



## Luxury product to service brand extension and brand equity transfer

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### ABSTRACT

The aim of the present study is to establish a framework for the study of luxury brand extension and to discover whether the brand equity of the parent product brand can be transferred to the extended service brand. Despite many benefits achieved by implementing successful brand extension strategies in the luxury industry, there are several obstacles that negatively influence both the extended brand and the parent brand. Because a negative effect of the vertical brand extension was found in past studies, this study focused on the horizontal brand extension to evaluate and predict possible positive outcomes in the horizontal brand extension process. Thus, this study investigates the role of brand equity, especially when the luxury brand was used to introduce upscaled service brands, in relation to a theoretical framework of brand equity. Additionally, the difference in the purchase intention among demographic groups was examined as it might offer an opportunity for developing a new strategy.

### 1. Introduction

Branding is important in the hyper-competitive luxury industry because the brand is a significant factor that influences product or service loyalty (Lau and Lee, 1999). The effect of a strong brand is increasing and critical in the high-tech luxury industry. Specifically, luxury automobile brands have increased demand and market share in developing countries such as China and in South America. For instance, Mercedes-Benz, which is the fastest-growing luxury automobile brand in China, delivered 68,500 units in 2009 with a year-on-year growth of 77% (Kozicki, 2012). More recently, the luxury automobile industry in China has showed high sales. More specifically, for Audi, the unit sales increased from 227,938 units in 2010–578,931 units in 2014 (Smith, 2016). As a result, many luxury automobile brands developed various marketing strategies in order to improve their sales and profits in these emerging markets. In order to develop successful products and services, understanding their own brand as distinguishable from competitors is important. A number of powerful luxury brands have introduced new products over the years. Brand extension strategies provide a significant profit opportunity by capitalizing on the parent brand's equity (Dawar and Anderson, 1994). For example, Prada and Gucci started with shoes and successfully extended to luxury handbags in different consumer segments in the luxury fashion industry.

However, a luxury brand extension might not always bring success, due to various factors that influence consumer evaluation of the extended brand. Failures of the brand extension can have a negative

impact on parent brand equity, particularly for prestige brands (Lye et al., 2001; Shin et al., 2017). Past studies discovered and explored the negative impact of using vertical brand extension specifically, that the extended brands' less expensive introduction might cause cannibalization of its luxury parent brand (Reddy et al., 1994). This was found in luxury automobile brands; there was a negative impact by the vertical step-down brand extension on the parent brand. For example, when Cadillac introduced Cimarron, although there was no cannibalization, they watered down the prestige of the parent name (Kim et al., 2001). Because of the difficulty of creating and maintaining strong luxury automobile branding, implementing luxury brand extension strategies should be considered based on possible outcome (e.g., positive or negative). In order to take a prestige parent brand image and reduce the negative impact of the brand extension, some luxury brands have used horizontal brand extension instead of vertical brand extension strategies. Horizontal brand extension means using the existing brand name to introduce a new product in the same product line or to a different product category (Sheinin and Schmitt, 1994). Most recent research in brand extension has focused on product categories. However, the growth of middle-class consumers and their purchasing power has led to changes in both luxury product brands and luxury service brands. Therefore, in this study, the process of horizontal brand extension by luxury automobile brands to extended service brands was examined. This type of luxury brand extension needs to be identified in order to determine when it is appropriate to use brand extension strategy to launch a new service brand and when it is not. If there is a positive

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relationship between the parent product brand and overall perception of the extended service brand, a brand extension strategy with few possible risks, such as cannibalization or parent brand image, should be considered.

For the research background, brand equity was adopted to assess its extendibility and to develop brand extension strategy (Park and Srinivasan, 1994). Brand equity is thought to be more important for measuring the effectiveness of brand extension strategies (Ferguson et al., 2016). Brand awareness, brand association, perceived quality, and brand loyalty of the luxury automobile brands were used as antecedents of evaluation and consumer intention to purchase the extended rental service brand. Because most research has focused on vertical brand extension, there is a gap in understanding horizontal brand extension. Thus, this study has merits for future research in exploring luxury automobile brand extension to rental car service brands, which requires more understanding. In addition, this study also examined the possible differences in consumer intention to purchase extended service brands.

