Comparing consumer evaluations of services-to-services brand extensions with services-to-goods

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Abstract

Purpose – The purpose of this paper is to examine the influences of parent brand characteristics and brand-extension fit on attitude towards the extension in the context of services-to-goods (SG) brand extension compared with services-to-services (SS) brand extension.

Design/methodology/approach – A survey design was used to collect data from 626 individual respondents. The respondents were selected using probability sampling from two cities in India. The data were analyzed using structural equation modeling (SEM).

Findings – The study indicated that context (SS or SG) moderated the influence of factors on attitude toward brand extension. A favorable attitude towards the parent brand had a greater positive influence on SS brand extension compared with SG brand extension. Quality variance among service types under the parent brand had a higher negative impact on attitude towards SG brand extension than on attitude towards SS brand extension.

Practical implications – Managers may prefer extending a service brand to another service rather than a good when consumers have a favorable attitude towards the brand. Furthermore, when the perceived quality of service types under a service brand varies substantially, extension of the brand to a good requires greater concern than extension to a service.

Originality/value – The unique contribution of this study is the examination of the moderating influence of the characteristics of an offering (SS *vis-à-vis* SG) on the link between brand extension attitude and its influencing factors.

Keywords Consumer attitudes, Brand extensions, Consumer goods, Consumer services

Paper type Research paper

1. Introduction

Brands are key assets that possess monetary value. The growth of the asset value of a brand is dependent upon its successful management, including careful consideration of its growth options. A popular growth strategy for brands is brand extension, in which a company uses an established brand name to introduce a new offering in the market (Keller, 2014). Launching new offerings using established brands can allow businesses to reduce their marketing expenditure (Aaker and Keller, 1990) and mitigate the risk of new product failure (Goedertier *et al.*, 2015). For a brand extension strategy, the critical tasks for brand managers are improving market acceptance of the extension and improving sales of other products associated with the brand.

The type of brand extension can differ. One type includes extensions from goods-intensive offerings to goods-intensive offerings. For example, the Britannia brand was extended from biscuits to packaged milk. A second type includes extensions from goods-intensive offerings to services-intensive offerings. For instance, the Kingfisher brand was extended from beer to

an airline. A third type includes extensions from services-intensive offerings to services-intensive offerings. For example, the ICICI brand was extended from banking to insurance. A fourth type includes extensions from services-intensive offerings to goods-intensive offerings. For instance, the Croma brand was extended from retailing to appliances. Many researchers have noted a paucity of published studies on brand extensions from services-intensive offerings to goods-intensive offerings (Arslan and Altuna, 2011; Lei *et al.*, 2004).

The focus of this research differs from that of related studies in the literature. Arslan and Altuna (2011) replicated a part of the accumulated research on "goods-to-goods" (GG) brand extensions to "services-to-services" (SS) and "services-to-goods" (SG) brand extensions. By contrast, the focus of the present study is the moderating influence of context (i.e. SS or SG) on the strength of relationships between attitude towards the extension and its established determinants. Lei *et al.* (2004) compared the strength of a few relationships between "brand extensions from moderately services-intensive offerings to low services-intensive offerings" and "brand extensions from moderately services-intensive offerings to high services-intensive offerings". By contrast, this study compares "brand extensions from high services-intensive offerings to high services-intensive offerings" with "brand extensions from high services-intensive offerings to low services-intensive offerings." This study also considers a number of factors within each context, such as the characteristics of a brand's portfolio.

To conserve space, goods-intensive offerings will be referred to simply as "goods," and services-intensive offerings will be referred to simply as "services." The research question addressed in this study is as follows:

RQ1. How do the strengths of the effects of established determinants on attitude towards the extension and the revision of attitude towards the parent brand differ between SS and SG brand extensions?

2. Literature review and hypotheses
2.1 Theoretical framework
This research is informed by a theoretical framework extensively adopted in the brand-extension literature: the theory of categorization (Keaveney *et al.,* 2012; Sichtmann and Diamantopoulos, 2013). According to this perspective, any brand is a category consisting of its products (Boush and Loken, 1991). Consumers transfer attitudes from the parent brand to its extension depending on the perceived fit between the parent brand and its extension (Sujan, 1985). Attitude transfer is explained using the associative network model of memory. In this model, consumer knowledge of a brand is represented by a mesh of nodes (Keller, 1993). Brand extension creates an additional link between the brand node and the extension product (which also exists as a node in the memory). Research on congruence provides another theoretical basis for this study (Fleck and Quester, 2007). Congruity influences attitude change (Stumpf and Baum, 2016) and aids memory (Fleck and Maille, 2010). The balance theory suggests that consumers prefer information that maintains equilibrium (Hammerl *et al.*, 2016). Extension of brands into congruent categories may be preferred by consumers (Fleck and Maille, 2010).

