First things first: The Role of Brand Functionality in Brand Equity

Track: Consumer Behavior

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Abstract

Based on Self-Determination Theory, the authors explore the link between brand functionality and brand equity. The results of three survey-based studies (N=130, 153, and 114) showed that the link between brand functionality and brand equity is mediated by the extent to which consumers believe their performance on a task emanates from their usage of a particular brand. This belief is coined as the brand skill effect and is related to brand connection. Brand connection, in turn, is related to brand equity. The brand skill effect is stronger for utilitarian- rather than hedonic-based brands. Implications for theory and practice are discussed.

Introduction

Brand equity refers to "the outcomes that accrue to a product with its brand name compared with those that would accrue if the same product did not have the brand name" (Ailawadi, Lehmann, and Neslin, 2003, p. 1). Over the last three decades, a significant body of research has documented that the incremental value of brand equity is reflected in consumer behavior, market benefits, and financial performance (Keller and Lehmann, 2006). Although different stakeholders can shape the value of a brand (Iglesias, Ind, and Alfaro, 2013), the primary source of brand equity is the consumer (Keller and Lehmann, 2006).

Consumer-based brand equity (brand equity hereafter) is derived from associative knowledge networks in the consumer's mind, which are shaped over time through experience, exposure, and word-of-mouth (Aaker, 1996; Keller, 1993 & 2003). These networks involve information about functional and non-functional brand attributes (Aaker, Vohs, and Mogilner, 2010; Kervyn, Fiske, and Malone, 2012; Fournier and Alvarez, 2012). Functional attributes are often described as including reliability, competence, skillfulness, usefulness, and quality (Aaker et al., 2010; Keller, 2012; Sinclair and Keller, 2014). Non-functional attributes include self-concept connections, image, emotions, trustworthiness, attachment, and symbolism (Aaker et al., 2010; Thomson, MacInnis, and Park, 2005; Park et al., 2010; Jiménez and Voss, 2014).

Consumers assess functional and non-functional benefits to assess the value of a brand (Aaker et al., 2010; Kervyn et al., 2012). However, research on the determinants of brand equity has been skewed towards examining the effect of non-functional, "more colorful aspects of a brand" (Keller, 2012, p. 187). To be sure, non-functional attributes are important determinants of brand equity. Still, a relevant question is whether marketers have underemphasized the ability of brands to build consumer-brand connections based on their brand's functionality. This is key, as Keller (2012) posits that omitting brand functionality in brand equity research can mislead brand managers to believe that brand equity can be achieved by

positioning the brand through emotional appeals regardless of whether the product delivers the promised functionality or not. He also contends that functional performance is the foundation of brands like Nike and Apple (Keller, 2012). Regrettably, empirical investigations examining the link between brand functionality and brand equity are notably lacking.

Therefore, in this article the authors examined the process by which brand functionality is related to brand equity. To accomplish this goal three studies were conducted. The research findings showed that the link between brand functionality and brand equity is mediated by the extent to which consumers believe their performance on a task emanates from their usage of a particular brand. This belief was coined as the brand skill effect. It was found that these feelings of mastery and skillfulness are related to brand connection. Brand connection, in turn, is positively related to brand equity. These relationships are robust among private meaning brands and moderated by the type of brand functionality (hedonic/utilitarian). The brand skill effect is stronger for utilitarian- rather than hedonic-based brands.

This study contributes to the branding literature by introducing the brand skill effect as the link between brand functionality, brand connection, and brand equity. It provides empirical support to the notion that great brands are built upon performance (Keller, 2012). Importantly, this study urges brand managers not to underestimate brand functionality in relation to non-functional brand attributes. Managers should ensure that their brand offerings meet the promised functionality in order to spur consumer-brand connections.

Brand Functionality

A number of related concepts apply to the idea of brand functionality, including brand performance, brand competence and brand ability. Keller (2012) refers to brand performance as how well a product or service meets customers' more functional needs. Other branding scholars describe brand functionality, brand competence and brand ability as the extent to which consumers consider that a brand produces goods or services that can adequately perform the function for which they were created (Aaker et al., 2010; Mowle and Merrilees, 2005; Keller, 2012). Regardless of the terminology, brand functionality is reflected in consumers' perceptions of a brand's features, usefulness, competence, skillfulness, quality, effectiveness, efficiency, reliability, style, and design. It is a major component of brand value (Aaker et al., 2010; Gill, 2008), and it leads to brand equity outcomes such as a willingness to pay a premium and word-of-mouth advertising (Homburg, Schwemmle, and Kuehnl, 2015).

