

Phono-onomastics of Brand Names in Linguistically Diverse Countries*

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Kim, Jong-mi & Go, U-ri. “Phono-onomastics of Brand Names in Linguistically Diverse Countries.” *Studies in English Language & Literature* 49.2 (2023): 85-114. This study investigates the phono-onomastics of brand names in countries with diverse linguistic backgrounds and orthographies such as Korea, China, the United States, and Bangladesh. We propose that optimal brand names constitute easy and real English words containing five or fewer consonants, by analyzing 181 brand name pairs from online surveys of 870 participants in these countries. Our survey data comprise both hedonic (fashion and cosmetics industries) and utilitarian (grocery and restaurant industries) brand names. The survey results indicate that brand names with five or fewer consonants are consistently preferred across all countries, in addition to a preference for easy and real English words. Therefore, we conclude that brand names should have five or fewer consonants to meet the optimal unmarked syllable number of two and a possible additional light syllable. Additionally, we suggest that the country-of-origin effect does not hold. Instead, the observed discrepancies in brand name preference based on language are owing to the status of English as an international language as well as the differences in native and non-native speech between the original brand names in English and their adaptations in non-English-speaking countries. (Kangwon National University)

Key Words: phono-onomastics, brand names, linguistic diversity, orthography, consonant numbers

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I. Introduction

This study investigates the phonological characteristics of brand names in linguistically diverse countries and examines whether there is a preference for particular phonetic features in brand names. Specifically, we explore the subfield of phono-onomastics, which studies the phonological aspects of naming practices (Barry and Harper, 2000; Kim, 2017, 2020; Kim and Go, 2022; Slater and Feinman, 1985; Yoo, 2015, among others), to analyze the sound patterns of brand names across industries and countries. Brand names are easily accessible and are frequently encountered by individuals in diverse countries, making them ideal for cross-linguistic expansion. Therefore, we aim to identify memorable and sonorous brand names that can be readily expanded across different languages and writing systems.

1.1 Background and Literature Review

There is a growing preference for English brand names in non-English-speaking countries (Awan and Chiang, 2014; Ustinova, 2006). This trend of replacing brand names in local language with English words is perceived to position a brand name as global and add an exotic feel to it, making it unique while retaining its original meaning.

To investigate the phonological characteristics of brand names in linguistically diverse countries, we select English, Bengali, Korean, and Chinese as the target languages because these four languages use four different orthographies belonging to four different language families with varying degrees of relationship, and a sizable population. The Korean, Chinese, English, and Bengali languages belong to the Altaic or Koreanic family, Sino-Tibetan family, German, and Indo-Iranian branches of the Indo-European family, respectively.

The orthographic differences among these four languages are a phoneme-based alphabet in English, an alphasyllabary in Bengali, a featural alphabet arranged in syllable blocks in Korean, and a meaning-based syllabic logography in Chinese. To be specific, English uses an alphabet, in which symbols roughly represent phonemes; Bengali uses an alphasyllabary, in which consonant-vowel sequences are written as units; Korean uses a featural alphabet, in which each letter represents a syllable consisting of phoneme symbols; and Chinese uses characters each of which represents a syllable for a word or a morpheme that expresses some specific meaning.

To sell a single brand name in these countries, the same name must be transliterated into four different forms of orthography, which necessarily involves different phonological representations of phonemes and syllables, as well as meaning adaptation. For example, the phonological adaptations from an English brand name *Grand* to Korean orthography require insertions of a default vowel [u] in the onset cluster [gr] and after a non-permissible coda [d] as in *Grand* [gurændu]. In addition, the name change to Chinese orthography would have to deal with meaning adaptation because Chinese orthography requires semantic entailment in each syllable.

According to a phono-onomastic claim, brand names that sound and look good are English words that consist of two syllables or three light syllables without a consonant cluster (Kim, 2017). The upper limit of three syllables is due to markedness¹ demands, which propose that an unmarked prosodic word is disyllabic (Broselow et al., 1998; Lehiste, 2004)² with a possible additional light syllable. As most languages allow a CVC syllable structure without a consonant cluster (Blevins, 1996, Table 6.1, p. 213), which is one vowel adjacent to a consonant on each side,

¹ See Moravcsik and Wirth (1986) for an overview of markedness.

² Lehiste (2004) convincingly argues that a disyllabic sequence is necessary for manifesting contrastive tonal patterns, based on acoustic and auditory evidence from Serbo-Croatian, Estonian, and Swedish languages.

the syllable structure comprises one consonant each in the onset and coda positions, as in Chinese, Korean, and Bengali.³ The unmarked length of words may allow five consonants (= two syllables × two consonants in onset and coda + one consonant in a light syllable). As these three languages do not allow complex codas in a syllable, English brand names with syllable-internal consonant sequences are often lengthened by inserting vowels between consonant clusters.⁴ Therefore, English words with many consonants result in long brand names in the translated languages, making them challenging to recall when represented in different orthographies. Particularly, an original brand name in English with more than five consonants is difficult to remember for local people in Korea, China, and Bangladesh.

Common English words are preferred as brand names, compared with proper nouns or non-English words. Such words contain product emotions⁵ that can generate purchase intentions internationally, enhancing their suitability for a global brand name. Proper nouns or non-English words are difficult to remember for people from countries other than the country of origin. As product emotions may differ by industry, we aim to make brand names as generally applicable as possible to products of general use, thereby reducing the impact of unwanted variables.

Thus, this study is motivated by two factors: the preference for English brand names in countries where English is not the primary language, and the necessity to examine the phonological features and orthographic adjustments needed for brand names in diverse linguistic contexts. This study will propose a phono-onomastic claim that brand names should essentially be common English words with five or fewer consonants to be memorable and globally acceptable. This claim is based on

³ According to Thompson (2012, pp. 24–27), Bengali is a syllabic language. Every consonant is accompanied by a vowel except at the end of words, where the inherent vowel is usually not pronounced.

⁴ The maximum syllabic structure of English is CCCVCCCC, with three onset consonants as in the word *strike* [str] and four coda consonants as in the word *texts* [ksts], while in Korean, Chinese, and Bengali, the maximum syllabic structure is CVC.