In this study, SS brand extensions are contrasted with SG brand extensions. Consumers have been posited to categorize services differently than goods. Services as a category has been theoretically argued and empirically found to differ from goods in some characteristics. These characteristics include intangibility, heterogeneity, inseparability, perishability (Blut *et al.,* 2014; Iacobucci, 1992), and lack of ownership (Lovelock and Gummesson, 2004). The categorization theory and research on congruence suggest that SS brand extensions differ from SG brand extensions. This study examines the degree to which the perception of difference affects consumer evaluations. In the following sections, factors influencing consumers' attitudes toward extension and factors influencing the revision of attitudes

toward the parent brand are considered. The differential effects of these factors across the SS and SG brand-extension contexts are hypothesized. The conceptual model and hypotheses are presented in Figure 1.
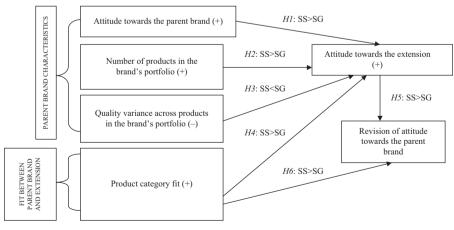
2.2 Factors influencing consumers' attitudes toward brand extension

2.2.1 Attitude towards the parent brand. Attitude towards the parent brand is widely reported to be positively associated with attitude towards extension for GG brand extensions (Bottomley and Holden, 2001; Dens and Pelsmacker, 2010; Milberg *et al.*, 2013; Volckner and Sattler, 2007), GS brand extensions (Dwivedi and Merrilees, 2013a), and SS brand extensions (Hem *et al.,* 2013; Van Riel and Ouwersloot, 2005). The categorization theory (cf. Sujan, 1985) indicates that increased fit between a parent brand and its extension will improve attitude transfer. Accordingly, the influence of attitude towards the parent brand on attitude towards extension has been reported to be stronger when there is better perceived fit (Van Riel and Ouwersloot, 2005; Volckner and Sattler, 2007).

Consumers may perceive better fit between services and services than between services and goods. This is because consumers may find services to differ from goods in factors such as intangibility, heterogeneity, inseparability, perishability (Blut *et al.,* 2014; Iacobucci, 1992), and lack of ownership (Lovelock and Gummesson, 2004). Consequently, attitude transfer may be stronger for SS brand extensions than for SG brand extensions. Thus, the following hypothesis is proposed:

H1. The positive relation between attitude towards the parent brand and attitude towards extension is stronger for SS brand extensions than for SG brand extensions.

2.2.2 Number of service products in a brand's portfolio. The number of product categories under a brand name has been found to be positively associated with attitude towards future extension for GG brand extensions (Dacin and Smith, 1994). Dacin and Smith (1994) theorized as follows. The number of products in a brand's portfolio acts as collateral or bond for consumers to judge extensions. If the extension is of poor quality, it will affect the sales of both the extension as well as other products of the brand. Consumers can be assumed to recognize that the larger the size of the collateral, the lower the likelihood that the extension will be of poor quality.

Note: *H1* in this figure indicates that the positive effect of attitude towards the parent brand on attitude towards the extension is stronger for services-to-services brand extensions than for services-to-goods brand extensions

Figure 1.
Conceptual model

Given the goods-services categorization (Blut *et al.*, 2014; Iacobucci, 1992; Lovelock and Gummesson, 2004), consumers can be expected to recognize the following. The chance of a "services" brand's sales being affected because of the poor quality of a "goods" extension is relatively low. Thus, the collateral becomes relatively less credible for SG than for SS brand extensions. A large number of service products with the same brand name permits sharper identification on common characteristics. Since the collateral becomes less credible for SG than for SS brand extensions, the number of service products in a brand's portfolio may have a weaker impact on SG than on SS brand extensions. Thus, the following hypothesis is proposed:

> *H2.* The positive relation between the number of service products under a brand and attitude towards extension is stronger for SS brand extensions than for SG brand extensions.

