

RESEARCH ARTICLE

Going to great lengths in the pursuit of luxury: How longer brand names can enhance the luxury perception of a brand

Abhishek Pathak¹  | Carlos Velasco² | Olivia Petit³ | Gemma Anne Calvert⁴¹School of Business, University of Dundee, UK²Centre for Multisensory Marketing, Department of Marketing, BI Norwegian Business School, Oslo, Norway³Department of Marketing, KEDGE Business School, Marseille, France⁴Nanyang Business School, Nanyang Technological University, Singapore**Correspondence**

Abhishek Pathak, School of Business, University of Dundee, 4 Nethergate, Dundee, UK, DD1 4HN.

Email: a.z.pathak@dundee.ac.uk

Abstract

Brand names are a crucial part of the brand equity and marketing strategy of any company. Research suggests that companies spend considerable time and money to create suitable names for their brands and products. This paper uses the Zipf's law (or Principle of Least Effort) to analyze the perceived luxuriousness of brand names. One of the most robust laws in linguistics, Zipf's law describes the inverse relationship between a word's length and its frequency i.e., the more frequently a word is used in language, the shorter it tends to be. Zipf's law has been applied to many fields of science and in this paper, we provide evidence for the idea that because polysyllabic words (and brand names) are rare in everyday conversation, they are considered as more complex, distant, and abstract and that the use of longer brand names can enhance the perception of how luxurious a brand is (compared with shorter brand names, which are considered to be close, frequent, and concrete to consumers). Our results suggest that shorter names (mono-syllabic) are better suited to basic brands whereas longer names (tri-syllabic or more) are more appropriate for luxury brands.

KEYWORDS

brand names, consumer behavior, length, luxury marketing, perception, sound symbolism, Zipf's law

1 | INTRODUCTION

A brand's name is often the first touchpoint between a consumer and a brand. It is commonly believed that brand naming is one of the most important decisions undertaken by brand consultants and marketers (Klink & Wu, 2014). Research shows that consumers perceive a brand more positively if the brand name (or product) itself connotes product-related information (for e.g., about product features, size, etc.; Argo, Popa, & Smith, 2010). As brand names are incorporated within most languages, they also form an important part of contemporary linguistics (Clankie, 2013; Usunier & Shaner, 2002) and in that sense follow many linguistic laws and principles. One of the most well-known laws in linguistics

is Zipf's law (1935) (the principle of least effort), which shows that the length of a word is inversely proportional to its frequency of usage (i.e. shorter words are more frequent in languages than longer words). Since its first publication, Zipf's law of least effort has been shown to be relevant not only for linguistics, but also for cities (Gabaix, 1999), physics (Newman, 2005), biology (Luscombe, Qian, Zhang, Johnson, & Gerstein, 2002), animal behavior (Suzuki, Buck, & Tyack, 2005), animal biology (Palya, 1985), experimental biology (Hoyt & Taylor, 1981), psycholinguistics (Brent, 1997), brain imaging (Reichle, Carpenter, & Just, 2000), digital TV broadcasting (Eriksson, Rahman, Fraile, & Sjöström, 2013), user generated passwords (Wang, Cheng, Wang, Huang, & Jian, 2017), market shares (Riemer, Mallik, & Sudharshan, 2002), and income

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distribution of companies (Okuyama, Takayasu, & Takayasu, 1999), just to name a few.

Zipf's law suggests that because languages are a tool for information sharing and communication, people tend to use the information flow that requires the least possible effort (Tsonis, Schultz, & Tsonis, 1997). The manifestation of Zipf's law may also be observed in the context of popular names, whereby users tend to shorten the names of people they see or meet frequently or work with (i.e. the use of nicknames, for e.g., Nicolson becomes Nick, Elizabeth becomes Beth or Liz), in the case of familiar brands (for e.g., Coca-Cola becomes Coke; Kul, 2007) and popular phrases (for e.g., info for information, Kanwal, Smith, Culbertson, & Kirby, 2017), as well as in the use of acronyms (for e.g., FYI, ASAP, TGIF, etc.; Danesi, 2018: p 260-261).

There is also research (though limited and scarce at the moment) which shows that "form to referent" meaning of an unknown (or hypothetical) word may also follows Zipf's law (Degen, Franke, & Jager, 2013). For example, Kanwal et al. (2017) showed that participants associate shorter names with high frequency objects (i.e. frequency of exposure to the object) and longer names with low frequency objects. Furthermore, when communication pressure increases (i.e. when participants have to respond faster under time constraints), this association is strengthened (Kanwal et al., 2017). Similarly, Degen et al. (2013) showed that participants perceive shorter hypothetical words (for e.g., RAV) as less costly compared with longer hypothetical words (for e.g., XABIKO).

In summary, people use shorter words and names for objects (or people) they see frequently (for e.g. basic brands or brands used frequently by consumers) and longer words and names for objects used rarely, or even abstract concepts. In the present research, we take this principle to the context of luxury branding. Luxury brands, as compared with basic brands, tend to be considered costly, rare, and unique (Ko, Costello, & Taylor, 2017; Velasco & Spence, 2019) and in that sense, a luxury brand may signify something that is infrequent or uncommon. Building on this idea, in the present research we inquire (on the basis of the research on Zipf's law), whether people would associate shorter and longer brand names differently with the concept of luxury. Is there a link between brand name length and its luxury appeal? Can an increased brand name length enhance its perceived luxuriousness? This paper explores these questions in four studies. In particular, we hypothesized that people would associate (explicitly and implicitly) shorter (vs. longer) brand names as more appropriate for basic (vs luxury) brands. To test the hypothesis, we created three types of hypothetical brand names (HBNs) that differed only in their syllabic length: (a) mono-syllabic (HBN1S), (b) bi-syllabic (HBN2S), and (c) tri-syllabic (HBN3S) HBNs using the same set of consonants. In Study 1, we tested the perception of luxury of HBNs using explicit self-reported measures and in Study 2, we tested the same using an implicit semantic priming reaction time task. In Study 3, we explored the optimum brand name length and show that there is no increase in luxury perception, beyond a tri-syllabic name length. In Study 4, we extend these result across product categories, from basic brands to three levels of luxury

brands, i.e., accessible, intermediate, and inaccessible luxury brands (Alleres, 1990).

All brand elements help in building a brand personality and a brand image (Aaker, 1997) and because brand name is perceived as the most visible of brand elements (De Chernatony, 2010), through this paper, we hope to improve the understanding of the link between a brand name and the perception of brand luxury. To our knowledge, this paper is the first to show that brand name length can imbue (or enhance) the perception of luxury of a brand (see Table 1, for an overview of the research in this field, and our incremental contribution).

2 | PRE-TEST

We created 30 HBN groups which differed only in their syllabic length (one, two, or three syllables), for e.g., Balm (pronounced as b₁l_m; see the International Phonetic Association (IPA) chart for IPA notations), Balma (b₁l_ma:) and Balama (b₁l_ma:m_a) (Table 2). We tried to create as many HBN groups possible from the same set of consonants (excluding names that may have an alternative semantic meaning, for e.g., Korn) by adding different vowels to the chosen consonants (Table 2). Because sound symbolic attributes of many phonemes have been reported in the literature (linking them to various product attributes), we used a wide variety of consonants (/b/, /l/, /m/, /n/, /d/, /r/, /k/, /t/, and /s/) and vowel sounds (a, e, i, o, and u) to minimize the sound symbolic effect phonemes have on brand perception.

The HBNs were then converted to auditory format [auditory stimuli have been used in similar studies for e.g., Klink and Wu (2014)], in a female voice, using the Google translate speech (HBNs were written in the Hindi script and then converted to the audio format). This was done mainly because in the Hindi language, there are no differences between pronunciation and orthography. For e.g., the words *cell* and *sell* may have the same pronunciation in the English, but a different orthography, but in the Hindi language, if the words have the same pronunciation they will have the same orthography or script (for e.g., सेल as well). To rule out the resemblance of HBNs to real/existing brands, a pre-test was conducted with 60 American participants recruited from Amazon Mechanical Turk (M Turk; Paolacci & Chandler, 2014). Participants listened to the HBNs and rated whether they felt that HBNs were similar to any brand already known to them (on a Likert scale from 1 = Not at all similar to 7 = Very similar). The pre-test indicated that the HBNs did not bear much similarity with the existing or real brands known to participants, HBN1S: *Item Mean* = 2.53, *SD* = 1.84, α = .939; HBN2S: *Item Mean* = 2.38, *SD* = 1.70, α = .942; HBN3S: *Item Mean* = 2.41, *SD* = 1.74, α = .945.