Despite the explicit relevance of brand functionality in brand evaluations, most research on brand equity has focused on examining the link between non-functional brand associations and brand equity outcomes. A number of studies have shown that attachment (Jiménez and Voss, 2014; Park et al., 2010; Thomson et al., 2005), self-concept connection (Escalas

and Bettman, 2003), love (Batra, Ahuvia, and Bagozzi, 2012) among other non-functional attributes are related to willingness to pay a price premium, loyalty, and purchase intention. Thus, the importance of non-functional brand associations in brand equity is undeniable. However, consumers do not compartmentalize their brand evaluations (Keller, 2012). Consumers take into account both functional and non-functional brand attributes to form their brand evaluations (Voss, Spangenberg, and Grohmann, 2003; Gill, 2008; Kervyn et al., 2012). However, the relationship between functional attributes and brand equity remains unclear.

The Link between Brand Functionality and Brand Equity

We draw from Self-Determination Theory (Ryan and Deci, 2000) to explain the causal link between brand functionality and brand equity. Self-Determination Theory states that individuals' motivation are based on three basic needs: autonomy, relatedness, and competence (A-R-C). Autonomy refers to a person's need to feel free to choose; relatedness refers to a person's need to feel close to others; and competence refers to a person's need for achievement, effectiveness, challenge, and mastery. Individuals tend to develop self-concept connections with agents – including brands – that help them satisfy these basic needs (Thomson, 2006).

The brand self-concept connection has been shown to be a primary determinant of brand equity (Escalas and Bettman, 2003; Jiménez and Voss, 2014). Accordingly, we posit that brand functionality is related to brand equity through brand connection – the extent to which brands become part of the self. Consumers are more likely to bond with brands that help them satisfy their need for achievement and mastery. High, rather than low, functionality brands are more likely to foster a brand connection. In turn, this connection will increase brand equity. Thus:

H1: Brand connection mediates the effect of brand functionality on brand equity.

We also posit that brand functionality and brand connection occur when consumers perceive that a particular brand can increase their own sense of competence. According to extant branding literature, the concept of brand competence and ability are closely related. Brand competence refers to consumers' perceptions of how functional, competent, and skillful a brand is (Aaker et al., 2010; Fournier and Alvarez, 2012; Keller, 2012; Kervyn et al., 2012). As such, this concept is similar to what we refer herein as brand functionality. In other words, the primary focus of the brand competence concept is the *brand*, rather than the *consumer*. In extant psychology literature, concepts such as perceived competence and perceived ability are widely discussed in theories of motivation (Deci, 1975; Vroom, 1964). These concepts refer to an individual's perceived ability to perform a task. Perceived ability is a general concept and does not take into consideration the role of brands.

Accordingly, we introduce the concept of brand skill effect and define it as the extent to which consumers believe that their usage of a particular brand augments their ability to perform tasks. Past research supports the idea that consumers can "absorb" brand qualities. For instance, Park and John (2010) reported how consumers, after using a Victoria's Secret shopping bag, felt better looking, more glamorous, and more feminine. They also reported that, after using an MIT pen,

students felt more intelligent, more of a leader, and harder working. Brand-derived associations help individuals define their identity (Escalas and Bettman, 2003). Based on Self-Determination Theory, we expect the brand skill effect to be related to brand connection. Consumers will connect with functional brands because these types of brands help them define their own competence identity.

H2: The relationship between brand functionality and brand connection is mediated by the brand skill effect.

Insert Figure 1 about here (Conceptual Model)

Study 1: Hypotheses Testing

The purpose of this study was to test hypotheses 1 and 2 regarding the relationships between brand functionality, brand skill effect, brand connection, and brand equity. The study was administered online using a web-based survey design.

Participants and Procedure

Two hundred and thirty-five undergraduate students from two large American universities participated in Study 1, in exchange for extra-credit. Each university is located in geographically disparate locations (i.e., Northeast and Southwest). The survey was administered simultaneously at both data collection sites. At the beginning of the survey, participants were given a brief explanation regarding the notion of brand functionality. Next, participants were randomly assigned to self-report either a low, moderate, or high functionality brand. Participants then answered a questionnaire containing measures of the constructs of interest and demographics. To ensure brand recall, the self-reported brand name was piped-in throughout the questionnaire.

