



**EXPLORING DIGITAL BRAND PERSONALITY THROUGH LOGO
DESIGN: INSIGHTS FOR THAI AND BURMESE**



**A Thesis Submitted to the Graduate School of Naresuan University
in Partial Fulfillment of the Requirements
for the Master of Business Administration in Strategic Digital Business
Management Program**

2026

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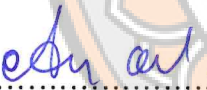
by Wai Mon Phye

has been approved by the Graduate School as partial fulfillment of the requirements
for the Master of Business Administration in Strategic Digital Business Management
Program of Naresuan University

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ABSTRACT

A logo is crucial for businesses in communicating brand personality (BP) to consumers. When logos communicate strong BP, they can support branding strategies, including brand differentiation, which is essential in the current competitive digital market. However, research providing guidelines for logo development with BP through the combinations of logo color, shape, and typeface is limited, especially in Thailand and Myanmar. Therefore, this study conducted a quantitative survey with 122 participants (62 Thais and 60 Burmese) aged 18 to 44. The study examined consumers' BP perceptions of digital logo designs using different colors, shapes, and typefaces. It also examined consumers' preferences for logo designs and elements and compared these preferences between the two nationalities.

The findings showed that different logo designs were associated with different BP perceptions and levels of preference. At the whole-logo level, Logo 1 and Logo 2, which used green, pink, and white colors, organic or circular shapes, and display typefaces, were strongly associated with all five BP dimensions and received the highest preferences. At the element level, particular shapes and typefaces were also associated with different BP dimensions. The findings from both levels indicated that BP associations were not always the same, showing consistent design patterns for 'sincerity' and 'sophistication' and more diverse patterns for the other dimensions. Moreover, whole logo, shape, and typeface preferences were generally similar between Thai and Burmese participants. The study contributes to research on logo design, BP, and consumer preferences by providing evidence from Thailand and Myanmar and offering

practical guidance for developing logo designs that communicate BP and appeal to consumers in café and tea shop businesses.



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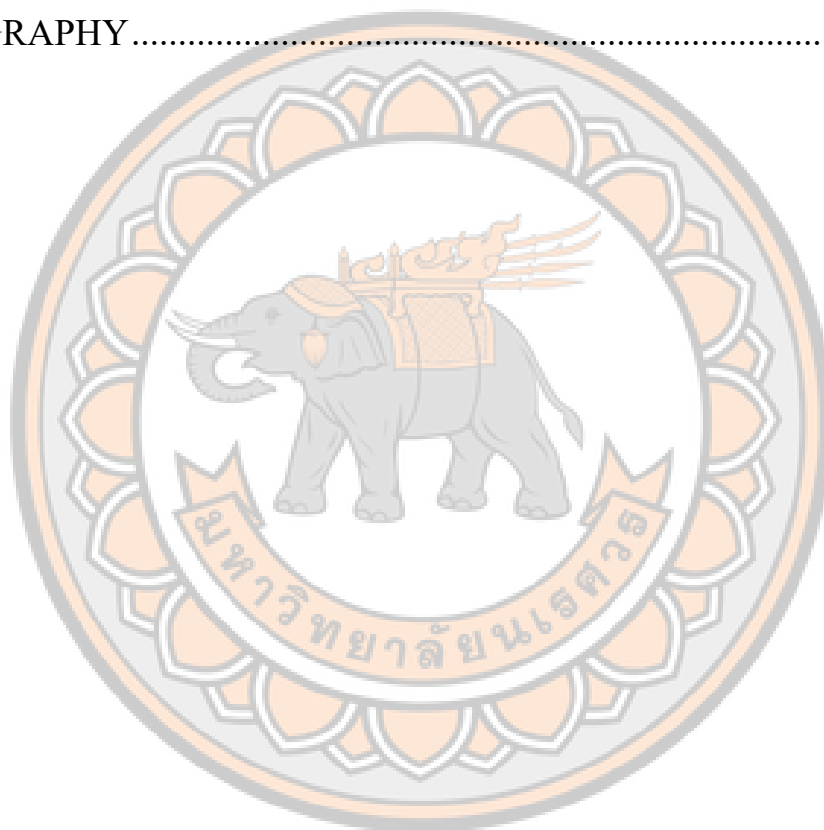
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CHAPTER I

INTRODUCTION

1.1 Background of the Study

The World Intellectual Property Organization (2025) had 93.2 million active trademark registrations worldwide in 2024, with a 6.1% increase from the previous year. This data suggests the increasing rate of businesses globally in the digital era. Consequently, this expansion has created market competitions, less distinctive brand presence, and challenges to draw consumer attention because digital markets expose consumers with numerous competing brands through websites, digital platforms, and social media.

Social media, particularly, are the most dominant digital platforms for daily demands, marketing, and business activities in Myanmar and Thailand. Through these platforms, there were approximately 51 million active users in Thailand and 19.6 million users in Myanmar in 2025 (DataReportal, 2025a, 2025b). The large use of digital platforms has also increased competition and created pressure for businesses to establish distinctive and recognizable brand identities. Accordingly, businesses perform digital branding, such as developing prominent brand names, logos, typographies, product designs, and branded content. Many businesses also implement rebranding, which is very costly for around \$40,000 to six figures and takes 12 to 18 months for the whole process (Forbes, 2021, 2023; Peterson et al., 2015). These efforts highlight the strategic importance of creating strong visual identities that help brand differentiation in highly crowded online environments.

Visual identity serves as a critical communication tool and is particularly important in establishing brand differentiation, enhancing recognition, and shaping consumers' perceptions. Among visual identity elements, a logo is generally regarded as the most fundamental component of a brand's identity and is also the first element that consumers notice. It functions as an individual's signature, doorway to the brand, and symbol of corporate identities (Girard et al., 2013; Wheeler, 2017; Zhu et al., 2017). Beyond its aesthetic value, a logo can reflect consumers' self-identities (Park et al., 2013), enhance brand recognition (Wu & Cheong, 2024), facilitate brand identification (Schechter, 1993), and communicate the personality of a brand (Jabbar, 2014; Leelayudthyothin,

2022; Suriadi et al., 2022). Therefore, a strong logo serves not only as a visual identifier but also as a strategic branding asset.

Logos can influence consumer responses by communicating brand personality (BP) to them. BP is “the set of human characteristics associated with a brand” (Aaker, 1997), i.e., how consumers perceive brands is similar to how people perceive each other. While consumers perceive brands, they use personality traits such as sincerity, excitement, competence, sophistication, and ruggedness. A brand with strong BP contributes to brand differentiation (Park & John, 2010; Phau & Lau, 2000; Suriadi et al., 2022), expression of consumers’ identities (Aaker, 1997; Park & John, 2010), consumers’ satisfaction (Ong et al., 2017), and purchase intentions (Lee & Cho, 2017; Torres & Augusto, 2019). Unlike tangible product features, BP represents symbolic and emotional meanings that are more difficult for competitors to copy; therefore, it is also an important strategic tool in competitive digital markets.

Logo elements that form a whole logo also influence consumers’ BP perceptions. Studies have demonstrated that logo elements such as colors, shapes, and typefaces communicate different symbolic meanings and emotional associations. Existing studies that have investigated BP and logo elements are color (Apriyansyah et al., 2024; Batra, 2016; Gupta & Dingliwal, 2023; Kim & Sung, 2013; Kooldeep & Devi, 2021; Labrecque & Milne, 2012; Ridgway & Myers, 2014; Suriadi et al., 2022), typefaces or fonts (Grohmann et al., 2012; Shaikh, 2007; Shaikh et al., 2006; Tilander, 2024), colors and shapes (Kronberg, 2020; Waaijer, 2018), and color and typefont (Leelayudthyothin, 2022). These studies demonstrate that individual logo elements contribute to consumers’ BP perceptions.

However, most studies have primarily focused on only one or two logo elements. Kim and Lim (2019) identified color, shape, and typeface as the three basic elements of logo design, while other researchers have suggested that the combination of logo elements produces the most effective branding outcomes rather than using individual elements alone (Labrecque & Milne, 2012; Leelayudthyothin, 2022). Although Andrade et al. (2024) investigated color, shape, and typography simultaneously, they focused on branded merchandising materials (e.g., mugs, notebooks, and bags) rather than logo

design. Thus, this limitation highlights the requirement of research that examines the combined influence of color, shape, and typeface on BP perceptions.

Another important limitation is the applicability of existing BP dimensions across different cultures, as most BP studies have been conducted within Western cultural settings (Calderón-Fajardo et al., 2023; Sung & Tinkham, 2005). Southeast Asia still has this limitation of empirical evidence. Especially in Thailand and Myanmar, research on BP and logo designs remains limited because other branding studies are more common, for example, brand awareness (Chinnapakjarusiri et al., 2024; Intuluck et al., 2023; Sawagvudcharee, 2024), brand loyalty (Mai, 2016; Phyu, 2024; Satornsantikul & Nuangjamnong, 2022; Wongsansukcharoen, 2022), and brand equity (Chokpitakkul & Anantachart, 2020; Lung, 2016; Su, 2019; Supapon & Sukhawattanakun, 2023). As Thailand and Myanmar share cross-border markets, investigating consumers' perceptions and visual preferences across these cultures becomes crucial.

The café and tea shop industry provides an appropriate context for addressing these research gaps. Regardless of product quality, cafés and tea shops provide memorable customer experiences and visually distinctive brand identities within highly aesthetic and experience-driven markets (Bookman, 2014; McCamley & Morland, 2021; Pine & Gilmore, 1998). In addition to these aesthetic and experiential values, Thailand and Myanmar provide culturally representative cafés and tea shops that reflect local coffee and tea traditions. As all cafés and tea shops offer the same products, visual branding such as logos becomes strategically important in communicating distinctive BP and reflecting cultural identity.

However, the local businesses in Thailand and Myanmar face increasing competition from both domestic and international brands (Inya Economics, 2021; Khaing, 2024; Krungsri Research, 2025). Small and medium-sized enterprises like cafés and tea shops often have branding challenges due to their limited financial resources and copying visual designs of other brands, resulting in low brand differentiation and undistinctive brand identities (Du, 2023; Inya Economics, 2021). Therefore, developing unique and culturally relevant logo designs with strong BP characteristics may help them strengthen differentiation and improve competitiveness.

In Thailand, some previous studies have provided the BP evidence that Thai consumers can perceive brands through BP, which subsequently affects consumer attitudes, experiences, and loyalty (Chantakruiwat et al., 2022; Tangsritrakul & Anantachart, 2019; Wongweeranonchai, 2018). A few studies in Thailand also examined logo design and found that logo elements such as color, graphic form, and typeface influence consumers' BP perceptions in the real estate context (Leelayudthyothin, 2022; Leelayudthyothin & Boontore, 2022). Moreover, the study in the Thai local coffee businesses examined that BP influences perceived brand equity (Parinyaphon, 2025). Although these studies have demonstrated that BP and logos can influence perceptions of Thai consumers, studying the three basic logo elements together within a whole logo remains limited, especially in the café and tea shop context. More importantly, research evidence for these BP and logo topics is considerably limited in Myanmar, and cross-cultural comparisons between Thai and Burmese consumers are even more limited.

Therefore, this study investigates how Thai and Burmese consumers perceive logo designs with colors, shapes, and typefaces using BP traits in the café and tea shop context. By examining BP perceptions and logo preferences, this study contributes to the literature on digital branding, visual identity, and cross-cultural consumer behavior while offering practical guidance for businesses on developing culturally relevant and strategically effective logo designs.

1.2 Research Objectives

The aim of his study is to investigate how logos and their elements influence BP perceptions among Thai and Burmese consumers in the café and tea shop context. Specifically, the objectives of this study are as follows.

1. To examine how logos with different colors, shapes, and typefaces influence BP perceptions of Thai and Burmese consumers.
2. To examine logo design preferences and identify similarities and differences in preferences between Thai and Burmese consumers.
3. To provide strategic visual branding recommendations for developing culturally relevant logo designs with strong personalities for the brand.

1.3 Research Questions

RQ1: Which logo designs are perceived as most strongly associated with each BP dimension?

RQ2: Do participants' preferences differ across logo designs?

RQ3: Do logo design preferences differ between Thai and Burmese participants?

1.4 Significance of the Study

This study contributes theoretically and practically to the fields of digital branding, visual identity, and cross-cultural branding.

From a theoretical perspective, this study extends existing BP literature by examining how the basic logo elements—color, shape, and typeface—collectively influence consumers' BP perceptions. Previous studies commonly investigated these visual elements separately; therefore, this research provides empirical evidence on the relationship between logo design and BP and a more integrated understanding of how these elements collectively convey BP through logo designs.

This study also contributes to cross-cultural branding literature by providing comparative evidence from Thailand and Myanmar, two neighboring countries that remain underrepresented in BP and logo design research. Since cultural values influence consumer perception about brands, the findings provide insights into BP perceptions and logo preferences of consumers from two different cultural backgrounds.

Practically, the findings may help café and tea shop businesses, designers, marketers, and brand managers in developing more effective and culturally relevant logo designs. Consequently, the findings may help SMEs with increased brand differentiation, digital brand identity, and consumer engagement in competitive digital landscapes. Despite the study's primary focus on cafés and tea shops, the findings may provide broader implications for other F&B sectors and visually competitive service industries that rely on logo design to communicate their intended BP in Thailand and Myanmar.