3 | STUDY 1

3.1 | Participants

A total of 99 participants between the age of 22-57 years completed the study (M_{age} = 35.87 years, *SD* = 9.25, *Males* = 48, *Females* = 51). All

TABLE 1 Overview of the research in the field

Study	Focus of the research	Main findings
<i>Word length, frequency, and word recognition:</i>		
Zipf (1949)	Explore the relationship between a words frequency and its length	Principle of least effort; i.e., speakers in all languages tend to shorten the words for an ease of communication (e.g., Mathematics to maths, Airplane to plane)
Crossley et al. (2013)	Explore the relationship between word length and frequency	Shows an application of the reverse of the Zipfs' law i.e., a words length is a good proxy for its frequency
Haiman (1980)	Explore the relationship between word length and attributes	Across languages, length of a word is increased to enhance its superlative qualities (e.g., long, longer, longest)
Adi-Bensaid and Most (2012); Aichert and Ziegler (2005)	Syllables and word recognition	Importance of syllables in the understanding and recognition of a word
<i>Word length, perception, and attributes:</i>		
Berman (1977); Klamer (2002); Nettelbladt (1982); Perry et al. (2006); Shi (1988); Wauquier and Yamaguchi (2011); De Klerk and Bosch (1997)	Explore the optimal length of words across different languages	Preference for short words and nick names in many languages
Coltheart, Davelaar, and Jonasson (1977); Jalbert et al. (2011); Jalbert et al. (2011)	Explore the reaction times and perception of short (vs. long) words	Faster reaction times for short words (vs. long words); Attributed to the large number of linguistic neighborhood of short words (because of their higher frequency and usage)
Lynott and Connell (2013)	Explore the relationship between word length and attributes	Long words are perceived as more distinctive and unique (compared with short words)
Jarvis and Daller (2013); Samson and Pillon (2004); Spreen and Schulz (1966)	Explore the relationship between word length and attributes	Short words are perceived as more concrete, more familiar, and highly image-able and at the same time less distinctive
Degen et al. (2013)	Explore the reverse relationship between word length and attributes	Three main findings (1) form to referent meaning exists i.e. short words will be perceived as more frequent, (2) relationship holds true even for novel or hypothetical words, (3) short hypothetical words are perceived to be less costly (compared to longer hypothetical words)
Lewis and Frank (2016); Piantadosi et al. (2011)	Explore the relationship between word length and attributes	Long words (even hypothetical words) are perceived as more complex and abstract whereas short words are perceived as more concrete
<i>Name length, perception and attributes:</i>		
Brown (1958)	Explore the relationship between name length and frequency	Suggested the frequency-brevity principle i.e., a names' frequency can be judged from its length alone, and shorter names tend to be more frequent than longer names
Mehrabian and Piercy (1993)	Explore the relationship between name length and attributes	Short names are perceived to be more approachable (e.g., popular and cheerful); whereas long names are perceived to be of higher social status, success, and position
Freedman and Jurafsky (2011); Jurafsky (2014)	Explore the relationship between name length, attributes, and willingness to pay	Longer words (or dish names) in a menu (e.g., chef's special) are perceived as more expensive, more elaborate, and complex (compared with small name length menu items). Also showed that consumers are willing to pay more for menu items having longer names
Kanwal et al. (2017)	Explore the reverse relationship between name length and frequency	Showed that short names are perceived to be more appropriate for more frequent objects (when compared with longer names).
<i>Brands, brand names, and luxury perception:</i>		

(Continues)

TABLE 1 (Continued)

Study	Focus of the research	Main findings
Pathak et al. (2017)	Explore relationship between brand name and its luxury perception	Showed that the use of late acquired (vs. early acquired) phonemes in a brand name enhances its luxury appeal
Ko et al. (2017)	Explore the relationship between luxury (vs. basic) brands and abstractness	Basic brands are more frequent and ubiquitous whereas luxury brands are more abstract, costly, rare, and unique
Hansen and Wänke (2011)	Explore the relationship between luxury (vs. basic) brands, rarity, uniqueness, and abstractness	Showed the luxury brands (vs. basic brands) to be more abstract, rare, infrequent, unique, and farther (compared with basic bands)
Current study	Explore relationship between brand name length and its luxury perception	Perhaps the first paper to show the linkage between a brand names length with its luxury appeal; Applies Zipf's principle of least effort to the brand naming process and shows that a reverse association between a names length and its luxury (vs. basic) appeal exists (i.e. short hypothetical names with basic appeal vs. long hypothetical names with luxury appeal); Explores the optimum name length (and thereby luxury appeal) by showing that luxury perception is enhanced up to tri-syllabic lengths (beyond which any incremental increase may not be beneficial)

participants were recruited from the USA using M Turk. One participant who had provided the same Likert response to all questions, was excluded from the analysis. The data from the remaining 98 participants were analyzed (*Final M_{age}* = 35.95 years, *SD* = 9.27, *Males* = 47, *Females* = 51). Seven subjects knew an additional foreign language other than English (these languages were Japanese, Tagalog, Russian, Ukrainian, Hebrew, Cantonese, Spanish (two participants), and French; participants' proficiency in these languages was not asked). Participants were instructed to wear headphones throughout the study and some instructions were given orally to check if they were using the headphones.

3.2 | Procedure and design

All studies reported were designed and managed using Inquisit 5 software (from millisecond.com) and comprised three blocks with a short break in between. In each block, participants listened to 84 HBNs (i.e., 28 HBN groups chosen from Table 2 at random) and rated whether the HBN was appropriate for a basic brand or a luxury brand (on a Likert scale, 1 = Extremely basic brand name & 11 = Extremely luxury brand name; HBNs was continuously played on a loop till the participant provided a response; see Appendix 1 for the instructions given to participants).

3.3 | Results and discussion

A one-way repeated measures ANOVA was performed to analyze differences between the participant ratings for the three HBN groups. Results reveal that participants rated the mono-syllabic HBNs (HBN1S; *Mean* = 3.74, *SD* = 1.48) as more appropriate for the

basic brand names than the bi-syllabic HBNs (HBN2S; *Mean* = 5.30, *SD* = 1.00). The tri-syllabic HBNs (HBN3S) were rated as the most appropriate for the luxury brand names (*Mean* = 6.96, *SD* = 1.39), $F(2, 96) = 110.02$, $p < .001$, $\eta_p^2 = 0.69$ (Figure 1).

Paired *t* tests revealed significant differences between the ratings of the mono-syllabic vs. the bi-syllabic HBNs ($t(97) = 14.65$, $p < .001$, $d = 1.47$), bi-syllabic vs. tri-syllabic HBNs ($t(97) = 12.23$, $p < .001$, $d = 1.23$), and mono-syllabic vs. tri-syllabic HBNs ($t(97) = 14.41$, $p < .001$, $d = 1.45$). We also asked participants about the perceived length of the brand names; most participants rated the mono-syllabic HBNs as shortest and the tri-syllabic HBNs as longest, HBN1S (*Mean*_{HBN1S} = 1.85, *SD* = 0.72) vs. HBN2S (*Mean*_{HBN2S} = 3.07, *SD* = 0.74), $t(97) = 20.88$, $p < .001$, $d = 2.11$; HBN2S vs. HBN3S (*Mean*_{HBN3S} = 4.90, *SD* = 0.86), $t(97) = 20.99$, $p < .001$, $d = 2.12$ and HBN1S vs. HBN3S ($t(97) = 25.61$, $p < .001$, $d = 2.59$).

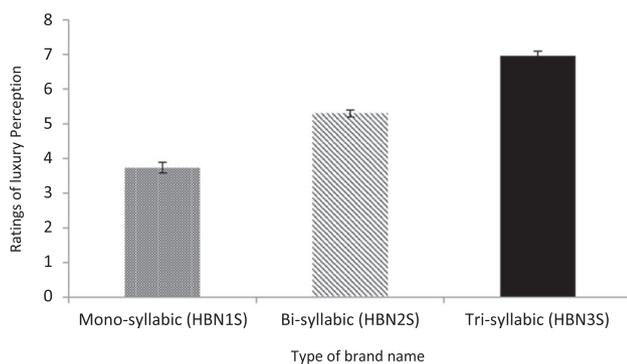
Results of Study 1 provide support for our hypothesis that longer names are more suited towards luxury brands (or a premium product) whereas shorter brand names are more suited to basic brands (or a basic product). Results suggest that as the brand name length is increased from a mono-syllabic to a bi-syllabic or a tri-syllabic name, the perception of the luxuriousness of the brand name also increases.