Measures

Brand functionality was measured using a five-item scale adopted from Harris and Goode (2004). Brand skill effect was assessed using a three-item scale. The items were 1. Using this brand I was able to develop a new skill, 2. This brand has allowed me to broaden my skills, 3. Using this brand makes me feel more skillful. Brand connection was captured by a 4-item scale developed by Escalas and Bettman (2003). We also employed Yoo and Donthu's (2001) 4-item overall brand equity scale. All scales used a 7-point measurement scale ranging from 1 "Strongly Disagree" to 7 "Strongly Agree."

Psychometrics

Before testing the hypotheses, the psychometric properties of the measures were assessed using confirmatory factor analysis in LISREL 9.1 (Jöreskog & Sörbom, 2006). The results show that the measurement model was adequate (χ^2 = 441.68, p <.001, df = 98; CFI = .98; RMSEA = .087; SRMR = .028). Additional validity tests support the reliability, convergent validity, and discriminant validity of the measures (Bagozzi, Yi, and Phillips, 1991; Gerbing and Anderson, 1988; Voorhees et al., 2016). The Appendix presents a summary of scale items, factor loadings, construct reliabilities, average variance extracted and summary statistics.

Data Analysis and Findings

Of the two hundred and thirty-five responses received, a total of one hundred and thirty were analyzed. We excluded one hundred and five cases because these participants failed at least one of three attention checks interspersed in the

questionnaire (DiLalla and Dollinger, 2006). We obtained a good level of variance in brand functionality. Cell sizes for low functionality, moderate functionality, and high functionality brands were 45, 44, and 41, respectively. The Apple brand was the most frequently self-reported brand in the high functionality cell (24.4%) and moderate functionality cell (20%). There were no similarly discernable trends in the low functionality cell.

Hypothesis 1 posited that brand connection mediates the relationship between brand functionality and brand equity. To test this hypothesis we first simultaneously estimated the direct effects among the constructs using a three-stage least squares (3SLS) estimation technique in SAS 9.4. We leverage the 3SLS estimation approach because it is ideally suited to test a mediated chain of relationships such as the one presented in Figure 1 (Voss and Jiménez, 2010). The result of a series of hierarchically arranged regression equations simultaneously estimated showed that brand functionality was a significant antecedent to brand connection (β =.80, $p < .001$; note: all β reported in the paper are standardized), and brand connection was a significant antecedent to brand equity (β =.93, $p < .001$). Next, following the recommendations of Zhao, Lynch and Chen (2010), the mediation was tested using PROCESS, Model 4 (Hayes, 2013). Bias corrected confidence intervals for the indirect effect using 5,000 bootstrapped samples presented a lower bound for the confidence interval of.102 and an upper bound of .325. These results showed that the relationship between brand functionality and brand equity is mediated by brand connection. Hence, hypothesis 1 was supported.

Hypothesis 2 proposed that the brand skill effect mediates the effect of brand functionality on brand connection. To test this hypothesis we followed the same analysis as indicated above. The results showed brand skill effect was significantly predicted by brand functionality (β =.76, $p < .001$), while it was a significant antecedent to brand connection (β =.89, $p < .001$). We continued by estimating the significance of the indirect effect in a dual mediator model (PROCESS, Model 6) to test the chain of relationships between brand functionality, brand skill effect, brand connection, and brand equity. Estimates from 5,000 bias corrected bootstrapped samples suggested a lower bound for the confidence interval of .031 and an upper bound of .166 for the indirect effect. Therefore hypothesis 2 was also supported. We report all results from Study 1 in Table I, Panel A.

Insert Table I about here

Discussion

The results of Study 1 provide empirical evidence for the relationship between brand functionality, brand skill effect, brand connection, and brand equity. However, a limitation of this study was that participants self-reported brands. Although we made an effort to clearly define functional brands, we cannot rule out the possibility that some responses were subject to public meaning influences. Public brand meaning refers to the subjective meanings of a brand provided by others (Richins,

1994) and is an antecedent to brand connection (Escalas and Bettman, 2003). Since consumers tend to develop connections to brands that help them communicate who they are to others, public meaning could have confounded the findings and suggested reversed-causality. Study 2 addresses this shortcoming.