## 2. Relevant literature review and hypothesis development

### 2.1. Luxury automobile brand

In the past, luxury brands were often associated with high-income consumers, who are more willing to pay larger premiums than low or middle-income consumers are. However, due to the emergence of new technologies, luxury brands are getting higher visibility and are attracting more attention among consumers all over the world (Kapferer and Michaut, 2015). Now, luxury brands are characterized as one of the fastest-growing brand segments with high profit in current markets. For luxury automobile brands, unit sales have increased steadily in the global car market, which experienced a rise of 69% to 1.26 million vehicles in 2005 (Štrach and Everett, 2006). According to Berger (2001), luxury automobiles are vehicles with a very high price, sophisticated design, advanced technology, and symbolic elements beyond the basic need of automobile consumers. Since 1986, in order to survive in the competitive luxury automobile industry, luxury automobile brands have developed extended brands as a part of their overall market strategy. Consumers are able to co-create a luxury lifestyle without actually owning the luxury cars (Hatch and Schultz, 2010). For instance, Ferrari, a well-known luxury automobile brand, introduced a perfume by using their existing brand name, image, and reputation. This allowed them to enter the cosmetics industry. Likewise, several luxury automobile brands have presented accessible brands to obtain benefits by reaching the wider consumers.

### 2.2. Brand extension

Keller et al. (2014) identified brand extension as the use of an established brand name for the introduction of new products or services. Brand extension is regarded as a fundamental business strategy (Albrecht et al., 2013). The success rate of brand extension is about 80% compared to 35% for launching new products (Roll, 2005). Brand extension is categorized in two dimensions: vertical extension and horizontal extension. Vertical brand extension refers to the launching of new products or services in the same product/service category as the parent brand but at a different price or quality point (Keller and Aaker, 1992). Horizontal brand extension refers to using of a parent brand name to introduce a new product or service in a different category from the parent brand (Kim et al., 2001). Utilizing brand extension strategy is the key driver for the growth of luxury brands (Riley et al., 2004). One of the main advantages of luxury brand extension is taking advantages from the parent brand, by using consumers' trust of the parent brand (Sharon, 2011). However, disadvantages of implementing brand extension strategy also exist.

Vertical brand extension, which introduces cheaper extended

brands, has potential risks of diluting the original image and cannibalization with the parent brand in luxury brands. Compared to vertical brand extension, horizontal brand extension, which expands the brand into different categories, is viewed as the way to reduce or eliminate possible negative consequences. Thus, the current research focused on horizontal brand extension by using a luxury automobile brand and suggesting an extended service into a rental car brand. As most luxury brand extension studies have researched product-to-product categories (Bellaiche et al., 2010), this study provides in-depth understanding about a service-to-product brand extension in the luxury automobile brand area.

### 2.3. Brand equity

Brand equity was used as the theoretical framework. This study examined the roles of different brand-related attributes of parent product brand in the evaluation of the extended service brand. In marketing literature, brand equity theory provides an understanding of how the brand can add value to a product or service (Keller, 1993). Also, in brand extension studies, brand equity has been discussed as the important factor in many previous brand extension studies (Dacin and Smith, 1994; Ferguson et al., 2016; Rangaswamy et al., 1993). Brand equity refers to all the added value that the brand offers consumers. Keller (1993) identified conceptual dimensions of brand equity from the consumer psychology perspective as brand awareness and brand association. After Aaker (1991) defined brand equity within a consumer-based perspective and developed the construct including brand awareness, brand associations, perceived value, and brand loyalty, many researchers have used and adopted brand equity to understand consumer behavior. For instance, Yoo and Donthu (2001) suggested that brand equity is the combination of the cognitive dimensions (brand association, brand awareness, and perceived quality) and behavioral intention dimension (brand loyalty). The significant influence of brand equity on consumer preferences and purchase intentions was also found in past studies (Cobb-Walgreen et al., 1995). Similarly, in the luxury automobile industry, the brand equity construct was utilized to measure the relationship with consumer loyalty, satisfaction, and purchase intention (Tolba and Hassan, 2009). However, there is a lack of research on the transfer of brand equity in the process of developing a service brand by using the parent product brand. Thus, this study attempted to discover whether the brand equity of parent brand can be transferred to the extended service brand by using the luxury automobile brand extension.