In Study 1, we used an explicit, self-reported measure, whereas in the next study we utilized an implicit measure (in particular, a semantic priming task) to determine the extent to which short and long brand names would be implicitly associated with basic or luxury brand categories. Research suggests that implicit measures may be less affected by explicit processes (for e.g., self-reported ratings on a Likert scale or open ended responses) (De Houwer, Teige-Mocigemba, Spruyt, & Moors, 2009) and have been used effectively by

TABLE 2 HBNs used in studies 1 & 2

HBN1S	HBN2S	HBN3S
Balm	Balma	Balama
Blim	Bolim	Bolima
Boond	Boonad	Boonado
Boolm	Boolma	Boolama
Deern	Deerno	Deerono
Kron	Karon	Karonia
Loomb	Loomba	Loomaba
Molb	Molib	Moliba
Doonb	Doonab	Doonabo
Mlip	Molip	Molipa
Neerd	Neerdo	Neerodo
Dorn	Dorna	Dorana
Moolb	Moolba	Moolaba
Noobd	Noobad	Noobado
Nord	Norda	Norada
Reend	Reenod	Reenoda
Nork	Narok	Narokia
Plim	Polim	Polima
Rond	Ronda	Ronada
Rokd	Rokda	Rokada
Rnok	Ranok	Ranokia
Plit	Palit	Palita
Plat	Polat	Polata
Nrok	Norka	Noraka
Rooks	Rookso	Rookoso
Soork	Soorko	Sooroko
Kurs	Kurso	Kuroso
Pems	Pemos	Pemosa
Mosp	Mosep	Mosepa
Spem	Sopem	Sopema

Abbreviations: HBN1S, hypothetical brand name (mono-syllabic); HBN2S, hypothetical brand name (bi-syllabic); HBN3S, hypothetical brand name (tri-syllabic).

**FIGURE 1** Luxury perception of brand names based on the syllabic length. (Error bars show the standard error of the mean)

marketing scholars to investigate the automatic processing of brands (De Houwer et al., 2009; Krishnan & Shapiro, 1996; Yoon, Cole, & Lee, 2009). Explicit measures (for e.g., self-reported ratings) may measure deliberative behavior better than implicit measures (for e.g., reaction time tasks) which are more effective at predicting spontaneous or automatic behavior (Frieze, Wänke, & Plessner, 2006; Pogacar, Kouril, Carpenter, & Kellaris, 2018). Because phonetic effects and sound symbolism are believed to be spontaneous and automatic (Parise & Pavani, 2011; Pogacar et al., 2018; Shrum, Lowrey, Luna, Lerman, & Liu, 2012), we adopted an implicit approach in Study 2.

Luxury is a multidimensional concept (Chandon, Laurent, & Valette-Florence, 2016) with mass-tige brands redefining the concept of luxury to affordable luxury (Chandon et al., 2016). It is believed that people buy luxury products because of four broad motivations: financial, functional, individual, and social (Wiedmann, Hennigs, & Siebels, 2009). Some of the reasons (among many) for luxury consumption includes pride, snobbery, social superiority, and narcissism (McFerran, Aquino, & Tracy, 2014) or traits for which implicit measures can be more insightful than explicit measures. Although we are not measuring attitudes towards luxury consumption per se in the current paper, implicit measures have been used in the past by researchers working in the field of luxury consumption (for e.g., Hansen & Wänke, 2011) to study phonological form to meaning relationships (for e.g., word length as it relates to the concept of luxury). This further bolsters the decision to use an implicit semantic reaction time task in Study 2 to explore the relationship between word-syllabic length and the perception of luxury.

4 | STUDY 2

4.1 | Method and material

4.1.1 | Participants

A total of 98 American participants between the ages of 20–60 years were recruited using Amazon Mechanical Turk ($N = 98$, $M_{age} = 37.93$ years; $SD = 9.89$, $Males = 48$, $Females = 50$).

4.1.2 | Design and procedure

We used a semantic priming paradigm [the experimental design followed was similar to Labroo, Dhar, and Schwarz (2007) and Pathak, Calvert, and Velasco (2017)]. In this paradigm, if two stimuli (for e.g., A & B) are semantically congruent (or incongruent), the response time it takes to identify stimulus B, when stimuli A is presented immediately beforehand, will be faster (or slower in cases of incongruent stimuli). In terms of the experimental paradigm, HBN1S, HBN2S, and HBN3S were used as primes and the words (basic and luxury) acted as visual targets. As we hypothesized that brand names will act as primes, we expected an interaction between the prime and the target words [measured as response latencies in

milliseconds (ms)]. Specifically, a 3 [type of brand: Mono-syllabic (HBN1S), bi-syllabic (HBN2S), and tri-syllabic (HBN3S)] x 2 (target word: Basic and luxury) repeated-measures experimental design was used (Figure 2).

As in Study 1, 28 HBN groups were selected (from Table 2) and each brand name was paired with both the target words, making a total of 168 trials per block. Each participant was presented with two blocks of trials (i.e. a total of 336 trials per participant). Each trial consisted of the presentation of an auditory prime (HBNs) and a visual target (the words “basic” or “luxury”) displayed in the center of the screen (Figure 2). Participants were instructed to press the “E” key on the computer keyboard when the word “luxury” appeared on the screen and the “I” key when the word “basic” appeared (the key mapping was counterbalanced across participants).

Before the start of the first block, participants were presented with a practice block of 15 trials during which a generic sound “baba” was presented before target words “basic” or “luxury” to make the practice block appear as close to the real test. The practice block aimed to train the participants to associate the key press (E or I) with the attributes shown on top of the screen. An orange rectangle flashed around the words “luxury or basic” for 800 ms and the participants were told to respond before the rectangle disappeared. The rectangle did not have any association with the response latencies, but served to cue participants to respond faster. If a subject responded after 1200 ms on three consecutive trials, a “too slow” message flashed in red at the bottom of the screen for 500 ms, which reminded the participants to respond faster.

4.2 | Results and discussion

Only the correct response latencies falling between 200 ms and within 2 SD of the mean were analyzed. Response latencies were aggregated as a function of type of brand (HBN1S, HLN2S, and HLN3S) and target word (basic and luxury) for the analyses (Table 3).

The main effect of HBNs was found to be significant (the Greenhouse-Geisser correction was applied whenever sphericity criterion was violated), $F(1.52, 147.43) = 128.38, p < .001, \eta_p^2 = 0.57$; the main effect of target word was not significant, $F(1, 97) = 2.99, p = .87, \eta_p^2 = 0.03$; of most interest was the interaction, as it would uncover the relevance of the type of brand as a prime on the target word. The interaction of the brand name and target word was also significant, $F(1.87, 181.13) = 4.38, p = .016, \eta_p^2 = 0.043$ (Table 3).

Tukey HSD post-hoc comparisons revealed that participants responded fastest to HBN1S, followed by HLN2S and slowest to HLN3S ($p < .01$ for all comparisons). As for the interaction term, two independent ANOVAs (one for each target word) revealed that participants responded similarly to both the target words; for the

TABLE 3 Response latencies in Study 2

Prime stimulus	Target words			
	Basic		Luxury	
	Mean	SD	Mean	SD
HBN1S (Mono-syllabic)	432.80	63.09	441.65	59.40
HBN2S (Bi-syllabic)	442.12	59.14	444.01	61.17
HBN3S (Tri-syllabic)	465.65	57.58	464.94	55.92

target word “basic,” $F(1.81, 175.53) = 84.38, p < .001, \eta_p^2 = 0.465$ ($p < .01$ for all Tukey HSD post hoc comparisons); for the target word “luxury,” $F(2, 194) = 58.48, p < .001, \eta_p^2 = 0.376$ ($p < .01$ for all Tukey HSD post hoc comparisons, except between HBN1S & HBN2S).

The results of Study 2 show that implicitly (or at a subconscious level) participants associate shorter brand names (HBN1S) with basic brands and longer brand names (HLN3S) with luxury brands. We also found that participants are quicker to respond to shorter brand names (as compared to longer brand names), which is consistent with previous results [i.e. faster response latencies for more frequent words; Gardner, Rothkopf, Lapan, and Lafferty (1987)]. The results for HBN2S are ambiguous and are not in line with our prediction (as the incongruent mean for response latency < congruent mean for response latency). However, latencies for HBN1S and HBN3S support our hypothesis. If we simply compare mono and tri-syllabic names in two-way ANOVA (or in this model also) then the interaction of brand name (mono vs tri) and target word (basic vs luxury) is significant, which suggests that tri-syllabic names enhance the perception of luxury whereas mono-syllabic names are more indicative of basic brands, but the same cannot be said for the bi-syllabic brand names used in this study.