Study 2: Brand Skill Effects in Private Meaning Brands

The purpose of Study 2 was to determine whether the relationships found in Study 1 hold while controlling for public brand meaning. To avoid measurement effects, we followed the same method and procedures, and used the same measures as in Study 1. The only modification consisted of a slight change in the instructions. Specifically, we asked participants to self-report a low, moderate, or high functionality brand in one of the following product categories: household appliances (e.g., microwaves), grilling appliances, cooking utensils (e.g., pans), power tools (e.g., drills), computer accessories (e.g., printers), gardening accessories (e.g., fertilizer), household cleaners (e.g., detergent), pet supplies, personal care (e.g., toothpaste, soap). Because the consumption of brands in these categories tends to be more private, brand value is more likely to be derived from consumer-brand interactions rather than from others' external perceptions of the brand (Richins, 1994). As such, the use of private brands should reduce public meaning as a potential confound.

Two hundred and forty-two undergraduate students participated in this study. A new panel of participants was recruited in a similar fashion as in Study 1. Care was taken to ensure none of these participants had participated in our prior study. Eighty-nine respondents were excluded due to their failure to answer one or more attention checks correctly. The final analysis included one hundred and fifty-three responses. Cell sizes for levels of functionality ranged between 47 and 56. Participants reported brands across all categories. No one brand had a large frequency count suggesting that the modified instructions, eliciting private consumption brands, was effective.

Data Analysis and Findings

Prior to hypothesis testing, reliability and validity tests confirmed the adequacy of the scales. Hypotheses 1 and 2 were tested following the same procedures employed in Study 1. As shown in Table I, Panel B, brand functionality was a significant predictor of brand connection (β =.82, $p < .001$), which in turn was a significant predictor of brand equity (β =.90, $p < .001$). PROCESS estimates for the indirect effect based on 5,000 bias corrected bootstrapped samples showed a lower bound for the confidence interval of .109 and an upper bound of .349. The results showed that the relationship between brand functionality and brand equity is significantly mediated by brand connection. Thus, Hypothesis 1 was again supported.

After adding brand skill effect to the model, the results mirror those we find in Study 1. Table I, Panel B, presents a summary of the direct effects. Importantly, PROCESS estimates for the dual mediation of brand skill effect and brand connection showed that the indirect effect accounting for both mediators was significant. The confidence interval for the

indirect effect for the dual mediation model fell between a lower of .019 and an upper bound of .101 (all estimates based on 5,000 bias corrected bootstrapped samples). Thus, Hypothesis 2 was also supported.

Discussion

The findings from Study 2 provide additional support for the relationships between brand functionality, brand skill effect, brand connection, and brand equity. In this study, the concerns regarding the potential confound of public brand meaning was alleviated. By so doing, there is a stronger support for the mediation of brand skill effect on the relationship between brand functionality and brand connection. This suggests that brand functionality, through brand skill effect, is a source of brand connection.

Study 3: The Moderation of Brand Functionality Type

Despite the robust findings from Studies 1 and 2, there still remains a concern regarding how the hypothesized relationships hold in the face of different brand functionality types. Brand functionality can be further dissected into utilitarian and hedonic functionalities. Utilitarian functionality is associated with the brand's ability to satisfy practical/instrumental goals whereas hedonic functionality refers to the satisfaction of fun/pleasure goals (Gill, 2008).

Brands can provide both types of functionalities (Voss et al., 2003; Kervyn et al., 2012). However, brands are typically skewed towards either a utilitarian or a hedonic base (Gill, 2008). Utilitarian base brands are better known for their practicality, usefulness, and ability to perform a specific task; hedonic base brands are better known for providing joy, pleasure, and fun (Voss et al., 2003). Thus, the brand skill effect – an increased sense of mastery to perform a task – is likely to be stronger for utilitarian- rather than hedonic-based brands. This suggests that brand functionality type potentially moderates the relationships presented in Figure 1. Thus:

H3: The mediation of the brand skill effect is moderated by functionality type.

To test Hypothesis 3, we compared the relationships between brand functionality, brand skill effect, brand connection, and brand equity in the context of a balanced functionality brand (utilitarian-hedonic) and a hedonic functionality brand. We chose a balanced functionality brand to provide a more robust test of the hypothesis. Based on the results of a pretest, Apple and Coca-Cola were selected for the study. Apple scored high on utilitarian and hedonic functionality; Coca-Cola scored higher on hedonic rather than utilitarian functionality. We followed the same method, procedures, and measures as in our previous studies. We added the HEDUT scale to assess utilitarian and hedonic functionality (Voss et al., 2003).