⁵ A product or a brand emotion refers to the emotion a person experiences in response to a product or a brand. Using a product can elicit disappointment, attraction, shame, pride, disgust, contempt, admiration, satisfaction, fear, anger, and any other emotion (Desmet, 2008, p. 379).

the phonological unmarkedness, disyllabic nature of most languages, and emotional connotations of common English words, which are easier to remember than proper nouns or non-English words.

1.2 Observation of Actual Brand Names

To gain insights into the cross-linguistic factors influencing brand name selection and perception, we analyzed actual brand name data as shown in Table 1 from current Korean brand names in English words, current English brand names written in Chinese characters, and current English brand names from the United States (US) written in Korean orthography and sold in Korea.⁶

Our data constituted 115 international brands, comprising 45 Korean, 29 Chinese, and 41 US brands. We obtained these brand names from web searches for brands sold in Korea. We aimed to build a proper survey construct and to diagnose its criterion-related validity (Section 2.1). We analyzed of actual brand names to build a survey construct as a framework for generating novel brand names for this study.

Table 1.1 reveals an intriguing disparity in the number of consonants (5.0–5.6) employed in US brand names, which far surpasses the corresponding consonant counts (2.6–3.3) in Chinese or Korean brand names. Examples considered from the above list are *Victoria's Secret* (a US brand) with nine consonants, *huí lí* (a Chinese brand) with two consonants, and *Best* (a Korean brand) with three consonants. This disparity is compounded because Korean transliterations of English brand names marketed in Korea feature an average of 4.6 syllables (shown by bold numbers in Table 1.1, which exceeds the 3.2 syllables of their English counterparts).

⁶ Among the four languages in this study, we did not include Bengali brand names in Table 1 owing to the insufficient availability of actual Bengali brand names in the current international market. Additionally, as an Indo-European language, Bengali was already represented by English in the US brand names listed in Table 1. However, Bengali is included in Sections II. and III. for our generated brand names to facilitate a comparison among brand names from countries with diverse linguistic, economic, and cultural backgrounds, exhibiting varied degrees of relationship.

Table 1. Actual Brand Names in Roman Alphabet ($N = 115$)^a

Table 1.1 Average number of consonants and syllables in brand names

Maker Language	<u>Korean brand</u>		<u>Chinese brand</u>		<u>US brand</u>	
	English	Korean	English	Chinese	English	Korean
Consonants per name	3.3	3.1	3.2	2.6	5.6	5.0
Syllables per name	2.1	3.0	2.2	2.3	3.2	4.6

Table 1.2 Types of brand names

Maker	<u>Korean brand</u>		<u>Chinese brand</u>		<u>US brand</u>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Common words ^b	38	84.4%	17	58.6%	20	48.8%
Pseudowords	5	11.1%	11	37.9%	3	7.3%
Proper nouns	2	4.4%	1	3.4%	18	43.9%
SUM	45	100%	29	100%	41	100%

Table 1.3 Easiness^c of common words as a brand name

Maker	<u>Korean brand</u>		<u>Chinese brand</u>		<u>US brand</u>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Easy words	31	81.6%	13	76.5%	18	90.0%
Difficult words	7	18.4%	4	23.5%	2	10.0%
SUM	38	100%	17	100%	20	100%

Notes. The bold fonts indicate significant numbers in Table 1.1–1.3. In Table 1.1, the average number of consonants in the native language and syllables in the non-native language is the largest across US brand names. In Table 1.2, common words are the most frequent type of brand names. In Table 1.3, easy words are the most frequent type of common words.

^a Actual brand names in the Roman Alphabet from 45 Korean, 29 Chinese, and 41 US brand names.

^b Common words refer to English words, including common nouns and verbs, rather than proper nouns representing places or personal names. We included common words spelled differently, such as *clinique* for *clinic*.

^c Easy and difficult criteria are based on the recommended list for primary and secondary schools in English as a foreign language curriculum (Korea Ministry of Education, 2022).

For example, the US brand name *Victoria's Secret* consists of five syllables in English [vɪk-tə-rɪəs-si-krət], but eight syllables in Korean transliteration [bik-to-ri-a-su-si-ku-rit]. These findings suggest that using more than five consonants in a brand name leads to the proliferation of syllables in a foreign language and impairs the ease with which non-native speakers articulate and recall a brand name.

Table 1.2 shows that the number of common words in brand names is higher than that of pseudowords in all three languages (48.8–84.4% for common words and 7.3–37.9% for pseudowords). Examples are *Secret* for a common word and *Mobike* for a pseudoword. Thus, common words are preferred over pseudowords as brand names.

Table 1.3 shows that the number of easy words is higher than that of difficult words in brand names that are made of common words in all three languages (76.5–90.0% for easy words, and 10.0–23.5% for difficult words). Examples are *Warrior* for an easy word and *Oracle* for a difficult word. Therefore, easy words are preferred over difficult words for brand names.

The Appendix of our GitHub repository presents a complete list of the analyzed brand names. Examples of US brand names include *Victoria's Secret* (fashion), *Estee Lauder* (cosmetics), *Pepperidge Farms* (cookies), and *Auntie Anne's* (restaurants). Examples of Chinese brand names are *Warrior* (回力 huí lì 'spinning force') for a shoe brand, *Garden* (嘉顿 jiā dùn 'beautiful stop') for a food brand, *Poly* (保利 bǎo lì 'defend one's profit') for a real estate brand, *Mobike* (摩拜 mó bài 'rub and pay a visit' for a station-less bicycle-sharing system, and *Net Ease* (网易 wǎng yì 'easy net') for an internet brand. Examples of Korean brand names include *Top Ten* (fashion), *Rolling* (restaurants), *Orion* (food), and *Oracle* (cosmetic surgery clinic).

We observed the fact that many Korean cosmetic surgery clinics in Seoul, dealing with many international patients, have a brand name in English with the proposed phono-onomastic feature of short and easy common words containing five or fewer consonants. Examples include *Best*, *Members*, *Visual*, *Secret*, *Gallery*, *Image*, *Trend*, *Palace*, *Yellow*, *Opera*, *Point*, *Grand*, *Pop*, *Promise*, *The Style*, *Star Line*, *A Plus*, *Top Class*, and *Eye Well*.⁷

Based on this observation of actual brand names, although the data is not extensive, we can presume that short and easily memorable common words in English, containing five or fewer consonants, are favored as brand names in Korea and China. This preference may arise from the ease with which these words are remembered by local residents who are mainly non-native speakers of English.

