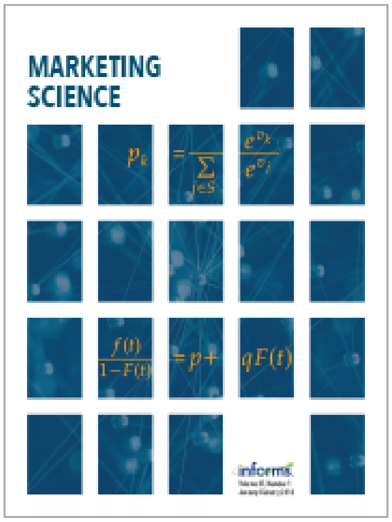

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Commentaries and Reply to “Can Brand Extension Signal Product Quality?” by Sridhar Moorthy

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Commentaries and Reply to "Can Brand Extension Signal Product Quality?" by Sridhar Moorthy

This series of discussions presents commentaries and a rejoinder on the economic perspectives on branding arising from Moorthy [Moorthy S (2012) Can brand extension signal product quality? *Marketing Sci.* 31(5):756–770].

Key words: brand extension; signaling; product quality; game theory
History: Preyas Desai served as the editor-in-chief for this article.

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On Brand Extension as a Signal of Product Quality

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Let me start by applauding Sridhar Moorthy for writing another great paper (Moorthy 2012) and the field for its continued quest to use rigorous analysis to understand important phenomena such as umbrella branding. (Though I left the area many years ago, a lot of very strong people, some of whom are cited in Sridhar's paper, have contributed since then.) I will add three comments to the discussion: a specific point about the cost of umbrella branding, a general observation about signaling models, and a note about "data" in this area. All three points reflect my belief that intentions to signal play a major role in the use of umbrella branding.

1. Sridhar's paper is based on the premise that it is cheaper to introduce a product that is umbrella branded than one that is not. This is very appealing and commonly asserted by practitioners. Although my paper (Wernerfelt 1988) made the opposite assumption, I have never liked it. However, as I pointed out at the time (pp. 459–460), the costs associated with the new product are not the only ones that matter. For the firm, costs borne by the old product and costs borne postintroduction are equally important. It is hard to believe that a product manager of an old product would be happy to see an umbrella-branded extension—not just because it may expose the old product to risk but also because it blurs its horizontal position and causes it to lose future flexibility in other parts of the marketing mix (perhaps mostly prices). In addition, the new product will suffer the same problems down the road. It is difficult to judge the magnitude of these indirect costs. However, if we accept Sridhar's finding that it is hard for umbrella branding to serve as a signal when umbrella branding is cheap, then one possible interpretation of his results is that umbrella branding does serve as a signal and that the indirect costs of it thus must be substantial.[1]

2. The signaling effects of umbrella branding can be analyzed in a large number of ways, and it is hard to get strong negative results. First, there is a sea of possible extensive forms with different types of players, orders of moves, information structures, and so on. Although some formulations are simpler and may seem more natural, it is difficult to put a bound on the possibilities. Second, signaling models are notorious for having multiple equilibria, and many refinements have been suggested, including some that do not work off the out-of-equilibrium beliefs (the most efficient equilibrium, the equilibrium preferred by the strongest player, etc.). The refinements can generally not be ordered from weaker to stronger, and different refinements may pick out different equilibria. The literature, and Sridhar's paper in particular, has investigated a number of (extensive form, refinement) pairs, but one could look at many more.[2]

3. Quite a lot of data suggest that some version of the signaling story is correct. In the academic literature, there is the work by Sullivan (cited in Sridhar's paper), as well as the stream starting with Erdem (1998) and continuing today. More anecdotally, but perhaps also more telling, I have discussed umbrella branding with numerous marketing managers in the 25 years since I wrote my original paper. Like the Coca-Cola executive quoted by Guyon and

[1] Another thought-provoking counterfactual is that not all new products are umbrella branded, Tab being an example.

[2] As an aside, one can sometimes get negative results by exploiting that the equilibrium correspondence can be discontinuous in the probability of very unlikely events (as in Aghion et al. 2012). Although this is true in a model with standard rational agents, it is less clear that it will hold in a game with "real" people.