CHAPTER II

LITERATURE REVIEW

2.1 Digital Branding and Competitive Differentiation

The rapid growth of digital technologies has accelerated the digitalization of all societies' purposes, including marketing, branding, and personal communication. As people allocate more time to online than offline, businesses create online presences to achieve success (Denga et al., 2023) by using primary digital platforms, such as websites, social media, mobile applications, and online marketplaces, to interact with consumers. Thailand and Myanmar also largely rely on digital technologies (e.g. Facebook and Shopee) for various purposes (DMFA, 2024; Lwin, 2022; Statista, 2024). This increased use of digitals has intensified competition, and businesses face challenges in attracting attention, building recognition, creating meaningful relationships with consumers, and establishing a distinctive brand identity.

To compete effectively in such environments, businesses must differentiate themselves from competitors. Effective digital branding can develop strong brands that are “bold, memorable, suitable, recognizable, and legally defensible” (Jaakkola, 2024). According to Chaffey and Smith (2017), as cited in Denga et al. (2023), digital branding refers to “the process of developing and managing a brand identity on the internet.” Unlike traditional branding, digital branding enables continuous interaction between brands and consumers, allowing businesses to implement real-time improvements and fulfill their evolving demands. Therefore, it benefits businesses not only by conveying their values, offering omnichannel presences, and building effective networking with consumers but also by distinguishing them among competitors and attaining long-term success (Denga et al., 2023; Medvedieva, 2023).

According to the conceptualization of branding by scholars, brand and personality are fundamentally linked to each other. The American Marketing Association (n.d.) defines a brand as “any distinctive feature like a name, term, design, or symbol that identifies goods or services.” Rowles (2018) described a brand as “the personality of something,” as branding involves “thoughts, feelings, perceptions, images, experiences, and so on that are associated with a brand.” Therefore, among various branding strategies, brand

personality (BP) has gained considerable attention as a means of differentiation (Park & John, 2010; Phau & Lau, 2000; Ranfagni et al., 2016; Suriadi et al., 2022) by associating human characteristics with brands (Aaker, 1997). According to Kevin Thomas (as cited in Lury, 2004), the “4 Ps” of product, price, placement, and promotion can be copied by other companies; however, they cannot duplicate the “fifth P,” the personality of the company or employees. Jabbar (2014) also asserts that personality traits increase long-term brand differentiation, making the competitors more challenging to replicate than the functional characteristics of products and services. Moreover, BP closes the gaps between cultural differences as Sung and Tinkham (2005) highlight that studying BP dimensions across cultures provides meaningful insights regarding cultural differences. Therefore, incorporating BP into branding helps create unique and meaningful brand identities that resonate with consumers and can transcend cultural boundaries in the highly competitive digital markets.

Presenting BP through visual identities creates an even stronger competitive differentiation. Visual identities, such as logos, products, advertisements, and digital platforms, can greatly convey BP (Jabbar, 2014; Leelayudthyothin, 2022; Suriadi et al., 2022). In the digital environment where consumers are exposed to a vast amount of competing brand information and rapid brand design creation and replication occur, logos help consumers identify brands quickly (Denga et al., 2023) while simultaneously communicating symbolic meanings and personality traits (Jabbar, 2014; Leelayudthyothin, 2022; Suriadi et al., 2022). As digital interactions increasingly rely on visual communication, logo design plays a crucial role in establishing distinctive and memorable brand identities. Therefore, strategically designing logos to communicate intended BP may help businesses in differentiation and boosting competitiveness in crowded digital markets.

2.2 Consumers in Digital Branding

Consumers perceive brands not only as market products but also as “part of who they are” (Deek et al., 2025). When consumers naturally associate with brands (Ranfagni et al., 2016), they experience a comforting feeling and treat them as reliable relationship partners (Ghorbani et al., 2022; Jaakkola, 2024). When consumers find that brands align

with their values and beliefs, a deep emotional bond to the brands can be formed (Deek et al., 2025). This emotional connection can enhance customer loyalty and transform occasional buyers into dedicated brand advocates (Jaakkola, 2024). Thus, consumers play an essential role for the brands.

In the digital era, consumer groups have shifted from offline to online, leading to the emergence of online communities. Online communities are “the consumer groups of varying sizes that gather and engage online to attain the personal and shared goals of their group members” (Dholakia et al., 2004). At the same time, this emergence of online consumers has created their role in BP development. Thus, both the brand and the consumers’ perceptions and experiences now control the development of BP, which was previously dominated by the brands alone (Jun & Lee, 2024). According to Paschen et al. (2017), BP research is grounded in two personality perspectives: intrinsic and extrinsic, where the intrinsic perspective relates to “what the brand says about itself” and the extrinsic perspective relates to “what consumers say and think about the brand.” Malär et al. (2012) also found the high level of consumer involvement when the brand closed the gap between the consumer’s perceived BP and the brand’s intended BP. Therefore, this evidence highlights the essential role of consumers in shaping brands and BP in the digital era.

Given this importance of consumers, brands need strategies to encourage positive consumer responses. Strong digital BP can influence consumers’ responses (Ghorbani et al., 2022), behavior (Torres & Augusto, 2019), and purchase decisions (Deek et al., 2025). According to Bosnjak (2007), as cited in Jabbar (2014), studies suggest that organizations using BP effectively and consistently as part of their overall positioning strategy can influence consumers’ responses in much stronger ways than other communication strategies. Torres and Augusto (2019) found that BP has a greater impact on consumer behavior than online brand experience in digital settings and that a strong BP affects consumers’ positive brand attitude and encourages them to discuss positively about the brand on social media.

Given the increasing interaction between consumers and brands online, digital platforms are also important in this context. Social media platforms, such as Facebook, TikTok, and YouTube, are widely used and essential places for various business and

personal activities in Thailand and Myanmar (DMFA, 2024; Lwin, 2022; Statista, 2024). Social media usage is particularly common among younger and working-age consumers in both countries. As shown in Figure 1, for example, Facebook users aged 18–44 represented a substantial proportion of users in both Thailand and Myanmar in 2026, with those aged 25–34 being the largest age group in both countries (NapoleonCat, 2026a, 2026b). Moreover, people aged 35–44 represent an important consumer group because of their significant purchasing power (Dixit, 2025) and spending across diverse categories, particularly food and drink (BLS, 2021). Therefore, individuals aged 18–44 represent relevant consumer groups for this study because of their active engagement with digital platforms and brands. Accordingly, these ages were included in this study to examine their preferences across different digital logo designs and their BP perceptions of these designs.

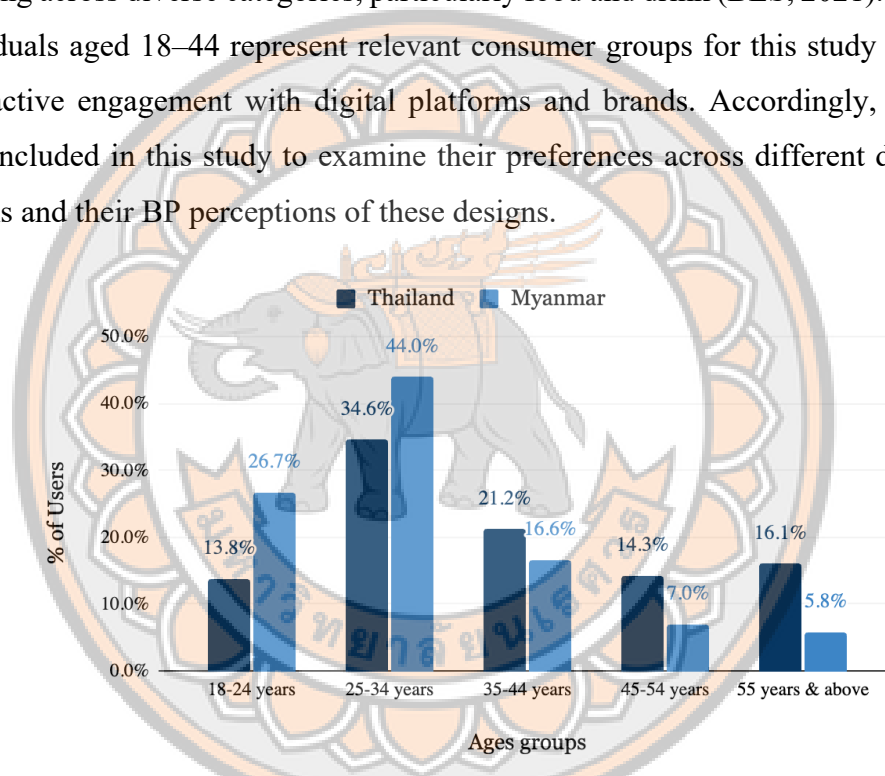


Figure 1. Facebook Users in Thailand and Myanmar in 2026, by Age Group

Source: NapoleonCat (2026a, 2026b)

2.3 Brand Personality (BP)

BP is defined as “the set of human characteristics associated with a brand” (Aaker, 1997). The concept is based on the premise that consumers often perceive and evaluate brands in ways similar to how people evaluate each other.

With the growth of digital businesses, BP has become increasingly important in digital environments. As digital technologies have transformed consumer-brand interactions, the importance of BP has extended beyond traditional marketing contexts into digital environments. Studies (Garanti & Kissi, 2019; Torres & Augusto, 2019) have shown that BP plays important roles for businesses on digital platforms. Accordingly, the term “digital brand personality (digital BP)” has emerged in the contemporary literature. Researchers have shown that consumers can naturally associate with brands using human personality traits through digital platforms and online interactions (Ranfagni et al., 2016). Thus, it can be considered that the concept and function of general BP are applicable to digital BP. Based on the original definition of Aaker (1997), digital BP can therefore be understood as the human-like characteristics associated with a brand within digital contexts.

2.4 The Dimensions of Brand Personality

Several frameworks have been developed to measure BP, including Aaker’s (1997) Brand Personality Scale, Grohmann’s (2009) Brand Gender Dimensions, and Geuens et al.’s (2009) New Brand Personality Scale (Ghorbani et al., 2022). Among them, Aaker’s BP theory is extensively adopted in BP research. Ghorbani et al. (2022) reported that approximately 85.71% of articles employed Aaker’s model, reflecting its extensive acceptance and applicability across various research contexts. The widespread adoption of the framework is largely attributed to its reliable and thoroughly validated multidimensional measure scale (Andrade et al., 2024; Davies et al., 2018).

Aaker (1997) proposed five BP dimensions, under which 15 facets and 42 traits were included (see Figure 2). The five dimensions are sincerity, excitement, competence, sophistication, and ruggedness. Regarding facets, ‘sincerity’ is associated with down-to-earth, honest, wholesome, and cheerful; ‘excitement’ relates to daring, spirited, imaginative, and up-to-date; ‘competence’ represents reliable, intelligent, and successful; ‘sophistication’ reflects upper class and charming; and ‘ruggedness’ encompasses outdoorsy and tough. Together, these dimensions offer a structured framework for understanding how consumers assign personality characteristics to brands.

Nevertheless, scholars have questioned the universal applicability of Aaker's brand personality scale across different cultural contexts. Calderón-Fajardo et al. (2023) highlight the need for further cross-cultural research because the current BP knowledge is primarily shaped by the cultural beliefs from Western countries (Calderón-Fajardo et al., 2023). Similarly, Sung and Tinkham (2005) proposed that diverse cultures in fundamental values might show slightly different groupings in the BP dimensions because Aaker's original framework seemed to capture the perceptions of American consumers.

Accordingly, the subsequent research has provided evidence that supports the broader applicability of Aaker's model. Aaker et al. (2001) found that several BP dimensions, including 'sincerity,' 'excitement,' and 'sophistication,' shared similar meanings across the United States, Japan, and Spain. Likewise, Sung and Tinkham (2005) reported that some BP dimensions shared similarities in BP perceptions between Korean and American consumers despite cultural differences. These findings suggest that, although cultural contexts may influence BP perceptions, some BP dimensions may also show similarities across cultures.

Furthermore, the sophistication and ruggedness dimensions have attracted particular attention. Aaker et al. (2001) suggested that 'ruggedness' and 'sophistication' are more inclined to culturally specific or aspirational imagery related to wealth and status, while other dimensions appear to reflect more universal human and brand characteristics. Nevertheless, the remaining dimensions, such as sincerity, excitement, and competence, have generally demonstrated greater stability across cultures. Therefore, while BP frameworks should be applied with cultural sensitivity, Aaker's model remains a useful and widely accepted foundation for cross-cultural BP research.

Given its extensive empirical support and continuous application across diverse cultural settings, Aaker's (1997) framework is adopted in this study. The five BP dimensions offer an appropriate theoretical foundation for examining how Thai and Burmese consumers perceive BP through different logo designs.