5 | STUDY 3

In Studies 1 and 2 we have used mono, bi, and tri-syllabic brand names and results indicate that, as the length of a name increase, so does the perception of brand luxury. Does this mean that the addition of extra syllables will continue to enhance the perceived luxuriousness of a brand? (e.g., four, five and six syllabic names). Or, is there a boundary condition in syllabic length beyond which the HBNs will not sound luxurious but may become inappropriate (or even ridiculous) in the context of a brand name? This is supported by the fact that among the 30 top luxury brands [Table 1 of Sung, Choi, Ahn, and Song (2015)], only one brand is four-syllabic (Lamborghini), whereas four other brands in this table (i.e., Dolce & Gabbana, Polo Ralph Lauren, Saks Fifth Avenue and Tiffany & Co.), which employ more than four syllables, actually comprise of either two words or



FIGURE 2 A typical trial used in Study 2

two names (and not a single word). The objective of Study 3, is to explore how luxury perception changes as a function of even longer brand names and to test whether there may be boundary conditions (e.g., ceiling effect) in polysyllabic names in terms of luxury perception.

We created 30 additional HBNs using the same set of consonants (as reported in Table 2) but their syllabic lengths were increased using vowels [e.g., Norakate (HBN4S), Norakatemo (HBN5S), and Norakatemoli (HBN6S); see Appendix 2 for all the HBNs created]. The HBNs were then converted to an auditory format. The created HBNs, did not bear much similarity with the existing or real brands known to participants, HBN4S: *Item Mean* = 3.73, *SD* = 2.72, $\alpha = .955$; HBN5S: *Item Mean* = 3.60, *SD* = 2.68, $\alpha = .957$; HBN6S: *Item Mean* = 3.49, *SD* = 2.66, $\alpha = .959$.

5.1 | Participants

A total of 71 participants between the age of 21–62 years completed the study ($M_{age} = 36.00$ years, $SD = 9.23$, *Males* = 46, *Females* = 25). All participants were recruited from the USA using M Turk. Six respondents knew an additional foreign language other than English (Arabic, Vietnamese, Japanese, and Spanish; three participants in total).

5.2 | Procedure and design

All instructions remained the same as in Study 1. Participants rated 60 HBNs once (i.e., 10 HBNs chosen from each of the six syllabic groups) in two blocks of trials with a short break in between, while the HBN was continuously played on a loop till a response was provided.

5.3 | Results and discussion

A one-way repeated measures ANOVA was performed to analyze the differences between the participant ratings for the six HBN groups. Results reveal that participants rated the mono-syllabic HBNs (HBN1S) (*Mean* = 3.65, *SD* = 1.51) as more appropriate for the basic brand names than the bi-syllabic HBNs (HBN2S; *Mean* = 4.64, *SD* = 1.28) or the tri-syllabic HBNs (HBN3S) (*Mean* = 5.74, *SD* = 1.01). The luxury perception ratings for other HBNs are, HBN4S (*Mean* = 5.94, *SD* = 1.29); HBN5S (*Mean* = 6.04, *SD* = 1.51); HBN6S (*Mean* = 6.12, *SD* = 1.74) and were significantly different from each other, $F(1.51, 105.43) = 51.70$, $p < .001$, $\eta_p^2 = 0.43$ (Figure 3).

Paired sample *t* tests revealed significant differences between the ratings of the HBN1S vs HBN2S, ($t(70) = 8.11$, $p < .001$, $d = .96$), HBN2S vs. HBN3 ($t(70) = 9.48$, $p < .001$, $d = 1.13$) and HBN1S vs. HBN3S ($t(70) = 12.52$, $p < .001$, $d = 1.49$). Paired comparisons also revealed significant differences between HBN1S and HBN2S with HBN4S, HBN5S, and HBN6S (i.e. differences existed only because of the HBN1S, HBN2S, and HBN3S); whereas no differences were observed between HBN3S, HBN4S, HBN5S and HBN6S (all $ps > .08$). Results of Study 3 indicate that three (or perhaps up to four) syllabic

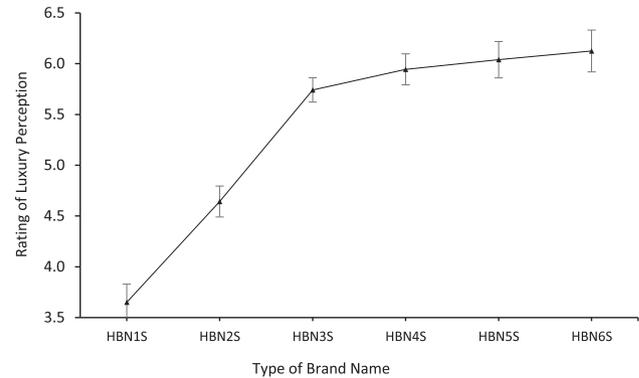


FIGURE 3 Luxury perception of brand names (HBN1S to HBN6S). (Error bars show the standard error of the mean)

length in an HBN can enhance its luxury perception, but any syllabic increase after that may not benefit the brand name in terms of enhancing its luxury perception (beyond what is achieved in a tri-syllabic name). These findings find support in the literature (e.g., Usunier & Shaner, 2002 advise that brand names should not exceed beyond three to four syllables, and preferably should have a CV-CV structure, for the ease of pronunciation).

6 | STUDY 4

In studies 1–3, we asked participants to rate the luxury dimension of an HBN on a Likert scale, but in real life consumers do not necessarily agree what the term “luxury” connotes (Ko et al., 2017). Research also suggests that luxury perception is very personal and that for most consumers, basic vs. luxury dimensions exist on the same continuum, with each having his/her own perception of luxury (Tynan, McKechnie, & Chhuon, 2010, e.g., a basic car model may be a luxury for one consumer, whereas for another that may not be the case). With this in mind, the aims of Study 4 were twofold: (a) To allow participants to choose product categories for HBNs (instead of ratings) (e.g., soft drink, luxury car) (b) To check the effect of product category (ies) (chosen from within the hierarchy of luxury brands) on the luxury perception (it will be interesting to see how the placement of a product on the luxury-basic continuum affects the selection of its brand name).

6.1 | Methodology

6.1.1 | Participants

A total of 75 new participants (who did not participate in Study 3) completed the study; two participants could guess the hypothesis to a certain extent and were excluded from the final analysis. The remaining 73 participants were aged between 26 and 72 years of age ($M_{age} = 42.42$ years, $SD = 11.38$, *Males* = 36, *Females* = 37) and were recruited from the USA using M Turk. Eight participants knew an additional foreign language other than English (Tagalog, French, Arabic, Western Armenian, Mandarin, and Spanish; for four participants).

6.1.2 | Design and procedure

We selected four types of products from within luxury brands, that varied in luxury (chosen from the hierarchy of luxury brands; Alleres, 1990; Sung et al., 2015), i.e. basic brands (e.g., chips, noodles), accessible luxury brands (e.g., unique perfume, premium hand bag), intermediate luxury brands (e.g., luxury car, very high quality watch) and inaccessible luxury brands (e.g., private jet, yacht) (see Appendix 3 for all product categories). Participants listened to 60 HBNs at random in one block (10 HBNs each from HBN1S to HBN6S) and were asked to choose a minimum of three product categories (and maximum as many as they liked) for each HBN, which they thought were the best product categories for the HBN played.

6.2 | Results and discussion

A Friedman test was carried out to compare the differences between the numbers of categories chosen by participants across various HBNs and results are reported below for each of the four categories.

6.2.1 | Basic brands

A significant difference was observed between all HBNs, $\chi^2(5) = 107.95$, $p < .001$, Kendall's $w = 0.30$. Dunn-Bonferroni post hoc tests revealed significant differences between HBN1S, HBN2S, and HBN3S; between HBN1S and HBN2S with HBN4S, HBN5S, and HBN6S, whereas no differences were observed between HBN3S,

HBN4S, HBN5S, and HBN6S (similar to results of Study 3; see Figure 4).

6.2.2 | Accessible luxury brands

A significant difference was observed between all HBNs, $\chi^2(5) = 37.21$, $p < .001$, Kendall's $w = 0.10$. Dunn-Bonferroni post hoc tests showed that there were significant differences only between HBN1S on the one hand, and HBN3S, HBN4S, HBN5S, and HBN6S, on the other; whereas no differences were found between all other HBNs (see Figure 4).

6.2.3 | Intermediate luxury brands

A significant difference was found between all HBNs, $\chi^2(5) = 56.34$, $p < .001$, Kendall's $w = 0.15$. Dunn-Bonferroni post hoc tests showed that there were significant differences between HBN1S on the one hand, and HBN3S, HBN4S, HBN5S, and HBN6S, on the other; and between HBN2S and HBN4S, and HBN4S and HBN6S; whereas no differences were found between other HBNs (see Figure 4).