2.2.3 Quality variance across service products in a brand's portfolio. Quality variance across products in a brand's portfolio has been found to be negatively associated with the attitude towards extension for GG brand extensions (Dacin and Smith, 1994; Volckner and Sattler, 2007). Dacin and Smith (1994) offered the following explanation. The quality variance across products in a brand's portfolio affects the degree to which consumers perceive the brand to be a source of reliability. Greater variance of quality across products of a brand will increase consumer uncertainty about the generalizability of the overall brand quality to the extension. Greater uncertainty will result in consumers giving more importance to less favorable information and judging the extension unfavorably.

When quality variance across a brand's service offerings is high, extension of such an unreliable brand could be perceived by consumers as extremely humorous or ridiculous (cf. Aaker and Keller, 1990). Such negative perceptions may get reinforced especially for extension of the brand into goods because of the goods-services categorization (Blut *et al.*, 2014; Iacobucci, 1992; Lovelock and Gummesson, 2004). Thus, the following hypothesis is proposed:

> *H3.* The negative relation between quality variance across service products under a brand and attitude towards extension is weaker for SS brand extensions than for SG brand extensions.

2.2.4 Product category fit. Product category fit has been widely reported to be positively associated with attitude toward extension for GG brand extensions (Bottomley and Holden, 2001; Milberg *et al.,* 2013; Volckner and Sattler, 2007) and SS brand extensions (De Ruyter and Wetzels, 2000; Van Riel and Ouwersloot, 2005). Researchers have observed that a high score on one of the types of Product category fit – substitutability, complementarity, or transferability – is sufficient for the extension to be favorably received (Aaker and Keller, 1990; Bottomley and Holden, 2001).

When the Product category fit is low, consumers may suspect the firm's ability to produce the extension and find it less credible (Aaker and Keller, 1990; Bhat and Reddy, 2001). Given the goods-services categorization (Blut *et al.,* 2014; Iacobucci, 1992; Lovelock and Gummesson, 2004), consumer doubt about a firm's ability to produce the extension could be heightened for SG brand extensions. Therefore, the influence of Product category fit on attitudes towards extension may be weaker in the context of SG brand extensions than for SS brand extensions:

> *H4.* The positive relation between Product category fit and attitude towards extension is stronger for SS brand extensions than for SG brand extensions.

2.3 Factors influencing consumers' revision of attitudes toward the parent brand
2.3.1 Attitude towards the extension. Attitude towards the extension has been found to be positively associated with the revision of attitude towards the parent brand for GG brand extensions (Albrecht *et al.*, 2013; Chen and Chen, 2000; Dens and Pelsmacker, 2010),

GS brand extensions (Dwivedi and Merrilees, 2013a), and SS brand extensions (Dwivedi and Merrilees, 2013b). Researchers have suggested that consumers are less likely to infer from family brand when the extension is atypical of offerings marketed under the family brand name (Loken and John, 1993; Martinez and Pina, 2010). Given the goods-services categorization (Blut *et al.*, 2014; Iacobucci, 1992; Lovelock and Gummesson, 2004), consumers will be less likely to infer about the individual extension from the family brand in the context of SG brand extensions than SS brand extensions. Thus, the following hypothesis is proposed:

H5. The positive relation between attitude towards extension and revision of attitude towards the parent brand is stronger for SS brand extensions than for SG brand extensions.

2.3.2 Product category fit. Product category fit has been found to be positively associated with the revision of attitude towards the parent brand for GG brand extensions (Dwivedi *et al.*, 2010; Keller and Aaker, 1992). A high product category fit reinforces in the consumer's mind the firm's ability to produce the extension. However, when product category fit is low, consumers may doubt the firm's ability to produce the extension and find the extension exploitative (Keller and Aaker, 1992). Given the goods-services categorization (Blut *et al.*, 2014; Iacobucci, 1992; Lovelock and Gummesson, 2004), such doubts about a firm's ability to produce the extension and exploitation may be greater for SG brand extensions. Therefore, the influence of product category fit on revision of attitude towards the parent brand may be weaker in the context of SG brand extensions than SS brand extensions:

H6. The positive relation between product category fit and revision of attitude towards the parent brand is stronger for SS brand extensions than for SG brand extensions.