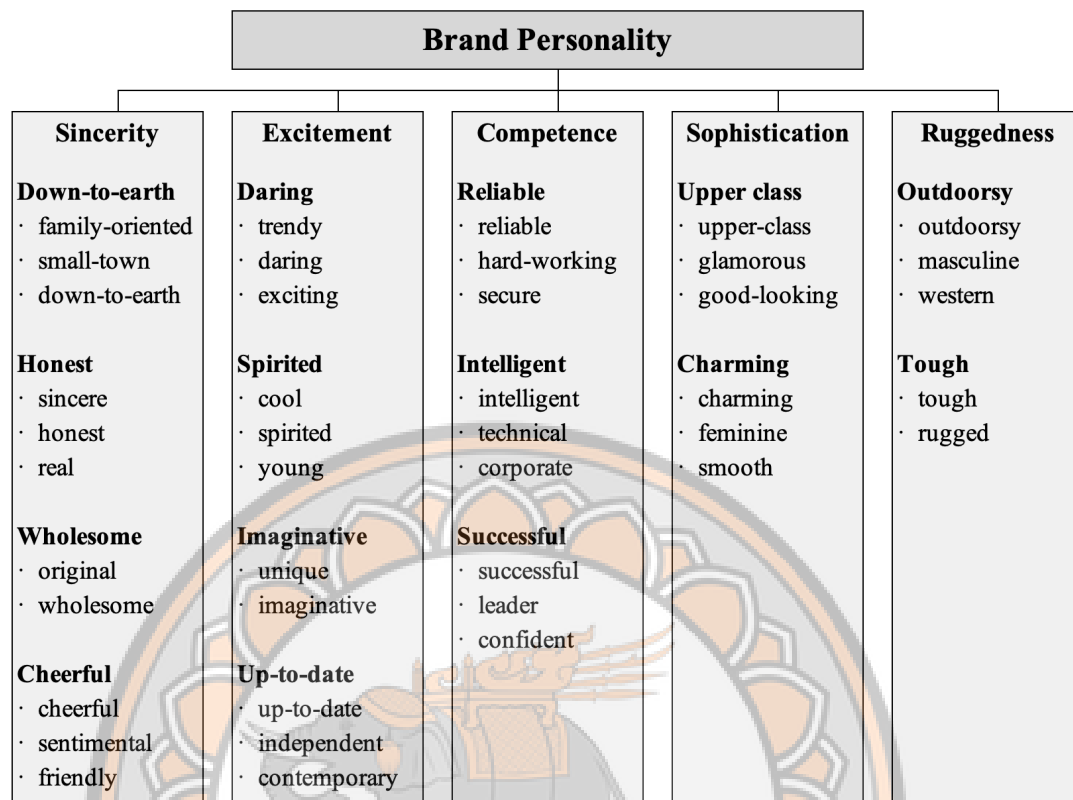


Figure 2. Brand Personality Scale of Aaker (1997)

Source: Muniz and Marchetti (2012)

2.5 Logos as Visual Brand Identity

Logos are significant symbols in marketing because they represent organizations and what they stand for (Grobert et al., 2016; Wu & Cheong, 2024). With or without the name of an organization, a logo alone can represent it and its products (Henderson & Cote, 1998). Previous studies suggest that logos contribute to several positive outcomes, including increased aesthetic appeal, brand awareness, brand image, brand attitude, consumer brand commitment, and firm performance (Bayunitri & Putri, 2016; Kaur & Kaur, 2019; Park et al., 2013; Van Grinsven & Das, 2014).

Logos also serve as critical cues to communicate with consumers. Through a logo, consumers reflect their self-identities, achieve their desire for status, and make decisions to engage or disengage with the members from the same group and different groups (Han et al., 2010; Park et al., 2013; Raimondo et al., 2022). In increasingly competitive markets, it also functions as visual symbols that enable consumers to

identify and recall brands (Denga et al., 2023; Van Grinsven & Das, 2014). In digital environments, where consumers are frequently exposed to numerous competing brands, logos serve as immediate visual cues that facilitate brand recognition and communication.

Beyond these functions, logos convey symbolic meanings about brands. With the strategic use of visual design elements such as color, shape, and typeface, logos can influence how consumers interpret, evaluate, and perceive brand characteristics. Consequently, logos can communicate human-like personality traits and influence overall BP perceptions. Therefore, understanding how consumers interpret logo designs has become an interesting aspect in branding research.

2.6 Brand Personality and Logo

BP and logos are closely interconnected because logos function as visual representations through which brands communicate symbolic meanings and personality traits. While BP and logos each provide independent value to businesses, their effectiveness becomes stronger when logo designs consistently express the intended personality of a brand. Accordingly, developing logos that express the essence and personality of a brand can create stronger customer relationships and support long-term brand sustainability (Denga et al., 2023).

Previous studies provide evidence that supports the relationship between logo design and BP perceptions. Consumers have been shown to associate logos and their elements (graphics, color, and type font) with BP perceptions (Jabbar, 2014; Leelayudthyothin, 2022; Suriadi et al., 2022). In addition, logos contribute indirectly to BP by enhancing brand image, brand familiarity, and consumer evaluations of brands (Kaur & Kaur, 2019). Collectively, these findings indicate that logos function as strategic communication tools capable of conveying symbolic brand meanings and shaping consumers' BP perceptions.

Evidence from the café and tea shop industry further supports the importance of logo designs in communicating BP. Shon and Song (2021) found that logos significantly increased consumers' BP perceptions of franchise coffee shops. Similarly, the findings of Suriadi et al. (2022) indicated that consumers positively perceived BP when logo

designs of a local tea product incorporated color psychology. Beyond logos alone, studies have found that visual designs such as logo, shape, color, typography, and packaging design greatly enhance brand perceptions, purchase intentions, and purchase decisions in coffee branding (Basmantra & Putra, 2024; Dai et al., 2016; de Sousa et al., 2020). Together, these findings highlight the importance of logos in shaping consumers' responses within café and tea markets.

Despite this growing body of research, empirical evidence remains limited within the contexts of Thailand and Myanmar. Although Leelayudthyothin (2022) demonstrated that both whole logos and individual logo elements (graphic, color, and type font) were associated with BP perceptions in Thailand's real estate business, existing research focused extensively on industries other than cafés and tea shops. Myanmar also remains limited in all related research. Consequently, little is known about how logo design communicates BP within the café and tea shop industry or how Thai and Burmese consumers perceive these visual cues. Therefore, this present study addressed this gap.

2.7 Related Research and Implications for Logo Design

Previous studies have consistently demonstrated the influence of individual logo elements on BP perceptions. However, some researchers recommend examining multiple elements together in logo design because consumers encounter logos as integrated visual systems in which all included logo elements interact to create overall impressions. Kronberg (2020), for example, investigated the impact of logo color and circular shape and found that certain colors are more appropriate when combined with a logo shape. In particular, yellow in a circular logo shape was perceived as highly appropriate for communicating brand sincerity and excitement. In the context of the local tea business, Suriadi et al. (2022) examined the effects of color psychology and logo design on BP and confirmed that their combined application improved BP more effectively than applying them individually. Similarly, in Thailand, Leelayudthyothin (2022) examined the impact of logo designs (color, type font, and graphic form) on BP dimensions and recommended presenting the entire logo for strategic design communication rather than focusing on individual logo elements. In summary, these

findings suggest that future logo research should employ whole-logo designs to produce BP perceptions that more closely reflect consumers' real-world responses.

In addition, previous studies have identified color, shape, and typeface as the major logo elements. Kim and Lim (2019), in their comprehensive review of logo literature, identified these three elements as basic logo elements commonly examined in the research world. Rosidah et al. (2025) also found that these three logo elements favorably correlate with visual attention, strengthening their importance in attracting consumer attention and shaping brand perceptions and evaluations.

Despite these contributions, limited research has examined how combinations of color, shape, and typeface influence BP perceptions across different cultural contexts. Furthermore, limited research has examined BP perceptions and logo preferences among Thai and Burmese consumers within the café and tea shop industry. Addressing this gap may provide a more profound understanding of how integrated visual logo elements contribute to BP perceptions in culturally relevant digital-branding contexts.

Therefore, the present study investigates color, shape, and typeface as the principal logo elements. Accordingly, the following sections review each element in detail and establish the theoretical basis for its relationship with BP.

2.8 Color

2.8.1 Importance of Color in Branding

“Color is ubiquitous and serves as a source of information” (Singh, 2006). Research has described the importance of color and how it influences individual perceptions. Singh (2006) highlighted that individuals can form opinions within 90 seconds of their initial encounters with humans or items, with around 62-90% of the evaluation being based only on color. Rosidah et al. (2025) also found that participants viewed colored logo versions longer than the grayscale version. Moreover, Torbarina et al. (2021) have shown that color influences logo recognition and logo liking, indicating its role in consumers' perceptions of logo design. These studies highlight that color can attract consumers' attention and facilitate information processing. Accordingly, color

represents one of the most influential components of brand identity in digital environments.

2.8.2 Color and Brand Personality

Beyond its aesthetic function, color conveys symbolic meanings and associations that help consumers interpret brand characteristics. For example, white is associated with *cleanliness, relaxation, and concentration*; red with *high quality and love*; blue with *dependence and trust*; yellow with *happiness and freshness*; and black with *heaviness, expensiveness and power* (Hanafy & Reham, 2016; Seimiene & Kamarauskaite, 2014). Different colors evoke distinct psychological responses and communicate symbolic meanings and emotions. Consequently, color has become an important area of research in branding and consumer behavior studies.

Numerous studies have demonstrated that color influences consumers' BP perceptions. Apriyansyah et al. (2024) found that orange color usage positively impacts Shopee Food driver partners' brand attributes in Indonesia, particularly excitement perceptions. In marketing communication for a fashion brand, Ridgway and Myers (2014) found that consumers associated some logo colors with BP characteristics raised from commonly understood color associations. In a local tea product design, Suriadi et al. (2022) also confirmed that using color psychology in the logo design improved BP among café consumers. Overall, these findings indicate that color contributes to the communication of BP by conveying symbolic meanings that consumers associate with brands.

2.8.3 Cultural Symbolism of Colors in Thailand and Myanmar

Color has different meanings in different cultures, and how Thai and Burmese consumers perceive brand colors can be related to BP perceptions. In the Thai local coffee context, Parinyaphon (2025) recommended that using colors and design elements in brand development should reflect local identity. Visual branding therefore relies on cultural meanings beyond aesthetic appeals. As a result, this section reviews the cultural symbolism of colors in Thailand and Myanmar and discusses how these meanings align with Aaker's (1997) BP dimensions.

Color symbolism is deeply embedded in the cultural traditions of Thailand and Myanmar. In Thailand, one well-known example is the association of colors with the days of the week, while colors frequently represent religious, national, and historical values in Myanmar (Choosri et al., 2023; Gao & Iqbal, 2023; Myanmar National Portal, n.d.). These cultural meanings provide an important basis for understanding how Thai and Burmese consumers may associate colors with different BP dimensions.

In Thailand, **white** is commonly associated with *purity* and *dignity* while **pink** represents *love* and *affection* (Gampper, 2023; Gao & Iqbal, 2023). Choosri et al. (2023) also reported that Thais associated **green** and **white** with *happiness*. Together, these color meanings correspond closely to Aaker's (1997) sincerity dimension, particularly its honest, wholesome, sentimental, and cheerful traits. Similarly, in Myanmar, several colors are related to 'sincerity' through their symbolic meanings of authenticity, tradition, and local identity. **Yellow** symbolizes *unity, happiness, harmony, warmth, approachability, and friendliness* (Myanmar National Portal, n.d.; Paing, 2024), and this color is closely associated with Myanmar's cultural identity through pagodas, paddy fields, and Thanakha (makeup). **White** represents *purity, integrity, and compassion*, while **green** and **brown** symbolize *fertility, peacefulness, naturalness*, and the *authenticity* of local food (Myanmar National Portal, n.d.; Paing, 2024). **Red** possesses strong cultural and historical significance in Myanmar, particularly its longstanding association with *Buddhist monks* (Monsef IV & Dean, 2007). These recurring meanings are conceptually consistent with sincerity-related characteristics such as honesty, wholesomeness, originality, down-to-earthness, and authenticity.

In Thailand, warm colors are frequently associated with energetic and stimulating consumer responses. Satcharoen (2017) found that **red, orange, yellow, and blue** were associated with *food appetite* in the context of a food delivery mobile app, while Choosri et al. (2023) also reported that Thai consumers associated **yellow and orange** with the *surprise* feeling. These emotional responses are conceptually consistent with Aaker's (1997) excitement dimension, which comprises traits such as daring, spirited, exciting, and imaginative. Similarly, Leelayudthyothin (2022) linked **green** to 'excitement' within the Thai real estate industry because it represents *new life* and *the future*, further supporting its relation to excitement traits such as exciting, up-to-date,

and contemporary. In Myanmar, **red** symbolizes *bravery* (Myanmar National Portal, n.d.) and *national identity* through its association with the country's history and the sacrifices made during political movements. Paing (2024) also reported that **red** and **yellow** represent *energy* and *vibrancy* in Myanmar's street food culture. These symbolic meanings closely correspond to the daring, spirited, exciting, and imaginative traits. Collectively, the evidence from both Thailand and Myanmar suggests that red, orange, yellow, and green are culturally appropriate colors for communicating 'excitement,' while blue may also convey it in specific marketing contexts.

In Thailand, **pink**, **orange**, and **brown** symbolize *protection*, *success*, and *prosperity* (Tan, 2024), which aligns with reliability, security, intelligence, and success traits from Aaker's competence dimension. Similarly, in Myanmar, **blue** and **white** are commonly associated with technological and computer universities, reflecting the technical trait of 'competence.' Together, these cultural meanings provide theoretical support for associating pink, orange, brown, blue, and white with 'competence.'

In Thailand, **yellow** and **purple** are widely associated with *royalty*, *power*, *authority*, *wealth*, and *social status* (Gampper, 2023; Gao & Iqbal, 2023; Tan, 2024); these symbolisms are characteristics of the upper-class facet from 'sophistication.' In Myanmar, **pink** is commonly perceived as *feminine* and *womenly* and is frequently used in weddings and ceremonies to represent joy, love, and specialness, therefore reflecting charm, elegance, and femininity traits. Therefore, these cultural interpretations support the association of yellow, purple, and pink with 'sophistication.'

Lastly, **blue** and **green** commonly symbolize *nature*, *vegetation* and *sky* in Thailand (Gao & Iqbal, 2023). Similarly, **green** signifies *fertility*, *verdancy*, and *peace* in Myanmar (Myanmar National Portal, n.d.), while both **green** and **brown** are associated with *naturalness* and *authenticity* (Paing, 2024). These symbolisms are conceptually consistent with Aaker's ruggedness dimension because they reflect outdoor life, toughness, and nature characteristics. Accordingly, green, blue, and brown provide culturally relevant indicators of 'ruggedness.'

