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An Examination of Brand Equity Differences between Utilitarian and Hedonic Products

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Abstract

This paper examines how country-of-origin and manufacturer-of-origin effects impact brand equity for utilitarian versus hedonic products. Applying the concept of revenue premium as a measure of brand equity, this paper uses a variance component model together with secondary panel data for the U.S. passenger car market to show it is possible to apply a measure of brand equity for product categories without private labels. The results show that proportionally country-of-origin influences brand equity for hedonic products; whereas manufacturer-of-origin impacts brand equity for utilitarian products.

Keywords: brand equity, country-of-origin, manufacturer-of-origin, utilitarian products, hedonic products, revenue premium

1. Introduction

The consumer perspective has dominated research concerning brand equity where constructs such as brand association, attitude, familiarity, awareness, trust, affect and loyalty influence brand perceptions (e.g., French & Smith, 2013; Mizik, 2014; Srinivasan, Park, & Chang, 2005). However while firm aspects are known to impact brand equity, relatively little research has focused on exploring the antecedents of brand equity from a firm perspective.

This research draws upon Keller's (2013) brand hierarchy concept to explore country- and firm- level sources of brand equity. Consistent with Keller's (2013) observation that building brand equity at higher levels can be more complicated than building equity at lower levels; and that brand equity built at higher levels can influence a wider range of products than equity built at lower levels; this research proposes country-of-origin and manufacturer-of-origin effects contribute to the brand equity differently. For utilitarian products such as shampoo, film and diapers, manufacturer-of-origin effects are stronger and country-of-origin effects are relatively weaker, but the converse for hedonic products (such as Scottish whiskey, French cosmetics and Italian clothing) where country-of-origin effects are more salient than manufacturer-of-origin effects

The implications for these country versus manufacturer effects mean companies must carefully manage brand strategy to strengthen particular associations with country or firm image. Consequently firms should exercise caution in making decisions concerning outsourcing of production to specific countries or manufacturers, as associations of product image with country or firm image could be substantially impacted.

This research employs a variance component model to analyze panel data for the US passenger car market. Revenue premium (Ailawadi, Lehmann, & Neslin, 2003) is used to measure brand equity. It examines the reliability and validity of this measurement, and subsequently apply revenue premium to examine country-of-origin and manufacturer-of-origin effects on brand equity. It further examines the moderation effect of a product's utilitarian versus hedonic nature.

2. Literature Review

Brand equity is an important market asset measure, which is defined as "the marketing effects uniquely attributable to the brand" (Keller, 1993, p. 2). It is an indispensable component in the chain of marketing productivity (Rust et al., 2004), and has impact on market position, financial position and value of the firm.

Brand equity has been measured using three approaches: financial market outcomes, product market outcomes

and consumer-based outcomes (Keller & Lehmann, 2001; Ailawadi et al., 2003). Financial market outcomes view brand equity as an asset of the firm and evaluate outcomes of brand equity from a forward-looking perspective. They estimate brand equity at the firm-level based upon financial market valuation of the firm's future cash flows. Financial market outcomes include measures such as ROE (Isberg & Pitta, 2013), Tobin's q (Vomberg, Homburg, & Bornemann, 2014) and stock market return (Mizik, 2014). Product market outcomes relate the sources of brand equity over time to consequences on such variables such as market share, sales and revenue, and assess the brand's performance in the marketplace. They estimate the outcome of brand equity at the brand-level with market impact models, and take a "residual approach" by estimating the effect of product physical attributes and attribute the residual impact to brand equity. Some representative measures include price premium, market share premium and revenue premium (Randall, Ulrich, & Reibstein, 1998; Mizik, 2014; Ailawadi et al., 2003). Customer-based outcomes are the differential effect of brand knowledge on consumer response to the marketing of the brand (Keller, 2013). They examine consumer attitudes, perceptions, preferences, attachments and loyalties that customers have toward a brand due to brand equity. In this approach brand equity has been measured as the consumer's intention to select the branded product against its counterpart (Yoo, Donthu, & Lee, 2000) and the difference between an individual customer's choice probability for the brand and his or her choice probability for the base product (Srinivasan et al., 2005).