#### 2.3.1. Brand loyalty

In the recent highly competitive luxury industry, many luxury brands have focused on advertising, promotions, or other marketing efforts to increase brand loyalty. Brand loyalty refers to consumers' repurchase rate of the same brand; it is based on consumers' previous use and purchase experience of the product, which can be regarded as consumer attitudes about a brand (Deighton et al., 1994). Brand loyalty includes two types of factors: behavior factors and attitude factors. Behavior loyalty simply refers to consumers' repurchase behavior, and attitude loyalty refers to consumers' psychological commitment to a brand (Aaker, 1991; Prus and Brandt, 1995). Baldinger and Rubinson (1996) suggested that brand loyalty is critical because it influences consumer brand preferences while consumers are actually purchasing and using a product; they are not easily switching to other brands. Even though consumer loyalty toward a brand is the final destination of brand management (Chi et al., 2009), there is inconsistency in the literature examining the role of brand loyalty. Some researchers used brand loyalty as one of the antecedents, which influence consumer satisfaction, whereas others examined the mediating effect of brand loyalty on consumer behavior. In addition, the indirect impact of brand loyalty on the relationship between brand association and consumer purchase intention was found (Chi et al., 2009). In this study, brand

loyalty was assumed to be affected by brand awareness, brand association, and perceived quality of the parent brand. In order to find accurate predictors of brand loyalty toward the luxury automobile brand, brand loyalty was examined as a mediator in the process of horizontal brand extension by using the extended service rental car brand. Given the importance of luxury automobile brands and the role of brand equity factors, brand awareness, brand association, perceived quality, and brand loyalty, the following hypotheses were formulated for testing.

### 2.3.2. Brand awareness

Generating and maintaining a high level of brand awareness is important for luxury brands because it influences the selection of products from the consideration set (Hoyer and Brown, 1990). Aaker (1991) and Keller (1993) defined brand awareness as consumers' recognition and recall of a brand in various situations. Brand awareness has two dimensions: depth – how to make consumers easily recall or identify a brand and width – the point at which consumers bring brand name to mind immediately (Hoeffler and Keller, 2002). Brand awareness is essential for the communications process to occur; it is the first step by which consumers relate to the products (Rossiter and Percy, 1987). Macdonald and Sharp (2000) also stressed the importance of brand awareness on consumer's purchase decision, for consumers prefer to choose familiar and well-known products. Brand awareness can assist consumers to recognize a specific brand from a product category and have a great influence on brand selection (Percy and Rossiter, 1992). Based on an understanding of the importance of brand awareness, Rust et al. (2004) measured brand awareness of luxury automobile brands in the way of developing consumer-based marketing. Strong brand awareness of luxury automobile brands is a driver to succeed in the global market and it might influence consumer-based brand loyalty and evaluation of the extended brand.

**H1.** Brand awareness will significantly affect brand loyalty of the luxury automobile brand.

### 2.3.3. Brand association

Brand association refers to everything related to the brand in consumers' minds, and brand association can help consumers figure out the relevance of the parent brand and the extended brand (Aaker, 1991). According to Keller (1993), brand association helps to build up and destroy the brand image in consumers' memory. In addition, brand association impacts many other elements, especially loyalty, in reference to luxury brands. For luxury automobile brands, strength and uniqueness of the brand association play an extremely important role in creating brand loyalty. If the consumer exhibits a high brand association with a parent luxury automobile brand, this association can directly or indirectly influence the success of introducing the extended service brand.

**H2.** Brand association will significantly affect brand loyalty of the luxury automobile brand.

### 2.3.4. Perceived quality

The level of perceived quality is highly influenced by the experience of interactivity with the product or service. This high-perceived quality of a product or service experience is more likely to generate a positive overall brand equity and evaluation. Zeithaml (1988) defined perceived quality as consumers' subjective evaluation or feelings of a brand's quality or superiority, gained from interaction with the product or service by intrinsic or extrinsic cues. Ramaseshan and Tsao (2007) also identified perceived quality as an intangible perception by consumers resulting from the quality or superiority of a product or service. Thus, consumers' perceived quality significantly influenced consumer purchase intention and loyalty to the brand. Also in the luxury industry, perceived quality of the product or service is important in order to build

loyalty between the brand and consumer.