In summary, the above literature review indicates that many colors have symbolic meanings in Thailand and Myanmar that are conceptually consistent with Aaker's (1997) BP framework. While several colors demonstrate similar symbolic associations across

both cultural contexts, others are interpreted specific to the culture based on traditions, religion, and social practices. As consumers from different cultural backgrounds may interpret logo colors differently, local symbolism should be considered when designing visual identities.

Table 1 presents the BP and color associations that are developed by integrating existing BP literature (Andrade et al., 2024; Jabbar, 2014; Labrecque & Milne, 2012) and the cultural symbolism identified in Thailand and Myanmar. This comparison provides the theoretical foundation when assigning the relevant colors to each BP dimension and informs the development of the color stimuli used in the present study.

Table 1. BP and Color Associations Derived from Previous Studies and Cultural Symbolism in Thailand and Myanmar

BP Dimensions	Labrecque and Milne (2012)	Jabbar (2014)	Andrade et al. (2024)	Thailand's colors	Myanmar's colors
Sincerity	White, Yellow, Pink	Red	White, Yellow, Pink	Green, white (Choosri et al., 2023). White (Gao & Iqbal, 2023). Pink (Gampper, 2023).	Yellow. White. Red. Green, brown, yellow, white (Paing, 2024).
Excitement	Red, Orange, Yellow	Orange, Yellow	Red, Orange, Yellow	Red, orange, yellow, blue (Satcharoen, 2017). Yellow, orange (Choosri et al., 2023). Green (Leelayudthyothin, 2022).	Red. Yellow, red (Paing, 2024).
Competence	Blue, Brown	Blue	Blue, Brown	Pink, orange or brown (Tan, 2024).	Blue, white.
Sophistication	Black, Purple, Pink	Purple	Black, Purple, Pink	Yellow (Gao & Iqbal, 2023). Purple (Gampper, 2023; Tan, 2024).	Pink.
Ruggedness	Brown, Green	Green	Brown, Green	Blue, green (Gao & Iqbal, 2023).	Green. Brown, green (Paing, 2024).

2.8.4 Related Research and Color Adoption

Several studies have continuously examined the relationship between color and BP. Research conducted by Labrecque and Milne (2012), Ridgway (2011), Kim and Sung

(2013), and Apriyansyah et al. (2024) demonstrated that consumers associate colors with specific BP dimensions (see Table 2 for their significant findings between colors and BP).

Labrecque and Milne (2012) investigated the effect of hue on BP while controlling saturation and lightness (value) levels and found significant associations between specific colors and BP dimensions, including white and pink with ‘sincerity’; red with ‘excitement’; blue with ‘competence’; black, pink, and purple with ‘sophistication’; and brown with ‘ruggedness.’ Similar findings were reported by Ridgway (2011), who showed that consumers perceived certain logo colors as more appropriate when they were congruent with expected BP perceptions. Kim and Sung (2013) further demonstrated that dominant colors in advertisements could influence BP perceptions, with yellow strongly associated with ‘sincerity’ and ‘excitement,’ while red enhances ‘competence,’ ‘sophistication,’ and ‘ruggedness.’ Recently, Apriyansyah et al. (2024) found that the orange color used by the Shopee Food brand communicated excitement-related attributes. These studies showed that several BP and color associations occur consistently despite differences in industries and research contexts. These findings are summarized in Table 2, which provides an empirical basis for selecting and adopting the colors for the current study. Table 3 presents examples of color stimuli used in these studies.

In addition to hue, Study 2 of Labrecque and Milne (2012) investigated saturation and value (lightness) and suggests they can influence BP perceptions. Particularly, they found that higher saturation levels were positively associated with ‘excitement’ and ‘ruggedness,’ while lower value levels strengthened ‘ruggedness,’ and there was no correlation between lightness and ‘excitement’ (see Table 3 for their sample stimuli and multivariate regression results). These findings suggest the importance of color intensity in influencing consumers’ BP perceptions and also provide useful guidance for the adjustment of the adopted color stimuli in this present study.

In summary, these reviewed studies provide empirical support for color and BP associations that informed the color adoption in the present study. The detailed color stimulus development procedure is presented in Section 3.3.1.1.

Table 2. Significant Associations between Colors and BP from Previous Studies

Colors Dimensions		Studies
White	Sincerity	Study 1 of Labrecque and Milne (2012)
Pink	Sincerity	Study 1 of Labrecque and Milne (2012)
Green	Sincerity	Ridgway (2011)
Yellow	Excitement	Kim and Sung (2013)
Red	Excitement	Study 1 of Labrecque and Milne (2012); Kim and Sung (2013)
Orange	Excitement	Apriyansyah et al. (2024)
Blue	Competence	Study 1 of Labrecque and Milne (2012)
Black	Sophistication	Study 1 of Labrecque and Milne (2012); Kim and Sung (2013)
Pink	Sophistication	Study 1 of Labrecque and Milne (2012)
Purple	Sophistication	Study 1 of Labrecque and Milne (2012)
Brown	Ruggedness	Study 1 of Labrecque and Milne (2012)
Green	Ruggedness	Study 2 of Labrecque and Milne (2012)

Table 3. Color Stimuli Used in Previous Studies

Sample Stimuli from Study 4 of Labrecque and Milne (2012)	Condition 1	Condition 2		Condition 3
	Volkswagon			
	Shell			

Sample Stimuli from Study 1 of Labrecque and Milne (2012)	Logo 1			
				
	Logo 2 ^a			
				

Sample Stimuli Used
in Study 2 of
Labrecque and Milne
(2012)

High Saturation Low Value	High Saturation High Value	Low Saturation High Value	Low Saturation Low Value
			
			
			
			

Logo Stimuli Used in
the Study of
Ridgway (2011)



Munsell and RGB
Notations Used in the
Study of Kim and
Sung (2013)

Color	Hue	Value/Chroma	RGB
Red	5R	5/14	186. 38. 54
Blue	10B	6/10	0. 108. 141
Green	2.5G	5/10	10. 139. 98
Purple	5P	5/10	108. 45. 130
Yellow	7.5Y	9/10	255. 227. 0
Black	N/1	N/A	255. 255. 255

Study 2 Multivariate Regression Results of Labrecque and Milne (2012)

Parameter	Multivariate Test: Wilks' λ	Sincerity	Excitement	Competence	Sophistication	Ruggedness
Constant	.524***	1.916***	2.013***	1.511***	1.919***	1.417***
Saturation	.890***	-.134*	.204***	.275***	-.148*	.243***
Value	.882***	.199**	.052	-.363***	.243***	-.344***
Green	.917***	.321***	.081	.075	-.205*	.278**
Blue	.935***	.394***	-.008	.301***	.063	.092
Purple	.885***	.361***	.004	-.024	.278**	-.414***
Gender	.989	.080	-.030	.068	.005	.118
Familiarity	.938***	.041	-.034	.087*	.059	.188***
Likeability	.705***	.246***	-.410***	.341***	.363***	.172***
Favorite	.969	-.217**	-.010	-.075	-.099	-.012
Dislike	.985	-.149	-.054	.074	-.014	.080
Overall Sig F		6.609***	10.694***	11.341***	8.170***	8.175***
Adjusted R ²		.162	.251	.263	.198	.198

Shaded cells indicate hypothesized relationships.

* $p < .10$. ** $p < .05$. *** $p < .01$.

Table 4 presents the final color assignments adopted for each BP dimension in the present study. These colors were selected based on the recurring BP–color associations identified in Table 1, integrating evidence from previous BP literature (Andrade et al.,

2024; Jabbar, 2014; Labrecque & Milne, 2012) with culturally documented color symbolism in Thailand and Myanmar.

Table 4. Assignment of Colors with BP Dimensions for This Study

Dimensions	Colors
Sincerity	White, Pink, Green
Excitement	Yellow, Red, Orange, Black
Competence	Blue, Brown
Sophistication	Black, Purple, Pink
Ruggedness	Green, Brown

This study also incorporated the color black into the dimensions of excitement and sophistication. Despite its symbolism of Thailand's grief and mourning (Color Meanings, n.d.), black finds extensive use in the logos of modern cafés and tea shops in Thailand (see Figure 3) and in contemporary café branding due to its qualities of communicating modernity, energy, and premium positioning among young consumers. Hubinkova and Kirinić (2020) reported that 67.8% of participants considered black as neutral and 21.9% perceived it as a positive color, while the remaining 10.3% of participants answered it as negative. This indicates that black is not considered as negative as some people may anticipate. Similar to other colors, it has favorable and unfavorable indications. For example, it symbolizes “elegance, fashion, status, expensiveness, power, energy, and strength” (Hubinkova & Kirinić, 2020; Seimiene & Kamarauskaite, 2014; Soliman et al., 2024). Accordingly, since these meanings align with Aaker's (1997) dimensions of sophistication and excitement, black was included in those dimensions.

In contrast to Andrade et al. (2024), this study did not use yellow in the sincerity dimension, despite its repeated associations in previous studies and its cultural symbolism. This is because, in the study by Andrade et al. (2024), the brand products that included yellow led participants to associate it with ‘excitement,’ although these products were expected to be associated with ‘sincerity.’ Andrade et al. (2024) explained that this incorrect association likely occurred because participants were

confused by the repeated use of dominant yellow colors in the product designs for both the sincerity and excitement dimensions. Accordingly, this study employed it only in the excitement dimension because of its extensive associations with ‘excitement’ in many studies, including Labrecque and Milne (2012) and Jabbar (2014).



Figure 3. The Logos of Café Brands in Thailand

2.9 Shape

2.9.1 Importance of Shape in Branding

Shape is widely recognized as one of the fundamental visual elements of logo design. Together with color and size, Adir et al. (2012) highlighted that shape is also a crucial component in logo design. The study of Reppa et al. (2020) proved that both shape and color facilitated equal positive effects in the retrieval of objects from long-term memory. Rosidah et al. (2025) further added to the evidence of shape importance in logo design by finding a notable correlation between the responses regarding the logo's color, shape, and typeface and those regarding visual attention. Therefore, these studies establish shape as an important visual element of logo design that contributes to logo recognition, memory retrieval, and consumers' visual attention.

Abstract Shape

Natural Shape



Figure 4. Examples of Abstract and Natural Logo Shapes

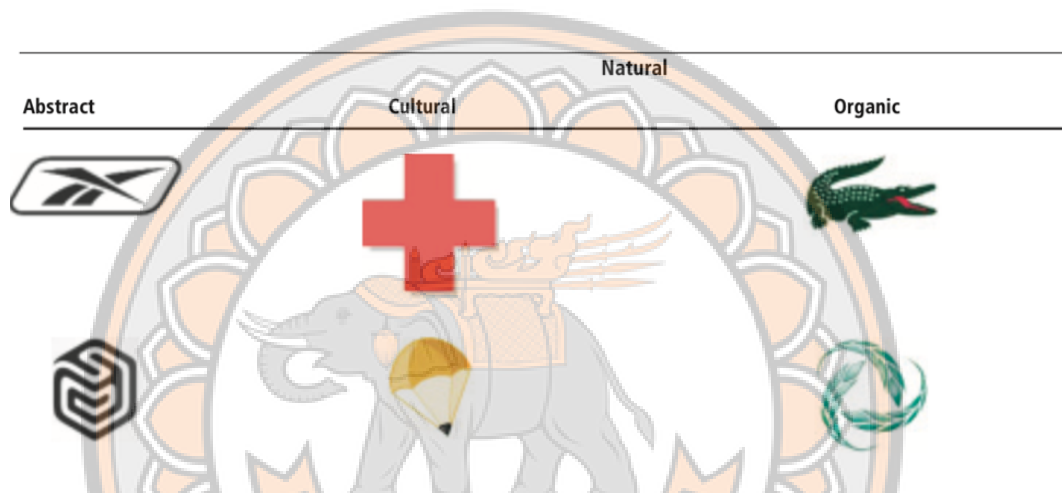


Figure 5. The Logos Used in the Study of Machado et al. (2015)

Generally, logo shapes are classified into abstract and natural (see Figure 4). Abstract shapes refer to geometric forms such as squares, triangles, and circles, while natural shapes depict recognizable objects that people commonly encounter from nature (e.g., flowers and animals) or culture (e.g., buildings and written symbols) (Machado et al., 2015; Torbarina et al., 2021) (see Figure 5). Most existing research has emphasized the examination of abstract shapes. Basically, scholars have categorized them as “circular, angular, or a combination of these two,” i.e., circular shapes that have curvature and no sharp angles (e.g., a circle) and angular shapes that include straight lines and sharp angles (e.g., a rectangle) (Jiang et al., 2016). Previous studies have found that circular shapes are commonly associated with perfection and softness, square shapes with stability and security, and triangle shapes with harmony and intelligence (Adir et al., 2012; Gold, 2019). Therefore, these findings indicate that different shapes convey

distinct symbolic meanings (Jabbar, 2014). Table 5 presents different geometric shapes and their meanings, referring to Adîr et al. (2012).