One hundred and sixty-six undergraduate students, unfamiliar with prior studies, were randomly assigned to evaluate either Apple or Coca-Cola. Respondents were highly familiar with both brands. Fifty-two participants failed attention checks resulting in a final sample of 114 responses. Each sub-sample (cell) was equal in size with 57 cases each.

Data Analysis and Findings

We checked whether Apple and Coca-Cola differed in their utilitarian dimension of the HEDUT scale. An independent sample t-test showed that the mean score of the utilitarian dimension for Apple ($M = 5.66$, $SD = 1.24$) was

greater than the mean score of the utilitarian dimension for Coca-Cola (M = 4.48, SD = 1.13; t(112) = 5.294, p < .001). The analysis showed that Coca-Cola's scores on the hedonic dimension (M = 5.09, SD = 1.07) were higher than the scores on the utilitarian dimension (M = 4.48, SD = 1.13; t(56) = 3.922, p < .001). No significant difference was found between Apple's hedonic (M = 5.64, SD = 1.02) and utilitarian (M = 5.66, SD = 1.24) dimensions (t(56) = .143, p = .887). This validates our choice of Apple as a balanced (utilitarian-hedonic) brand and Coca-Cola as the hedonic brand.

First, we compared the simple mediation path from brand functionality to brand connection to brand equity between Apple and Coca-Cola. For both brands, the direct effects were significant and in the expected direction, though it should be noted that the standardized estimates were much larger in the case of Apple compared to Coca-Cola (see Table II). Interestingly, when examining the lower and upper bound confidence interval estimates for the indirect effect obtained using PROCESS, the confidence interval was just barely acceptable in the case of Coca-Cola (lower bound = .001; upper bound = .421). The support for the mediated model is significant, but weak. Indeed, a normal theory (Sobel) test on the indirect parameter for Coca-Cola was not significant (z = 1.41, p < .16). In the case of Apple, the confidence interval for the indirect effect was substantially better (lower bound = .284; upper bound = .890). These results provided partial support for hypothesis 3.

We continued our analysis by adding brand skill effect to the model (Table II). In the case of Apple, the indirect effect related to the dual mediator model involving brand competence as an antecedent to brand connection was significant (lower bound = .078; upper bound = .587). However, in the case of Coca-Cola, PROCESS estimates for the confidence interval for the same indirect effect was not significant as signified by the interval encompassing zero (lower bound = –.016; upper bound = .152). That is, mediation of the brand-skill effect between brand functionality and brand connection was supported for Apple, but not for Coca-Cola. These results support Hypothesis 3.

To further validate the findings, we followed Cohen's (1983) procedures to test for significant differences in the parameter estimates obtained between the Apple and Coca-Cola subsamples. This is done using t-tests and pooled variances obtained from a pooled model estimation run, where the two sub-sample are combined (Voss et al, 2006). The results from a 3SLS estimation and difference t-tests showed that the mediated path from brand functionality to brand equity was significantly moderated by the extent of the utilitarian dimension of the brand (see Table III). Overall, Hypothesis 3 was supported.

Insert Table II and Table III about here

Discussion

The findings of Study 3 showed that the strength of the mediated chain of relationships between brand functionality, brand skill effect, brand connection and brand equity is contingent on the type of functionality a brand is associated with. Specifically, the brand skill effect is more salient for utilitarian- rather than hedonic-based brands.

General Discussion

Brand equity is derived from functional and non-functional brand associations in consumers' minds. Although a significant number of investigations have shed light on the link between non-functional associations and brand equity, less attention has been given to the role of brand functionality in building brand equity. This article attempted to fill this void. The results of three studies showed that functional brand associations are related to brand connection and brand equity via the brand skill effect. This is particularly evident in brands known for their utilitarian functionality.

Theoretical Implications

The research findings provide empirical support for Keller's (2012, p. 187) contention that "Functional performance considerations are often at the heart of what a brand has to offer and serves as the foundation which gives brands permission to engage with consumers in additional meaningful ways." Specifically, we find that brand skill effect – the extent to which consumers believe that their usage of a particular brand augments their ability to perform tasks – explains the link between brand functionality, brand connection, and brand equity. This finding corroborates previous assertions that non-functional brand performance is not sufficient to explain brand equity (Jiménez and Voss, 2014).