**H3.** Perceived quality will significantly affect brand loyalty of the luxury automobile brand.

## 2.4. Influential factors of purchase intention toward the extended brand

Several previous studies presented the influential factors of successful brand extension (Hem et al., 2003; Pitta and Prevel Katsanis, 1995). Brand equity, brand loyalty, consumers' attitude toward the parent brand and extended brand, evaluation of the extended brand, and individual difference among consumers are all important factors on brand extension (Reast, 2005). Wu and Lo (2009) reviewed the factors affecting consumers' purchase intention on extended products and divided the two major factors based on the factors' categories: one is a core-brand attitude; the other is consumer perception fit (Aaker and Keller, 1990; Bhat and Reddy, 2001). This current research focused on the parent luxury automobile brand's attitude dimension. Consumers' purchase intention toward the extended brand was suggested, mainly depending on consumers' attitude, trust, satisfaction, and loyalty toward the parent brand (Horppu et al., 2008). Since consumer brand loyalty has been identified as the result of consumer brand trust and brand satisfaction, brand loyalty of the parent brand is considered as a variable within the conceptual model and served as the bridge between brand equity and consumer attitude toward the extended brand.

### 2.4.1. Brand loyalty of the parent brand

Brand loyalty refers to consumers' positive attitude towards a brand and customers' desire to purchase the brand (Saritas and Penez, 2017). Thus, brand loyalty is regarded as the key factor in keeping demand and sales volume stable over time (Aaker, 1991). According to the analysis provided by Hem and Iversen (2003), successful brand extension is highly dependent on brand loyalty toward the original brand. They stated four steps necessary for consumer acceptance of an extended brand. Firstly, consumers have to have interactivity with the original brand by getting brand information and using it. Secondly, consumers should have a more positive attitude about the original brand than for all other competitors' brands. Thirdly, consumers must be satisfied with their usage experience and attempt to recommend the original brand to others.

Finally, consumers must have spent money for the original brand and have an intention to purchase the extended brand products or services. From these four steps, loyalty to the parent brand could be regarded as the very first step of a successful brand extension. The significance of how brand loyalty of the parent brand transfers to the extended brand was further explored by He et al. (2014). Consumer brand loyalty and attitude toward the parent brand can deeply influence consumers' attitude toward the sub-brand or extended brand.

**H4.** Brand loyalty of the luxury automobile brand will significantly affect attitude toward the extended rental car service brand.

### 2.4.2. Attitude toward the extended brand

Consumers' attitude toward the extended brand could be positive or negative. Previous brand extension research has explored the influential factors consumer attitude toward extended brands. Czellar (2003) stated that the relations between consumers' attitude toward a parent brand and attitude toward the extension category are mediated by consumers' perceived fit. This indicated that consumers' attitude toward the extended product or service also depends on the relation between the parent brand and the extended brand. Keller (1993) clearly shows that consumers' attitude toward the parent brand referred to consumer's overall evaluation of the brand, and forms the basis for consumer behavior towards the brand. When launching the extended brand, with the direct influence of the parent brand, consumers' attitudes toward the extended brand will ultimately have an influence on

consumer purchase intention on the extended product or service (Aaker and Keller, 1990). Another relation explored by Czellar (2003) indicates that both consumers' attitude toward the parent brand and extended brand assists them in evaluating the extended brand.

**H5.** Attitude will significantly affect evaluation of the extended rental car service brand.

**H6.** Attitude will significantly affect purchase intention toward the extended rental car service brand.

2.4.3. Evaluation of the extended brand

Evaluation of the extended brand is not a simply an evaluation of the extended brand but also an evaluation of the parent brand. Chowdhury and Kabir (2007) stressed that consumers' evaluation of the extended brand mainly depends on their judgment of the original brand. Purchase intention, quality awareness, and approval/disapproval have all been adopted by previous scholars to describe the effects of consumer brand extension evaluations (Aaker and Keller, 1990; Broniarczyk and Alba, 1994; Wu and Lo, 2009). The evaluation of the extended brand has significant effects on consumer purchasing intention on the extended brand.

**H7.** Evaluation will significantly affect purchase intention toward the extended rental car service brand.

2.4.4. Demographic variables

Since brand equity, brand loyalty, attitude toward the extended service luxury brand, and evaluation of extended service are all subjective conceptions, the individual differences can influence each relationship among the variables. There are many previous consumer-based studies on demographic factors, such as, gender, age, income, education level, and ethnicity, as the moderator of the conceptual model to understand the construct of brand equity (Kim et al., 2010; Leonidou et al., 2013; Stokburger-Sauer and Teichmann, 2013). In the current research on luxury brand extension, demographic differences in luxury consumption behavior were found. Concerning gender differences in the purchase of luxury brands, Wiedmann et al. (2009) reported that female consumers have many feelings and beliefs about luxury products or service purchases, and Stokburger-Sauer and Teichmann (2013) also found that female consumers have more positive attitudes toward luxury brands than male. For income, Husic and Cicic (2009) found that income and/or money are regarded as a