Table 5. Suggestive Induction of Logo Shapes

Geometric shapes	Suggestive induction
Circle	Perfection, balance
Square	Stability, power
Rectangle	Duration, progress
Ellipse	Continue searching
Triangle	Harmony, urge towards
Spiral	Advancement, detaching
Sphere	Perfection, finality
Pyramid	Integration, convergence
Cube	Stability, integrity

Source: Adîr et al. (2012)

2.9.2 Shape and Brand Personality

As shapes possess meanings, previous studies have consistently demonstrated that logo shapes can influence consumers' BP perceptions, although different shape characteristics communicate different BP dimensions. Natural and organic logo shapes are associated with 'sincerity,' 'sophistication,' and 'excitement' (Chen et al., 2023; Jabbar, 2014). Gold (2019) also found positive correlations between triangular logos and 'ruggedness,' negative correlations between square logos and 'sincerity,' and negative correlations between circular logos and 'ruggedness.' Luffarelli et al. (2019) revealed that asymmetric logos evoked higher excitement perceptions and produced lower perceptions of sincerity, competence, and ruggedness. Lieven et al. (2015) found that brand masculinity (related to 'ruggedness') was elicited by heavier and angular logos, while brand femininity (related to 'sophistication') was improved by slender and round logos. Collectively, these findings suggest that consumers interpret logo shape as an important symbolic cue when inferring BP. The associations of different logo shapes with BP are shown in Table 6, referring to Andrade et al. (2024).

Table 6. Logo Shape Associations with BP Traits

Shapes	Traits Associated
Circular	Perfection, balance, union, generosity, harmony, femininity, lightness, sincerity, youth, innocence, and kindness
Triangular	Harmony, strong drive, intelligence, power, confidence, sharpness, agility, danger, aggressiveness, excitement, outdoorsy, and tough
Square	Stability, reliability, technology, strength, seriousness, and calm
Spiral	Advancement, detachment, cycles, growth, vitality, modernity, and creativity
Organic	Nature, originality, fresh, organic, and ecological

Source: Andrade et al. (2024)

2.9.3 Related Research and Shape Adoption

Building on these recurring BP and shape associations, Andrade et al. (2024) proposed a set of shape categories comprising circular, triangular, square, organic, and spiral shapes. Because these associations are consistent with the broader literature reviewed above, the present study adopted these categories to develop the logo stimuli (Table 7).

Table 7. Assignment of Logo Shapes with BP Dimensions for This Study

Dimensions	Shapes
Sincerity	Circular, Organic
Excitement	Triangular, Spiral
Competence	Square
Sophistication	Circular
Ruggedness	Triangular, Organic

Source: Andrade et al. (2024)

Furthermore, inclusion of naturalness levels for each shape was considered because organic shapes are natural shapes (Henderson & Cote, 1998) and brands that emphasize

sincere representations should utilize high-natural logos (Chen et al., 2023). Chen et al. (2023) studied the impact of the high and low naturalness of brand logos on consumers' BP perceptions and defined naturalness as "the extent to which a symbol represents objects in the natural environment." Aligning the naturalness levels of Chen et al. (2023), this study developed logos with high naturalness in organic shapes, low naturalness in geometric shapes (circular and triangular), and zero naturalness or pure abstract designs in other shapes (spiral and square). The detailed procedure for shape selection and stimulus development is presented in Section 3.3.1.2.

2.10 Typeface

2.10.1 Importance of Typeface in Branding

The Coca-Cola brand logo consists entirely of text and color, with the text serving as the primary representation of the brand. Thus, typeface plays a key role in visual branding. It increases the memorability and readability of advertisements (Childers & Jass, 2002; McCarthy & Mothersbaugh, 2002) and ultimately impacts brand perceptions (Hagtvedt, 2011; Henderson et al., 2004; Xu et al., 2017). Therefore, both practitioners and scholars have also noted that typefaces are crucial for successful brand communication purposes and differentiate them in a competitive market (Henderson et al., 2004; Kim & Lim, 2019; McCarthy & Mothersbaugh, 2002; Pan & Schmitt, 1996; Tilander, 2024).

Moreover, according to Saltz (2009), as cited in Andrade et al. (2024), selecting suitable typography in branding is crucial for conveying the intended message tone, as it can evoke emotions. Henderson et al. (2004) distinguished the four typeface impressions (pleasing/displeasing, engaging/boring, reassuring/unsettling, and prominent/subtle) and six typeface characteristics (e.g., elaborate, harmony, and natural). Their findings revealed correlations between typeface characteristics and typeface impressions. For example, natural typefaces enhanced "reassuring and pleasing" impressions, while elaborate typefaces enhanced "engaging" but decreased "reassuring" and "pleasing" (Henderson et al., 2004). Henderson et al. (2004) concluded that the correlation between typeface design and impressions indicates that companies can influence impressions and benefit economically through a well-designed typeface. These prior

studies establish typefaces as an important component of visual identity that influences consumers' impressions and supports strategic brand communication.

2.10.2 Typeface and Brand Personality

Although typeface is not as important as color, it is still essential in shaping BP (Rosidah et al., 2025). Previous studies demonstrated the significant effect of typeface on BP, although different typeface characteristics communicate different personality traits. Expanding the study of Henderson et al. (2004), Grohmann et al. (2012) investigated the effect of typefaces in brand names on BP perceptions and found that natural, harmonious, and flourishing typefaces have been associated with multiple BP dimensions. Tilander (2024) also found a significant correlation between a typeface and the desired personality of a chocolate brand, while Shaikh (2007) further confirmed that each typeface has its own distinct personality that shapes consumers' perceptions. Based on the previous literature, Andrade et al. (2024) summarized six commonly investigated typeface categories and their associated BP traits, along with font examples (Table 8).

Table 8. Font Examples and Typefaces Associated with Personality Traits

Typefaces	Font Examples	Traits (Source: Andrade et al. (2024))
Serif	Georgia font	Professionalism, formality, stable, practical, mature, delicacy, beauty, and old age
Sans-serif	Open Sans font	Clean and modern
Script	<i>Brush Script MT font</i>	Sophistication, dramatic, valuable, elegant, and delicate
Monospaced	Consolas font	Simplicity and purity
Display	Red Hat Display font	Masculine, rough, rugged, strong, noisy, and warm
Decorative	Cooper font	Young, happy, creative, girly, rebellious, casual, cute, friendly, fun, unprofessional, active, and lively

2.10.3 Related Research and Typeface Adoption

Shaikh et al. (2006) demonstrated that fonts with similar typographic characteristics (e.g., serif) tended to cluster together based on their shared personality traits (Table 9). This supports the view that typefaces convey distinct symbolic meanings and influence personality perceptions. Accordingly, the present study adopted typeface categories proposed by Andrade et al. (2024), who employed six typefaces (serif, sans-serif, script, monospaced, display, and decorative), which represent the most consistently investigated typefaces in previous typography and personality research.

Table 9. Five Font Factors and Factor Loading Results of Shaikh et al. (2006)

All Purpose	Traditional	Happy Creative	Assertive Bold	Plain
Sans-serif	Serif	Script/Funny	Modern Display	Monospaced
Calibri	Constantia	<i>Gigi</i>	Impact	Courier New
Century Gothic	Georgia	Kristen	Rockwell Xbold	Consolas
Arial	Times New Roman	<i>Rage Italic</i>	Agency FB	
Verdana	Cambria	<i>Monotype Corsiva</i>		
Corbel		Comic Sans		
Candara				

Research has found that serif typefaces can evoke BP traits such as “stable, practical, mature, and formal” (Shaikh, 2007; Shaikh et al., 2006). These personalities reflect the competence dimension.

The sans-serif typefaces demonstrated neither a strong nor weak correlation with any personality characteristics; however, they may also be “cheap, cool, and young” (Shaikh, 2007; Shaikh et al., 2006). These meanings of sans-serif typefaces closely align with ‘excitement.’

Script or handwritten or funny typefaces are representative of “feminine, beautiful, expensive, soft, delicate, creative, rebellious, casual, cuddly, youthful, happy, and relaxed” characteristics (Shaikh, 2007; Shaikh et al., 2006), which correspond to ‘sophistication.’

Display typefaces are commonly perceived as “masculine, assertive, rude, sad, and coarse” (Shaikh et al., 2006), reflecting ‘ruggedness.’ They are also associated with

other BP dimensions because individual display fonts may communicate different personality perceptions. For example, the Curlz font of the display typeface category strongly evokes “soft, delicate, relaxed, active, exciting, happy, warm, and young” traits (Shaikh, 2007), making this font conceptually compatible with ‘sincerity’ and ‘excitement.’

Additionally, previous research has stated that display and decorative typefaces share similar BP characteristics. This is because they are “bold, distinctive, and captivating” and serve similar design purposes for larger font sizes, headlines, posters, billboards, and special events (Tilander, 2024; Uxcel, n.d.). Thus, the present study retained only the display typeface category because it adequately represents the characteristics of both display and decorative typefaces. Furthermore, the monospaced typeface category was also excluded from the present study because of its limited use in branding. Monospaced typefaces are known for their simplicity and purity with greater spacing between letters (Andrade et al., 2024), conveying “dull, plain, unimaginative, and conforming” traits (Shaikh et al., 2006). Due to these characteristics, monospaced typefaces are more commonly used in coding, technological products, and specialized industries than other typefaces (serif, sans-serif, script, and display) that are suitable for branding purposes (Keboto, 2025).

Therefore, the present study adopted the remaining four typefaces: serif, sans-serif, script, and display. Based on the above reviews of BP associations for each typeface category, Table 10 shows their assignment to relevant BP dimensions. The detailed procedure for font selection for each typeface and stimulus development is presented in Section 3.3.1.3.

Table 10. Assignment of Logo Typefaces with BP Dimensions for This Study

Dimensions	Typefaces
Sincerity	Display
Excitement	Display, Sans-serif
Competence	Serif
Sophistication	Script

Ruggedness	Display
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Source: Adapted from Andrade et al. (2024)



CHAPTER III

RESEARCH METHODOLOGY

This study adapted the visual identity framework proposed by Andrade et al. (2024), which included visual design elements associated with the intended brand personality (BP) dimensions. Andrade et al. (2024) studied the association of colors, shapes, and typefaces in the brand products with the five BP dimensions developed by Aaker (1997). Adapting to this framework, the present study used these three visual elements for the development of logo designs representing Aaker's (1997) BP dimensions (see Figure 6).

Brand Personality	Sincerity	Excitement	Competence	Sophistication	Ruggedness
	Color White, Pink, Green	Color Yellow, Red, Orange, Black	Color Blue, Brown	Color Black, Purple, Pink	Color Green, Brown
Logos	Shape Circular, Organic	Shape Triangular, Spiral	Shape Square	Shape Circular	Shape Triangular, Organic
	Typeface Display	Typeface Display, Sans-serif	Typeface Serif	Typeface Script	Typeface Display

Figure 6. Framework of Logo Elements and BP Dimensions

Source: Adapted from Andrade et al. (2024)

3.1 Research Design

To examine how logos with different colors, shapes, and typefaces influence BP perceptions and preferences among Thai and Burmese consumers, this study employed a quantitative survey incorporating a within-subject experimental design. A quantitative

approach was selected because it enables the collection of standardized data for statistical analysis and supports the generalization of findings to the target population (Kronberg, 2020).

The independent variables were the three logo elements—color, shape, and typeface. Their assignment to the five BP dimensions was based on the literature reviewed in Chapter 2. The detailed development of the logo stimuli, including selected color codes, shapes, and fonts, is presented in Section 3.3.1.

The dependent variables consisted of participants' BP perceptions and preferences. BP perceptions were measured using Aaker's (1997) five dimensions (Sincerity, Excitement, Competence, Sophistication, and Ruggedness) through the developed logo stimuli. Participants' preferences were assessed through their selections of preferred logo designs and individual logo elements for cafés and tea shops. The detailed information about the questionnaire is discussed in Section 3.3.2.

A within-subject experimental design was employed to provide each participant to evaluate every logo stimulus. This design allowed direct comparisons of BP perceptions across different logo designs and reduced between-participants variability. Thus, differences in BP ratings are more likely to be due to variations in the logo stimuli rather than participant differences.

3.2 Population and Sampling

The target population of the study included Thai and Burmese consumers aged 18-44 years. These age groups were selected because they represent active social media users (ages 18 to 34) and active shoppers (ages 35 to 44), as discussed in Section 2.2. A convenience sampling approach was adopted because it allows recruiting participants readily and efficiently through online platforms. This approach was also appropriate given the communication and interaction constraints associated with data collection in Myanmar during the current political situation. The questionnaire was distributed through Facebook and LINE community groups (e.g., “Myanmar community in Thailand” and “Naresuan University student groups”) from Thailand and Myanmar.

According to Farhati (2024), who focused on sample size as a distinct research object based on various authors' work, the quantitative research method generally requires a

minimum sample size exceeding 30 participants to permit statistical analysis. In this study, a total of 122 valid responses were obtained, comprising 62 Thai and 60 Myanmar participants.

3.3 Materials

3.3.1 Logo Development

According to Andrade et al. (2024), incorporating many visual elements in one visual identity may weaken the effective communication of the intended BP dimension. Previous studies also suggest that simple logos facilitate recognition (Van Grinsven & Das, 2014), enhance consumers' food consumption (Bossel et al., 2019), and reflect modern logo design trends (Kim & Lim, 2019). Thus, logos were designed to be as simple as possible. As the present study had multiple colors within the same BP dimension (see Figure 6), some were allocated across two logos for each BP dimension, resulting in 10 logo stimuli for the five BP dimensions (see Table 11).