3. Research design
Prior studies of brand extensions focused on GG extensions suggested possible variables for inclusion in this study, and therefore a survey design was preferred to the case study method. Because the study involved a number of variables in the context of SS brand extensions, a survey design was preferred to an experimental design (cf. Volckner and Sattler, 2007). The usage of a survey design is consistent with calls from researchers to broaden methodological perspectives in brand-extension research (Czellar, 2003). The specific relationships identified in this study can be confirmed experimentally in subsequent studies (Winer, 1999).

3.1 Location of data collection
Using 2001 census data (available at: www.censusindia.gov.in/2011-common/census_data_2001.html, accessed February 3, 2017), cities in India with a population of at least one million were indexed on variables such as number of households, average household size, sex ratio, literacy rate, and work participation rate. For each city, the scores for each variable were divided by the corresponding maximum score for the variable, and the resultant ratios were summed to form the index. Two cities with a high and low index, Chennai and Patna, were selected for the study to ensure that the aggregate data were more representative of the Indian context (cf. Volckner and Sattler, 2007).

3.2 Eligibility of respondents for participation
The following eligibility criteria were used for the participation of respondents to reduce variability in the familiarity and knowledge of the parent brand (cf. Fu *et al.*, 2009): purchase of any product of the parent brand either for personal use or use by other members of

the household or joint consultations between the respondent and the buyer of the brand's product about the usage of the product; in the latter case, the respondent and the buyer belonged to the same household.

3.3 Sampling method

Area sampling was adopted (Malhotra and Dash, 2011), and a list of pin codes obtained from the Indian Department of Posts was used as a sampling frame for both Chennai and Patna. Approximately half the pin codes in each city were randomly chosen. Among the chosen pin codes, one starting household address was selected in Chennai, and two starting household addresses were selected in Patna. Subsequent addresses were attempted based on the right-hand rule, and three households were skipped after each successful attempt. Potential respondents from attempted households were briefed on the study, and questionnaires were administered to willing respondents through interviews.

Sample size, n, was estimated using Cochran's (1977) formula: $n = (t_{\alpha/2}s/d)^2$, where t is the value of the selected α level in each tail, s is the estimate of the standard deviation in the population, and d is the acceptable margin of error for the mean being estimated (as cited in Bartlett $et\ al.$, 2001). A total of 306 and 320 questionnaires were administered in Chennai and Patna, respectively. For the sample sizes reported above, the margin of error (i.e. $t_{\alpha/2\times}s/\sqrt{n}$; $\alpha = 0.05$) for the population mean of each measure in the questionnaire was less than 5 percent.

3.4 Brand extensions as stimuli

Brand extensions were selected using the criteria followed by Aaker and Keller (1990), such as the relevance of the original brand to the respondents and a general perception of high quality. One popular brand "Y" (known for life insurance offerings) was selected from a list of the "most trusted brands 2011" published by a leading Indian business newspaper. Extension product categories were selected based on their expected widespread usage across most households in India. As prevalent in the literature (e.g. Aaker and Keller, 1990), hypothetical extensions of the well-known brand were used as stimuli. The hypothetical brand extensions in the study were Brand Y Bank (SS) and Brand Y Battery (SG). The mean product category fit scores for the extensions were 3.83 and 3.54, respectively, on a five-point scale. These scores suggested that the extensions were perceived by the respondents as reasonable and not illogical. Furthermore, for the stimulus of Brand Y Battery, some of the respondents observed the presence of brand image fit in that analogous to Brand Y insurance as a backup for life, Brand Y battery was a backup for power.

3.5 Measures and questionnaire design

The measures for the focal constructs included in this study are given in Table I. The measures in the table are contextualized for Brand Y Bank. The items for measuring attitude towards the parent brand (APB), product category fit (PCF), and attitude towards the extension (AE) were adapted from Aaker and Keller (1990). Number of products in the brand's portfolio (NPBP) was measured using an item from Volckner and Sattler (2006) and quality variance across products in the brand's portfolio (QVBP) was measured using an item from Dacin and Smith (1994). Items for measuring revision of attitude towards the parent brand (RAPB) were adapted from Dwivedi $et\ al.$ (2010) and Lei $et\ al.$ (2004).