necessity for luxury consumption, and have a direct influence on purchase decision making. Consumer age also affects luxury consumption. Shukla (2008) explored the attitudes of middle age consumers on luxury brand consumption. In addition, Shin et al. (2017) examined the college and post-college age millennials and found different impacts of social influence in the luxury brand extension process. Based on the literature review, the moderators of luxury brand consumption within this study included gender, age, and income. The following hypotheses were formulated for this study.

**H8.** There is a difference in purchase intention toward the extended rental car service brand among male and female, younger and older, low-income and high-income consumers.

Fig. 1 provides a model that shows the relationship between brand equity of the luxury automobile brand and consumer perception toward the extended rental car service brand.

3. Methodology

3.1. Data collection

A web-based online survey was conducted using a nationally recognized consumer research panel service. Consumers aged over 20, who had experiences buying luxury brands participated in the survey. A total of 324 consumers, who satisfied the sampling conditions, agreed to participate in the study. The well-known luxury automobile brand was included in the questionnaire with demonstrated scenario. Respondents answered the questions to investigate the impact of consumer-based brand equity on consumer evaluation of service brand extension in the luxury automobile industry. A self-administered questionnaire was developed that consisted of four parts of 40 questions, including demographic and brand equity items (e.g., brand association, brand awareness, perceived quality, brand loyalty). Thirty-three measurement items were adopted based on the literature review. Table 1 shows demographic results, including gender, age, income, ethnicity, and marital status. Males made up 47.4% and 42.9% was female. Participants were categorized by age into young adults (ages 18–34 years; n = 177) and older adults (ages 35–50+ years, n = 132). Income level was also divided into low-income group (-\$39,999; n = 152) and high-income group (\$40,000-; n = 156).

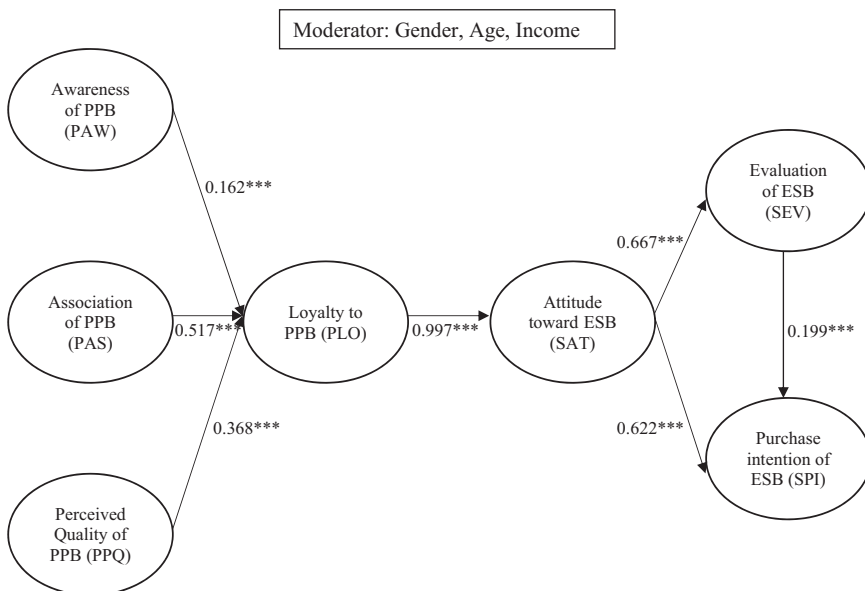


Fig. 1. The conceptual model of service brand extension in luxury automobile industry.