3. Hypotheses

3.1 Country-of-Origin

Brands originating from a particular country create intangible assets or liabilities that are shared by other brands originating from the same country (Chung, 1997). Consumers tend to perceive brands from the same country as similar, because brand perceptions often interplay with country perceptions. This interplay is particularly prominent when consumers cannot easily evaluate products directly and country-of-origin can potentially serve as an external cue to assist consumers in making decisions. Consumers may choose brands originating in different countries based on their beliefs on the quality of that type of product from the respective country. Previous literature provides extensive support for country-of-origin effects upon consumer attitudes and product evaluations (Parkvithee & Miranda, 2012; Godey et al., 2012; Nath, Sanyal, & Datta, 2011; Johansson & Nebenzahl, 1986; Bilkey & Nes, 1982).

3.2 Manufacturer-of-Origin

Consumer perceptions of a manufacturer contribute to their perceptions of the brands produced by that manufacturer. Consumers care about the manufacturer's image more when manufacturer image determines which products they would buy (Lydia, 1989). Previous studies have employed share of patents granted, R&D expenditure, order of entry and age of the firm to measure manufacturer image, and have determined that manufacturer image contributes to brand equity (Simon & Sullivan, 1993; Robinson & Fornell, 1985; Urban, Carter, Gaskin, & Mucha, 1986).

3.3 Utilitarian and Hedonic Products

There are marked differences in the cognitive and motivational patterns associated with different products and services involved in consumption (Olshavsky & Granbois, 1979). Holbrook & Hirschman (1982) propose two types of consumption: utilitarian products and hedonic products. Utilitarian products have "tangible or objective features", while hedonic products have "non-tangible or subjective features that create pleasurable response from customers" (Chaudhuri & Holbrook, 2001, p. 85). People buy utilitarian products for their functional performance. Customers usually have clear functional requirements for utilitarian products they want to buy. Brands made by different manufacturers have different functional values. For example, BMW is well known for its innovation capability, while Toyota is synonymous with engineering excellence (DataMonitor, 2013). This firm reputation is likely to impact the brand equity of products from this firm. On the other hand, people buy hedonic products for their appeal to the senses (Olshavsky & Granbois, 1979), and tend to link brands to some general impressions or intangible cues like country image. There are quite a few well-known brand-country ties, such as French perfume, Italian suits, and Swiss watches. Therefore:

H1: Manufacturer-of-origin is related to brand equity for utilitarian products, but not for hedonic products.

H2: Country-of-origin is related to brand equity for hedonic products, but not for utilitarian products.

4. Method

4.1 Data

The automobile is a complex product, whose quality cannot be easily evaluated. Thus consumers often rely on

other intangible cues such as country-of-origin and manufacturer-of-origin to make purchase decisions. A focus on the automobile industry thus enables us to effectively capture the impact of country-of-origin and manufacturer-of-origin on brand equity. The automobile industry itself has defined premium and economy market sectors. A luxurious car is viewed as hedonic product, which has a high price premium for its "appeal-to-senses" value. An economical car is regarded as a utilitarian product, which has a large market share premium for its functional value. Country-of-origin has a great impact on brand equity in the automobile industry.

Information is obtained on all passenger car models offered for sales in the United States from 1990 to 1997. The data on model characteristics (length, wheel base and horsepower), prices, yearly sales and market size are obtained from *Ward's Automotive Yearbook*. Car prices are normalized in constant 1990 dollars with Consumer Price Indices gathered from the Bureau of Labor Statistics website (www.bls.gov). Country of origin data is collected from manufacturer websites. It is supplemented with car classification data from *J.D. Power and Associates Sales Report*, which divides the auto market into several segments based on the marketing intent of manufacturers. This paper utilizes the data of car models in compact, mid-size, large, premium compact, premium mid-size and premium large segments. In order to produce a balanced panel data model, it only considers the car models with both price and sales data in the whole period from 1990 to 1997. Table 1 lists all car models in the data set.