Long (1982; cited in Wernerfelt 1988), these managers very often describe their intentions in ways that are hard to interpret by anything other than signaling arguments.

Sridhar's results are surprisingly strong, and I read his paper as telling us that we have more work to do before we can establish the signaling role of umbrella branding.

More generally, beyond the merits of signaling as a rationale for umbrella branding, I believe that signaling models will play an important role in the marketing literature. To the extent that marketing is about communicating information, many aspects of it—in all four P's—can be interpreted through the lens of signaling models. Most signaling models to date have been concerned with pricing and advertising, and there are further opportunities in those areas. However, we have not even explored signals sent by the design of products and stores, return policies, and many other decisions.

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Economic and Behavioral Perspectives on Brand Extension

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1. Introduction

Understanding brand extensions—given their widespread proliferation and importance to a company's growth strategy—has been a marketing priority for several decades now. The academic study of brand extensions through the years has benefited from the variety of theoretical perspectives that have been brought to bear. Concepts and principles from economics, psychology, anthropology, and other fields have all been productively applied to provide unique and valuable insights. Given the complexity of brand extensions, such broad, diverse examination should be encouraged.

In his 2012 paper, Sridhar Moorthy, adopting an economics perspective, provides some fresh insights to an old brand extension problem: Can brand extension signal product quality? Birger Wernerfelt's seminal research demonstrated that the mere fact that a firm launches an extension could potentially send a signal to consumers about the quality of that extension (Wernerfelt 1988). On the basis of his modeling analysis, Moorthy shows that although extensions can provide such signals, they are likely to be manifested only in highly constrained situations. Central to his analysis is a keen understanding of consumer behavior and how markets operate. In this commentary, I will offer some perspectives as to how to think about brand extensions, discuss the theory and boundary conditions identified by Moorthy (2012), and address the broader issue of brand extension signaling.

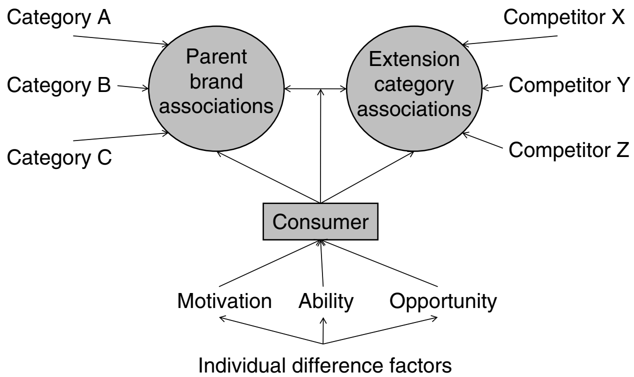
2. Conceptualizing Brand Extensions

Prior research has demonstrated that successful brand extensions occur when a parent brand is seen as having favorable associations and consumers perceive a high degree of fit between the parent brand and the extension category (Keller and Aaker 1992, Romeo 1991). Both the parent brand and extension category can be characterized by a whole range of brand associations that reflect all the thoughts, feelings, images, beliefs, perceptions, etc., that a consumer can hold toward a brand or product. Particularly important parent brand associations include high quality, likeability, and trustworthiness perceptions as well as unique brand-specific associations.

High perceived fit between the parent brand and extension category can result from a number of different causes, such as (1) overall similarity between the parent brand and extension category, (2) technical or manufacturing commonalities, (3) complementarities in usage occasions or users, and (4) relevance of brand-specific associations in the extension category. Additional factors that increase the likelihood of extension success are past consumer usage of the parent brand, marketing support that highlights the benefits of the brand extension, and wide retail distribution (Broniarczyk and Keller 2011).

Figure 1 shows a simple brand extension model that depicts some of these important considerations. Note that the parent brand may be identified with multiple products in different categories. Similarly, the extension category may be characterized as having multiple competitors. These various characteristics of the parent brand and extension category are the

Figure 1 Conceptualizing Brand Extension Evaluations



input into the consumer evaluation and choice process. Factors associated with the consumer will also play a role. In particular, consumer's motivation, ability, and opportunity and level of involvement will dictate how carefully consumers evaluate an extension and the manner by which they make that evaluation (Ahluwalia 2008, Lane and Jacobson 1997, Ng 2010, Yorkston et al. 2010).