Some factors from prior studies were not hypothesized in this study but were measured and controlled during data analysis to reduce omitted variable bias (Woolridge, 2007). The measures for these control factors are given in Table II and were adapted from previous studies as follows: prototypicality of the brand (PTB) (Zimmer and Bhat, 2004), brand breadth (BB) (Aaker and Keller, 1990), brand image fit (BIF) (Keller, 1993),

Attitude towards the parent brand (*APB*)
Y is a brand of
very low quality _____ very high quality
No. of products under the brand (*NPBP*)
The number of products with Y brand name is
so few _____ so many
Quality variance across the brand's products (*QVBP*)
Quality across products of Y
does not vary at all _____ varies a lot
Product category fit (*PCF*)
Would the people, facilities, and skills used in making Y's previous products be helpful for making bank?
not at all helpful _____ very helpful
Attitude towards the extension (*AE*) (*SS*: α=0.68; *SG*: α=0.72)
Y bank must be of
very low quality _____ very high quality (SS: *L*=0.62; SG: *L*=0.75)[a]
My opinion about Y bank is
very bad _____ very good (SS: *L*=0.78; SG: *L*=0.65)
Assuming that I have planned for visiting a bank, my likelihood of trying Y bank is
not at all likely _____ very likely (SS: *L*=0.56; SG: *L*=0.65)
Revision of attitude towards the parent brand (RAPB)
Assuming that Y bank was recently introduced, my usual opinion about Y brand has now become
more strongly negative _____ more strongly positive
Notes: The anchor values for everyscale ranged from 1 to 5. [a]*L* refers to the factor loading obtained from a CFA of the multi-item reflective measures

Table I.
Measures: focal
constructs

extension product category involvement (EPCI), quality variance across brands in the extension product category (QVBEPC), consumer knowledge of the extension product category (CKEPC) (Volckner and Sattler, 2007), consumer innovativeness (CI) (Klink and Athaide, 2010), and consumer brand consciousness (CBC) (Nan and Heo, 2007).

In this study, a questionnaire was designed in English to include both SS and SG brand extensions. To reduce order effects (Malhotra and Dash, 2011), two versions of the questionnaire were generated in which the sequence of brand extensions was counterbalanced and the sequence of items within each section was rotated. The questionnaires were then translated to the local language through the translation and back-translation procedure (Brislin, 1970). The face validity of the resultant questionnaires was assessed based on discussions with typical respondents.

4. Data analysis and results

4.1 Data preparation

For each location, respondents that gave the same score for all items were omitted (cf. Volckner *et al.*, 2010). Mean and standard deviation were calculated for each item. The mean score of each item was above 3 on a five-point scale and the standard deviation was less than 1 for most of the items. Further examination of the data for each item revealed minimal evidence of serious outliers, recognizing that consumers can vary naturally in their perceptions of brands, products, and traits (cf. Hair *et al.,* 2006). For each item, the number of missing values was less than 5 percent of the cases, and missing values were replaced with the

Prototypicality of the brand (*PTB*)
When I think of life insurance, I think of Y.[a]

Brand breadth (*BB*)
The products with Y brand name are substitutes to one another in terms of usage[a]
The products with Y brand name are complements to one another in terms of usage[a]
The products with Y brand name are similar to one another in terms of the people, facilities and skills used in making them[a]

Brand image fit (*BIF*)
Y's brand image (in terms of price) fits with bank[a]
Y's brand image (in terms of who typically uses Y brand) fits with bank[a]

Quality variance across brands in the extension category (*QVBEPC*)
Quality across brands of bank
does not vary at all _____ varies a lot

Extension category involvement (*EPCI*)
How important would it be for me to make a right choice of a bank?
not at all important _____ extremely important

Consumer knowledge of the extension category (*CKEPC*)
I feel very knowledgeable about bank[a]

Consumer innovativeness (*CI*) (*SS*: $\alpha=0.80$; *SG*: $\alpha=0.80$)
I like buying any latest brand of product[a]. (SS: $L=0.78$; SG: $L=0.78$)[b]
If I needed to buy a product, I would buy any latest brand available[a]. (SS: $L=0.74$; SG: $L=0.74$)
When I see a new brand of product, I often buy it because it is new[a]. (SS: $L=0.80$; SG: $L=0.80$)
I like to buy any latest brand of product before others do[a]. (SS: $L=0.53$; SG: $L=0.53$)

Consumer brand consciousness (*CBC*)
I pay attention to the brand names of products I buy[a]

Notes: [a]These items were measured on a 5-point Likert scale (strongly disagree_____ strongly agree). The anchor values for everyscale ranged from 1 to 5. [b]*L* refers to the factor loading obtained from a CFA of the multi-item reflective measures. For the non-reflective constructs such as brand breadth and brand image fit, Cronbach's α was not applicable and the variable formation in SEM was based on the sum of their respective item scores