1.3 Hypotheses and Research Question

An examination of actual brand names suggests that consumers prefer brand names comprising short and easy English common words. Based on this examination, we propose the following four hypotheses:

(1) Hypotheses on the phono-onomastic features of brand name preferences

HYPOTHESIS 1: Real words in English are preferred over pseudowords.

HYPOTHESIS 2: Easy words in English are preferred over difficult words.

HYPOTHESIS 3: Short pseudowords in English with fewer than six consonants are preferred over long pseudowords.

HYPOTHESIS 4: Short real words in English with fewer than six consonants are preferred over longer ones.

The preferred brand name features in (1) will be referred to as the “proposed” versions, while the brand names that lack these features will be referred to as the “opposed” versions. These four hypotheses lead to the following research question:

⁷ Most cosmetic surgery brand names in Korea are in English owing to the status of English as an international language rather than the country-of-origin effect (Bilkey and Nes, 1982; Verlegh and Steenkamp, 1999; among others). The country-of-origin effect refers to the nationality bias that consumers’ purchase intentions depend on the product’s country of origin. Cosmetic surgery brands of Korean origin are preferred, reflecting Korea’s strength in this field. Therefore, their English (not Korean) brand name is considered due to the status of English as an international language rather than the country-of-origin effect regarding onomastic concerns.

(2) Research Question

Will respondents from linguistically diverse countries prefer the proposed brand names than their opposed counterparts?

To answer this research question affirmatively, the survey results must support each of the four hypotheses.

II. Methodology

We conducted a survey based on the conceptual framework that an unmarked word may consist of two syllables, with a possible additional light syllable. The survey aimed to measure native speakers' preference for brand names of this length in linguistically diverse countries. To ensure the relevance, accuracy, validity, and reliability of the survey questions, we developed a survey construct that provided a foundation for interpreting the collected data, which was critical for obtaining accurate survey results.

2.1 Survey Construct

We devised a survey construct (Table 2) to define the purpose and scope of the survey and to evaluate the validity and reliability of the survey questions. This construct was essential to secure the relevance and accuracy of the survey results presented in Section III. and the interpretation of the data collected in Section IV. Table 2 presents the brand names of the four hypotheses designed to propound across the four languages and industries.

Table 2. Survey Construct of Brand Names

(*N* = 2,048)^a

Types	Data construct
Four languages	English, Korean, Bengali, Chinese
Four industries	Fashion, Cosmetics, Grocery, Restaurant
Four hypotheses	Preferred brand names are as follows: A real word to pseudoword An easy to difficult word A short to longer pseudoword A short to longer real word
Two versions	Proposed or opposed word in the above four hypotheses

Note. ^a (*N* = 2,048 names = 4 languages × 4 industries × 4 hypotheses × 2 versions × 16 name pairs).

Table 2 shows the survey construct for brand names to cover the breadth of the construct being measured, consisting of four languages (English, Korean, Bengali, and Chinese), industries (fashion, cosmetics, grocery, and restaurants), and hypotheses regarding preferred words: real to pseudo, easy to difficult, short to longer invented, and short to longer real words. We selected four industries to cover the general scopes of brand names familiar to everyday people: hedonic (fashion and cosmetics) and utilitarian (groceries and restaurants).⁸ Participants were required to choose between each brand name pair’s proposed and opposed options that tested one of the four hypotheses. This design only measured the differences made by each hypothesis while making all other criteria equally good or bad. Consequently, we derived 2,048 brand names from 16 name pairs per hypothesis through a survey of four hypotheses, languages, and industries. Comprehensively, this survey construct provides a solid foundation for evaluating the linguistic factors that influence brand name preferences across diverse linguistic and cultural backgrounds.

⁸ Broader coverage is essential because we are concerned with isolating linguistic factors from brand emotion. Brand emotion depends on the specific industry because people associate sounds with certain products and things (Klink, 2000; Motoki et al., 2022).

2.2 Survey Participants

A total of 870 participants from four countries—102 from Korea, 75 from Bangladesh, 68 from China, and 625 from the US—voluntarily completed a web-based survey in their native languages. The participants were required to provide their nicknames, age, gender, educational level, and language proficiency to check the consistency, validity, and reliability of their responses.

All volunteers from Korea and Bangladesh were included in the analysis, while many from the US and China were excluded according to our sampling criteria (Section 2.6). The reasons for the variations in reliability among survey respondents based on nationality remains uncertain. However, one possible explanation is that the Korean and Bengali web surveys were conducted through personal invitation by research assistants or their friends, who were familiar to most participants.

Among the 245 non-native English speakers, 23% reported being fluent in English, 72% reported speaking some English, and 5% reported speaking no English. Most respondents were college-educated (91%), aged 18–29 (62%), and included both genders (41% male and 59% female).

2.3 Creation of Brand Name Stimuli

To investigate the effects of linguistic factors on brand name preferences, we created 2,048 new brand names in Korean, English, Chinese, and Bengali (Table 2). For each language, we designed 512 brand names in four industries (fashion, cosmetics, grocery, and restaurants) using four hypotheses in two versions (proposed and opposed) and 16 questions for each industry and hypothesis, with equal number of names in each industry. To maintain comparability, we designed the brand names and contexts to be thoroughly similar across the four languages. Therefore, we translated the brand name sets in English into other languages based on sound.⁹ To

isolate the differences suggested by each hypothesis, we created minimal or near-minimal pairs of English words for brand name comparison.

For Hypothesis 2, we used strict criteria to create easy and difficult pairs of real words (not pseudowords), considering the differences in Google hits, ranking differences in dictionaries, classification of English words as a foreign language (Korea Ministry of Education, 2022), and agreement among native-speaking research assistants from the four countries who were fluent in English. For Hypotheses 3 and 4, we counted consonant numbers based on sounds, not orthography, with specific rules for spellings and sounds, such as considering the spelling *x* pronounced [ks] as two consonants and geminate spelling (*mm*, *nn*, *ll*) as a single consonant.

To warrant the appropriateness of the survey construct, we pilot-tested the diagnostic data using a small group of Korean and Bengali speakers.