A number of interesting specific issues can be identified with each of these three broad considerations. (1) Perceptions of fit are more complex when a brand is associated with multiple products. Consumers may have stronger feelings about the elasticity of a brand when it has proven itself in multiple domains (Kayande et al. 2007, Meyvis and Janiszewski 2004, Monga and Roedder John 2010, Shine et al. 2007). (2) Competitive considerations with extensions are crucial (Swaminathan et al. 2001). Often, brand extensions fail not because they are not good, just that they are not good enough, at least compared with existing alternatives. (3) As the Moorthy's analysis underscores, consumers vary in significant ways that can affect how they respond to brand extensions. Understanding individual differences and the appeal of an extension to different market segments can be crucial to extension success.

3. Theory and Boundary Conditions

Moorthy's (2012) analysis extends Wernerfelt's (1988) extension signaling research by beginning with the basic premise that a new product introduced as a brand extension can cost less to introduce than if it were to be introduced as a new brand. Appreciating that basic premise is fundamentally important because it helps to explain a well-established marketplace phenomenon. If (1) most new products are brand extensions and (2) most new products fail, then it must be the case that most brand extensions fail. Why? The cost to introduce an extension is low enough that companies launch new products as extensions without fully developing the product and its marketing in a way to ensure their survival. The low costs are offset by even lower revenue and equity benefits as a result of a lack of careful, thoughtful, brand-building planning and investments.

Said differently, greater certainty typically exists about extension costs such that they receive more weight in brand decision making. Moorthy (2012) recognizes this dilemma when he notes, "If consumers derive positive meaning from a brand extension, and brand extensions are cheaper than new brands, surely all kinds of firms—not merely those with good-quality products—would brand extend" (p. 767).

Moorthy explains in great detail how signaling—the mere act of an extension generating quality inferences—could potentially prevail in such a cost environment, with the possibility of dilution effects being crucial to any such effects occurring. Two main conditions are proposed by Moorthy as being necessary for signaling effects to occur with brand extension: (1) consumers must see a firm's old and new products as positively correlated in quality, and (2) at least some consumers must identify with the brands and not the firms behind the brands. Both assumptions appear well grounded in theory and practice, as shown in the following.

3.1. Quality Correlations

In terms of positive correlations in quality perceptions, it is has been theorized and often observed that consumers make inferences of that kind. One established dimension of extension fit noted above is the transferability of a company's skills, resources, and capabilities from existing to new product categories. The kinds of survey items suggested by this construct include the following:

- "I think this company should be able to introduce many different kinds of products."
- "The capabilities of this company are restricted to a limited set of product categories."
- "I wouldn't recommend that this company release any new products that are very different from its current products."
- "It would be hard to think of a product that this company couldn't make."

In these types of surveys, it is often the case that consumers see positive relationships across categories and a generalized ability for certain firms to be able to make many different types of products.

3.2. Brand Identification

In terms of the second necessary condition and the existence of some consumers who identify more with specific brands than with the company behind the brands, many circumstances exist in the marketplace where that is likely to be true. The obvious example is when a firm adopts a "house of brands" brand architecture strategy. With this strategy, the company name is downplayed or even avoided, and emphasis is instead placed on the product brands. Many leading consumer product companies adopt this strategy (e.g., Procter & Gamble, Unilever, and General Mills). While downplaying their corporate name, these firms have attempted to transform their product brands into powerful multiproduct family brands through a concerted series of brand extensions (e.g., as with Tide, Axe, and Cheerios, respectively).

Even if companies adopt a "branded house" strategy to emphasize the company name across the products they sell, it may be the case that at least some consumers identify more with the products themselves than the company. Apple went through a challenging stretch in the mid-1980s when Steve Jobs was pushed out of the company by new management, led by Pepsi veteran John Sculley. During this period, many Apple loyalists disliked company leadership, even while still retaining their love and admiration for the Apple brand and its products.

3.3. Brand Dilution

An important aspect of the Moorthy (2012) analysis is the recognition that "a firm must risk material damage to its brand equity for it to benefit from brand equity" (p. 767). Much academic research has examined dilution effects from extensions. In general, research has revealed that an unsuccessful brand extension potentially damages a parent brand only when (1) there is a high degree of similarity or "fit" involved—e.g., in the case of a failed line extension in the same category; and (2) consumers experience inferior product performance directly (Gürhan-Canli and Maheshwaran 1998, Loken and Roedder John 1993, Roedder John et al. 1998).