6.2.4 | Inaccessible luxury brands

A significant difference was found between all HBNs, $\chi^2(5) = 29.55$, $p < .001$, Kendall's $w = 0.08$. Dunn-Bonferroni post hoc tests showed

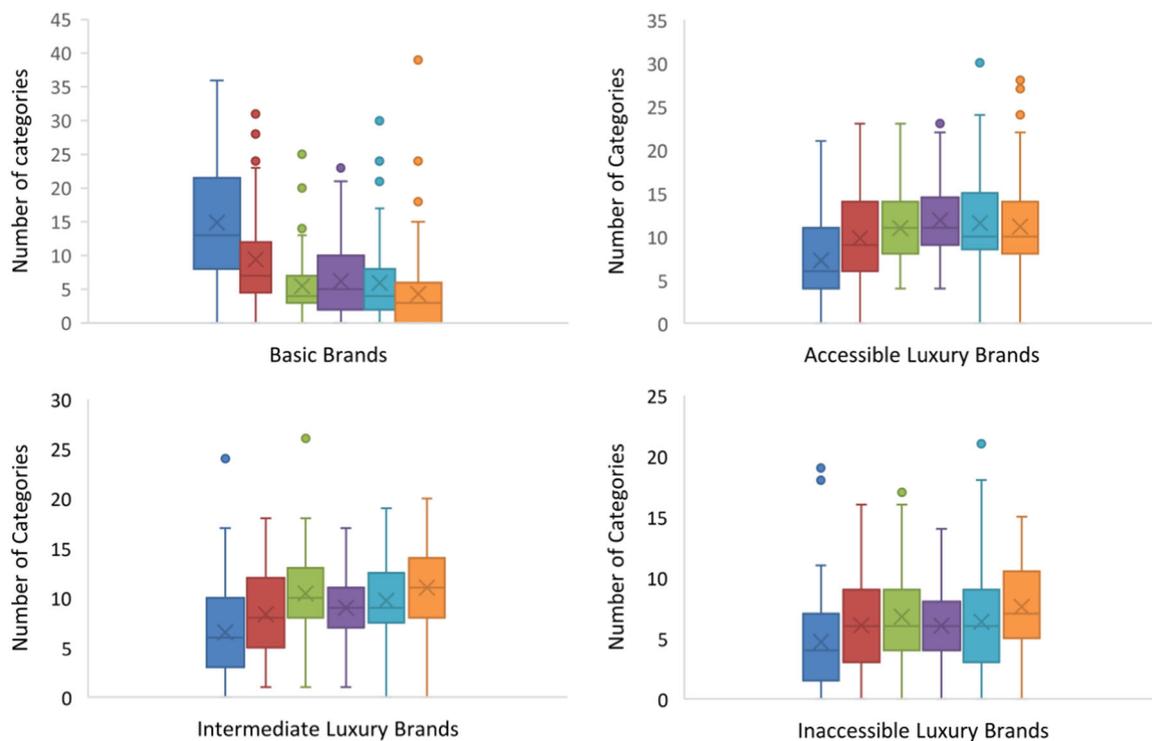


FIGURE 4 Luxury perception as revealed by product categories chosen in Study 4. (Boxplots represent HBN1S to HBN6S sequentially from left to right in each figure; box shows the range from 25/75-percentile; horizontal line within the box shows the median; box above the median shows third quartile - median; box below the median shows median - first quartile and dots represents the outliers) [Color figure can be viewed at wileyonlinelibrary.com]

that there were significant differences only between HBN1S and HBN3S and between HBN1S and HBN6S (see Figure 4).

Results indicate that differences exist mostly due to HBN1S, HBN2S, and HBN3S; there exists a clear ambiguity in the perception of luxury in HBN4S, HBN5S, and HBN6S. Differences perceived are clearer in the basic, accessible luxury, and intermediate luxury categories (in the same order), but are most ambiguous for the inaccessible luxury category [which is understandable given that participants or laymen may not necessarily be familiar with these brands or product categories (e.g., private jet, yacht)]. Results of Study 4 are in line with the other studies that we present and show that HBN1S are best suited for basic brands and HBN3S are best suited for luxury brands. Though the luxury perception of HBN4S, HBN5S, and HBN6S match with each other, there are no statistical differences between these and the HBN3S, which makes, potentially, tri-syllabic names a better choice, given the difficulty in pronouncing and creating longer polysyllabic names (> 4 syllables). Here, though, we acknowledge a limitation, that is, due to experimental control and rigidity, we used only CV-CV-CV structure (e.g., Co-ca-co-la), whereas for many real brands, polysyllabic names can be created with many other permutations and which may sound complex and different (e.g., Lam-bor-ghi-ni, has a CVC-CVC-CV-CV structure). How such novel polysyllabic names will be matched to different product categories (or brands), may not be clear from the present study.

7 | GENERAL DISCUSSION

One of the most well-known and robust laws in linguistics is Zipf's Principle of Least Effort (Saichev, Malevergne, & Sornette, 2010) which predicts the inverse relationship between a word's length and its frequency in conversation (or in the lexicon). The law applies because of the dual pressure to communicate most effectively and most efficiently, which leads people to shorten frequent or common words (or names). Because of the need for efficient communication, we are surrounded by shorter words (or names or nick names) to such an extent that research suggests that top 92 of the 100 most frequent words appearing in the Corpus of American English (COCA)¹ are mono-syllabic (Oxforddictionaries.com, 2018). It is reported that in the English language, 71.5% of the words are monosyllabic, 19.4% are bi-syllabic and tri-syllabic or poly-syllabic words account for just 6.8% and 2.3% of the total words, respectively (Gitt, 2006: p 201). This is true not only for English, but for other languages also (for e.g., English, German, and Greek); (Gitt, 2006). Similarly, the top 25 of the most frequently used verbs and adjectives are all monosyllabic (Oxforddictionaries.com, 2018). This preference for shorter words is found in a variety of languages, for e.g., English &

Hebrew (Berman, 1977); Indonesian (Klamer, 2002); English & Swedish (Nettelbladt, 1982); Mandarin and Cantonese (Perry, Kan, Matthews, & Wong, 2006); English and other languages (Shi, 1988); French (Wauquier & Yamaguchi, 2011) and nicknames (De Klerk & Bosch, 1997). The syllable is supposed to be the most relevant sub lexical unit in the recognition and production of a word (Adi-Bensaid & Most, 2012; Aichert & Ziegler, 2005) but only a few studies have investigated word-length effects (i.e. the number of syllables in brand names) on speech perception (Adi-Bensaid & Most, 2012), not to mention the perception of the brand name. To address this gap, in the current paper, we hypothesized that shorter brand names will be more suited to basic brands and longer brand names for luxury brands.

In Study 1, we show that as the syllabic length of a brand name increases, so does its luxurious perception and in Study 2, we provide evidence for the findings by using an implicit semantic priming approach, which suggests an automatic association behind the results. In Study 2, we also found that participants are faster to respond to shorter names; the reason for the faster response latencies can be attributed to the fact that shorter words are more frequent and have a higher number of orthographic and phonological neighbors [Coltheart, Davelaar, & Jonasson; Jalbert, Neath, and Surprenant (2011); Jalbert, Neath, Bireta, and Surprenant (2011) and see Barton, Hanif, Eklinder Björnström, and Hills (2014) for a review]. In Study 3, we explored the optimum brand name length to maximize the luxury appeal and tested the perception of HBN1S to HBN6S. Results revealed that although the luxury perception of HBN4S, HBN5S, and HBN6S was significantly higher than mono and bi-syllabic names, it is not higher than tri-syllabic names. Because of this we argue that tri-syllabic brand names (or perhaps up to four syllables), may be best suited to enhance the luxury appeal and beyond four syllables, the incremental increase in the luxury appeal is doubtful. It is also supported by the fact that even among the existing luxury brand names (see Sung et al., 2015, for the luxury brand names), only Lamborghini is a four syllabic, single word name (other brands, e.g., Christian Dior are actually a combination of two names or two words). In Study 4 we asked participants to choose product categories (instead of rating the HBNs on a Likert scale). This design was used primarily because of two reasons: (a) to test the effect of product categories on the luxury perception, and (b) to let participants choose their own scale of luxury dimension (instead of researchers' dimension, as the perception of luxury is different for each individual). Four products were chosen from four different categories of brands (Basic brands, Accessible luxury brands, Intermediate luxury brands, and Inaccessible luxury brands), selected from the Alleres' (1990) hierarchy of luxury brands. Results indicated significant differences between HBN1S, HBN2S, and HBN3S and as in Study 3, there emerged an ambiguity about the perception of HBN4S, HBN5S, and HBN6S.