**Table 1**  
Results of Descriptive Analysis.

Items	Freq.	%	Items	Freq.	%
Gender			Ethic		
Male	161	47.4%	African American	17	5.0%
Female	146	42.9%	Caucasian American	138	40.6%
			Hispanic American	13	3.8%
			Native American	5	1.5%
Age			Asian/ Asian American	101	29.7%
18–24	51	15.0%	Others	35	10.3%
25–34	126	37.1%			
35–50	97	28.5%	Marital Status		
50–	35	10.3%	Married	173	50.9%
Income			Divorced	17	5.0%
Under \$25,000	93	27.4%	Widowed	2	.6%
\$25,000–39,999	59	17.4%	Never married	116	34.1%
\$40,000–54,999	51	15.0%			
\$55,000–69,999	35	10.3%			
\$70,000–84,999	25	7.4%			
\$85,000–99,999	13	3.8%			
Over \$100,000	32	9.4%			

3.2. Results

Since this study examined horizontal brand extension in the luxury automobile brand setting, authors assumed that there might be a demographic difference in consumer perception toward the extended service brand. Thus, two studies were undertaken to assess the model across the demographic background. In study 1, the basic model was tested. In study 2, the sample was broken into two groups and compared with each other: male and female; younger adult and older adult; low-income and high-income groups. The data were elaborated by statistical methods including mean, standard deviation, correlation, and average variance extracted (AVE). Table 2 presents the means and standard deviations of the construct. It also showed that all AVE was over .5, which is the recommended threshold, and it appears to have construct validity (Anderson and Gerbing, 1988). In this study, structural equation modeling (SEM) with latent variables was used to examine group differences and test the proposed models about cause/ef-  
fect relationships in brand extension.

In order to assess model fit, the comparative fit index with the overall model chi-square measure ( $\chi^2$ ), the comparative fit index (CFI, Bentler, 1990), the goodness of fit index (GFI) (Jöreskog and Sörbom, 1978), and the root mean square error of approximation (RMSEA; Browne and Cudeck, 1992; Steiger, 1990) were used. For the current model,  $\chi^2/df$  is 2.32 ( $\chi^2 = 323.195$ ;  $df = 139$ ), CFI is .964, GFI is .901, AGFI is .864, RMSEA is .064 (see Table 3). An adequate model fit was, therefore, indicated. (Table 4)

3.3. Results of basic model

After establishing the model fit, the proposed relationships between constructs were analyzed using SEM with AMOS. Table 3 presents the

**Table 2**  
Means, standard deviation, and construct inter-correlations.

Variable	Mean	St.d	PAW	PAS	PPQ	PLO	SAT	SEV	SPI	$\alpha$	AVE
PAW	5.79	1.05	1							.84	.76
PAS	5.42	1.13	.64**	1						.90	.64
PPQ	5.53	1.02	.64**	.80**	1					.89	.82
PLO	4.62	1.55	.47**	.72**	.75**	1				.84	.58
SAT	5.65	1.06	.69**	.81**	.83**	.64**	1			.93	.84
SEV	5.71	1.03	.63**	.62**	.60**	.47**	.67**	1		.88	.95
SPI	4.92	1.26	.56**	.69**	.66**	.73**	.65**	.63**	1	.91	.55

PAW: Awareness of Parent Product Brand, PAS: Association of Parent Product Brand, PPQ: Perceived Quality of Parent Product Brand, PLO: Brand Loyalty toward Parent Brand, SAT: Attitude toward Extended Service Brand. SEV: Evaluation of Extended Service Brand, SPI: Purchase intention toward Extended Service Brand.  
\*\* Correlation is significant at the .01 level (2-tailed).

**Table 3**  
Structural equations results for hypotheses.

Path	Estimate	t	Hypothesis
H1: Awareness of PPB → Brand loyalty on PPB	.162***	3.33	Supported
H2: Association of PPB → Brand loyalty on PPB	.517***	7.07	Supported
H3: Perceived quality of PPB → Brand loyalty on PPB	.368***	5.28	Supported
H4: Brand loyalty on PPB → Brand Attitude toward ESB	.997***	13.26	Supported
H5: Brand Attitude toward ESB → Evaluation of ESB	.667***	12.33	Supported
H6: Brand Attitude toward ESB → Purchase intention ESB	.622***	9.58	Supported
H7: Evaluation of ESB → Purchase intention ESB	.199***	3.30	Supported

Chi-square = 323.195, Degrees of freedom = 139, GFI = .901, RMSEA = .064, CFI = .964, AGFI = .864.

\*\*p < .01.

\*\*\* p < .001.