2.4 Brand Name Translation Across Languages

This section discusses the translation of brand names across languages in the context of an online survey conducted in four languages (English, Korean, Bengali, and Chinese) and industries (fashion, cosmetics, grocery, and restaurants). The survey included real words and pseudowords translated from English into each target language based on the sound of the original English words. Moreover, we considered socio-cultural adaptations such as positive connotations, product-related meanings compatible with trademark laws, and phonotactic constraints of the target languages. We avoided high-frequency and well-known brand names to prevent confounding effect among respondents.

⁹ For the Chinese survey, we provided the best character pairs of the proposed and opposed brand names with an equal amount of good brand emotion embedded in the characters: fashion being “fashionable,” cosmetics being “attractive,” grocery being “fresh” and “healthy,” and restaurant being “delicious” and “happy.” Embedding brand emotion was inevitable owing to the nature of the Chinese orthography that included meaning.

Table 3. Orthographically Diverse Sample Brand Names in International Surveys

Country	Industry	Which brand would you purchase if both are unfamiliar to you?			
		Fashion brands	Cosmetic brands	Grocery brands	Restaurant brands
US	Proposed	Kristar	Twinkle	Fresh	Mindsoul
	Opposed	Kristarique	Trinkle	Verdant	Mindandsoul
Korea	Proposed	크리스타르 (Kristar)	트윙클 (Twinkle)	프레쉬 (Fresh)	마인드소울 (Mindsoul)
	Opposed	크리스타리크 (Kristarique)	트린클 (Trinkle)	버던트 (Verdant)	마인드앤드소울 (Mindandsoul)
China	Proposed	科睿丝塔 (Kristar)	图英蔻 (Twinkle)	佛蕾斯 (Fresh)	敏德嗖尔 (Mindsoul)
	Opposed	科睿丝塔睿科 (Kristarique)	车英蔻 (Trinkle)	沃尔丹特 (Verdant)	敏丹德嗖尔 (Mindandsoul)
Bangladesh	Proposed	ক্ৰিস্টাৰ (Kristar)	টুইঙ্কলে (Twinkle)	ফ্ৰেশে (Fresh)	মাইন্ডসোলে (Mindsoul)
	Opposed	ক্ৰিস্টাৰিকি (Kristarique)	ট্ৰিংকলে (Trinkle)	ভৰেড্যান্ট (Verdant)	মাইন্যান্ডসোলে (Mindandsoul)

Notes. These samples were obtained for each of the four hypotheses (H1–H4). The proposed versus opposed samples for real word to pseudoword (H1) are *Twinkle* > *Trinkle*, for easy over difficult word (H2) are *Fresh* > *Verdant*, for short over longer pseudoword (H3) are *Kristar* > *Kristarique*, and for short over longer real English word (H4) are *Mindsoul* > *Mindandsoul*.

Table 3 shows samples of the translated brand names in each language and industry, in their proposed and opposed name options in the survey, based on Hypotheses 1–4. The question in the top row requests respondents to choose one of the two brand names (proposed or opposed) illustrated for each language and industry. We repeatedly asked the same question for each brand name pair, and the respondents were required to choose their preferred name. This design allowed the respondents to focus on the differences between the two alternative names.

For each brand name written in a non-English orthography, we provided the original English word in parentheses to assist respondents who might encounter homonyms in their native orthography. In the Chinese survey, we opted for sound translations to minimize popularity differences resulting from variations in meaning within Chinese orthography, which is meaning-based. As an example, the English brand name in English *Twinkle* from Table 3 is sound translated into “Teuwingkeul” in Korean using official Romanization, “túyīngkòu” in Chinese using Pinyin, and “tɔɪŋkel” in Bengali using IPA (Appendix, GitHub repository).

2.5 Data Collection

We collected data from 870 volunteer participants from four different countries (Korea, the US, Bangladesh, and China) in their native languages (Korean, English, Bengali, and Chinese) for four business industries (fashion, cosmetics, grocery, and restaurants). A total of 78,465 data points were collected: 9,267 in Korean, 56,288 in English, 6,765 in Bengali, and 6,145 in Chinese.

Table 4 shows the data by the number of word pairs per business industry and native-speaking participants per country. We collected the data by the following procedure. First, 256 word pairs ($4 \text{ industries} \times 4 \text{ hypotheses} \times 16 \text{ questions}$) in the survey were divided into two parts to optimize the survey time and prevent reduced reliability caused by respondent fatigue. Participants were given the choice to complete either one part or both parts of the survey. Second, to examine reliability, eight duplicated names in each language and industry were included in the survey. Third, participants were instructed to select their preferred brand name from two options (proposed and opposed versions) for each name pair. The brand names were presented in the orthography of their native language and English, with the order randomized to avoid ordering effects. Fourth, respondents and questionnaire items were excluded if they violated the validity and reliability measures detailed in Section 2.6.

Table 4. Data Composition of Word Pairs and Participants in Survey

	Section A	Section B	SUM
1) Number of word pairs per business industry			
In fashion	18	21	39
In cosmetics	26	26	52
In grocery	21	25	46
In restaurant	21	23	44
Sum of word pairs	86	95	181
2) Number of native-speaking participants per country			
In Korea	47	55	102
In US	343	282	625
In Bangladesh	40	35	75
In China	35	33	68
Sum of participants	465	405	870
Total number of data	39,990	38,475	78,465

Each survey session lasted from 3–10 days in each country by the end of 2021, with respondents spending approximately 15–20 minutes completing one of the two parts of the survey. Overall, we collected a large and diverse data set from multiple countries and languages, providing a robust basis for analysis.

2.6 Reliability and Validity Measures

Reliability and validity measures are crucial for ensuring the accuracy and credibility of survey data. Specific participants and data sampling methods were used to certify the reliability and validity of the survey results. For the participant sampling method, strict criteria were used to include respondents who met the reliability and validity criteria, including language proficiency as a native speaker, educational level to perform the survey, and response consistency in the repeated question items. We excluded respondents who did not have college-level education

for a survey advertised on a university website, whose email names were a series of random letters similar to some of the other responses submitted simultaneously, and whose reported nicknames were inconsistent with their reported gender. Moreover, we excluded respondents who reported fluency in all four languages in the survey (Korean, Bengali, Chinese, and English) and whose response time was unexpectedly shorter than 5 minutes (the expected duration was 10–25 minutes).