The perception of luxury of HBNs with more than three syllables was equivalent to the luxury appeal of HBN3S which raises questions about the incremental effect in luxury appeal for brand name that have a length of more than 3 syllables. Word length is believed to be

¹COCA is a well-cited linguistic database (Davies, 2010) compiled from the words often used in spoken languages, fiction, popular magazines and in newspapers and is frequently updated. It includes a collection of over 520 million words taken from over 220,225 texts published between 1990 and 2015, which are commonly used in spoken language, fiction, popular magazines, newspapers, and academic texts. This list is updated regularly and provides a current overview of the usage of the English language (Schmitt & Schmitt, 2014).

“a strong proxy for word frequency” (Crossley, Feng, Cai, & McNamara, 2013) and is an important variable for word processing and lexical decision times [here word length refers not only to the number of letters in a word but also to its phonemic and syllabic length (Bijeljac-Babic, Millogo, Farioli, & Grainger, 2004)]. Frequent objects that are near and dear to us (similar to basic brands) are more concrete and tend to have shorter names whereas abstract or distant objects (or experiences, similar to luxury goods) and even words that are labeled as distinctive and unique, tend to be longer (Lynott & Connell, 2013). This applies to form-to-meaning relationships also; it has been shown that short words are more concrete, familiar and image-able (Jarvis & Daller, 2013; Spreen & Schulz, 1966) and less distinctive (Samson & Pillon, 2004) than abstract words.

The distinction between frequent and infrequent words is very similar to that between basic and luxury brands; basic brands are frequent (consumers have a greater interaction with them in daily life), are more concrete (vs. abstract), image-able (vs. abstract), indulgent (consumed more indulgently) and are in that sense “closer” to consumers. Luxury brands, on the other hand, are rare, abstract, less indulgent (or consumed infrequently), more complex and distant (psychologically, socially and physically) from consumers (Hansen & Wänke, 2011; Kivetz & Simonson, 2002). Although the research on proving the “form to referent” use of Zipf’s law is rare (for e.g., shorter, unknown words will be perceived as more frequent), there is evidence to suggest that the “form to meaning referent” is done automatically by the listener (Degen et al., 2013), and by this logic a short HBN will be considered as more frequent whereas a long HBN will be considered as less frequent by the listener (also referred to as the frequency-brevity principle by Brown, 1958, who suggested that because shorter names are the ones which are used most frequently, a names’ frequency can be predicted from its length).

Longer names also convey greater social stature (e.g., morality), greater success and a higher social position, whereas shorter names have been shown to convey more approachable characteristics (e.g., popularity and cheerfulness, Mehrabian & Piercy, 1993). Longer hypothetical words have been shown to be associated with more complex visual imagery and longer, abstract narratives (vs. concrete and shorter narratives for shorter names; Lewis & Frank, 2016; Piantadosi, Tily, & Gibson, 2011) and this relationship holds true even for words having similar meanings but differing lengths (e.g. exam vs. examination; Lewis & Frank, 2016; Piantadosi et al., 2011). Applying the aforesaid research to brands, Freedman and Jurafsky (2011) and Jurafsky (2014), showed that in food advertising, more expensive products employ longer and more complex words and longer sentences. Their research also shows that expensive restaurants were significantly more likely to make use of longer words and reviews compared to inexpensive restaurants (even after controlling for restaurant type; Jurafsky, 2014) and consumers too are willing to pay extra for products having longer names on the menu. Specifically, these restaurants were found to charge 18 cents more per extra letter in a dish’s description (compared to similar items on menus elsewhere). The association of longer words and names with higher social status may stem from linguistic history, as the English language

has borrowed many foreign words from the Latin and Roman languages and these words tend to be longer, rarer and often have an association with class and status (Jurafsky, 2014; Jurafsky, Chahuneau, Routledge, & Smith, 2014).

Across languages, it has been shown that when more phonemes are added to an adjective (which enhances the word length), it enhances the superlative qualities of that adjective (Haiman, 1980), for e.g., long, longer and longest (in English); longus, longior and longissimus (in Italian; Kawahara & Moore, 2018). Similarly, in sound symbolism, it has been shown that the lexical characteristics of a word relates to its sound symbolic referent concept (for e.g., bigger opening of mouth refers to bigger objects; Lynott & Connell, 2013) and in that sense, if people are exposed to unknown, hypothetical adjectives (or words and names) of varying lengths (for e.g., Bixme, Bixmesq, Bixmedsytr), they will automatically associate the longer word with the best referent quality (or adjective). In this paper we show a similar form-to-referent relationship for the concept of rarity of longer (vs. frequent) names (or words) in languages; because rarity and uniqueness is also a trait which distinguishes basic vs. luxury brands, where basic brands tend to be more frequent and ubiquitous and luxury brands tend to be more abstract and rare (Ko et al., 2017), this paper shows that short brand names (vs. long brand names) will be more suited to basic brands (vs. luxury brand names). The research on brand naming is sparse and because marketers invest a significant amount of time and resources to create successful names for their products and brands (Wänke, Herrmann, & Schaffner, 2007), this paper contributes to the literature by adapting one of the most well-known laws (Zipf’s Law) to the brand naming process and suggests an alternative way to enhance the luxurious appeal of a brand name.

8 | LIMITATIONS, FUTURE RESEARCH, AND MANAGERIAL IMPLICATIONS

One limitation of the present study relates to the use solely of vowel endings in all the HBNs. This approach was chosen mainly because vowels sounds are limited and we were thus able to include all the potential vowel ending combinations possible, with the same set of consonants in the HBNs. Future research could examine the effect of using only consonants to prolong HBN length on the perception of luxury. Another potential limitation is that we explored only a consonant- vowel (CV-CV-CV) structure to create the HBNs, and it likely that a more creative version of four syllabic HBNs (e.g., CVC-CVC-CV-CV) may show higher luxury appeal than the tri-syllabic names. It is also worth mentioning that the present study relies on American participants. Although the results of sound symbolism have been shown to generalize across languages, further research is needed to test these results in non-English speaking populations before we can generalize these results across all languages. One last potential limitation of this paper is that we have used a Hindi script to convert HBN to the sound stimuli. This was done primarily to keep the phonetic structure intact which is often not possible in English

(for e.g., pronunciation of the letter /o/ in the words go and to is different). For known English words or brand names, using text to speech conversion is not a problem, but for hypothetical words or non-words, it becomes challenging. It remains to be seen whether or not the Hindi accent impacted on our results but we believe this to be highly unlikely.

With democratization of the luxury category, luxury and basic goods are now considered to lie on the same continuum and often each consumer identifies their own point of luxury depending on ones' individual experience of luxury on that continuum (Chandon et al., 2016; Kapferer & Laurent, 2016; Tynan et al., 2010). Luxury goods are now used more widely and are no longer the domain of the rich and exclusive (often termed as the *new luxury*; Cristini, Kauppinen-Räsänen, Barthod-Prothade, & Woodside, 2017; Kapferer & Laurent, 2016). In addition, it may be the case that every consumer, or at least groups of consumers, have their own perception of what constitutes luxury for e.g. for one individual, something as small as a global branded lipstick might represent a small personal luxury (Kapferer, 2012). With this new conception of luxury emerging, we see a broader application of this study not only in the luxury segment but also for utilitarian products where managers are looking to name new brands or products. This is because in today's market, be it in the context of FMCG, luxury or utilitarian brands, vertical brand extension is a common strategy (for e.g., brand extensions of Toyota and Marriott; Albrecht, Backhaus, Gurzki, & Woisetschläger, 2013; Dall'Olmo Riley, Pina, & Bravo, 2015). For such extensions, scholars often recommend applying distancing techniques (for e.g., a lower price, different brand name, smaller logo size, Aaker, 2012; Aaker & Equity, 1991) for the new extension to minimize any negative effects (if any) on the original brand in cases of negative reception by the consumer (Kim, Lavack, & Smith, 2001). The findings of this paper can help managers and consultants create innovative names for their new brand extensions or products in the basic, luxury or even premium product category sectors.

