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

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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 analyse 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. In this paper, we provide evidence for the idea that, since 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 to 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) are more appropriate for luxury brands.

Keywords: Zipf’s law; Brand names; Length; Complexity; Perception; Sound symbolism; Luxury marketing; Consumer behaviour
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 behaviour (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 (Riember, Mallik, & Sudharshan, 2002) and income distribution of companies (Okuyama, Takayasu, & Takayasu, 1999) just to name a few.

Zipf’s law suggests that since 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 to 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 to basic brands, tend to be considered costly, rare, and unique (Ko, Costello, & Taylor, 2017; Velasco & Spence, in press) 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 (based on 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 two studies. In particular, we hypothesised that, potentially, people would associate (explicitly and implicitly) shorter (vs. longer) brand names as more appropriate for basic (vs luxury) brands. In order 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 luxury perception of the 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 the incremental increase in the luxury perception, beyond a tri-syllabic name length is minimal, and 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 since brand name is perceived as the most visible of the brand elements (De Chernatony, 2010), through this paper, we hope to improve the understanding of the link between a brand name and its luxury perception. To our knowledge, this paper is the first to show that brand name length can imbue (or enhance) the luxury perception of brand (see Table 1, for an overview of the research in this field, and our incremental contribution).

**Insert Table 1 about here**

**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 bʌlm; see the International Phonetic Association
(IPA) chart for IPA notations), Balma (bʌlmə) and Balama (bʌləmə) (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). Since 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 generalize (or minimise) the sound symbolic effect phonemes have on consumer perception.

**Insert Table 2 about here**

The HBNs were then converted to an 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 the pronunciation and the 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 =* 0.939; HBN2S: *Item Mean =* 2.38, *SD =* 1.70, *α =* 0.942; HBN3S: *Item Mean =* 2.41, *SD =* 1.74, *α =* 0.945.
Study 1

Participants

A total of 99 participants between the age of 22 to 57 years completed the study ($M_{age} = 35.87$ years, $SD = 9.25$, $Males = 48$, $Females = 51$). All 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 analysed ($Final \ M_{age} = 35.95$ years, $SD = 9.27$, $Males = 47$, $Females = 51$). Seven subjects knew an additional foreign language other than English (these languages were, Japanese, Tagalog, Russian, Ukranian, Hebrew, Cantonese, Spanish (2 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.

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).
Results and discussion

A one-way repeated measures ANOVA was performed to analyse 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 ($Mean = 6.96, SD = 1.39$), $F (2, 96) = 110.02, p < 0.001, n_p^2 = 0.69$.

Insert Figure 1 about here

Paired t-tests revealed significant differences between the ratings of the mono-syllabic vs the bi-syllabic HBNs ($t (97) = 14.65, p < 0.001, d = 1.47$), bi-syllabic vs tri-syllabic HBNs ($t (97) = 12.23, p < 0.001, d = 1.23$) and mono-syllabic vs tri-syllabic HBNs ($t (97) = 14.41, p < 0.001, d = 1.45$). 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 ($Mean_{HBN2S} = 3.07, SD = 0.74$), $t (97) = 20.88, p < 0.001, d = 2.11$; HBN2S vs HBN3S ($Mean_{HBN3S} = 4.90, SD = 0.86$), $t (97) = 20.99, p < 0.001, d = 2.12$ and HBN1S vs HBN3S ($t (97) = 25.61, p < 0.001, d = 2.59$).

Results of Study 1 provide support for our hypothesis that longer brand names enhance the luxury perception of a name and 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) in order 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 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 behaviour (Friese et al., 2006; Pogacar, Kouril, Carpenter, & Kellaris, 2018). Since 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 due to 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 and 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.

### Study 2

**Method and material**

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

**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 are hypothesising that brand names will act as primes, we expect 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).

**Insert Figure 2 about here**

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 centre 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 prior to 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.

**Results and discussion**

Only the correct response latencies falling between 200 ms and within 2 SD of the mean were analysed. 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).