**Table 4**  
Moderating effect of consumer demographics.

Path	C.R. (P)	
<b>Gender</b>	Male	Female
Brand loyalty on PPB → Brand Attitude toward ESB	9.466***	8.044***
Brand Attitude toward ESB → Evaluation of ESB	10.853***	7.422***
Brand Attitude toward ESB → Purchase intention ESB	6.825***	6.128***
Evaluation of ESB → Purchase intention ESB	.712(.476)	2.056(.040)
<b>Age</b>	Young	Old
Brand loyalty on PPB → Brand Attitude toward ESB	9.232***	7.641***
Brand Attitude toward ESB → Evaluation of ESB	11.424***	6.759***
Brand Attitude toward ESB → Purchase intention ESB	7.608***	4.725***
Evaluation of ESB → Purchase intention ESB	1.289(.197)	2.854(.004)
<b>Income</b>	Low	High
Brand loyalty on PPB → Brand Attitude toward ESB	7.768***	9.250***
Brand Attitude toward ESB → Evaluation of ESB	7.811***	9.944***
Brand Attitude toward ESB → Purchase intention ESB	6.725***	5.726***
Evaluation of ESB → Purchase intention ESB	.551(.582)	3.728***

\*\*\* P < .001.

standardized path estimates and t-values for each of the hypothesized model relationships for each construct. As for dimensionality of brand equity of the parent luxury automobile brand, all three first-order constructs had a strong relationship with brand loyalty. Concerning the structural relationships proposed in the conceptual model, all three antecedents (e.g. brand awareness, brand association, perceived quality) had a significant relationship with brand loyalty toward the luxury automobile brand, supporting H1, H2, and H3. Based on the standardized estimates between paths, association with the parent brand had the strongest influence on brand loyalty (estimate = .52, t = 7.07, p < .001). Perceived quality and brand awareness of the parent

brand also showed a significant relationship with brand loyalty (estimate = .37,  $t = 5.28$ ,  $p < .001$ ; estimate = .16,  $t = 3.33$ ,  $p < .001$ ). The next set of hypotheses examined the relationships of brand equity of the parent product brand to three dependent constructs of the extended service brand. Consistent with H4 and H5, brand loyalty toward the parent product brand exhibited a significant relationship to the attitude and evaluation of the extended service brand (estimate = .99,  $t = 13.26$ ,  $p < .001$ ; estimate = .67,  $t = 12.33$ ,  $p < .001$ ). In addition, a significant relationship between attitude, evaluation, and purchase intention toward the extended service brand supported H6 and H7 (estimate = .62,  $t = 9.58$ ,  $p < .001$ ; estimate = .19,  $t = 3.30$ ,  $p < .001$ ).

### 3.4. Results of group analysis

Multi-group analysis was performed to examine the difference between males and females, younger and older adults, low-income and high-income groups in evaluating the extended service brand. Consequently, regarding the relationship between brand loyalty of the parent luxury automobile brand and attitude and evaluation of the extended rental car service brand, no difference was found between groups. However, there was a difference in the impact of consumers' evaluation on purchasing intention toward the extended brand in the low-income and high-income groups. Consumers who have a high-income, are more likely to have a positive purchase intention toward the extended brand than the low-income group. Although brand equity of the luxury automobile brand has a positive impact on the evaluation of the extended service brand, this positive evaluation fails to influence the purchase intention toward the extended rental car service brand in males, younger adults, and low-income groups ( $C.R = .71$ ,  $p = .48$ ,  $C.R = 1.29$ ,  $p = .20$ ;  $C.R = .55$ ,  $p = .58$ ). Purchase intention can differ by consumers' characteristics and product/service types. Thus, this study also found that the effect of brand equity of the parent brand on purchase intention is different between males and females, younger adult and older adults, low-income and high-income groups in the process of horizontal brand extension in the luxury automobile brand setting.

## 4. Discussion

The study contributes to brand extension literature as follows: 1) presenting a holistic framework for examining brand extension from product category to service area; 2) presenting the effect of parent brand equity on evaluation of extended brand; 3) emphasizing a special focus on luxury brand extension; and 4) modeling the effects of customers' demographic characteristics in the brand extension process.

The first and second contribution of the study enhances the understanding of brand management by investigating product-to-service brand extension using a holistic model. The holistic model consists of a two-stage process. In the first stage, the parent brand attributes including awareness, association, and perceived quality influence customer loyalty toward the parent brand. In the second stage, customers' loyalty toward the parent brand affects customers' evaluation of the extended service brand such as attitude, evaluation, and purchase intention. A positive impact of brand awareness, brand association, and perceived quality on brand loyalty of the parent brand was found. This finding means that a consumer who has a high level of awareness, association, and perceived quality of the luxury parent brand exhibits more brand loyalty. Furthermore, a significant effect of brand loyalty was also found on the perception (e.g., attitude, evaluation, and purchase intention) toward the extended service brand. This holistic approach includes a comprehensive explanation of the effect of parent product brand on extended service brand. In previous studies, the effect of parent brand was only examined within product categories. The current study expands upon previous research by examining whether parent products-related attributes affect customers' attitude or behavior towards the extended brand.