Table II.
Measures: control constructs

sample mean as described by Hair *et al.* (2006). Examination of the data for each item using box plots and interquartile ranges suggested the presence of skewness, but the degree of skewness was within the acceptable limits of -3 to $+3$ suggested by Kline (2011). The sample size used to analyze the SS and SG brand extensions was 620. This sample size was considered acceptable since it exceeded the recommended size of 500 (Hair *et al.*, 2006) and also exceeded the "number of cases to number of model parameters estimated" ratio of 5:1 (Kline, 2011).

4.2 Profile of the respondents
Among the respondents, 35.6 percent were female and 64.4 percent were male. More than 88 percent of the respondents were in the age group of 20-59 years. Only 9.8 percent of the respondents had studied until the ninth standard or less, and 36.5 percent of the respondents were undergraduates. In general, gender, age, and education have not been reported in the literature as factors influencing consumers' attitudes toward brand extensions and revision of attitudes toward parent brands. Thus, the samples obtained for this study were considered suitable for analysis.

4.3 Reliability assessment and validation of measures

The constructs used in the analysis are given in Tables I and II. The constructs of PCF, BB, and BIF are non-reflective. For the constructs of BB and BIF, the value of collinearity between their respective indicators was less than 0.6 in the contexts of SS and SG brand extensions. This suggested little evidence of multicollinearity among indicators of non-reflective constructs (Hair *et al.*, 2006). As indicated in Table I, PCF was included in the analysis with only a single item of transferability and did not present an issue of multicollinearity. Only the transferability item was included due to the absence of a clear categorization of extensions as a complement or substitute and to enable comparison across extensions. Due to inadequate values of Cronbach's α, the following constructs were limited to a single item in structural equation modeling (SEM): "APB," "EPCI," "CKEPC," and "CBC". This approach follows the practice by others (e.g. Aaker and Keller, 1990; Volckner and Sattler, 2007) of using a single item in studies of brand extensions.

Confirmatory factor analysis (CFA) using the maximum likelihood estimation method in AMOS 20 was used to validate the multi-item reflective measures, i.e., "AE" and "CI". The α-values and factor loadings are reported in Tables I and II. The average variance extracted (AVE) ranged from 0.43 to 0.51 and the composite reliability ranged from 0.69 to 0.80. The above indicators yielded evidence for convergent validity (Hair *et al.*, 2006). The squared inter-construct correlation between AE and CI was 0.04 (SS) and 0.06 (SG). As the AVE was higher than the squared inter-construct correlation, evidence for discriminant validity was observed (Hair *et al.*, 2006). The CFA model was accepted as the indices of model fit were within the range of acceptable values (< 3 for normed χ^2, > 0.9 for goodness of fit index (GFI) and comparative fit index (CFI), and < 0.10 for root mean square error of approximation (RMSEA), as discussed by Hair *et al.*, 2006).

4.4 SEM and findings

Correlations were assumed among all exogenous factors except between parent brand factors and extension category factors. The parent brand factors included APB, NPBP, QVBP, PTB, and BB. The extension category factors included EPCI, QVBEPC, and CKEPC. SEM was performed using AMOS 20 with the maximum likelihood estimation method.

In each context, the Mahalanobis D^2 values showed minimal evidence of serious multivariate outliers. Examination of Mardia's coefficient suggested multivariate kurtosis (Bentler, 2005 as cited by Byrne, 2010). However, problems arising from issues in achieving multivariate normality in SEM were mitigated by the use of the maximum likelihood estimation method (Joreskog and Sorbom, 1996).

Results regarding model fit are given in Table III. χ^2 was significant for both brand extensions. Other indices of model fit, i.e., GFI, CFI, and RMSEA were consistent with the range of acceptable values (> 0.9 for GFI and CFI and < 0.10 for RMSEA) given by Hair *et al.* (2006). The Normed χ^2, incremental fit index, Tucker Lewis index, and standardized root mean square residual are also reported in Table III.

Further examination of the correlations for both contexts revealed that all values were much less than 0.5 and that there was little evidence of multicollinearity (cf. Hair *et al.*, 2006). The path coefficients of the structural model (the focus of this study) and the results for the hypotheses are reported in Table IV.