Academic research has also revealed that several other factors also influence the extent of damage to a parent brand from an unsuccessful brand extension (Keller and Sood 2003). The more involved the consumer is with the extension decision (e.g., if he or she owns or uses the parent brand), the more likely it is that dilution effects will occur (Kirmani et al. 1999). Importantly, research has also shown that a sub-branding strategy, where an extension is given another name in addition to the parent brand (e.g., Courtyard by Marriott), can effectively shield a parent brand from dilution with even a failed similar extension (Milberg et al. 1997, Sood and Keller 2012).

Based on all this research (e.g., Ahluwalia and Gürhan-Canli 2000, Janiszewski and Van Osselaer 2000), a three-factor model can be put forth to explain the extent of dilution based on the strength, diagnosticity, and inconsistency of the extension experience.

(1) *Strength of the extension experience*: Only an extension experience that is sufficiently strong has the potential to trigger brand dilution. Strength of extension experience can be viewed in terms of salience (i.e., how attention getting) and ambiguity (i.e., how objectively interpretable). A strong experience is salient and unambiguous. A weak experience—whether it is less salient or more ambiguous—may be ignored or discounted.

(2) *Diagnosticity or relevance of the extension experience*: The diagnosticity of an extension experience concerns whether consumers find the experience as relevant to the parent brand. Experience will only impact parent brand evaluations if consumers feel that the extension performance is indicative, in some way, of the parent brand (e.g., when the extension is similar and close in perceived fit).

(3) *Inconsistency of the extension experience with the parent brand image*: The evaluative inconsistency of the extension experience depends on the relationship of the experience to the corresponding parent brand image. A consistent extension experience is less likely to change the existing parent brand image. An inconsistent extension experience creates the potential for change—the direction and extent of change depending on the relative strength and favorability of the experience. Note that highly inconsistent extension experiences, however, may be discounted or ignored if not viewed as relevant.

The model points out how important consumer behavior is to Moorthy's analysis and how economic theory benefits from behavioral concepts from psychology. Dilution effects will depend on a host of behavioral considerations.

4. Brand Extensions as Signals

Moorthy concludes his analysis by introducing two other well-reasoned assumptions: (1) firms know the performance of their previous products when making a brand extension decision, and (2) good products may perform poorly on occasion. The addition of these assumptions essentially wipes out the ability of an extension, per se, to signal quality. Although the mere act of introducing a brand extension may not produce a viable quality signal, there are certainly other ways to think of the signaling that occurs with brand extensions (Erdem 1998, Erdem and Swait 1998, Erdem et al. 2006).

As the above discussion shows, brand extensions are perceived and evaluated by consumers in many different ways. In a broad sense, consumers have to use their existing knowledge about a brand and the category in which it is being extended to make inferences. Branding is often talked about in terms of setting consumer expectations and delivering on a brand promise. Those expectations result from the various inferences consumers make. In that regard, signaling certainly can be thought of as inferential process.

Although Moorthy's analysis reveals how unlikely it may be, it is certainly possible that consumers may make assumptions based on the mere act of an extension. In the absence of this signal, however, as Moorthy also notes, companies can shape consumer inferences in many different ways. They can provide much information and create experiences with their brands that consumers can use directly or indirectly to form their extension judgments. The direct way involves consumers critically evaluating all these inputs to form judgments. The indirect way involves treating these inputs as signals because consumers lack the ability, motivation, and/or opportunity to critically evaluate them.

Finally, it is important to note that the signaling effects of brand extensions are not restricted to just consumers. Financial analysts may also respond to brand extension announcements, and their reactions may be reflected in the firm's stock performance (Lane and Jacobson 1995; see also Rao et al. 2004, Morgan and Rego 2009, and Mizik and Jacobson 2003).

5. Conclusions

5.1. Summary

Moorthy provides an important contribution to the branding literature by showing when and how the mere introduction of an extension can perform as a signal. Incorporating a number of realistic, "real-world" assumptions, he shows that signaling effects may only be present under rare circumstances, if at all. He also appropriately notes that despite that fact, brand extensions are still a very useful marketing strategy given all the different other ways in which their effects may be manifested. Underlying his economic analysis is a keen understanding of consumer behavior and how markets work, and one contention of this essay is that economic and psychological concepts can strengthen their impact when combined together.