The third contribution of the study is an examination of the major

determinants of the success of luxury brand extension. Understanding the role of those relevant attributes that influence brand loyalty is important for luxury brand marketing to enhance their value and increase consumers' future purchasing intention. The authors found that consumer awareness, association, and perceived quality of the parent product brand enhance the loyal attitude, which leads to positive purchase intention toward the extended service brand. This indicates that brand loyalty has mediating effects on the links between brand equity of the luxury automobile brand and the perception of the extended rental car service brand. Since horizontal brand extension was used in this study, this result is critical for luxury brand researchers. In a similar vein, the findings also suggest that brand extension strategies are less risky for luxury automobile brands that have a high level of brand awareness, association, and perceived quality.

The fourth contribution is that this study confirmed a significant difference between demographic groups. While there is a positive attitude among respondents toward the extended service brand, future purchase intention was different in types of consumers. For instance, female participants expressed significantly higher positive intention to purchase the extended rental car service brand than male participants did. In addition, purchase intention of the luxury extended brand was higher in older and high-income groups. This means that there are differences in perception and actual purchasing behavior of the extended service brand between males and females, younger and older adults, and low-income and high-income consumers. Again, this research proposes that evaluation of the extended service brand is more likely to be positive if consumers hold higher awareness, association, and perceived quality towards the parent brand, but the results of luxury automobile brand extension vary among consumers with different demographic backgrounds.

## 5. Conclusions and implications

Luxury brand extensions are always tempting for luxury companies and marketers because they can leverage their brand asset based on their strong brand image. Brand extension strategies can reduce the cost of introducing new products and increase the success rate through communication with loyal consumers. However, potential risks, such as failure of introducing the new brand, diluting the popular parent brand image, cannibalization of the original brand, and reducing the market share of the parent brand, exist. Thus, luxury companies should consider brand extension strategies as an opportunity, but also note the possible negative consequences. In this context, horizontal brand extension, which introduces the new products into a new category, may help to reduce the potential risks and expand their product spectrum. In this study, the positive effect of brand equity of the luxury automobile brand was found in brand extension into the rental car service category. Luxury brands are able to use horizontal brand extension strategies to promote a luxury experience to a wider consumer base in the service setting with minimum risk. In addition, since there is a difference between consumers' demographic backgrounds, marketers should develop the extended service brand to meet the needs of the different consumer segments.

These results contribute to the growing literature on luxury brand extensions by demonstrating the importance of brand loyalty. In addition, the results indicate a positive relationship between brand awareness, brand association, and perceived quality and brand loyalty in the luxury automobile brands. Thus, this study is distinguished from previous research, which focused on the fashion industry. By applying the concept of brand extension to the luxury automobile brand setting. In addition, this study provides evidence for recommendations to increase brand loyalty as part of creating a positive attitude toward the extended brand. In this research, the authors focused on horizontal brand extension to introduce extended service brands. While there are negative consequences of vertical brand extension (e.g., diluting the original image, cannibalization with the parent brand), horizontal brand

extension is less risky. However, there was a lack of research into understanding the important factors for establishing extended service brands based on luxury brands. Thus, the major finding of this study is the evidence of the role of brand equity of the parent brand in the horizontal brand extension setting. Unlike mass-produced products, luxury automobile brands are recognized as having a high level of brand equity; this can be key to developing the extended service brand to expand markets across different industries.

## 6. Limitations and future research

As with any study, there are limitations to consider. First, this study did not examine every factor of the parent product brand that could affect or influence the evaluation of the extended service brand. These may include, for instance, brand trust, reputation, and price. Future studies should aim to develop multiple variables to measure the role of a parent brand in evaluating the extended brand. Second, this study used a single luxury automobile brand, and this may limit the ability to generalize these results to other industries, such as fashion, electronics, and tourism. Finally, self-selection bias is the main limitation of online sampling. In order to reduce this kind of bias, using an email list to send an online survey link is recommended for future studies.

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