Accordingly, our findings challenge existing models of brand evaluations that treat functional and non-functional brand attributes as orthogonal (Aaker et al., 2010; Kervyn et al., 2012). Existing models of brand associations make a distinction between functional (e.g., brand competence) and non-functional dimensions (e.g., brand warmth). In these models, both types of attributes are treated as independent factors that, in the aggregate, form brand evaluations. Contrary to this viewpoint, our findings suggest that functional attributes are the basis for non-functional attributes; in other words, consumers might first need to perceive that a brand delivers on its performance promise before consumers will be influenced by a its imagery. Thus, scholars are encouraged to include functional and non-functional brand associations in their conceptual models of brand equity (Keller, 2001).

Managerial Implications

The adage "Nothing kills a bad product (brand) quicker than good advertising" conveys that if a product or brand fails to meet consumer expectations by delivering value, it will quickly become exposed. The research findings support these claims. Managers ought not to overlook brand functionality. Marketing literature is replete with branding studies that examine the effect of non-functional branding attributes on brand equity outcomes. Indeed, non-functional brand attributes such as feelings of competence, connection, attachment, love, and emotion, are important. However, these connections cannot

be made without ensuring the functionality of the brand. Brand managers, especially those managing utilitarian-based brands, should make every effort to ensure their brands perform as promised in functional and non-functional dimensions.

Besides a focus on brand functionality, other key managerial recommendations are merited. Because of their strategic advantages, managers should seek to deliver engaging brand experiences to their target customers (Brakus, Schmitt, and Zarantonello, 2009). It is apparent that some brands stand a better chance of forming personal connections with their consumers by capitalizing on specific dimensions of brand experience. Highly functional brands may be particularly well-positioned to take advantage of the intellectual dimension of brand experience by targeting consumer segments that are motivated by learning (Brakus et al., 2009; Rooney, 2016). This is because highly functional brands can allow consumers to perceive a developmental or learning benefit via perceived skill transfer. Thus, marketers should invest in the necessary resources (e.g., R&D, product upgrades and enhancements, retail environment, service personnel, etc.) that create intellectual consumer experiences to reinforce and sustain their brands ability to remain functional in ways that allow for these positive spillover effects to unfold. Based on some of the insights from our focus group, it is also potentially important to take advantage of opportunities to support consumers as they navigate through life transitions and maintain the brands reputation as a trusted expert or advisor.

Brand managers routinely rely on undifferentiated tactics (e.g., musical cues or generationally relevant celebrity endorsers) to build brand connections across generational cohorts. Instead, our research suggests that they should focus on establishing a brand foundation of offering knowledge and education, when appropriate; brand value and relevancy can cross generations as a result. For example, focus group participants point to Apple as an example of a brand that has continuously taught consumers throughout their life transitions and even across generations. This advantage is not possible for poorly functioning brands. Importantly, relatively new brands have a similar opportunity. One millennial focus group participant reflected on the benefits of Chipotle, including its choice of fresher, healthier ingredients, as a fast-food alternative now that she is on her own, highlighting that she was introduced to the brand by her dad. Therefore, in an effort to build brand equity, managers ought to not lose focus on their brands' functionality and the skill transfer effects that can emanate from it.

Limitations and Future Research

This research has certain limitations that need to be addressed. The current study draws participants from a population directly connected to two large American universities. While both universities are located in geographically (and culturally) different locations, this is clearly not as ideal as drawing participants from a more varied and diverse population.

Nevertheless we contend, partly based on the robust results obtained from each of the studies that employ samples unique to each study, that the concepts under investigation applies widely to consumers in general. Besides, our approach was to test theoretical propositions (Calder, Phillips, and Tybout 1981). Ideally, replications should be conducted with diverse samples, including those from outside the United States, prior to generalizing these results to specific populations. It remains to be seen how similar constructs to the ones employed in this study might affect the brand relationships proposed herein. For instance, brand functionality and brand knowledge are often used interchangeably; similar to studies that treat brand connection and brand attachment as the same. We use the A-R-C model from Self Determination Theory to make a case for the specific constructs employed in this study. Future studies ought to examine the relationship between brand functionality and brand equity using alternative theoretical lenses.