Table 1. Summary statistics of car attributes

	# of Models	Models		Revenue Premium	Price	Length	Horse Power
Compact	13	Mazda Protégé, Suzuki Swift, Mercury Tracer, Mitsubishi Mirage, Pontiac Grand Am, Volkswagen Golf, Nissan Sentra, Chevrolet Cavalier, Ford Escort, Honda Civic, Toyota Corolla, Toyota Tercel, Volkswagen Jetta	Mean	8.87E8	6938	169	112
			S.D.	7.33E8	1097	10	22
Mid-size	12	Pontiac GrandPrix, Saturn S series, Subaru Legacy, Mitsubishi Galant, Mercury Sable, Ford Taurus, Toyota Camry, Nissan Maxima, Mazda 626, Honda Accord, Buick Century, Oldsmobile Cutlass	Mean	5.16E8	10090	189	145
			S.D.	1.41E9	1392	5	22
Large	4	Mercury Grand Marquis, Chevrolet Caprice, Buick LeSabre, Ford LTD Crown Victoria	Mean	3.78E8	12088	210	191
			S.D.	5.20E8	654	6	22
Premium Compact	3	Infiniti G20, Acura Integra, BMW 3	Mean	-4.37E8	13063	174	155
			S.D.	2.85E8	3309	1	17
Premium Mid-size	8	Lexus ES, SAAB 9000, BMW 5, Lincoln Continental, Oldsmobile 88, Cadillac Eldorado, Cadillac Seville, SAAB 900	Mean	-4.00E8	19410	193	208
			S.D.	3.54E8	4034	14	47
Premium Large	8	Lexus LS, Infiniti Q45, Jaguar XJ, Pontiac Bonneville, Lincoln Town car, BMW 7, Cadillac Deville/Fleetwood, Mercedes S	Mean	-5.27E7	29249	203	247
			S.D.	8.34E8	12177	9	39

4.2 Measures

This research measures brand equity using revenue premium. According to Ailawadi et al. (2003), the revenue premium measure has some advantages over the other measures. Firstly, it is linked to revenue, which is a key performance measure managers are concerned about. Secondly, it is more complete than other measures because

it considers both price premium and volume premium.

Two issues in calculating revenue premium are defining the market and identifying the benchmark brand. The market definition "should depend on the pattern of inter-brand competition and switching" (Ailawadi et al., 2003). Therefore, I start by identifying groups of brands that are competing for the same customers and are regarded as close substitutes. Previous literature has discovered size-based vehicle categorization is at the highest level in the hierarchical structure of the car-purchase decision process (Bauer & Herrmann, 1995). The choice between premium and economical cars is another critical decision, which reflects preferences concerning hedonic properties and functional utility. The automobile industry itself formally distinguishes the premium segment from the economical segment through categorization. In my analysis, I divide the market into six segments based on car size and hedonic nature, which is consistent with extant literature and industry practice (see *J.D. Power and Associates Sales Report*). The automobile category has no private label, and therefore benchmark brand selection is an important issue. Three feasible baselines are lowest price brand, smallest share brand and lowest revenue brand. Price is often used by consumers as an extrinsic cue to judge product quality, and product price has been treated as the mirror image of product quality (Curry & Riesz, 1988). High-priced products are perceived to have better quality and higher equity than low-priced products (Dodds, Monroe, & Grewal, 1991; Kamakura & Russell, 1993), therefore lowest price brands are chosen as the benchmark brands in our analysis. The six benchmark brands are Suzuki Swift (compact car segment), Saturn S series (midsize car segment), GM Caprice (large car segment), Acura Integra (premium compact car segment), SAAB 900 (premium midsize car segment) and Pontiac Bonneville (premium large car segment). Revenue premium is measured as the following:

$$\text{Revenue Premium}_{ij} = \text{Volume}_{ij} * \text{Price}_{ij} - \text{Volume}_{lj} * \text{Price}_{lj} \quad (1)$$

Where i: the ith brand; j: the jth car segment; l: the lowest-price brand in the segment.