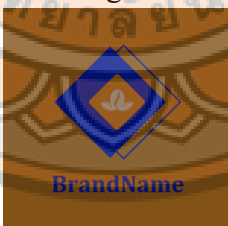
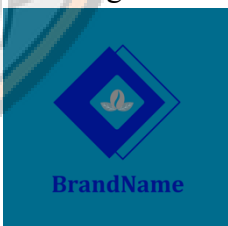
Table 11. Assignment of Logo Elements to Logos and Relevant BP Dimensions

Dimensions	Logos	Logo Elements		
		Color Notations	Shapes	Typefaces
Sincerity	Logo 1	White, Pink, Green	Organic	Display
	Logo 2	White, Green	Circular	Display
Excitement	Logo 3	Yellow, Red, Black	Triangular	Sans-serif
	Logo 4	Red, Orange	Spiral	Display
Competence	Logo 5	Blue, Brown	Square	Serif
	Logo 6	Blue	Square	Serif
Sophistication	Logo 7	Black, Purple	Circular	Script
	Logo 8	Pink	Circular	Script
Ruggedness	Logo 9	Green	Triangular	Display
	Logo 10	Brown, Green	Organic	Display

Source: Adapted from Andrade et al. (2024)

The assignment of logo elements was slightly adjusted to the visual identity framework of Andrade et al. (2024) as stated in Chapter 2. With this final assignment, a total of 10 café or tea shop logos were created (see Table 12) using Canva. Each logo was developed on a 500×500 pixel canvas and given a numeric identifier (i.e., Logo 1 to Logo 10) to provide easy identification and tracking for data collection and analysis.

Table 12. The Developed Logos for This Study

Dimensions	Logos	
	Logo 1	Logo 2
Sincerity		
	Logo 3	Logo 4
Excitement		
	Logo 5	Logo 6
Competence		
	Logo 7	Logo 8
Sophistication		

	Logo 9	Logo 10
Ruggedness		

Moreover, a consistent control element was included in each logo to ensure that participants' perceptions were solely influenced by the variables being studied. This control was a coffee bean with two tea leaves, also incorporating the naturalness levels of Chen et al. (2023) as applied in shape selection (Section 2.9.3). High natural design was used in organic logo designs (Logos 1 and 10), and low natural design in the remaining logos (see Figure 7). High naturalness designs employed natural colors, while low naturalness designs utilized the neutral gray color (HEX #808080) because it represents neither warm nor cold tones. The processes of logos development are illustrated in Figure 8.

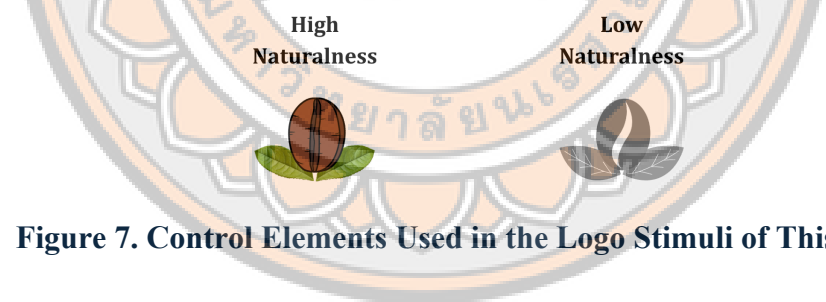


Figure 7. Control Elements Used in the Logo Stimuli of This Study

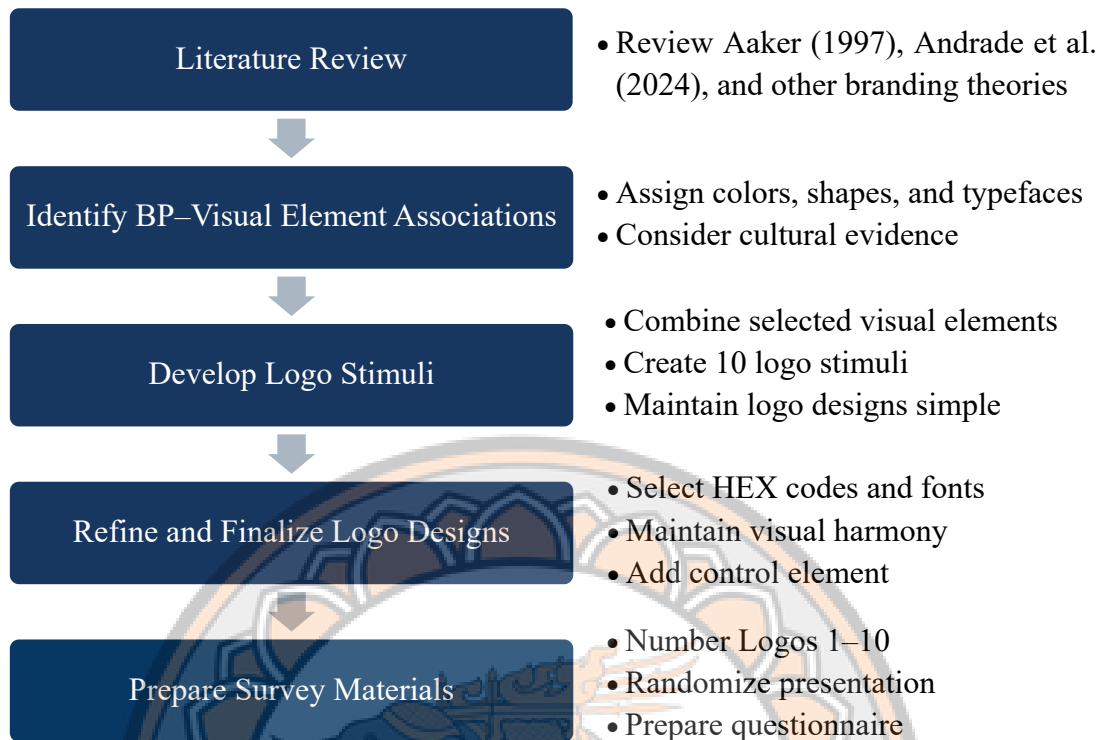


Figure 8. Process of Logo Stimuli Development

3.3.1.1 Colors Used in Logo Development

In the development of logo designs, colors were applied to the entire logo, i.e., the colors of typefaces, shapes, and logo backgrounds.

As reviewed in the related research and color adoption Section 2.8.4, the colors associated with relevant BP dimensions from previous studies (presented in Table 2) were adopted in the present study. These referred studies used different color systems, such as HSL (Labrecque & Milne, 2012), RGB (Kim & Sung, 2013), and the Pantone color system (Ridgway, 2011). These colors were first converted into HEX codes to ensure compatibility with digital logo design using [w3schools.com](https://www.w3schools.com/html/cheat_sheet.asp) and vectorization.eu/pantone-to-rgb-converter. Furthermore, where necessary, saturation and lightness (value) were adjusted according to the findings of Labrecque and Milne (2012) to improve visual harmony among logo elements while maintaining consistency with the intended BP dimension. The adopted colors and their conversions to HEX codes, along with the final HEX codes used in this study, are presented in Table 13.

Table 13. Colors from Previous Studies and Final Adjusted HEXs for This Study

Dimensions	Logos	Colors	Referred Colors			Final Adjusted HEX
			Color Notations	Studies	Converted HEX	
Sincerity	1 & 2	White	HSL (any, 0%, 100%)	Labrecque and Milne (2012)	#FFFFFF	#FFFFFF
	1	Pink	HSL (330°, 92%, 50%)	Labrecque and Milne (2012)	#F50A80	#E3AFC2
	1 & 2	Green	3435 U	Ridgway (2011)	#4B665B	#B5E6BC
	1 & 2	Green	RGB (10, 139, 98)	Kim and Sung (2013)	#0A8B62	#0A8B62
Excitement	3	Yellow	RGB (255, 227, 0)	Kim and Sung (2013)	#FFE300	#FFE300
	3 & 4	Red	RGB (186, 38, 54)	Kim and Sung (2013)	#BA2636	#BA2636
	3	Black	HSL (any, 0%, 0%)	Labrecque and Milne (2012)	#000000	#000000
	4	Orange	HSL (30°, 92%, 50%)	Labrecque and Milne (2012)	#F5800A	#F5800A
Competence	5 & 6	Blue				#001489
	6	Blue	RGB (0, 108, 141)	Kim and Sung (2013)	#006C8D	#006C8D
	5	Brown	#644117	UPS brand	#644117	#825217
Sophistication	7	Black	HSL (any, 0%, 0%)	Labrecque and Milne (2012)	#000000	#000000
	7	Purple	HSL (270°, 92%, 50%)	Labrecque and Milne (2012)	#800AF5	#8040BF
	7	Purple	HSL (270°, 92%, 50%)	Labrecque and Milne (2012)		#AE8AE6
	8	Pink	HSL (330°, 92%, 50%)	Labrecque and Milne (2012)	#F50A80	#D194B3
	8	Pink	HSL (330°, 92%, 50%)	Labrecque and Milne (2012)	#F50A80	#CC6699
Ruggedness	9 & 10	Green				#009400
	9 & 10	Green				#004D00
	10	Brown	HSL (30°, 50%, 30%)	Labrecque and Milne (2012)	#734D26	#734D26

Note: Some color systems, such as Pantone, are intended for physical products and printing; therefore, the converted RGB and HEX codes for digital use were only approximate and may show slight variations in resulting colors.

Logos 1 and 2, which represent the sincerity dimension, adopted white and pink from Labrecque and Milne (2012) and green from Ridgway (2011). However, a recent study

revealed that cold-tone colors conveyed ‘sincerity,’ while warm tones expressed ‘excitement’ (Yang et al., 2024). Therefore, the original vivid (highly saturated) pink from Labrecque and Milne (2012) was adjusted to a cooler tone, while the dark green from Ridgway (2011) was lightened to a mint green to improve harmony with the overall logo design. Although the green of Kim and Sung (2013) was not strongly associated with ‘sincerity’ in their research, this present study used it as a minor color.

For the excitement dimension, the logo colors with high saturation levels were selected, as in the Study 2 results of Labrecque and Milne (2012) (refer to Table 3). For Logo 3, yellow and red from Kim and Sung (2013) were adopted. Despite this black being associated with ‘sophistication’ in Labrecque and Milne (2012) and Kim and Sung (2013), the same HEX code was applied in both ‘excitement’ and ‘sophistication’ to have consistency for all applied logos. For Logo 4, the orange color (HEX #E84A2C) of Apriyansyah et al. (2024) was intended to be used; however, it conflicted and clashed when used together with the red from Kim and Sung (2013). Therefore, the orange used in Labrecque and Milne (2012) was selected because it conveyed a certain level of ‘excitement.’

An appropriate brown color code to represent ‘competence’ could not be found in the previous research for adoption. Thus, the “Pullman Brown” of UPS, renowned for its dependability, reliability, and professionalism (Jandal, n.d.; Martin, n.d.), was modified. Its original brown color (HEX #644117, HSL 33°, 63%, 24%) was adjusted to a new brown (HEX #825217, HSL 33°, 70%, 30%) by slightly changing the saturation and value levels because high saturation and low value influenced competence perceptions, according to the Study 2 results of Labrecque and Milne (2012). The blue color (HSL 240°, 92%, 50%) employed in Labrecque and Milne (2012) was also highly saturated, resulting in unclarity and clashing when paired with the adjusted brown. Therefore, a deep blue (HEX #001489) was created and paired with the adjusted brown for Logo 5. As two different blue colors were required for Logo 6, another blue color (RGB 0, 108, 141) from Kim and Sung (2013) was adopted because it yielded a relatively high competence score in that research, and it was used to pair with the deep blue.

The same black (Kim & Sung, 2013; Labrecque & Milne, 2012) used in ‘excitement’ was also used in ‘sophistication.’ The Study 2 results of Labrecque & Milne (2012) also

suggest that lower saturation and higher value slightly increased ‘sophistication.’ Using this guideline, colors were modified and created to be suitable for this dimension. For Logo 7, the vivid (highly saturated) purple from Labrecque and Milne (2012) was adapted into two shades of purple by adjusting its HSL values: a less saturated purple and a lighter purple (HSL 263°, 65%, 72%, HEX #AE8AE6). For Logo 8, the vivid pink from Labrecque and Milne (2012) was modified into two pink shades by adjusting its saturation and lightness levels, resulting in HEX #D194B3 (HSL 330°, 40%, 70%) and HEX #CC6699 (HSL 330°, 50%, 60%).

For ‘ruggedness,’ the vivid (highly saturated) and darker colors were chosen according to the Study 2 results on saturation and value by Labrecque and Milne (2012). With a hue angle of 120° for green, a vivid green (HEX #009400, HSL 120°, 100%, 29%) was created, along with a dark green (HEX #004D00, HSL 120°, 100%, 15%) for Logo 9. In addition to these two green colors, the brown (HSL 30°, 50%, 30%) from Labrecque and Milne (2012) was adopted for Logo 10.

3.3.1.2 Shapes Used in Logo Development

This study adopted allocation of shape categories across BP dimensions from Andrade et al. (2024). However, the visual appearance of each shape was newly designed to represent café and tea shop logos while maintaining consistency with the intended BP dimensions.

The logo designs also incorporated different levels of visual naturalness based on Chen et al. (2023) as reviewed in Section 2.9.3. Organic Logos 1 and 10 incorporated identical teapot shapes to represent high visual naturalness. Circular shapes were designed in Logos 2, 7, and 8; thus, geometric circles and circular arrangements of coffee beans were employed to represent low naturalness. The other low-naturalness logos, Logos 3 and 9, were designed using identical triangular shapes, specifically a triangular cup at the base and a triangular vapor structure on the top. Finally, Logo 4 (spiral shape) and Logos 5 and 6 (square shapes) were designed as very low-naturalness or highly abstract geometric designs because the shapes offered limited opportunities to incorporate natural visual shapes that represent coffee or tea. In this way, these shape designs were created to represent café and tea shop branding.

3.3.1.3 Typefaces Used in Logo Development

This study examined typeface personality through brand names displayed within the logo stimuli. To minimize the influence of prior brand familiarity, all logo stimuli uniformly used the fictional brand name “BrandName,” following Andrade et al. (2024). According to Grohmann et al. (2012), unfamiliar and equally appealing brand names reduce the potential influence of brand familiarity. Andrade et al. (2024) also confirmed that 70% of visual identities effectively conveyed the intended BP traits even before participants had brand knowledge, such as product details and market segment. Therefore, this study used uniform and unknown brands instead of using real brands to avoid the bias of prior brand exposure among consumers.