Brand extension	χ^2	df	χ^2/df	IFI	GFI	TLI	CFI	RMSEA	SRMR
Services-to-services	362.85***	88	4.12	0.90	0.94	0.80	0.90	0.07	0.06
Services-to-goods	288.69***	88	3.28	0.93	0.95	0.87	0.93	0.06	0.05

Note: ***$p < 0.001$

Table III.
Model fits for the
services-to-services
and services-to-goods
brand extensions

5. Discussion of results

The effect of attitude towards the parent brand on attitude towards the extension was positive and significant for the SS brand extension (Table IV). The effect was negative and not significant for the SG brand extension. Thus, *H1* is supported.

As shown in Table IV, the effect of number of products under a service brand on attitude towards the extension was negative and significant for the SS brand extension. The effect was negative and not significant for the SG brand extension. Thus, *H2* is not supported. It appears that the effect of number of products under the brand's portfolio on attitude towards the extension in the case of the SS and SG brand extensions was strongly and negatively moderated by the relatively high quality variance across the brand's products (Dacin and Smith, 1994). In this study, the mean score for quality variance for the brand's products was 4.09 on a five-point scale.

As shown in Table IV, the effect of quality variance across products under a service brand on attitude towards the extension was negative and significant for the SG brand extension. The effect was negative and not significant for the SS brand extension. Thus, *H3* is supported.

As shown in Table IV, there was no positive effect of product category fit on attitude towards the extension for either the SS or SG brand extension. Hence, *H4* is not supported. Bhat and Reddy (2001) also reported no effect of product category fit on attitude towards the extension. As "fit" is measured as transferability of skills, it is possible that a lower product category fit does not affect the consumers' confidence about the firm's ability to offer the extension by outsourcing to a competent vendor.

As shown in Table IV, there was a positive effect of attitude towards the extension on revision of attitude towards the parent brand (RAPB) for both the SS and SG brand extensions. However, the χ^2 difference test did not show any difference in the size of the effect between the SS and SG brand extensions. Hence, *H5* is not supported. Since this was a survey study, respondents' recognition of the goods-services distinction was assumed and not confirmed through a manipulation check. Hence, the lack of difference in the strength of the effect may be due to moderate diagnosticity of the goods-services distinction. As Feldman and Lynch (1988) posited, inputs that are perceived to be moderately diagnostic may be ignored and used only when more diagnostic inputs cannot be retrieved.

As shown in Table IV, there was a positive effect of product category fit on revision of attitude towards the parent brand in both the SS and SG brand extensions. However, the χ^2 difference test did not show any difference in the size of the effect between the SS and SG brand extensions. Hence, *H6* is not supported. As discussed earlier, the lack of difference in the strength of the effect likely reflects the measurement of "fit" as transferability of skills and the perception that production can be outsourced.

As noted above, the lack of support for two of the hypotheses (*H4* and *H6*) may be due to the definition of "fit" as transferability of skills and the potential mitigating effect of the option to outsource production on the influence of "fit." The other hypothesis that is not

Hypothesis	Standardized path coefficients	Services-to-services	Services-to-goods
H1	APB → AE	0.13**	−0.03
H2	NPBP → AE	−0.08*	−0.06****
H3	QVBP → AE	−0.02	−0.08*
H4	PCF → AE	0.04	0.02
H5	AE→RAPB	0.52***	0.60***
H6	PCF → RAPB	0.09*	0.07*

Notes: *p < 0.05; **p < 0.01; ***p < 0.001; ****p < 0.10

Table IV.
Path coefficients for services-to-services and services-to-goods brand extensions

supported is the number of products under the service brand and its effect (*H2*). As suggested earlier, the quality variance across products was high, which may have affected the influence of the number of products on the attitude towards extension. Quality variance across products might have a greater negative influence for SS brand extension than for SG brand extension. This is because SS brand extension is high in the experience attribute, whereas SG brand extension is high in the search attribute. These findings also suggest the need to study extensions based on different classifications of service types.

6. Theoretical contributions
Prior studies have reported smaller explanatory variances of specific variables on attitude towards extension. This was potentially due to moderating effects of the characteristics of the offering on the relationships. The theoretical implication is that modeling the moderating influences of the characteristics of the offerings (SS *vis-à-vis* SG) will shed new light on explaining the performance of an extension.