5.2. Future Research

There are a number of potential future research directions that flow from this research stream. One important area that needs additional research is the understanding of consumers' general belief structures toward brand extensions. By virtue of the expansion of so many brands into related or similar categories, the brand landscape has dramatically changed in recent years. The assumptions that consumers make about a brand extension and their willingness to grant permission to a firm to extend into a new category has undoubtedly changed. A better understanding of factors affecting consumers' general extension propensity is crucial.

As Moorthy's analysis demonstrated, incorporating real-world constraints and realities can lead to different conclusions about branding effects. Along those lines, a broader view of extension strategies that focuses on consumer choice and incorporates multiple products for the parent brand and multiple competitors in the extension category would better reflect the actual marketplace and should yield more relevant insights. A more dynamic view of extensions that recognizes how a sequence of extensions may vary in fit, quality, and other factors would also better reflect how consumers actually learn about brands and extensions over time.

Finally, as Moorthy's analysis also nicely demonstrates, research that blends economic and behavioral principles offers the potential of unique perspectives and should be strongly encouraged. In that vein, multidisciplinary research of all forms is needed in the study of branding and brand extensions. It is sheer folly to think that any one perspective will provide a sufficient vantage point to reveal all that we need to know about brands.

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On Brand Extension as a Signal of Product Quality: Reply to Keller and Wernerfelt

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There is much to like in Keller and Wernerfelt's commentaries on my paper—and I don't mean just the part about "applauding Sridhar Moorthy for writing another great paper" (Wernerfelt 2012, p. 771). Keller (2012) has given us an extensive review of behavioral perspectives on brand extension—almost a paper in itself. Wernerfelt (2012) has focused his comments on the indirect and long-term costs of brand extension and argued for why the case for brand extension's signaling prowess may be stronger than it appears. In this reply I will discuss (i) how the direct and indirect costs of brand extension figure in signaling models, (ii) how behavioral perspectives on brand extension differ from the signaling perspective and where the common ground might be, and finally, (iii) to what extent the empirical data on brand extensions support the signaling story. Necessarily, these discussions will be brief here; some of these issues I have discussed in the paper itself (Moorthy 2012b) and elsewhere (Moorthy 2012a).

Direct and Indirect Costs of Brand Extension

Wernerfelt (2012) concedes that the direct costs of new product introduction are lower under brand extension than under new brand, but he seems to believe that the indirect costs of brand extension go the other way, and in this way, he can justify his original cost assumption. Much of the indirect costs he alludes to are "risk costs"—those that arise from risks faced by the old or new product. One has to be careful in specifying these risks, however. To the extent that they are performance related, stemming from product quality, they apply in the signaling model only for "bad" products, not for good products. Good products, brand extending, do not face an indirect cost disadvantage from performance risks. By contrast, the direct cost advantage of brand extension, being out-of-pocket, applies regardless of product quality, to good and bad products. In addition, there is the issue of double counting. The signaling equilibrium already takes into account the indirect cost disadvantage of brand extension for firms brand extending with bad products: as off-equilibrium beliefs featuring negative spillovers, triggered by product failure. Indeed, as I emphasized in the paper, in order for brand extension to signal quality in the presence of a direct cost advantage, it is *necessary* that the extended brand suffer from a higher risk of "collateral damage" than a new brand. One cannot account for these risks twice—once in the off-equilibrium belief spillovers and again in β. The virtue of my formulation is that it separates the two costs, treating the direct cost advantage of brand extension as exogenous (captured in $\beta < 0$) and deriving the indirect cost disadvantage of brand extension as an endogenous response to the exigencies of signaling quality.