**Insert Table 3 about here**

The main effect of HBNs was found to be significant (the Greenhouse-Geisser correction was applied whenever sphericity criterion was violated), $F (1.52, 147.43) = 128.38, p < 0.001, \eta_p^2 = 0.57$; the main effect of target word was not found to be significant, $F (1, 97) = 2.99, p = 0.87, \eta_p^2 = 0.03$; 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 found to be significant, $F(1.87, 181.13) = 4.38, p = 0.016, \eta^2_p = 0.043$ (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 target word ‘basic’, $F(1.81, 175.53) = 84.38, p < 0.001, \eta^2_p = 0.465$ ($p < .01$ for all Tukey HSD post hoc comparisons); for the target word ‘luxury’, $F(2, 194) = 58.48, p < 0.001, \eta^2_p = 0.376$ ($p < .01$ 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 the hypothesis. If we simply compare mono and tri-syllabic names in 2-way ANOVA (or in this model also) then the interaction of brand name (mono vs tri) and target word (basic vs luxury) is found to be 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.
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 its luxury perception. 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 thirty top luxury brands [Table 1 of Sung et al. (2015)], only one brand is 4-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 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, α = 0.955; HBN5S: Item Mean = 3.60, SD = 2.68, α = 0.957; HBN6S: Item Mean = 3.49, SD = 2.66, α = 0.959.
Participants

A total of 71 participants between the age of 21 to 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)).

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 6 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.

Results and discussion

A one-way repeated measures ANOVA was performed to analyse 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 the most 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 found to be significantly different from each other, $F (1.51, 105.43) = 51.70, p < 0.001, n_{p}^{2} = 0.43$.

Insert Figure 3 about here

Paired t-tests revealed significant differences between the ratings of the HBN1S vs HBN2S, ($t (70) = 8.11, p < 0.001, d = 0.96$), HBN2S vs HBN3 ($t (70) = 9.48, p < 0.001, d =$
Paired comparisons also revealed significant differences between HBN1S and HBN2S with HBN4S, HBN5S and HBN6S (i.e. differences existed only due to the HBN1S, HBN2S and HBN3S); whereas no differences were found between HBN3S, HBN4S, HBN5S and HBN6S (all \( ps > 0.08 \)). Results of Study 3 indicate that three (or perhaps up to four) syllabic 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 and 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).

**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 et al, 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: 1) To allow participants to choose product categories for HBNs (instead of ratings) (e.g., soft drink, luxury car) 2) 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)
Methodology

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 to 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).

Design and procedure

We selected four types of products from within the luxury brands, that varied in their luxury perception (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.

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.
Basic brands

A significant difference was found between all HBNs, \( \chi^2 (5) = 107.95, p < 0.001, \)

*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 found between HBN3S, HBN4S, HBN5S and HBN6S (similar to results of Study 3) (see Figure 4).

Accessible luxury brands

A significant difference was found between all HBNs, \( \chi^2 (5) = 37.21, p < 0.001, \)

*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).

Intermediate luxury brands

A significant difference was found between all HBNs, \( \chi^2 (5) = 56.34, p < 0.001, \)

*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).

Inaccessible luxury brands

A significant difference was found between all HBNs, \( \chi^2 (5) = 29.55, p < 0.001, \)

Kendall’s w = 0.08. Dunn-Bonferroni post hoc tests showed that there were significant differences only between HBN1S and HBN3S and between HBN1S and HBN6S (see Figure 4).
Insert Figure 4 about here

Results indicate that differences exist mostly due to HBN1S, HBN2S and HBN3S; there exists a clear ambiguity among the luxury perception of HBN4S, HBN5S and HBN6S. Differences perceived are better and 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 be familiar with these brands or product categories (e.g., private jet, yacht)]. Results of Study 4 are in line with other studies 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.

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). Due to 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). It is reported that in the English language, 71.5% of the words are monosyllabic, 19.4% are bi-syllabic and tri-syllabic or polysyllabic 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). 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 neighbours [Coltheart, Davelaar, & Jonasson; Jalbert, Neath, Bireta, & Surprenant, 2011; Jalbert, Neath, & Surprenant, 2011 and see Barton, Hanif, Eklinder Björnström, and Hills (2014) for a review]. In Study 3 we explored the optimum brand name length in order to maximize the luxury appeal and tested the perception of HBN1S to HNN6S. 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. Due to this we argue that tri-syllabic brand names (or perhaps up to 4 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 4 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 due to two reasons, 1), to test the effect of product categories on the luxury perception, and 2), 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 each, 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.