The “BrandName” was written in the English language to ensure consistent comprehension among both Thai and Burmese participants. The font size was 40 points in regular style (neither bold nor italic) on the 500 px * 500 px dimension canvas. The “BrandName” was written using the following font designs for 10 logos, which were represented for the selected typeface categories and selected based on the personality characteristics reported in previous studies. Table 14 presents the typefaces and selected fonts for each dimension and logo.

The Stonehenge font was assigned to ‘sincerity’ because previous research found that it reflects a high level of naturalness and is capable of representing all BP dimensions, including ‘sincerity’ (Grohmann et al., 2012).

The Berlin Sans FB font, as a sans-serif typeface, is characterized as “active, loud, strong, warm, and exciting,” while the Curlz font, as a display typeface, is described as “active, relaxed, young, and exciting” (Shaikh, 2007). Consequently, the Berlin Sans FB font and the Curlz font were employed to represent ‘excitement.’

The Cambria font from the serif typeface category was selected to represent ‘competence’ because Shaikh et al. (2006) described it as conveying “practical, mature, and highly legible characteristics,” which align with the intended dimension.

For ‘sophistication,’ the Monotype Corsiva font, as a script typeface category, was adopted due to its “attractiveness, elegance, politeness, and feminine traits” (Shaikh et al., 2006).

Finally, the Impact font from the display typeface category was selected to represent ‘ruggedness,’ as it conveys “masculine, hard, rugged, stiff, strong, loud, assertive, and coarse” (Shaikh, 2007; Shaikh et al., 2006; Wang, 2013).

Collectively, these fonts operationalized the selected typeface categories and were incorporated into the logo stimuli to represent their assigned BP dimensions.

Table 14. Designations of Logo Typefaces and Fonts for This Study

Dimensions	Logos	Typefaces	Fonts
Sincerity	Logo 1	Display	Stonehenge
Sincerity	Logo 2	Display	Stonehenge
Excitement	Logo 3	Sans-serif	Berlin Sans FB
Excitement	Logo 4	Display	<i>Curly</i>
Competence	Logo 5	Serif	Cambria
Competence	Logo 6	Serif	Cambria
Sophistication	Logo 7	Script	<i>Monotype Corsiva</i>
Sophistication	Logo 8	Script	<i>Monotype Corsiva</i>
Ruggedness	Logo 9	Display	Impact
Ruggedness	Logo 10	Display	Impact

3.3.2 Questionnaire

As previous studies on logo design and BP (Andrade et al., 2024; Kronberg, 2020; Suriadi et al., 2022) employed questionnaires, the present study also developed a questionnaire for data collection.

3.3.2.1 Structure of the Questionnaire

Following Andrade et al. (2024), the questionnaire consisted of 4 demographic questions and 10 logo evaluation items. The four demographic items were adapted from Kronberg (2020) and included gender, nationality, age, and education.

For RQ1, the 10 logo evaluation questions were included to evaluate the participants’ BP perceptions of 10 developed logo stimuli. Taherdoost (2019) suggests that a 7-point

scale is the most accurate and easiest to use (Diefenbach et al., 1993) and more likely to correctly represent respondents' subjective assessment of a usability questionnaire item (Finstad, 2010). Thus, this study employed a 7-point Likert scale, ranging from 1 (least associable) to 7 (most associable), for 10 logo evaluation items. The 10 logo stimuli in the questionnaire form were displayed in a random sequence generated by spinning the wheel on pickerwheel.com. The resultant order was Logos 7, 6, 1, 3, 8, 9, 5, 4, 10, and 2, and these logo numbers were renamed using random alphanumeric codes (e.g., ZEK, RAN) to minimize potential order, ranking, and categorization effects (see Appendix Table A1 for the random alphanumeric codes for each logo).

To investigate RQ2 and RQ3, one section related to participants' logo preferences was added to the questionnaire. This section examined 1) participants' preferred logo from the previously presented 10 logo stimuli and 2) their general logo design preferences for café and tea shop brands. The first preference part explored the participants' most preferred logo, the reasons for their choice, and the BP perceptions they associated with that logo. The second preference part was intended to explore participants' general preferences for individual logo elements of café and tea shop logos; it allowed participants to openly express their desires and expectations that were not limited by the pre-designed logo stimuli.

The questionnaire form is presented in Appendix A.

3.3.2.2 Expert Review (IOC)

Before disseminating the questionnaire on social media, it was reviewed by experts to assess the validity and clarity of each item. Three experts specializing in human-computer interaction (HCI), user experience and interface design, and digital business evaluated the congruence between each question and the study objectives using the Item-Objective Congruence (IOC) method. With a few suggestions, all items attained an IOC value of 1.00, which indicated absolute agreement among experts for the high congruence of the questionnaire items with the research objectives. The questionnaire was amended according to the experts' feedback prior to the administration of the final version to participants.

3.4 Data Collection

The final version of the questionnaire was translated into Thai for Thai respondents and into Myanmar for Burmese respondents to eliminate language barriers. Then, they were disseminated on Facebook and Line using Google Form.

Prioritizing the safeguarding of participants and maintaining research integrity, participants received comprehensive information about the study's purpose, procedures, and their rights prior to involvement. All respondents' responses and information remain confidential. This study posed minimal risk, as it collected the data on consumers' visual perceptions and preferences with no sensitive or distressing content. Participants had the right to withdraw from the study at any point without consequences. Moreover, this study practiced data analysis without bias and transparent data presentation. Lastly, this study obtained approvals from the research committee of the SDBM program and the Naresuan University Institutional Review Board (NU-IRB) (Approval No. P2-0253/2568; Date: 24 June 2025) prior to conducting it.

3.5 Data Analysis

The collected data was analyzed using JASP software. Prior to the analysis, the raw data was initially screened for completeness and consistency, and responses with missing or inconsistent data were eliminated. The dataset was then translated into English where necessary and coded to facilitate statistical analysis.

Descriptive statistics were first employed to summarize participants' demographic characteristics and their responses to each questionnaire item. Frequency distributions were used for categorical variables, while medians and interquartile ranges (IQRs) were calculated for the BP ratings because the data were measured using a 7-point Likert scale.

Before conducting inferential analyses, the normality assumption was examined using the Shapiro-Wilk test to determine whether parametric or non-parametric statistical methods were appropriate. In addition, Cronbach's alpha was calculated to assess the internal consistency of the BP rating items.

For RQ1, the Friedman test, a non-parametric alternative to repeated-measures ANOVA, was used for inferential analysis to examine differences in participants' BP perceptions across the 10 logo stimuli. When the Friedman test yielded significant results, Conover's post-hoc comparison tests were performed to identify significant differences between logo stimuli. The Conover procedure was employed because it is implemented in the JASP software package for post-hoc analysis following the Friedman test.

For RQ2 and RQ3, chi-square tests were used to examine participants' logo preferences. Specifically, the chi-square goodness-of-fit test (RQ2) was performed to determine whether certain logos were preferred more frequently than expected, while the chi-square test of independence (RQ3) was conducted to examine whether logo preferences differed between Thai and Burmese participants.

Finally, the statistical findings were interpreted in relation to the research questions and the literature reviewed. The results are presented in Chapter 4 and discussed in Chapter 5.

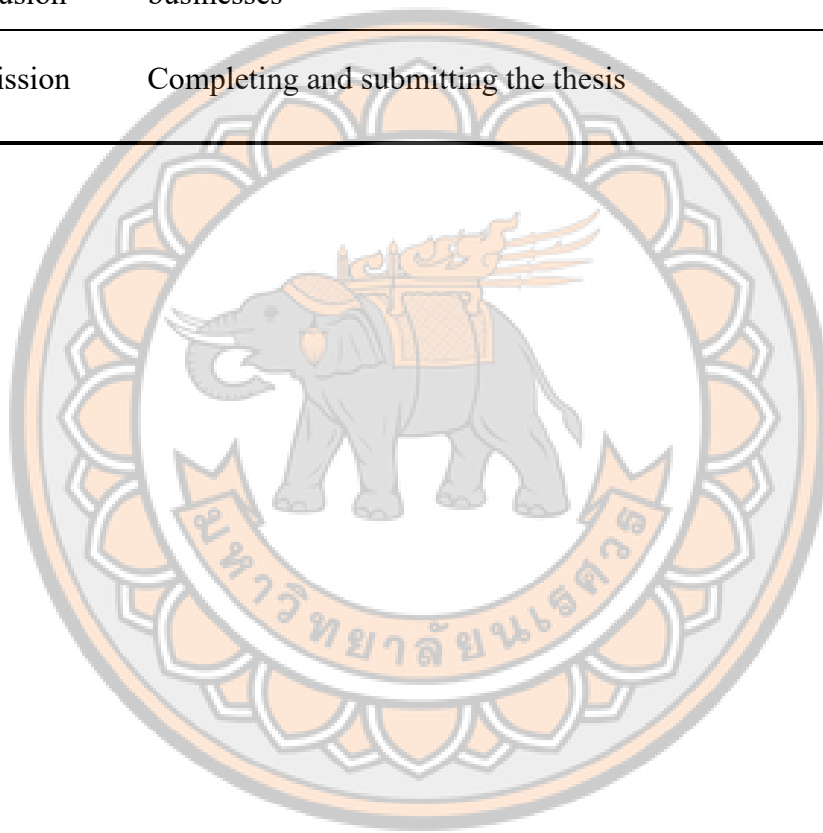
3.6 Timeline of the Study

The timeline for the research phase is presented in Table 15. The main phases encompass the proposal stage, logo design development, data collection, and statistical analysis.

Table 15. Research Timeline

Phases	Activities	Timeframe
Proposal stage	Finalizing research questions, objectives, and methodology	Feb–Mar
	Reviewing relevant studies and developing a theoretical framework	2025
Approval for research	Receiving approvals from the SDBM research committee and NU-IRB to proceed with the research	Apr–Jun 2025
Questionnaire Development	Creating and testing the questionnaire for clarity and reliability	May 2025

Logo Development	Designing logo stimuli based on selected logo visual elements and the BP dimensions	Jul 2025
Data Collection	Distributing the survey to participants	Jul–Aug 2025
Data Analysis	Applying descriptive and statistical tests (e.g., Friedman, chi-square) to produce the study findings	Aug–Sep 2025
Discussion & Conclusion	Interpreting findings and formulating guidelines for businesses	Oct–Dec 2025
Submission	Completing and submitting the thesis	Jan–Mar 2026



CHAPTER IV

RESULTS

This chapter presents the analysis results that examined how logos with different colors, shapes, and typefaces are associated with brand personality (BP) perceptions for cafés and tea shops among Thai and Burmese participants. The findings are structured as a data overview, respondent demographics, descriptive statistics, reliability analysis, and inferential analyses addressing the three research questions.

4.1 Data Overview

4.1.1 Response Rate

Two questionnaires were distributed, one in the Myanmar language and the other in the Thai language. A total of 122 responses were obtained, including 62 Thai and 60 Myanmar participants.

4.1.2 Data Cleaning

Among the 122 samples, 4 Myanmar participants had missing responses on some BP rating items. As the proportion of missing data was low (2.44% at the item level and 3.28% at the participant level), no imputation was performed. Preliminary analyses of post hoc comparison tests indicated that the inferential results obtained from the original data (with no median imputation) were highly similar to those obtained after median imputation (see Appendix B). Therefore, the original dataset was retained for all subsequent analyses.

4.1.3 Normality Testing

Prior to performing the main analysis, the normality of the data was assessed using the Shapiro-Wilk test. The results demonstrated that all variables exhibited a non-normal distribution, as evidenced by Shapiro-Wilk p-values less than 0.05. The examination of histograms further supported the non-normality distribution; therefore, non-parametric tests, including the Friedman test, were employed for the following analyses.

4.2 Demographic Profile of Respondents

Among the 122 participants, 92 (75.4%) were female, 26 (21.3%) were male, 2 (1.6%) identified as other genders (including non-binary/third gender), and 2 (1.6%) preferred not to disclose their gender status. The age information was available for only 120 participants because 2 of them entered invalid age values that could not be classified into the predefined age categories. Of these 120 samples, 64 (53.3%) were aged 18-24 years, 51 (42.5%) were aged 25-34 years, and 5 (4.2%) were aged 35-44 years. Regarding education, 90 participants (73.8%) held a bachelor's degree, followed by 18 (14.8%) with a master's degree, 8 (6.6%) with a diploma or certificate, 5 (4.1%) with a high school education or lower, and 1 (0.8%) with a doctoral degree. Overall, the sample was balanced by nationality, while females and the age groups (18–34 years) showed the majority of respondents. Table 16 presents these demographic characteristics.

Table 16. Demographic Characteristics of Respondents

		Total	Frequency	Percentage
Nationality	Thai	122	62	50.8%
	Burmese		60	49.2%
Age	18-24	120	64	53.3%
	25-34		51	42.5%
	35-44		5	4.2%
Gender	Female	122	92	75.4%
	Male		26	21.3%
	Other		2	1.6%
	Prefer not to say		2	1.6%
Education	Bachelor's Degree	122	90	73.8%
	Master's Degree		18	14.8%
	Diploma or Certificate		8	6.6%
	High school or lower		5	4.1%
	Doctoral Degree (e.g., PhD, EdD)		1	0.8%

4.3 Descriptive Analysis of BP Perceptions across Logos

Descriptive statistics were computed to examine the overall pattern of participants' logo associations with the BP dimensions. Participants rated 10 logos using a 7-point Likert scale (1 = least associated and 7 = most associated). To provide an overall descriptive overview of participants' BP perceptions across the 10 logo stimuli, mean scores were calculated and presented in Table 17.