In order to assess the validity of our brand equity measure, I calculated the Pearson correlation coefficients between our measure and the other possible measures (see Table 2). The results present a similar pattern with the results of Ailawadi et al. (2003). In detail, my measure strongly, but not perfectly correlates with revenue (0.82); my measure highly correlates with revenue premium lagged one year (0.85), indicating the measure is reliable over time; my measure strongly, but not perfectly correlates with revenue premium over the smallest-share model (0.84) and revenue premium over the lowest revenue model (0.83); my measure does not correlate with price premium charged. These results support the assertion that revenue premium over the lowest-price brand is a valid measure of brand equity.

Table 2. Correlations of revenue premium and other measures

Other Measures	Correlations	Ailawadi et al (2003): Local data set
Volume	0.67*	0.62
Volume Premium	0.59*	0.79
Market share	0.67*	0.65
Market share premium	0.59*	0.73
Price premium	-0.21	-.00
Revenue	0.82*	0.89
Revenue premium lagged one year	0.85*	0.96
Revenue premium over lowest revenue brand	0.83*	0.82
Revenue premium over smallest-share brand	0.84*	0.90

* = $p<0.01$.

Table 1 summarizes the descriptive statistics for included car models. Note that all premium segments have negative revenue premium over the lowest price, indicating that for premium cars low price models have high revenue premium due to volume. On the contrary, all economical segments have positive revenue premium for the lowest price, showing that for economical cars high price models have high revenue premium.

4.3 Model

I model revenue premium as a function of country-of-origin variables, manufacturer-of-origin variables and product attribute variables. The data include car models from three regions: Japan, U.S. and Europe. The data have only one Korean brand Hyundai. Since it is difficult to distinguish between the country-of-origin effect and the manufacture origin effect for it, I decided to exclude it from the analysis. According to the descriptive

statistics, the mean prices for American cars are lower than cars from other regions (American: $10801.24; Japanese: $11574.02; European: $23002.68). Thus I choose U.S. cars as a baseline country. The two dummy variables *Japan* and *Europe* represent the revenue premiums of these two regions relative to that of American cars. Manufacturer dummy variables represent the firm image of the car models made by these manufacturers. The data include the economical car models from ten manufacturers (i.e., GM, Ford, Honda, Toyota, Mazda, Nissan, Subaru, Suzuki, Volkswagen and Mitsubishi) and the premium car models from nine manufacturers (i.e. GM, Ford, BMW, Toyota, Honda, Jaguar, Nissan, Mercedes and SAAB). Two well-known car manufacturers VOLVO and Chrysler were not included because car price and sales data are not continuous for them in this time period due to frequent model name changes, company mergers and acquisitions. Also note that many brands are produced by the same manufacturers. For example, Lexus is produced by Toyota, Audi is produced by Volkswagen. I include nine manufacturer dummy variables for the economical car model and eight manufacturer dummy variables for premium cars. The manufacturers with the lowest total revenue premium are selected as baselines. Mitsubishi is the baseline for economical cars, and SAAB is the baseline for premium cars. I include three product attributes *length*, *wheel base* and *horsepower* as control variables, which proxy for car comfort and performance. The estimated models take the following forms:

$$(\text{RevenuePr emium})_{it} = \overline{\beta}_0 + \mu_i + \beta_1 wheelbase_i + \beta_2 length_i + \beta_3 horsepower_i + \varepsilon_{it} \quad \text{(M1)}$$