ORCID

Abhishek Pathak  <http://orcid.org/0000-0003-2779-9265>

REFERENCES

- Aaker, D. A. (2012). *Building strong brands*. New York, NY: Simon and Schuster.
- Aaker, D. A., & Equity, M. B. (1991). Capitalizing on the value of a brand name. *New York*, 28, 35–37.
- Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, 34, 347–356.
- Adi-Bensaid, L., & Most, T. (2012). The effect of speaker's gender and number of syllables on the perception of words by young children: A developmental study. *Journal of Speech-Language Pathology & Applied Behavior Analysis*, 5(3–4), 17–24.
- Aichert, I., & Ziegler, W. (2005). Is there a need to control for sublexical frequencies? *Brain and Language*, 95(1), 170–171.
- Albrecht, C. M., Backhaus, C., Gurzki, H., & Woisetschläger, D. M. (2013). Drivers of brand extension success: What really matters for luxury brands. *Psychology & Marketing*, 30(8), 647–659.
- Alleres, D. (1990). *Luxe—Strategies Marketing*. Paris: Economica.
- Argo, J. J., Popa, M., & Smith, M. C. (2010). The sound of brands. *Journal of Marketing*, 74(4), 97–109.
- Barton, J. J., Hanif, H. M., Eklinder Björnström, L., & Hills, C. (2014). The word-length effect in reading: A review. *Cognitive neuropsychology*, 31(5–6), 378–412.
- Berman, R. A. (1977). Natural phonological processes at the one-word stage. *Lingua. International review of general linguistics. Revue internationale de linguistique generale*, 43(1), 1–21.
- Bijeljac-Babic, R., Millogo, V., Farioli, F., & Grainger, J. (2004). A developmental investigation of word length effects in reading using a new on-line word identification paradigm. *Reading and Writing*, 17(4), 411–431.
- Brent, M. R. (1997). Toward a unified model of lexical acquisition and lexical access. *Journal of Psycholinguistic Research*, 26(3), 363–375.
- Brown, R. (1958). How shall a thing be called? *Psychological Review*, 65(1), 14–21.
- Chandon, J.-L., Laurent, G., & Valette-Florence, P. (2016). Pursuing the concept of luxury: Introduction to the JBR Special Issue on “Luxury Marketing from Tradition to Innovation”. *Journal of Business Research*, 69(1), 299–303.
- De Chernatony, L. (2010). *From Brand Vision to Brand Evaluation (3rd edn.)*. Oxford, UK: Butterworth-Heinemann.
- Clankie, S. (2013). An overview of genericization in Linguistics. Paper presented at the *Proceedings of the Second International Conference on Onomastics 'Name and Naming': Onomastics in Contemporary Public Space*, Editura Mega, Editura Argonaut, Cluj-Napoca.
- Coltheart, M., Davelaar, E., & Jonasson, J. D. (1977). Access to the internal lexicon. *Attention and Performance VI*, 38, 126–134.
- Cristini, H., Kauppinen-Räsänen, H., Barthod-Prothade, M., & Woodside, A. (2017). Toward a general theory of luxury: Advancing from workbench definitions and theoretical transformations. *Journal of Business Research*, 70, 101–107.
- Crossley, S., Feng, S., Cai, Z., & McNamara, D. S. (2013). Computer simulations of MRC Psycholinguistic Database word properties: Concreteness, familiarity, imageability. In S. Jarvis, & M. Daller (Eds.), *Vocabulary Knowledge: Human Ratings and Automated Measures*. Amsterdam: John Benjamins.
- Crystal, D. (1997). *The Cambridge encyclopedia (3rd edition.)*. Cambridge, UK: Cambridge University Press.
- Danesi, M. (2018). *Popular culture: Introductory perspectives*. Lanham: Rowman & Littlefield.
- Dall'Olmo Riley, F., Pina, J. M., & Bravo, R. (2015). The role of perceived value in vertical brand extensions of luxury and premium brands. *Journal of Marketing Management*, 31(7–8), 881–913.
- Davies, M. (2010). The corpus of contemporary American English as the first reliable monitor corpus of English. *Literary and linguistic computing*, 25(4), 447–464.
- Degen, J., Franke, M., & Jager, G. (2013). *Cost-based pragmatic inference about referential expressions*. Paper presented at the Proceedings of the annual meeting of the cognitive science society.
- Eriksson, M., Rahman, S. H., Fraile, F., & Sjöström, M. (2013). *Efficient interactive multicast over DVB-T2-Utilizing dynamic SFNs and PARPS*. Paper presented at the Broadband Multimedia Systems and Broadcasting (BMSB), 2013 IEEE International Symposium on.
- Freedman, J., & Jurafsky, D. (2011). Authenticity in America: Class distinctions in potato chip advertising. *Gastronomica: The Journal of Critical Food Studies*, 11(4), 46–54.
- Friese, M., Wänke, M., & Plessner, H. (2006). Implicit consumer preferences and their influence on product choice. *Psychology & Marketing*, 23(9), 727–740.
- Gabaix, X. (1999). Zipf's law for cities: An explanation. *The Quarterly Journal of Economics*, 114(3), 739–767.
- Gardner, M. K., Rothkopf, E. Z., Lapan, R., & Lafferty, T. (1987). The word frequency effect in lexical decision: Finding a frequency-based component. *Memory & Cognition*, 15(1), 24–28.

