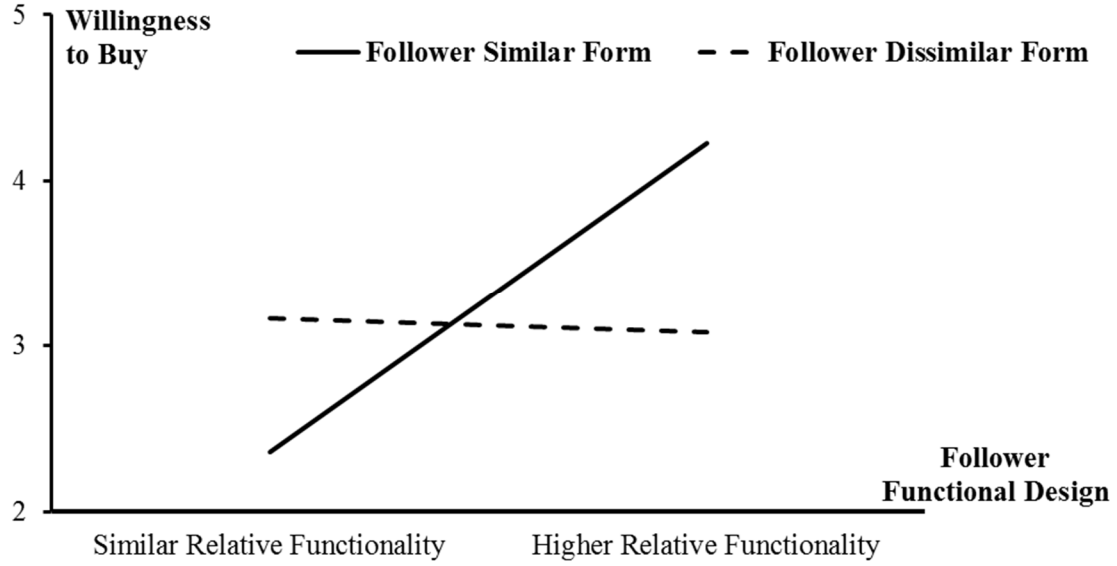
Figure 1 graphically represents our experiment's results. We performed a two-way between-group ANOVA analysis to explore the impact of the follower's form and relative functionality on consumers' willingness to buy. Our results indicate a main effect of follower product functionality with respect to WTB is significant at the .05 level [F(1, 60)=6.00, *p* = .017] and in the hypothesized direction. On average, consumers who viewed a follower product with a higher relative functionality than the pioneer product reported a higher WTB the product. As such, we find evidence supporting H_1.

Results also indicate that the interaction of the follower's form and relative functionality has significant influence on consumers' WTB the follower's product [F(1,60)=7.24, *p*=.009]. This indicates that a follower product's form moderates the influence a follower product's relative functionality has on consumers' WTB. As such, we find evidence supporting H2. As figure 1 shows, the influence of higher relative functionality is most pronounced when the follower product has a similar form to the pioneer product and the difference is statistically significant [t(1,60)=2.27, p < .05].

DISCUSSION AND IMPLICATIONS

This research examines the influence that product form and function decisions have on follower product performance. Drawing on categorization theory and extant research on pioneer and follower product performance, we theorize that superior functionality relative to a pioneer product raises consumers WTB a follower's product and that this effect is most pronounced when the follower's product form is similar to the pioneer product's form. We

FIGURE 1:
Results for Form and Function design Influences on Willingness to Buy the Follower Product.



find evidence of these relationships in an experimental setting, leading us to conclude firms investing in functional superiority for a follower product can potentially earn the greatest return on their investments if they also design the product in a form similar to the pioneer product. Conversely, if a follower firm designs a product with a similar form to a pioneer's product and does not invest in superior functionality, the product may not perform up to expectations. Thus, follower firms need to critically consider product form and product function design decisions simultaneously when entering a market with a strong pioneer product.

Our investigation into product form and product function provides multiple insights to marketers of follower products and pioneer products. First, when deciding to compete against a pioneer product, marketers should consider non -product ways of competing if relative improvements in functional benefits are limited. Our results indicate that choosing to go head-to -head with a similar product form and similar functional properties can hinder consumers' willingness to buy the follower product. In such cases, competing on price or alternate distribution channels may be more effective.

Second, in markets where product form is inherently similar across markets, pioneer firms should continuously pursue functional improvements in their product line. The similarity in followers' product form means that there is high probability that consumers will quickly categorize successive products with the pioneer. As such, consumers will tend to make direct, strong comparisons regarding similarity and differences between the followers' and the pioneer's product functionality. As follower products constantly improve on how they position their functionality, it can quickly lead to lower market share for the pioneer. This is a consumer-based explanation for what Bohlmann et al. (2002) find and explain in more supply-side terms.