Despite these limitations, there remain a number of additional avenues for further research. First, while this study makes explicit the role of brand functionality on brand equity, it reveals a new construct – brand skill effect – that has been hitherto unexplored in existing brand literature. That consumers can perceive a skill gain via their interactions with brands is worthy of additional exploration. This raises the question of the role that brands can play as teachers and mentors in the lives of consumers. How can brands develop into "teaching brand"? Understanding when such effects might be most robust requires additional investigation since it is clear that brands in their capacity as teachers leads to significant brand equity benefits. Specifically, future studies could clearly identify the role of high functionality brands and their ability to engage in a process of skill transfer in important behavioral phenomena like the intent to purchase, word-of-mouth and other related variables. Future studies could also explore the relationship between the brand skill effect and uncertainty from life-stage transitions. Consumers may develop stronger bonds to brands that help them feel in control during uncertain consumption scenarios.

Conclusion

Brand functionality is a determinant of brand connection and brand equity. Consumers are less likely to make connections with brands that do not perform their core function. To be loved, brands must work.

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Appendix Measurement Model

Construct	Standardized Loading	t-value*	CR	AVE
Brand Functionality (BRFUNC) - Adopted from Harris and Goode (2004)			0.96	0.83
On the following questions please select the level you agree or disagree.				
1. This brand is very reliable	0.90	24.53		
2. This brand performs better than others	0.92	25.85		
3. This brand makes better products than its competitors	0.92	25.43		
4. Products from this brand are more functional than others	0.90	24.57		
5. Products from this brand are well made	0.91	25.11		
Mean = 4.99; Standard Deviation = 1.64; Cronbach's Alpha = 0.96				
Brand Skill Effect (BRSKILL) - Newly developed scale			0.94	0.83
On the following questions please select the level you agree or disagree.				
1. Using this brand I was able to develop a new skill	0.87	23.15		
2. This brand has allowed me to broaden my skill	0.94	26.29		
3. Using this brand makes me feel more skillful	0.92	25.63		
Mean = 3.85; Standard Deviation = 1.72; Cronbach's Alpha = 0.94				
Brand Connection (BRCONN) - Adopted from Escales and Bettman (2003)			0.92	0.75
On the following questions please select the level you agree or disagree.				
1. This brand reflects who I m	0.90	24.52		
2. I can identify with this brand	0.83	21.37		
3. I feel a personal connection with this brand	0.89	24.07		
4. I can use this brand to communicate to people who I am	0.85	22.16		
Mean = 3.90; Standard Deviation = 1.65; Cronbach's Alpha = 0.93				
Brand Equity (BREQU) - Adopted from Yoo and Donthu (2001)			0.95	0.81
On the following questions please select the level you agree or disagree.				
1. It makes sense to buy _____ instead of any other brand, even if they are the same	0.90	24.54		
2. Even if another brand has the same features as _____ , I would prefer to buy _____	0.83	25.87		
3. If there is another brand as good as _____ , I prefer to buy _____	0.89	25.06		
4. If another brand is not different from _____ in any way, it seems smarter to purchase ____	0.87	23.42		
Mean = 4.50; Standard Deviation = 1.75; Cronbach's Alpha = 0.95				

Model Fit: χ^2 =441.68; df = 98; p < 0.01; NFI = 0.98; CFI = 0.98; RMSEA = 0.087; SRMR = 0.028

Notes: * All values significant at .01; CR = Composite Reliability; AVE = Average Variance Extracted

Table I Three Stage Least Squares Simultaneous Estimation and PROCESS Mediation Results Study 1 and 2

Instrument Variable	Endogenous Variable	b	Std. Coef.	t	p	Mediation Test Lower Bound	Upper Bound
Panel A: Study 1							
Single Mediator Model							
BRFUNC	BRCONN	.74	.80	13.79	<.001		
BRCONN	BREQU	1.04	.93	16.35	<.001		
(System-Weighted R^2 = .742)							
Indirect Effect Confidence Interval						.102	.325
Dual Mediator Model							
BRFUNC	BRSKILL	.80	.76	11.87	<.001		
BRSKILL	BRCONN	.80	.89	15.50	<.001		
BRCONN	BREQU	.96	.86	14.53	<.001		
(System-Weighted R^2 = .706)							
Indirect Effect Confidence Interval						.031	.166
Panel B: Study 2							
Single Mediator Model							
BRFUNC	BRCONN	.76	.82	16.68	<.001		
BRCONN	BREQU	.93	.90	17.20	<.001		
(System-Weighted R^2 = .746)							
Indirect Effect Confidence Interval						.109	.349
Dual Mediator Model							
BRFUNC	BRSKILL	.70	.79	13.74	<.001		
BRSKILL	BRCONN	.90	.87	15.10	<.001		
BRCONN	BREQU	.84	.82	15.22	<.001		
(System-Weighted R^2 = .693)							
Indirect Effect Confidence Interval						.019	.101