Regarding the data sampling method, we assured face validity in the brand name survey by asking a sample of native-speakers to review the survey questions and provide feedback on whether the name pairs were appropriate and relevant for measuring the intended survey constructs. We excluded 75 invalid pairs based on strict criteria regarding whether the names were culturally and linguistically inappropriate, lacked brand emotion (such as *Daily* for a fashion brand), had negative connotations (such as *Binge* for a restaurant name), or violated the survey's hypothesis testing variables (such as *Idol* and *Envy* for a cosmetics brand name to test the preference difference between easy and difficult name versions).¹⁰ Additionally, the example pair of names, *Sweet Oat* and *Sweet Almond*, were excluded from the restaurant names because many Bengali people had no knowledge of oats.

After data sampling, we included 39 brand name pairs in the fashion industry, 52 in the cosmetics industry, 46 in the grocery industry, and 44 in the restaurant industry, for a total of 181 valid name pairs in each survey language. This sampling assured that the data analysis accurately reflected the conceptual framework underlying the design and implementation of the survey questionnaire. Generally, the

¹⁰ Ten strict criteria were used to conserve the reliability and validity of our measures, resulting in the exclusion of 75 invalid name pairs filtered by seven of these criteria. The 10 criteria were (1) unpaired compound words, (2) unfavorable affixation, (3) unpaired product categories, (4) lack of brand emotion, (5) unpaired sound or emotion, (6) a well-known name, (7) a difficult real word for Hypothesis 1, (8) unpaired sounds of real and pseudowords for Hypothesis 1, (9) an unpaired rhyme of pseudowords for Hypothesis 3, and (10) a missing name pair in one of the survey locations by mistake. Appendix (GitHub repository) is provided to help readers verify our results and gain a deeper understanding of our study.

participants and data sampling methods employed in this study verified the reliability and validity of our survey constructs and data analysis.

2.7 Data Analysis

The data collected were analyzed using independent sample *t*-tests to compare the means of the two groups of proposed and opposed names. Then, a multiple two-way analysis of variance (ANOVA) was used to assess the effect of independent variables (language, industry, and hypothesis) on the dependent variable (respondent's choice of brand name). This two-way ANOVA design aimed to maintain readability while considering the impact of these three factors on brand name preference because a higher way ANOVA design added complexity to the statistical analysis. This study made no assumptions regarding the statistical interactions without the factor of brand name preference but only among the factors of country, industry, and hypothesis. The analysis was conducted using SPSS version 26.

III. Results

The results revealed that the survey respondents significantly preferred the proposed brand names than the opposed ones for Hypotheses 1–4. The respondents' choice differences were consistent across languages and industries. We examined the potential falsity due to the interaction of language, industry, and hypothesis differences. The falsity checks confirm the overall results.

3.1 Phono-onomastic Preference of Brand Names

Figure 1 presents the proportion of responses comparing the preferred brand names between the proposed and opposed names in varied industries selected by linguistically diverse speakers.

In Figure 1, the survey results show statistically significant preference for the proposed names ($p < 0.001$) across diverse languages and industries. The 78,465 name pairs were collected from 870 participants (Table 4). The proposed and opposed name pairs were generated according to Hypotheses 1–4 (Section 1.3). Non-native English speakers in Korea, Bangladesh, and China, exhibited a greater preference for the proposed names than native English speakers in the US. We discuss the reasons in Section 4.2 in terms of phonotactic constraints allowing consonant clusters within a syllable, proficiency levels and trademark laws.

3.2 Falsification Checks

We conducted multiple two-way ANOVA to examine the effects of various factors, including language (Korean, English, Chinese, and Bengali), industry (Fashion, Cosmetics, Grocery, Restaurants), and hypothesis (Hypotheses 1–4), on phono-onomastic preference (i.e., the respondents' choices between the proposed brand name and its opposed counterpart). This analysis aimed to evaluate the effects and interactions between phono-onomastic preferences and other variables. The results indicated that only language significantly affected the phono-onomastic preference.

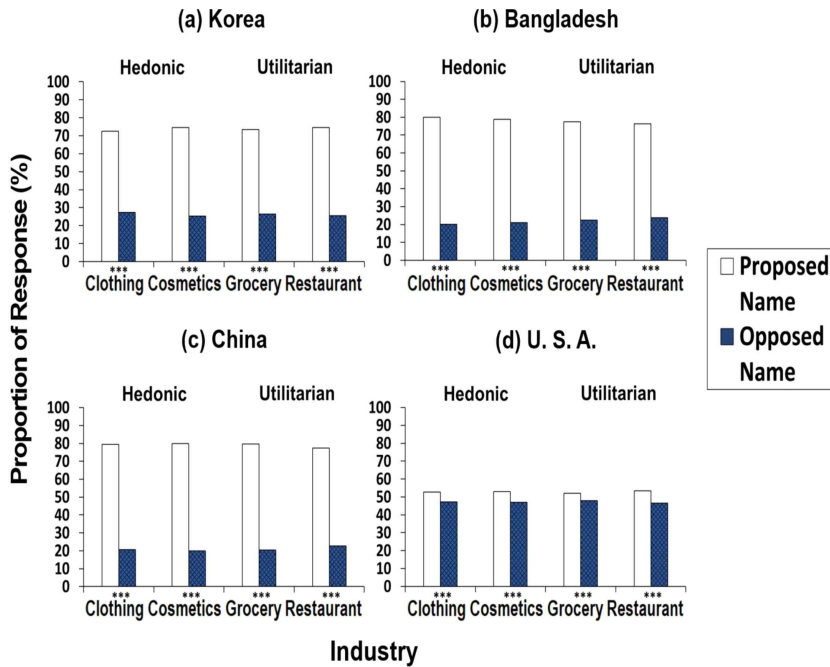


Figure 1. Comparison of preferred brand names among linguistically diverse respondents ($N = 78,465$). The results of a survey conducted among 870 participants from diverse linguistic backgrounds (102 Korean, 75 Bengali, 68 Chinese, and 625 American) demonstrate a preference for the proposed brand names over their opposed counterparts (comprising 181 name pairs, including 39 in fashion, 52 in cosmetics, 46 in grocery, and 44 in restaurant industries). The preference for proposed names is statistically significant across diverse languages and industries as determined by a t -test, with a significance level of $p < 0.001$ (marked by ***).