$$(\text{RevenuePr emium})_{it} = \overline{\beta}_0 + \mu_i + \beta_1 wheelbase_i + \beta_2 length_i + \beta_3 horsepower_i + \sum_{k=4}^{5} \beta_k * Country_{(k-3)it} + \varepsilon_{it} \quad \text{(M2)}$$

$$(\text{RevenuePr emium})_{it} = \overline{\beta}_0 + \mu_i + \beta_1 wheelbase_i + \beta_2 length_i + \beta_3 horsepower_i + \sum_{k=4}^{l} \beta_k Manufactur er_{(k-5)it} + \varepsilon_{it} \quad \text{(M3)}$$

Where i: the i[th] car model; t: the t[th] year; l: l=12 for economical cars, l=11 for premium cars.

I estimate the regression by pooling time-series and cross-sectional data using a variance component model. Because I do not consider all the car models in the passenger car market (the data only include the car models with both price and sales data from 1990 to 1997), it is appropriate to use a random effects model by treating the intercept as random. The Hausman tests for random effects, provided by the SAS TSCSREG procedure Fuller method, also supports this estimation approach. Thus I represent the intercept as the sum of the mean intercept of the cross-sectional population $\overline{\beta}_0$ and a random variable μ_i. The error variance is decomposed to between-group variance σ_μ and within-group variance σ_ε. For the same car model covariances are assumed identical between disturbances across time.

5. Results

Table 3 summarizes the regression results. For all models, the variance inflation factors are lower than 10, indicating multicollinearity is not a serious problem (Griffiths, Hill, & Judge, 1993).

Table 3. Regressions on revenue premium

		Economical Cars			Premium Cars		
		M1(E)	M2(E)	M3#(E)	M1(P)	M2#(P)	M3(P)
R-Square		0.1284	0.1314	0.1984	0.1189	0.1584	0.1482
ΔR-Square			0.003 (M1->M2)	0.07 (M1->M3)		0.0395 (M1->M2)	0.0293 (M1->M3)
F-value			0.34	1.84**		2.98**	0.52
Intercept		9.12E8* (4.10)	9.78E8* (3.30)	-1.71E8 (-0.26)	-3.49E8* (-2.61)	2.01E7 (0.10)	-6.16E8 (-1.39)
Product Attributes	Length	-9.93E6* (-1.99)	-9.94E6* (-1.99)	-9.54E6** (-1.90)	-9.42E5 (-0.45)	-1.39E6 (-0.67)	-1.38E6 (-0.66)
	Horse power	2.80E6 (1.39)	2.80E6 (1.39)	3.00E6 (1.48)	1.12E6 (1.39)	1.21E6 (1.51)	1.32E6 (1.62)
	Wheel base	-5.83E7* (-3.14)	-5.87E7* (-3.16)	-5.83E7* (-3.13)	5.18E7* (3.63)	4.90E7* (3.42)	4.92E7* (3.27)
Country&	Japan		-9.41E7 (-0.24)			-4.39E8 (-1.43)	
	Europe		-3.25E8 (-0.42)			-6.74E8* (-2.44)	
Manufacturer&	GM			1.01E9 (1.42)			5.72E8 (1.08)
	Ford			1.31E9** (1.78)			4.33E8 (0.74)
	Honda			2.72E9* (3.00)			6.16E8 (0.81)
	Toyota			1.72E9* (2.09)			2.41E8 (0.39)
	Mazda			3.83E8 (0.42)			
	Nissan			9.08E8 (1.00)			-6.28E7 (-0.10)
	Subaru			2.26E8 (0.20)			
	Suzuki			1.71E8 (0.15)			
	Volkswagen			8.07E8 (0.89)			
	BMW						7.67E7 (0.13)
	Jaguar						2.90E8 (0.49)
	Mercedes						-1.36E8 (-0.17)

*= p<0.05, ** = p<0.10, # = final model. The values in parenthesis are t-values.