Notes: Estimates for the lower and upper bound confidence interval for the indirect effect of the single mediator model are estimated using Model 4 in PROCESS, while those for the dual mediator model are estimated using Model 6 in PROCESS; see Hayes 2013; BRFUNC = Brand Functionality, BRSKILL = Brand Skill Effect, BRCONN = Brand Connection, BREQU = Brand Equity.

Table II Three Stage Least Squares Simultaneous Estimation and PROCESS Mediation Results Study 3

Instrument Variable	Endogenous Variable	b	Std. Coef.	t	p	Mediation Test Lower Bound	Upper Bound
Brand: Apple							
Single Mediator Model							
BRFUNC	BRCONN	1.04	.73	7.74	<.001		
BRCONN	BREQU	.89	.82	8.75	<.001		
(System-Weighted R² = .597)							
Indirect Effect Confidence Interval						.284	.890
Dual Mediator Model							
BRFUNC	BRSKILL	.97	.72	7.45	<.001		
BRSKILL	BRCONN	.94	.88	9.87	<.001		
BRCONN	BREQU	.85	.79	8.34	<.001		
(System-Weighted R² = .641)							
Indirect Effect Confidence Interval						.078	.587
Brand: Coca-Cola							
Single Mediator Model							
BRFUNC	BRCONN	.46	.29	2.23	<.001		
BRCONN	BREQU	.39	.35	2.74	<.001		
(System-Weighted R² = .103)							
Indirect Effect Confidence Interval						.001	.421
Dual Mediator Model							
BRFUNC	BRSKILL	.12	.10	.75	.457		
BRSKILL	BRCONN	.66	.52	4.45	<.001		
BRCONN	BREQU	.35	.32	2.54	.014		
(System-Weighted R² = .145)							
Indirect Effect Confidence Interval						-.016	.152

Notes: Estimates for the lower and upper bound confidence interval for the indirect effect of the single mediator model are estimated using Model 4 in PROCESS, while those for the dual mediator model are estimated using Model 6 in PROCESS; see Hayes 2013; BRFUNC = Brand Functionality, BRSKILL = Brand Skill Effect, BRCONN = Brand Connection, BREQU = Brand Equity.

Table III Difference t-tests for Moderated Mediation in Study 3

Instrument Variable	Endogenous Variable	Pooled Model[a]	S.E.	Apple Sub-sample[a]	S.E.	Coca-Cola Sub-sample[a]	S.E.	Difference t-tests[b] t-value	Significant Moderation
Single Mediator Model									
BRFUNC	BRCONN	0.52**	0.14	0.73**	0.13	0.29*	0.21	4.29**	Yes
BRCONN	BREQU	0.62**	0.08	0.82**	0.10	0.35**	0.14	6.29**	Yes
Dual Mediator Model									
BRFUNC	BRSKILL	0.40**	0.17	0.72**	0.13	0.10	0.17	4.85**	Yes
BRSKILL	BRCONN	0.79**	0.06	0.88**	0.10	0.52**	0.15	4.98**	Yes
BRCONN	BREQU	0.57**	0.08	0.79**	0.10	0.32**	0.14	6.23**	Yes

Notes: [a] Standardized coefficients reported; [b] Difference tests conducted with unstandardized regression coefficients, see Cohen and Cohen (1983); ** $p < .01$; * $p < .05$; S.E. = Standard Error; BRFUNC = Brand Functionality, BRSKILL = Brand Skill Effect, BRCONN = Brand Connection, BREQU = Brand Equity.
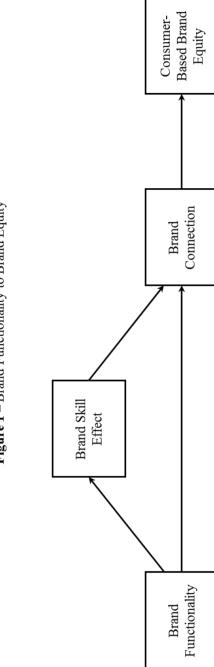
Figure 1 – Brand Functionality to Brand Equity