Also, whereas Zhang and Markman (1998) recommend that followers build superiority along easily comparable, or alignable attributes, our study further indicates that the benefits of this superiority may be most recognized when a follower's product form is also similar to the pioneer's. Our finding that, on average, superior relative functionality leads to a greater willingness to buy a follower's product matches their findings, but we further clarify that this relationship is strongest under conditions of similar product form.

Of course, pioneer firms can also utilize the essential categorization principles to defend their product's market share as markets mature. For instance, adjusting a pioneer product's form may alter the initial, perhaps unconscious (Lewalski, 1988), mapping and transfer of knowledge about the product with others in its category. Interrupting this initial, automatic mapping and transfer of knowledge may allow consumers the opportunity to re-evaluate the product. This re-evaluation may not re-categorize the product, but it may draw more attention to the product, broaden consumers' evaluation of the product (Gregan-Paxton & Cote, 2000; Moreau et al., 2001b; Gregan-Paxton et al., 2005), or add symbolic value to the product (Creusen & Schoormans, 2005). In other words, while we primarily focus on how follower firms can maximize the combination of product form and product functionality decisions, pioneer firms also have opportunities to utilize the underlying principles for their own benefit.

Finally, our research adds to the body of work seeking to examine and explain the complexity underlying the joint influences which product form and product function have on product success (Goode et al., 2012; Townsend et al., 2013; Mugge & Dahl, 2013). Our study builds upon research examining product appearance and its influences on consumers' categorization and impressions of products (Goode et al., 2012; Creusen et al., 2010). We explain how and provide evidence that product form can influence the impact of product functionality due to its likely influence on categorization. Of course, in showing that a follower product's form can influence consumers' response to a follower product's functional superiority relative to a pioneer's product, we find evidence that is seemingly counter to findings that product form may not necessarily influence consumer response to product functionality newness (Mugge & Dahl, 2013). Neither our study nor Mugge and Dahl's (2013) parse out the potential difference that functionality

newness and superiority have on consumers' response toward products. This makes it difficult to clarify the exact boundary conditions of the moderating relationship between product form and product function on consumer response and eventual product success, but the seemingly conflicting results suggest that boundary conditions may exist.

Our research findings appear consistent with the findings of Mugge and Dahl (2013) in their radical innovation condition, so the boundary conditions appear to exist in contexts characterized by incremental innovations. The interesting distinction to be made has two parts. First, do consumers process functional newness and functional superiority differently, thus leading to different influences of product form? Existing studies, ours included, do not address this question directly, but it seems important to consider in future studies. Second, what influences do knowledge transfer context and product category context have on the relationships among form, function, and consumer response? Our experiment primed participants to transfer knowledge from a pioneer product to the follower product. On the contrary, in the context of Mugge and Dahl (2013), the pioneer product was not given. Thus, the knowledge transfer context was manipulated differently in each study. Perhaps this contributes to the different findings. Also, while technology played a role in the functional differences of products in each study, the product categories in each study were different and might have contributed to the different findings. Our study uses a relatively high-tech product (a biometric smart pen), and their study uses more common products (digital camera, washing machine, and hairdryer). Future research should continue to examine how product category influences the combined effects of product form and product function on product success.

Moreover, Ziamou and Ratneshwar (2003) study the interaction between product form and function in an advertising context, with attention to the relative newness of functionality rather than the relative quality of functionality. They conclude that greater product form dissimilarity enhances the influence of new functionality on consumer preferences. Thus, while they also find that it is important to consider the interaction of function and form when introducing a new product functionality, their interaction tends to be of a different manner than what our research and that of Mugge and Dahl (2013) find. We believe that the differences in these studies create interesting opportunities for future research.

LIMITATIONS AND FUTURE RESEARCH

We believe our research makes an important contribution, but this study has multiple limitations. First, because we only use a single experiment in a single product category our findings may not generalize to other contexts. We hope that future research will further examine the interaction between product form and function using additional research designs and additional product categories. For instance, it would be helpful to examine if the same results are found in non-technology consumer good contexts or in business-to-business contexts.

Second, we do not extensively investigate the underlying mechanism driving our results in our experiment. Our manipulation check indicates that our theorization is a plausible explanation for our findings, but additional research is needed to more fully validate that categorization theory provides the best explanation for our findings. From a theoretical perspective, it would be fruitful for future research to more deeply explore the theoretical underpinnings of how product form and function interact to influence follower product performance. We believe that our literature review and our comparisons among studies can help spur such research.

Third, while research continues to provide greater clarity on the relationships between product form, product function, and consumer response, our study and others in this indicate a greater need to identify boundary conditions. We hope that future studies will further examine the roles of knowledge transfer contexts and different types of product function enhancements (e.g., newness vs. superiority).

In sum, we examine how product form and product function interact to influence follower product performance. We find that the benefits

follower products realize by providing relatively superior product functionality are enhanced when their product form is more similar to that of the pioneer. These results appear to be attributed to how consumers categorize new products. We propose these findings are managerially relevant and provide promising avenues for future research.

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