- Gitt, W. (2006). *In the beginning was information: A scientist explains the incredible design in nature*. Portland, OR: New Leaf Publishing Group.
- Haiman, J. (1980). The iconicity of grammar: Isomorphism and motivation. *Language*, 56, 515–540.
- Hansen, J., & Wänke, M. (2011). The abstractness of luxury. *Journal of Economic Psychology*, 32(5), 789–796.
- De Houwer, J., Teige-Mocigemba, S., Spruyt, A., & Moors, A. (2009). Implicit measures: A normative analysis and review. *Psychological Bulletin*, 135(3), 347–368.
- Hoyt, D. F., & Taylor, C. R. (1981). Gait and the energetics of locomotion in horses. *Nature*, 292(5820), 239–240.
- Jalbert, A., Neath, I., Bireta, T. J., & Surprenant, A. M. (2011). When does length cause the word length effect? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 37(2), 338–353.
- Jalbert, A., Neath, I., & Surprenant, A. M. (2011). Does length or neighborhood size cause the word length effect? *Memory & Cognition*, 39(7), 1198–1210.
- Jarvis, S., & Daller, M. (2013). *Studies in Bilingualism: Human ratings and automated measures, Vocabulary knowledge: Human ratings and automated measures* (47). John Benjamins Publishing.
- Jurafsky, D. (2014). *The language of food: A linguist reads the menu*. WW Norton & Company.
- Jurafsky, D., Chahuneau, V., Routledge, B. R., & Smith, N. A. (2014). Narrative framing of consumer sentiment in online restaurant reviews. *First Monday*, 19(4).
- Kanwal, J., Smith, K., Culbertson, J., & Kirby, S. (2017). Zipf's law of abbreviation and the principle of least effort: Language users optimise a miniature lexicon for efficient communication. *Cognition*, 165, 45–52.
- Kapferer, J. -N. (2012). Abundant rarity: The key to luxury growth. *Business Horizons*, 55(5), 453–462.
- Kapferer, J. -N., & Laurent, G. (2016). Where do consumers think luxury begins? A study of perceived minimum price for 21 luxury goods in 7 countries. *Journal of Business Research*, 69(1), 332–340.
- Kawahara, S., & Moore, J. (2018). Exploring sound symbolic knowledge of English speakers using Pokémon character names.
- Kim, C. K., Lavack, A. M., & Smith, M. (2001). Consumer evaluation of vertical brand extensions and core brands. *Journal of Business Research*, 52(3), 211–222.
- Kivetz, R., & Simonson, I. (2002). Self-control for the righteous: Toward a theory of precommitment to indulgence. *Journal of Consumer Research*, 29(2), 199–217.
- Klamer, M. (2002). Typical features of Austronesian languages in central/eastern Indonesia. *Oceanic Linguistics*, 41, 363–383.
- De Klerk, V., & Bosch, B. (1997). The sound patterns of English nicknames. *Language Sciences*, 19(4), 289–301.
- Klink, R. R., & Wu, L. (2014). The role of position, type, and combination of sound symbolism imbeds in brand names. *Marketing Letters*, 25(1), 13–24.
- Ko, E., Costello, J. P., & Taylor, C. R. (2017). What is a luxury brand? A new definition and review of the literature. *Journal of Business Research*.
- Krishnan, H. S., & Shapiro, S. (1996). Comparing implicit and explicit memory for brand names from advertisements. *Journal of Experimental Psychology: Applied*, 2(2), 147.
- Kul, M. (2007). *The principle of least effort within the hierarchy of linguistic preferences: External evidence from English*. Unpublished PhD thesis, Adam Mickiewicz University, Poznań.
- Labroo, A. A., Dhar, R., & Schwarz, N. (2007). Of frog wines and frowning watches: Semantic priming, perceptual fluency, and brand evaluation. *Journal of Consumer Research*, 34(6), 819–831.
- Lerman, D., & Garbarino, E. (2002). Recall and recognition of brand names: A comparison of word and nonword name types. *Psychology & Marketing*, 19(7-8), 621–639.
- Lewis, M., Sugarman, E., & Frank, M. (2014). *The structure of the lexicon reflects principles of communication*. Paper presented at the Proceedings of the Annual Meeting of the Cognitive Science Society.
- Lewis, M. L., & Frank, M. C. (2016). The length of words reflects their conceptual complexity. *Cognition*, 153, 182–195.
- Luscombe, N. M., Qian, J., Zhang, Z., Johnson, T., & Gerstein, M. (2002). The dominance of the population by a selected few: Power-law behaviour applies to a wide variety of genomic properties. *Genome Biology*, 3(8), research0040.
- Lynott, D., & Connell, L. (2013). Modality exclusivity norms for 400 nouns: The relationship between perceptual experience and surface word form. *Behavior Research Methods*, 45(2), 516–526.
- Mahowald, K., Fedorenko, E., Piantadosi, S. T., & Gibson, E. (2013). Info/information theory: Speakers choose shorter words in predictive contexts. *Cognition*, 126(2), 313–318.
- McFerran, B., Aquino, K., & Tracy, J. L. (2014). Evidence for two facets of pride in consumption: Findings from luxury brands. *Journal of Consumer Psychology*, 24(4), 455–471.
- Mehrabian, A., & Piercy, M. (1993). Affective and personality characteristics inferred from length of first names. *Personality and Social Psychology Bulletin*, 19(6), 755–758.
- Nettelbladt, U. (1982). *On Phonotactic and Prosodic Development in Normal and Language Disordered Swedish Children*. Papers and reports on child language development. 21:125–129
- Newman, M. E. (2005). Power laws, Pareto distributions and Zipf's law. *Contemporary Physics*, 46(5), 323–351.
- Okuyama, K., Takayasu, M., & Takayasu, H. (1999). Zipf's law in income distribution of companies. *Physica A: Statistical Mechanics and its Applications*, 269(1), 125–131.
- Oxforddictionaries.com (2018). Retrieved from <https://en.oxforddictionaries.com/explore/what-can-corpus-tell-us-about-language/> on 24 Aug 2018.
- Palya, W. L. (1985). Sign-tracking with an interfood clock. *Journal of the Experimental Analysis of Behavior*, 43(3), 321–330.
- Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding mechanical turk as a participant pool. *Current Directions in Psychological Science*, 23(3), 184–188.
- Parise, C. V., & Pavani, F. (2011). Evidence of sound symbolism in simple vocalizations. *Experimental Brain Research*, 214(3), 373–380.
- Pathak, A., Calvert, G., & Velasco, C. (2017). Evaluating the impact of early-and late-acquired phonemes on the luxury appeal of brand names. *Journal of Brand Management*, 24(6), 522–545.
- Perry, C., Kan, M.-K., Matthews, S., & Wong, R. K.-S. (2006). Syntactic ambiguity resolution and the prosodic foot: Cross-language differences. *Applied psycholinguistics*, 27(3), 301–333.
- Piantadosi, S. T., Tily, H., & Gibson, E. (2011). Word lengths are optimized for efficient communication. *Proceedings of the National Academy of Sciences*, 108(9), 3526–3529.
- Pogacar, R., Kouril, M., Carpenter, T. P., & Kellaris, J. J. (2018). Implicit and explicit preferences for brand name sounds. *Marketing Letters*, 29(2), 241–259.
- Reichle, E. D., Carpenter, P. A., & Just, M. A. (2000). The neural bases of strategy and skill in sentence-picture verification. *Cognitive Psychology*, 40(4), 261–295.
- Riemer, H., Mallik, S., & Sudharshan, D. (2002). Market shares follow the Zipf distribution: Working Papers Series. 02-0125, College of Business, University of Illinois at Urbana-Champaign, IL.
- Saichev, A., Malevergne, Y., & Sornette, D. (2010). Introduction, *Theory of Zipf's Law and Beyond* (pp. 1–7). Springer.
- Samson, D., & Pillon, A. (2004). Orthographic neighborhood and concreteness effects in the lexical decision task. *Brain and Language*, 91(2), 252–264.
- Schmitt, N., & Schmitt, D. (2014). A reassessment of frequency and vocabulary size in L2 vocabulary teaching. *Language Teaching*, 47(4), 484–503.
- Shi, R. (1988). *A Universal CV Tendency?—Another Look at the Syllable Structure in First Language Acquisition*. Paper presented at the Deseret Language and Linguistic Society Symposium.
- Shrum, L. J., Lowrey, T. M., Luna, D., Lerman, D. B., & Liu, M. (2012). Sound symbolism effects across languages: Implications for global brand names. *International Journal of Research in Marketing*, 29(3), 275–279.

- Spreen, O., & Schulz, R. W. (1966). Parameters of abstraction, meaningfulness, and pronunciability for 329 nouns. *Journal of Memory and Language*, 5(5), 459.
- Sung, Y., Choi, S. M., Ahn, H., & Song, Y. A. (2015). Dimensions of luxury brand personality: Scale development and validation. *Psychology & Marketing*, 32(1), 121–132.
- Suzuki, R., Buck, J. R., & Tyack, P. L. (2005). The use of Zipf's law in animal communication analysis. *Animal Behaviour*, 69(1), F9–F17.
- Tsonis, A. A., Schultz, C., & Tsonis, P. A. (1997). Zipf's law and the structure and evolution of languages. *Complexity*, 2(5), 12–13.
- Tynan, C., McKechnie, S., & Chhuon, C. (2010). Co-creating value for luxury brands. *Journal of Business Research*, 63(11), 1156–1163.
- Usunier, J.-C., & Shaner, J. (2002). Using linguistics for creating better international brand names. *Journal of Marketing Communications*, 8(4), 211–228.
- Velasco, C., & Spence, C. (2019). Multisensory premiumness. in: Velasco, C., & Spence, C. (Eds.) (in preparation). *Multisensory packaging: Designing new product experiences*. Palgrave MacMillan.
- Wang, D., Cheng, H., Wang, P., Huang, X., & Jian, G. (2017). Zipf's law in passwords. *IEEE Transactions on Information Forensics and Security*, 12(11), 2776–2791.
- Wauquier, S., & Yamaguchi, N. (2011). *Early templates in the acquisition of French phonology*. Paper presented at the Proceedings of the International Child Phonology Conference.
- Wiedmann, K. P., Hennigs, N., & Siebels, A. (2009). Value-based segmentation of luxury consumption behavior. *Psychology & Marketing*, 26(7), 625–651.
- Wänke, M., Herrmann, A., & Schaffner, D. (2007). Brand name influence on brand perception. *Psychology & Marketing*, 24(1), 1–24.
- Yoon, C., Cole, C. A., & Lee, M. P. (2009). Consumer decision making and aging: Current knowledge and future directions. *Journal of Consumer Psychology*, 19(1), 2–16.
- Zipf, G. K. (1935). *The Psychobiology of Language*. Boston, MA: Houghton Mifflin.
- Zipf, G. K. (1949). *Human Behavior and the Principle of Least Effort*. Menlo Park, CA: Addison- Wesley.

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APPENDIX 1

The instructions given to participants in Study 1 were as follows-

“We are interested in finding out the appropriate brand names for basic and luxury brands. By basic brands – we mean brands which sell products that we use on an everyday basis (for e.g., brands that sell a can of soda, toothpaste, a pack of chips etc.) and by luxury brands – we mean brands which sell products that are very expensive, unique and extraordinary (for e.g., brands that sell an exotic watch, diamond jewelry, a luxury yacht etc.)” (Rated on an 11

point Likert scale where 1 = Extremely basic brand name and 11 = Extremely luxury brand name).

All participants rated each HBN twice in this study; first nine participants rated the HBNs in three times in three blocks, after which the study design was changed and was reduced to 2 blocks due to technical difficulties and high participant dropout rate.

Additional question asked at the end of study 1

Do you think this name is short or long?

(Rated on a 7 point Likert scale, 1 = Not at all long & 7 = Extremely long)

APPENDIX 2

HBN4S	HBN5S	HBN6S
Balomita	Balomitako	Balomitakoro
Molibato	Molibatora	Molibatorano
Neerodoka	Neerodokala	Neerodokalami
Polimata	Polimatake	Polimatakebu
Ronadabi	Ronadabile	Ronadabilemee
Rookosoti	Rookosotimi	Rookosotimile
Doonaboko	Doonabokore	Doonabokoremu
Sopemata	Sopematalu	Sopemataluki
Meeseparo	Meeseparoke	Meeseparokenu
Norakate	Norakatemo	Norakatemoli

APPENDIX 3

Basic brands	Accessible luxury brands	Intermediate luxury brands	Inaccessible luxury brands
Chips	Expensive Pen	Luxury Car	Customised Sports Car
Tooth Paste	Unique Perfume	Very High Quality Watch	Yacht
Soft Drink	High End Clothing	Hand Crafted Rare Jewelry	Private Jet
Noodles	Premium Hand Bag	Luxury Motor Bikes	Scarce Diamond Jewelry