1 COCA 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).
The luxury perception of HBNs with more than 3 syllables was equivalent to the luxury appeal of HBN3S which raises questions about the incremental increase in luxury appeal for brand name beyond the length of 3 syllables. Word length is believed to be “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 labelled 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, Franke, & Jager, 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 since 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, Tily, & Gibson, 2011). Applying the aforesaid research to brands, Freedman & 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; since 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 since 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.

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, Laurent, & Valette-Florence, 2016; Kapferer & Laurent, 2016; Tynan, McKechnie, & Chhuon, 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-Räisänen, Barthod-Prothade, & Woodside, 2017; Kapferer & Laurent, 2016). In addition, these days every consumer has 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 definition of luxury emerging, we see a broader application of this research 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, & Woiwotschläger, 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 etc. (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.
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Appendices

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 jewellery, 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 thrice in 3 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    |
Tables

Table 1: Overview of the research in the field.

Table 2: HBNs used in Studies 1 & 2.

Table 3: Response latencies in Study 2.
**Overview of the research in the field**

| Study | Focus of the research | Main findings |
|-------|-----------------------|---------------|
| Zipf (1949) | Explore the relationship between a word's 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, Feng, Cai, & McNamara, 2013 | Explore the relationship between word length and frequency | Shows an application of the reverse of the Zipf's law i.e., a word's 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 & Most, 2012; Aichert & Ziegler, 2005 | Syllables and word recognition | Importance of syllables in the understanding and recognition of a word |
| Berman, 1977; Klamer, 2002; Nettelbladt, 1982; Perry et al, 2006; Shi, 1988; Wauquier & Yamaguchi, 2011; De Klerk & Bosch, 1997 | Explore the optimal length of words across different languages | Preference for short words and nick names in many languages |
| Coltheart, Davelaar, & Jonasson, 1977; Jalbert, Neath, Bireta, & Surprenant, 2011; Jalbert, Neath, & Surprenant, 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 neighbourhood of short words (due to their higher frequency and usage) |
| Author(s)                        | Focus                                                                 | Findings                                                                 |
|---------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| Lynott & Connell, 2013          | Explore the relationship between word length and attributes          | Long words are perceived as more distinctive and unique (compared to short words) |
| Jarvis & Daller, 2013; Samson & Pillon, 2004; Spreen & Schulz, 1966 | Explore the relationship between word length and attributes          | Short words are perceived as more concrete, more familiar and highly imageable and at the same time less distinctive |
| Degen, Franke, & Jager, 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 & Frank, 2016; Piantadosi, Tily & Gibson, 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 |
| 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 & 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 |
| Reference                  | Focus of the Study                                                                 | Findings                                                                 |
|----------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Freedman & 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 to 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 to longer names). |

**Brands, brand names and luxury perception:**

| Reference                  | Focus of the Study                                                                 | 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 & Wanke, 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 to 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)
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|
| Mono   | Bi     | Tri    |
|--------|--------|--------|
| 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 |

HBN1S = Hypothetical brand name (mono-syllabic); HBN2S = Hypothetical brand name (bi-syllabic); HBN3S = Hypothetical brand name (tri-syllabic)
Table 3. Response latencies in Study 2

| Prime stimulus          | Target words | Basic Mean | Basic SD | Luxury Mean | Luxury 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     |
Figure 1: Luxury perception of brand names based on the syllabic length (Error bars show the standard error of the mean)

(1=Extremely basic brand name & 11=Extremely luxury brand name)
Figure 2. A typical trial used in Study 2
Figure 3. Luxury perception of brand names (HBN1S to HBN6S).
(Error bars show the standard error of the mean)
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 3rd quartile - median; box below the median shows median -1st quartile and dots represents the outliers)