Of course, performance-related risks are not the only risks brand extension contributes, and there may be other risks such as horizontal or vertical blurring of *position*. I emphasize position because, unlike quality, it is observed by consumers before purchasing the product. The risk arises because the firm does not know how the blurring of brand position will affect its sales in the future. For example, when the Porsche brand was extended to the Porsche Cayenne—the first SUV in the Porsche family—one of the key uncertainties had to do with the dilution of Porsche's image as a sports car. If the expected cost of such risks is substantial enough to make β, on net, positive, then it is true that brand extension *can* signal quality. But "can" doesn't mean "will"—this is still a knife-edge case in the absence of off-equilibrium beliefs featuring negative spillovers, as Footnote 9 in Moorthy (2012b) points out. For instance, if the blurring risks are deemed to be too costly for the brand, the firm may simply forgo signaling via brand extension and opt instead for a new brand (as Toyota did with Lexus). The sheer ubiquity of brand extension suggests, however, that in practice most managers do not view these indirect costs to be large enough to forgo the benefits of brand extension.

How Does Brand Extension Work? Behavioral vs. Signaling Perspectives, and Empirical Evidence

The signaling argument puts heavy stock on the act of brand extension, asking consumers to divine what motivated the firm to act that way. The behavioral literature, by contrast, sees brand extension as a simple transfer of equity from one product to another, with the brand serving as the transfer agent. It does not give any special significance to "the act of extension." A brand is seen as a repository of associations—product- and non-product-related—and the presumption is that those associations will automatically attach themselves to new incarnations of the brand, unless something gets in the way. That "something" that gets in the way could be a "lack of fit" in any of the manifestations Keller (2012) mentions. More specifically, if the incongruity between received brand associations and what the new product offers is observable by the consumer before he or she buys the new product, then the uptake of received brand equity in the new extension might be hindered (for example, consider L'Oreal extending to men's aftershave lotions). The new brand extension, in turn, might have a negative feedback effect on brand equity (brand dilution). Together, these considerations might be strong enough to persuade the firm to introduce the new product as a new brand instead of as a brand extension. If the incongruity between received brand associations and what the new product offers is not observable before the first purchase, but it is observable after the first purchase, then although the first purchase of the new brand extension is not affected, subsequent purchases are at risk, and as before, there is the risk of brand equity being adversely affected on the feedback. Of course, none of these negative things has to happen: if management has done its homework, brand equity transfers smoothly to the new brand extension, and the new product ends up strengthening the brand, not diluting it.

This process that I have just described is perfectly consistent with the pooling equilibrium discussed in the paper. In this equilibrium, the act of brand extension does not move consumers' perceptions of old or new products; instead, consumers' perceptions of the brand—reflecting their collective experience with previous products under the brand name—are filtered through the lens of "correlation" and applied to the new brand extension. In turn, the new product's performance has a chance to affect brand perceptions (again filtered through the correlation lens) and hence subsequent purchases of the old and new products, continuing the cycle. In time, brand perceptions converge to the average aggregate performance of all incarnations of the brand. Erdem's (1998) evidence is consistent with this process.[3]

The signaling argument presumes that both old and new product quality are being signaled. If there is no uncertainty about old product quality, then new product quality cannot be signaled via brand extension. The behavioral perspective on brand extension, by contrast, sees maximum value in brand extension precisely under these circumstances. When an existing product has performed well over a period of time—that is, when the brand's reputation is high—that is the time to extend the brand. The empirical evidence favors this logic. We do not see brands being extended as soon as they are created. Instead, a firm waits for a brand to establish itself in its original application before leveraging it in other applications. An extreme example of this would be Coca-Cola, a brand created in 1886 but not extended until 1982 (with the introduction of Diet Coke), nearly

[3] By contrast, significant parts of Erdem's evidence are inconsistent with the signaling story. She finds a negative correlation in quality across brand extensions—a brand perceived as the highest quality in one category is perceived as the lowest quality in the other category. And nonextended brands are perceived as being of higher quality than at least one of the extended brands in each category. Finally, because Erdem's data cover only the postextension period, they do not allow a test of whether consumers responded to the "act of brand extension"—the defining characteristic of signaling as discussed previously.

a hundred years later. More formally, Sullivan's (1992) study of 95 brands in 11 nondurable consumer goods categories finds that "[f]irst, the brand extensions were introduced later on average than the new-name products. Second, the early-entering brand extensions were less likely to survive than either the early-entering new-name products or the late-entering brand extensions" (p. 795).

Do we need quality signaling to justify brand extension? Not really. Brand extensions work well as efficient ways to leverage the awareness and equity in existing brands, giving new products a leg up in their efforts to establish themselves.

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