& baseline country is America. & baseline manufacturer is Mitsubishi for economical cars and SAAB for premium cars.

I use subgroup analysis to test the hypotheses between premium and economical segments. Subgroup analysis is an appropriate technique to test moderation when the moderator is categorical. I begin by estimating a baseline model containing only control variables (i.e., wheelbase, length and horsepower). Then I add country dummy variables to examine country-of-origin effects. Next I add manufacturer dummy variables to the baseline model to test manufacturer-of-origin effects.

The regression results for economical cars are listed from column 3 to column 5 in Table 3. Length and wheelbase have significant effects in the baseline model (Length: β = -9.93E6, $p < 0.05$; Wheel base: β = -5.83E7, $p < 0.05$). Adding country variables does not improve model fit. The change in R-square is not significant from Model 1 to Model 2 and none of the additional variables are significant. The addition of the nine manufacturer dummy variables to the baseline model produces somewhat better results. The overall equation improves on the baseline model (ΔR-square=0.07, $p<0.10$). Thus Model 3 is the preferred model. In Model 3, three manufacturer parameters are significant. (Ford: β = 1.31E9, $p < 0.10$; Honda: β = 2.72E9, $p < 0.05$; Toyota: β = 1.72E9, $p < 0.05$) Thus H1 is supported, which means manufacturer-of-origin is related to brand equity for

economical cars.

The regression results for premium cars are shown from column 6 to column 8 in Table 3. The baseline Model 1 demonstrates that only wheel base has significant positive effect ($\beta = 5.18E7$, $p < 0.05$). Note that for economical segment this effect is negative. Adding country variables produces better model fit. The overall fit is improved over the baseline model (ΔR-square = 0.0395, $p < 0.10$). The addition of the eight manufacturer variables to the baseline model does not improve model fit. And none of the added variables are significant. Thus Model 2 is the preferred model. In Model 2 the European dummy variable has a significant effect upon revenue premium ($\beta = -6.74E8$, $p < 0.05$). Thus H2 is supported, meaning that country-of-origin is related to brand equity for premium cars.

6. Discussion

My intention is to focus on three principal issues: (1) country-of-origin and manufacturer-of-origin contribute in building brand equity; (2) the moderation effect of the product's utilitarian/hedonic property on the relationship and (3); valid measurement of brand equity for product categories that have no private label.

I investigate these issues with 1990's US automobile market data. Following Ailawadi et al. (2003)'s guideline, I establish revenue premium as a viable measurement for brand equity. By revealing the influence of country-of-origin and manufacturer-of-origin on brand equity, I examine the moderation effect of a product's utilitarian/hedonic property. I find that for hedonic products only country-of-origin influences brand equity and for utilitarian products only manufacturer-of-origin impacts brand equity. These results proved to be robust when I selected the smallest share brands or the lowest revenue brands as the benchmark brands. The implication is that managers should adopt different branding strategies for hedonic products and for utilitarian products. More explicitly it is suggested that favorable country image can enhance brand equity of the hedonic products from that country, but for utilitarian products devoting marketing efforts to establish an admired corporate image is generally a more effective way to build brand equity.

Although premium cars have a high price premium, their market share premium is much lower than economical cars. According to the descriptive statistics results, I also find that low price hedonic products have high brand equity while high price utilitarian products have high brand equity. This may suggest there is actually more brand equity in the "middle" of the market where firms can more readily build brand equity. Future research in different product and industry contexts would help determine if this is true in other areas. The result also explains the low correlation of price premium and revenue premium when pooling the data for the hedonic brands and utilitarian brands.

This paper proposed a two-level analysis for brand equity. Due to limited of degrees of freedom, I included only country and firm level. Future research can expand beyond this two-level framework by including predictors at the brand family level. It is expected that family brand image will also make a different impact on individual brand equity for utilitarian products and for hedonic products.

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