3.2.1 Effect of Language Difference

The results of a two-way ANOVA regarding the influence of language (Korean, Bengali, Chinese, and English) on the phono-onomastic preference of brand names

(proposed vs. opposed) among 1,448 surveyed brand names revealed a significant interaction effect between the language and phono-onomastic preference of brand names ($F(3, 1440) = 7.68, p < 0.001$). This significant interaction indicates that language differences significantly impact the phono-onomastic preference for brand names, that is, the preference for proposed brand names (Section 3.1) may not exist in some language.

Table 5 presents the results of the multiple *t*-tests that further examine the impact of language differences on brand name preference for each of the four hypotheses. These *t*-tests were conducted to determine whether the general preference result of phonological properties (Section 3.1) holds in each specific language. The results indicate that the proposed brand names received a significantly higher mean preference score than the opposed brand names ($p < 0.001$) among native speakers from the four linguistically diverse countries ($N = 870$) in each of the hypotheses. The 1,448 surveyed names in all languages and hypotheses show a statistically significant preference for the proposed brand names. Overall 1,448 paired name data comprise 181 pairs of brand names (36 for Hypothesis 1, 30 for Hypothesis 2, 64 for Hypothesis 3, and 51 for Hypothesis 4) \times 2 names (proposed and opposed) \times 4 languages (Korean, Bengali, Chinese, and English).

The proposed phono-onomastic properties for a brand name are a real word over a pseudoword (Hypothesis 1), an easy name over a difficult name (Hypothesis 2), a short pseudoword with fewer than six consonants over longer words (Hypothesis 3), and a short real word with fewer than six consonants over longer words (Hypothesis 4). The smallest effect size, as indicated by Cohen's *d* values (bold in the rightmost column) is for the English language, which is consistent with the significant language effect on brand name preference revealed by the factorial ANOVA results.

Table 5. Validity of Each Phono-onomastic Hypothesis in Linguistically Diverse Countries

Language	Proposed brand name ^a			Opposed brand name ^a			<i>t</i>	<i>df</i>	Cohen's <i>d</i>
	<i>M</i> ^b	%	<i>SD</i>	<i>M</i> ^b	%	<i>SD</i>			
Hypothesis 1									
Korean	38.9	75%	9.6	13.0	25%	9.0	11.78 ^{***}	70	2.78
Bengali	30.8	83%	3.7	6.1	17%	2.8	32.25 ^{***}	70	7.61
Chinese	22.6	67%	5.2	11.2	33%	5.3	9.21 ^{***}	70	2.17
English	162.0	53%	17.8	143.7	47%	15.5	4.66 ^{***}	70	1.10
Hypothesis 2									
Korean	35.4	70%	6.1	15.3	30%	4.8	14.20 ^{***}	58	3.67
Bengali	26.7	71%	5.5	10.9	29%	5.0	11.55 ^{***}	58	2.98
Chinese	25.9	76%	3.8	8.2	24%	3.8	18.12 ^{***}	58	4.68
English	165.1	52%	17.0	149.4	48%	17.6	3.51 ^{***}	58	0.91
Hypothesis 3									
Korean	40.5	79%	6.2	10.5	21%	5.0	30.29 ^{***}	126	5.36
Bengali	31.2	83%	3.8	6.3	17%	2.7	42.90 ^{***}	114 ^c	7.59
Chinese	29.7	87%	2.3	4.3	13%	2.4	60.26 ^{***}	126	10.65
English	166.4	53%	21.2	146.1	47%	16.9	5.99 ^{***}	121 ^c	1.06
Hypothesis 4									
Korean	35.1	69%	6.6	16.1	31%	6.0	15.28 ^{***}	100	3.02
Bengali	27.0	72%	5.3	10.3	28%	4.6	17.09 ^{***}	100	3.39
Chinese	26.9	79%	3.8	7.1	21%	3.7	26.55 ^{***}	100	5.26
English	162.3	52%	18.2	148.4	48%	17.4	3.93 ^{***}	100	0.78

Notes. The mean choice values of 870 native-speaking participants (102 Korean, 75 Bengali, 68 Chinese, and 625 English) for the proposed and opposed brand names in each hypothesis are presented, along with the results of the *t*-tests comparing the proposed versus opposed choices. All mean differences are statistically significant at $p < 0.001$.

^a The proposed and opposed names are selected based on each phono-onomastic hypothesis.

^b Average of participants' selections of the proposed or opposed brand names in the two survey sheets for each language.

^c Degree of freedom (*df*) is adjusted using Leven's test for equal variance. The sample size, represented by the number of proposed and opposed brand names, is 128 for Hypothesis 3.

^{***} $p < 0.001$.

3.2.2 Insignificant Effect of Industry Difference

A two-way ANOVA was conducted on the brand name data to examine the influence of industry differences (fashion, cosmetics, grocery, and restaurants) on phono-onomastic preferences (respondents' choices between the proposed and opposed brand names). The results showed a statistically non-significant interaction between industry effects and phono-onomastic preference ($F(3, 1440) = 0.02, p = 0.997$). This non-significant interaction suggested that industry differences did not affect phono-onomastic preferences for brand names.¹¹ Hence, the phono-onomastic preference (Section 3.1) remains unchanged or unaltered by industry differences.

3.2.3 Insignificant Effect by Hypothesis Difference

A two-way ANOVA was conducted on brand name data to assess the impact of hypothesis differences (Hypotheses 1, 2, 3, and 4) on phono-onomastic preferences (respondents' choices between the proposed brand name and its counterpart). The results of the two-way ANOVA showed a statistically non-significant interaction between the hypothesis and phono-onomastic properties of brand names ($F(3, 1440) = 0.41, p = 0.75$). This non-significant interaction indicated that differences in the hypothesis did not significantly affect phono-onomastic preferences for brand names.¹² Thus, the phono-onomastic preference (Section 3.1) is not altered or falsified by differences in the hypothesis.

¹¹ Survey respondents consistently preferred the proposed brand names over the opposed ones in each industry ($p < 0.001, t$ -test) (Appendix, GitHub repository).

¹² Survey respondents preferred the proposed brand names over opposed ones for each hypothesis ($p < 0.001, t$ -test) (Appendix, GitHub repository).