Drawing from the categorization theory and research on congruity, this study sought to examine the degree to which the perception of difference between the SS and SG contexts influences consumer evaluations. The findings from this research that provide further support to extant theory and specific contributions to the brand-extension literature are outlined in the following. The positive relationship between attitude towards the parent brand and attitude towards extension was found to be stronger for the SS brand extension than for the SG brand extension (Table IV). The negative relationship between quality variance across product categories under a brand and attitude towards extension was found to be stronger for the SG brand extension than for the SS brand extension. Although prior studies of SG brand extensions are scarce, the above findings suggest that SS brand extensions are preferable to SG brand extensions only under some conditions. These include that the attitude towards the parent brand is favorable and the quality variance across service products under a brand's portfolio is high.

Building on the study of Lei *et al.* (2004), the contributions of this study to the literature are multifold. This study considered offerings that are highly services/goods intensive as opposed to moderately services/goods intensive, thus providing resolution in different, underexplored contexts. This study used a brand that was already extended and thus considered Dacin and Smith's (1994) effects of the characteristics of the "brand's portfolio" on consumer evaluation of brand extensions. A real brand was employed, and participants were recruited from the general public (as opposed to students only), thus providing better external validity of effects reported in the brand-extension literature. Moving beyond Arslan and Altuna's (2011) study, which employed convenience sampling, this study was based on area sampling and thus is more representative of the population.

7. Managerial implications
This study helps to address the managerial decision of whether to extend a brand across services and goods. The study is also relevant to firms attempting to diversify, such as banks (e.g. ICICI) extending to the insurance business and retailers of appliances (e.g. Croma) extending to goods. The difficulty of such a strategy, however, is the consumer perception of the transferability of brand attributes from SS. Recently, Patanjali (an Ayurveda-based brand in India) made a dramatic extension to consumer goods and gained market share at the expense of brands from Unilever, P&G, and a few other leading FMCG companies (ANI, 2016). The Patanjali brand represents Ayurveda, an ancient medical practice in India. Ayurveda is a service that is directed at people and is high in credence. This association with service could be extendible to those goods that are high in credence and require trustworthiness. This study finds that the relations between factors influencing extension and attitudes toward extension are moderated by the characteristics of the

offering. Managers could apply this improved understanding of these influences as a guide for developing extensions.

The results of the study suggest that consumers' attitudes toward the parent brand may play a stronger role in the acceptance of SS than SG brand extensions. Hence, when consumers have favorable attitudes toward a firm's "consumer services" brand, it is appropriate for the brand manager to extend the brand into "consumer services" but not "consumer goods."

One of the surprising findings from the study is that the number of product categories under a brand may play a weaker role in consumer acceptance of SS brand extensions than in acceptance of SG brand extensions. This finding implies that when the number of products under a brand is high, brand extension has greater relevance for creating attention and interest than for creating preference. The brand can be extended to new services or new goods with equal effectiveness because the brand meaning is more diffuse. However, the brand manager may find it more difficult to extend the brand into services that are high in "credence" than to extend to goods that are high in the "search" attribute.

This study indicates that quality variance across a brand's portfolio may play a weaker role in the consumer acceptance of the SS brand extensions than acceptance of SG brand extensions. When quality variance across service offerings under a brand is high, marketers should exercise more caution in using the brand extension strategy to extend to consumer goods than to extend to services.

Furthermore, the study's results show that product category fit may not play a role in consumer acceptance of SS and SG brand extensions. This finding suggests that when product category fit is perceived, managers will find it equally worthwhile to extend a "consumer services brand" into "consumer services" or "consumer goods."

8. Limitations and future research directions

One limitation of this study is that while some constructs in SEM were modeled using multi-items, others were modeled using a single item because the availability of multi-item measures for constructs in the brand-extension literature is poor. Scale development could thus be undertaken in future research to address the limited availability of multi-item measures. Another limitation is that only one brand and a few product categories were studied, which provides scope for replication in future studies with different brands and product categories.

This study examined the moderating influence of contexts such as SS and SG. Goods categorized as durable and non-durable and services categorized as people processing, possession processing, mental stimulus processing, and information processing (Lovelock and Gummesson, 2004) might influence the effect of brand extension because of finer dissimilarities. In this study, the "information processing to information processing" extension was compared with the "information processing to non-durable" extension. Therefore, generalization of the results to other types of comparisons must be performed with caution. Finally, since this study was conducted in a single nation, India, generalization of the findings reported here beyond the Indian context may require caution.

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