IV. Discussion and Conclusion

4.1 Summary of Results

The results confirm our research question in Section 1.3, as stated in (2). Respondents from linguistically diverse countries preferred the proposed brand names to their opposed counterparts. Specifically, they preferred brand names made of real over pseudowords (Hypothesis 1), easy over difficult words (Hypothesis 2), and short over longer words with six or more consonants (Hypotheses 3 and 4). Our investigation of brand name preferences among native speakers of four languages (Korean, Bengali, Chinese, and English) found a statistically significant preference for proposed brand names with the phono-onomastic properties of being short and real words (Figure 1 and Table 5). Our analysis showed a significant difference in the mean preference values between the proposed and opposed brand names ($p < 0.001$) across all four languages and hypotheses. No significant effects were observed for industry or hypothesis differences. The *t*-test was based on 181 pairs of brand names per language, and the proposed brand names satisfied all the four hypotheses.

4.2 Implications of Findings

Our study has several phonological and onomastic implications for brand name phono-onomastics. We suggest the phonological factors that include universal markedness demands, language-specific phonotactic constraints related to syllabic structures, and orthographic differences. Onomastic factors include memorable words with brand emotion concerning native and non-native differences in language use.

First, the phonological results suggest that there are universal markedness demands and language-specific phonotactic constraints. The findings indicate that respondents preferred shorter brand names comprising a limited number of five or fewer consonants ($p < 0.001$ for Hypotheses 3 and 4 in all four languages in

Table 5), which aligns with previous research indicating that the universally unmarked length of words is two syllables (Broselow et al., 1998) and one possible additional light syllable.

However, the degree of preference for shorter brand names differed between native and non-native English speakers because of the phonotactic constraints of the syllabic structure and orthographic differences. Specifically, the non-native speakers in our survey showed a stronger preference for shorter brand names of a limited number of five or fewer consonants, as shown by the effect sizes in Cohen's d values for Hypotheses 3 and 4 in Table 5 that are as large as 5.36 and 3.02 for Korean, 7.59 and 3.39 for Bengali, and 10.65 and 5.26 for Chinese, compared to the smaller value $d = 1.06$ and 0.78 in English.¹³ This preference difference was driven by the phonotactic constraints that only English phonology, and not Korean, Bengali, or Chinese phonologies, allows consonant clusters within a syllable.

The mandatory vowel entailment in the syllable-based orthography of these non-English languages induces these speakers to adapt the consonantal clusters of English brand names to their native language. Furthermore, when adapting English brand names to non-native languages, the preference for adding sounds rather than removing them (Kim, 2009) leads to the lengthening of original English brand names with six or more consonants. This exceeds the previously mentioned unmarked number of two syllables (Broselow et al., 1998) and one possible additional light syllable in the syllable-based orthography of these non-English languages. These phonological findings support Hypotheses 3 and 4 and imply that language universal markedness and language-specific phonotactic constraints should be considered when creating brand names for different linguistic communities.

Second, the onomastic results of the study support Hypotheses 1 and 2, indicating that easy and real words in English are preferred as brand names, offering an

¹³ Cohen's d is a measure of the standardized mean difference between two groups and is typically interpreted as small ($d = 0.2$), medium ($d = 0.5$), or large ($d = 0.8$) effect sizes. Therefore, Cohen's d of 1.06 and 0.78 will also be considered as a large effect size.

advantage in promoting memorable brand emotions globally. This preference was observed across all four languages ($p < 0.001$ in Table 5) and can be attributed to the widespread use of English as an international language. This finding aligns with the popularity of English brand names in the Korean cosmetic surgery industry (Section 1.2). Korean cosmetic surgery clinics select English brand names to target global promotion rather than being driven by a country-of-origin effect because Korea is strong in this industry.

However, there was a notable difference in preferences between native and non-native English speakers, with respect to Hypotheses 1 and 2. The effect sizes in Table 5 by Cohen's d are as large as 2.17–7.61 for other non-English languages but not so large as 0.91–1.10 for English. The preference difference may come from two factors: (1) the proficiency level difference between native and non-native speakers of English and (2) trademark laws. As for the proficiency level difference, only native speakers, but not non-native English speakers, may consider that the opposed difficult brand name in Hypothesis 2 is not difficult at all. Regarding trademark laws (e.g., the Lanham Act in the US), they generally disallow descriptive or generic brand names, which are often the opposed names in Hypothesis 1, referring to the given product category. For example, the brand name *book* is precluded in the book industry. The naming convention instigated by trademark laws gives native English speakers the feeling that such common words in English do not sound like a brand name.

The distinction between native and non-native speakers explains why Bengali speakers do not react similarly to English speakers belonging to the same Indo-European language family, but to Korean and Chinese speakers belonging to different language families. This behavior of Bengali speakers implies that genetic relationships between languages from distant relatives do not significantly affect the phono-onomastics of brand names. Thus, these findings offer new insights into the phonology and onomastics of brand names.

4.3 Limitations and Future Research

This study has some limitations. One limitation concerns the selection of Chinese character pairs for the proposed and opposed brand names, which may have had different brand emotions embedded in the character. This difference is inevitable because Chinese orthography contains meaning, unlike the phonographic English, Korean, and Bengali, which lack this feature. Therefore, the English pseudowords in the test data were translated into Chinese characters with newly assigned unintended meanings. To address this limitation, we recommend conducting multiple pilot tests using meaning-based characters, such as Chinese, to enhance data quality. Nonetheless, the survey results were significant and aligned with those for other languages. These consistent results may be attributed to the presentation of English words along with Chinese characters in the survey sheets (Table 3).

Another limitation concerns the data sampling methods, particularly the reliability and validity of the measures used in the study. We excluded 75 invalid name pairs based on strict criteria such as cultural and linguistic appropriateness, brand emotion, negative connotations, and violations of the survey's hypothesis testing variables (Section 2.6). To improve the data quality, we recommend that future studies should conduct pilot tests of all brand names in the survey location. Although we only pilot-tested a portion of the names in two of the four countries (Korea and Bangladesh) using a sample of representative participants, our survey results remained relatively the same, with and without excluding invalid name pairs.

The third limitation relates to the use of duplicate names of real brand names. Owing to many already trademarked brands and product names, creating new and different brand name pairs containing good brand emotion was challenging. We excluded existing names by checking and searching the market; however, we could only exclude high-frequency and well-known brands. Therefore, there may be a confounding effect among respondents who know an existing brand name similar to that created in the survey. Future research can address this limitation by considering

alternative methods for creating brand names or by conducting a large-scale study that includes a broader range of brand names.

4.4 Conclusion

Our study suggests that creating a successful new brand name involves the selection of short and common English words containing five or fewer consonants. This phono-onomastic solution is essential for achieving brand awareness across multiple languages and orthographies, and can pose significant challenges when expanding internationally. To address this issue, we explored critical phonological assets including phonotactics and phonological unmarkedness. We then drew factual survey data from four linguistically diverse countries to identify the preferred brand names across languages with different orthographies: phoneme-based alphabet in English, alphasyllabary in Bengali, featural alphabet arranged in syllable blocks in Korean, and meaning-based syllabic characters in Chinese. Our findings provide theoretical implications in the fields of phonology and onomastics, and practical guidance for businesses seeking to develop effective, multilingual brand names that resonate with consumers worldwide. Thus, this study's in-depth insights will help companies establish brand awareness and recognition across diverse linguistic and cultural contexts.

Works Cited

- Awan, Mahmood A., and Ho H. Chiang. "The Effect of American Translated Brand Name Cue on Brand Association in Korean Market." *International Journal of Trade, Economics, and Finance*, vol. 5, no. 4, 2014, pp. 312-316.
- Barry, Herbert III. and Aylene S. Harper. "Three Last letters Identify Most Female First Names." *Psychological Reports*, vol. 87, no. 1, 2000, pp. 48-54. doi: 10.2466/pr0.2000.87.1.48.

- Bilkey, Warren J., and Erik Nes. "Country-of-origin Effects on Product Evaluations." *Journal of International Business Studies*, vol. 13, 1982, pp. 89-100.
- Blevins, Juliette. "The Syllable in Phonological Theory." *The Handbook of Phonological Theory*, edited by John A. Goldsmith, 1996, pp. 206-244.
- Broselow, Ellen, Su-I Chen, and Chilin Wang. "The Emergence of the Unmarked in Second Language Phonology." *Studies in Second Language Acquisition*, vol. 20, no. 2, 1998, pp. 261-280.
- Desmet, Pieter M.A. "Product Emotion." *Product Experience*. Elsevier, 2008. pp. 379-397. <https://doi.org/10.1016/B978-008045089-6.50018-6>
- Kim, Jong-mi. "Insertion Preferred to Deletion in Learner Speech: A Study of Korean English." *Jungang Journal of English Language and Literature*, vol. 51, no. 3, 2009, 101-124.
- Kim, Jong-mi. "Phonology of Brand Naming." *Studies in Phonetics, Phonology, and Morphology*, vol. 23, no. 1, 2017, pp. 3-26. The Phonology-Morphology Circle of Korea. [dx.doi.org/10.17959/sppm.2017.23.1.3](https://doi.org/10.17959/sppm.2017.23.1.3)
- Kim, Jong-mi. "The Linguistics of Name Translation: Preferred Personal and Business Names in English, Korean, and Chinese." *Names*, vol. 68, no. 2, 2020, pp. 104-24.
- Kim, Jong-mi, and U-ri Go. "Historical Evidence of Phonological Changes in Korean Names, 1940-2021." *Studies in Phonetics, Phonology and Morphology*, vol. 28, no. 3, 2022, pp. 417-441.
- Klink, Richard R. "Creating Brand Names with Meaning: The Use of Sound Symbolism." *Marketing Letters*, vol. 11, no. 1, 2000, pp. 5-20.
- Korea Ministry of Education. *English Curriculum*. [Proclamation #2022-33, Annex 14]. 2022. pp. 258-290. ncic.go.kr/mobile.dwn.ogf.inventoryList.do#. Accessed 5 Mar. 2023.
- Lehiste, Ilse. "Bisyllabicity and Tone." *International Symposium on Tonal Aspects of Languages (TAL-2004)*, edited by B. Bel and I. Marlien, Chinese Academy of Social Sciences, 2004, pp. 111-114. www.isca-speech.org/archive_open/tal2004/tal4_111.html. Accessed 7 Apr. 2023.
- Moravcsik, Edith A., and Jessica R. Wirth. "Markedness: An overview." *Markedness*, edited by Fred. R. Eckman, Edith A. Moravcsik, and Jessica R. Wirth. Plenum, 1986, pp. 1-11.
- Motoki, Kosuke, Jaewoo Park, Abhishek Pathak, and Charles Spence. "The Connotative Meanings of Sound Symbolism in Brand Names: A Conceptual Framework." *Journal of Business Research*, vol. 150, 2022, pp. 365-373.
- Slater, Anne S., and Saul Feinman. "Gender and the Phonology of North American First Names." *Sex Roles*, vol. 13, no. 7-8, 1985, pp. 429-440.
- Thompson, Hanne-Ruth. *Bengali*. John Benjamins Publishing Company, 2012. London Oriental and African Language Library, vol. 18.

- Ustinova, Irina P. "English and Emerging Advertising in Russia." *World Englishes*, vol. 25, no. 2, 2006, pp. 267-277.
- Verlegh, Peeter WJ, and Jan-Benedict EM Steenkamp. "A Review and Meta-analysis of Country-of-origin research." *Journal of Economic Psychology*, vol. 20, no. 5, 1999, pp. 521-46.
- Yoo, Jinhoon. "A Study on Customer Perception of Brand Names with Consonant Sound Symbolism." [In Korean]. *Journal of Language Sciences*, vol. 22, no. 4, 2015, pp. 39-65. The Korean Association of Language Sciences.

Appendix: Supplementary Material

We provide additional information in the GitHub repository that is relevant and essential for understanding the study and its results [<https://github.com/BrandNamePhonology/Appendix>]. This repository contains three types of information. First, we provide the complete list of brand name pairs (proposed vs. opposed) used in the surveys conducted in the United States (US), Korea, China, and Bangladesh. Each novel brand name is marked by one of the four hypotheses with which the given name is being tested. Furthermore, we indicated 10 reliability and validity criteria if one of them filtered any given name. Other researchers can use this data set to replicate and extend our results or explore new aspects of the data. Second, we present a complete list of the 115 actual brand name data items used in this study to diagnose the criterion-related validity of our survey construct. The list contains 45 Korean, 29 Chinese, and 41 US brands. Finally, we provide detailed statistical results showing that native speakers consistently preferred the proposed brand names over the opposed brand names for each hypothesis in each industry.

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