Table 17. Mean BP Association Scores across Logos

Dimensions	Logo 1	Logo 2	Logo 3	Logo 4	Logo 5	Logo 6	Logo 7	Logo 8	Logo 9	Logo 10
Sincerity	4.29	4.40	3.34	3.34	3.15	3.40	3.74	3.60	3.39	3.36
Excitement	4.18	4.02	3.71	3.84	2.83	3.10	3.19	3.15	3.12	2.98
Competence	4.14	4.17	3.66	3.70	3.13	3.42	3.55	3.26	3.23	3.20
Sophistication	4.18	4.29	3.30	3.64	2.99	3.39	3.50	3.38	3.04	3.03
Ruggedness	3.93	3.95	3.86	3.78	3.26	3.61	3.48	3.06	3.31	3.38

Table 17 shows that Logos 1 and 2 generally received the highest mean scores across the five BP dimensions. Among all mean scores, Logo 2 obtained the highest rating in the sincerity dimension ($M = 4.40$), followed by Logo 1 ($M = 4.29$). Moreover, Logo 2 received slightly higher mean scores than Logo 1 in four of the five dimensions, except for 'excitement.' In contrast, Logo 5 consistently received very low mean ratings in all BP dimensions, while Logo 10 also obtained low ratings in 'sophistication,' 'excitement,' and 'competence.' Overall, these descriptive results reveal noticeable differences in participants' BP perceptions across the 10 logo stimuli. These consistently high ratings for Logos 1 and 2 suggest that some logo designs evoked multiple BP dimensions rather than a single intended dimension.

4.4 Descriptive Results of General Logo Element Preferences

In this preference task, participants were asked about their general preferences regarding logo colors, shapes, and typefaces for café and tea shop logos. They were allowed to select up to three options for each question item; therefore, the total number of responses exceeds the number of participants. The response frequencies are presented below.

Figure 9 shows the frequency distribution of participants' preferred colors for café or tea shop logos. The three most preferred colors were white, brown, and black. The white color received the highest number of responses (70 responses), followed by brown (42 responses) and black (35 responses).

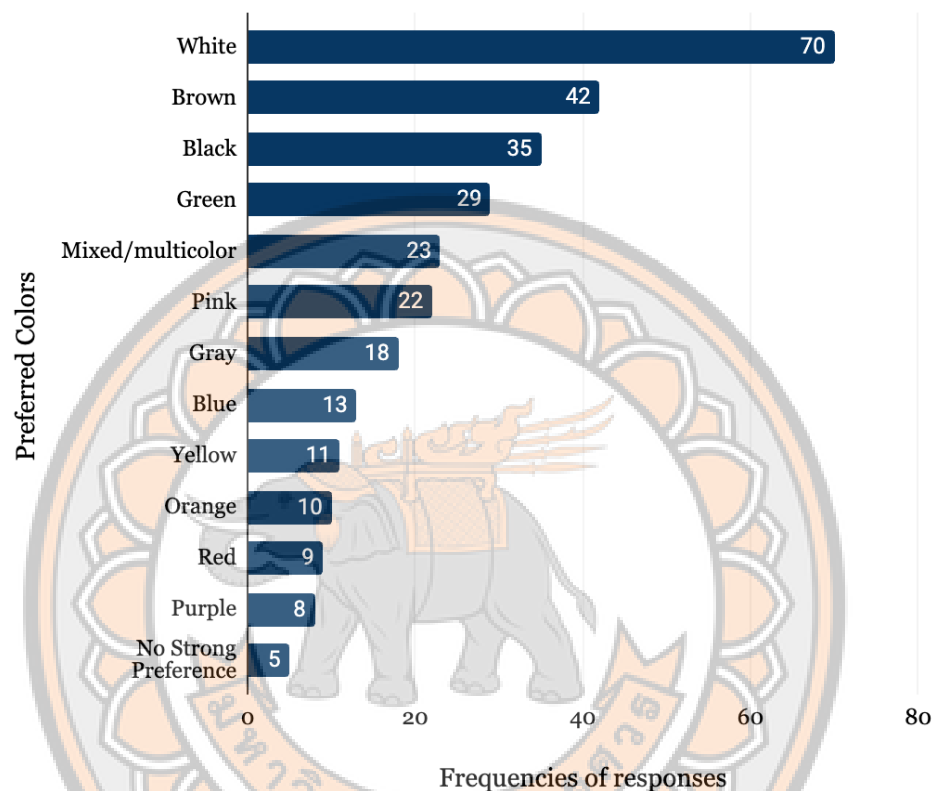


Figure 9. Frequencies of Preferred Colors for Café or Tea Shop Logos

Note: Participants were allowed to select up to 3 options.

The three most preferred shapes for café or tea shop logos were natural, circular, and abstract shapes (see Figure 10). The natural or organic shape was the most frequently selected, receiving 72 responses, followed by 54 responses for the circular shape and 36 responses for the abstract shape.

The three most preferred typefaces for café or tea shop logos were script/handwritten (61 responses), decorative (58 responses), and serif (44 responses) (see Figure 11). These three typefaces received the most noticeable highest responses among all typeface options.

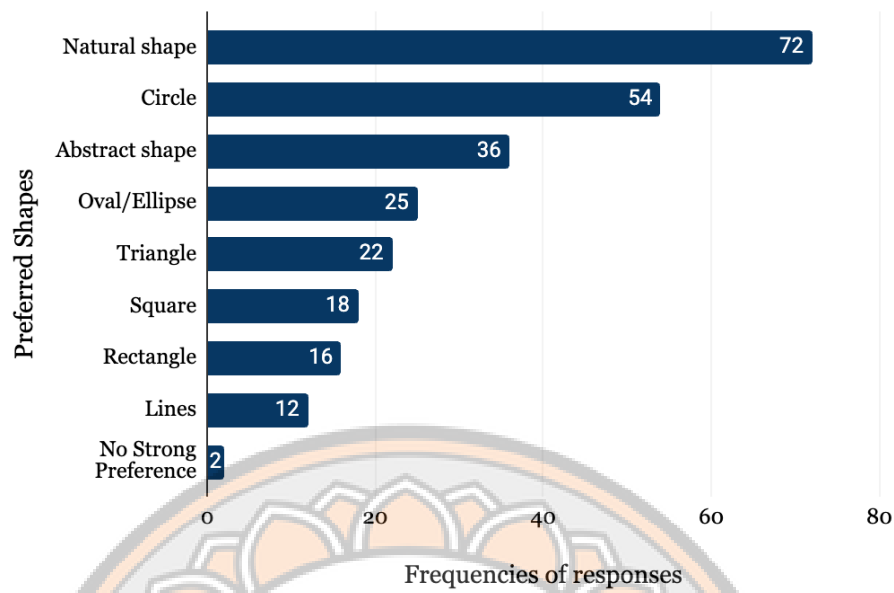


Figure 10. Frequencies of Preferred Shapes for Café or Tea Shop Logos

Note: Participants were allowed to select up to 3 options.

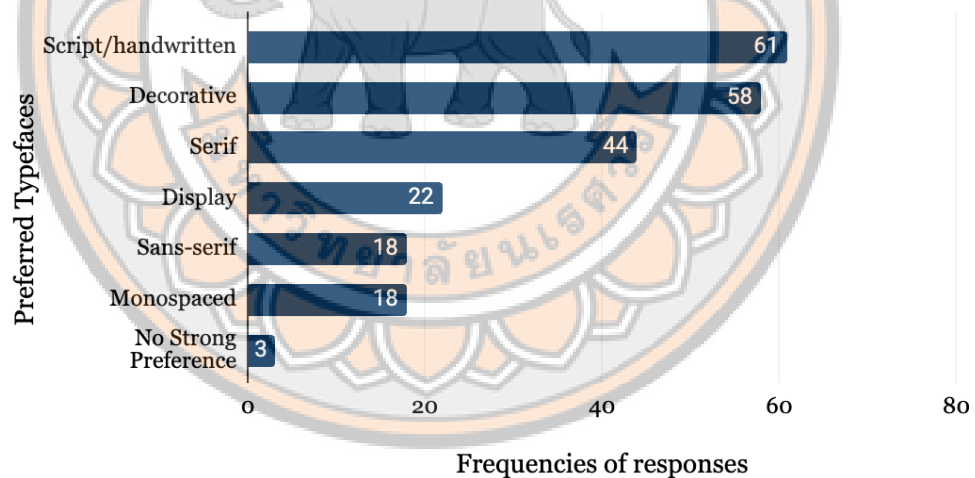


Figure 11. Frequencies of Preferred Typefaces for Café or Tea Shop Logos

Note: Participants were allowed to select up to 3 options.

4.5 Reliability Testing

A reliability analysis was conducted to assess the internal consistency of participants' BP ratings across the 10 logo stimuli. Separate reliability analyses were conducted for each BP dimension using the resulted ratings from the 10 logo evaluation items. Four participants with incomplete data were eliminated using listwise deletion. According to

Kennedy (2022), the reliability of the instrument is stronger with a sample size of at least 100. Therefore, the remaining samples (n=118) were utilized for the tests. All five reliability analyses (n=118) yielded Cronbach's alpha coefficients above 0.9, indicating strong internal consistency (see Table 18). The findings suggest that participants evaluated the logos consistently within each BP dimension and support the reliability of the measurement instrument.

Table 18. Reliability of BP Dimensions Across Logo Stimuli

Dimensions	Number of Items	Cronbach's Alpha
Sincerity	10	0.932
Excitement	10	0.921
Competence	10	0.928
Sophistication	10	0.924
Ruggedness	10	0.921

4.6 Results of the Research Questions

4.6.1 Results of RQ1: Brand Personality and Logo

RQ1: Which logo designs are perceived as most strongly associated with each BP dimension?

To address RQ1, the Friedman analysis was conducted at two levels. First, the complete logo stimuli were analyzed to identify the logos that were most associated with each BP dimension. Second, an element-level analysis was performed to examine the contribution of individual logo elements (shape and typeface) to BP perceptions.

4.6.1.1 Whole-logo Analysis

The Friedman tests revealed that all BP dimensions were significantly different across 10 logos (see Table 19). Thus, further Conover's post-hoc comparisons were conducted to identify specific differences between logos (see detailed results in Appendix B).

Moreover, median (*Mdn*) and interquartile range (*IQR*) values were also used to describe the distribution of BP ratings across the logo stimuli.

Table 19. Friedman Test Results for BP Dimensions at the Whole-Logo Level

Dimensions	χ^2F	<i>df</i>	<i>p</i>	Kendall's <i>W</i>
Sincerity	162.3	9	< .001	0.153
Excitement	165.1	9	< .001	0.155
Competence	113.2	9	< .001	0.107
Sophistication	130.2	9	< .001	0.123
Ruggedness	69.16	9	< .001	0.065

In the sincerity dimension, the Friedman test showed a statistically significant difference across the 10 logos, $\chi^2 = 162.3$, *df* = 9, *p* < .001, Kendall's *W* = .153. Logos 1 and 2 received the highest median scores (both *Mdn* = 4), with *IQRs* of 2 and 3, respectively (Table 20). Conover's post-hoc comparisons revealed no significant difference between Logos 1 and 2 (Appendix Table B1), while both were significantly different from the remaining logos (Logos 3 to 10). Thus, participants highly associated **Logos 1 and 2** with 'sincerity.'

Table 20. Median and IQR Results in the Sincerity Dimension

Dimension	Logos	Median	IQR
Sincerity	Logo 1	4	2
	Logo 2	4	3
	Logo 3	3	2
	Logo 4	3	2
	Logo 5	3	2
	Logo 6	3	3
	Logo 7	3	3
	Logo 8	3	3
	Logo 9	3	2
	Logo 10	3	2

In ‘excitement,’ the Friedman test revealed a statistically significant difference across the 10 logos, $\chi^2 = 165.1$, $df = 9$, $p < .001$, Kendall’s $W = .155$. Logos 1, 2, 3, and 4 yielded the highest median ratings (all $Mdn = 4$), with *IQRs* of 2, 2, 3, and 3, respectively (Table 21). Conover’s post-hoc comparisons (Appendix Table B3) indicated considerable similarity among these four highly rated logos ($p > .05$), although Logo 1 differed significantly from Logo 3 ($p = .034$). The remaining six logos (Logos 5, 6, 7, 8, 9, and 10) were not significantly different from one another ($p > .05$). Overall, participants highly associated **Logos 1, 2, 3, and 4** with ‘excitement,’ as these logos received the highest median ratings, although the post-hoc results indicated some statistical overlap.

Table 21. Median and IQR Results in the Excitement Dimension

Dimension	Logos	Median	IQR
Excitement	Logo 1	4	2
	Logo 2	4	2
	Logo 3	4	3
	Logo 4	4	3
	Logo 5	2	2
	Logo 6	3	2
	Logo 7	3	2
	Logo 8	3	2
	Logo 9	3	2
	Logo 10	3	2

In ‘competence,’ the Friedman test showed a statistically significant difference across the 10 logos, $\chi^2 = 113.2$, $df = 9$, $p < .001$, Kendall’s $W = .107$. Among 10 logos, Logos 1, 2, and 4 received the highest median ratings (all $Mdn = 4$), with *IQRs* being 2, 2, and 3, respectively (Table 22). Conover’s post-hoc comparisons (Appendix Table B5) revealed that Logos 1, 2, 3, and 4 were not significantly different from one another ($p > .05$). However, Logo 3 was not different from Logo 6 ($p_{holm} = .438$) and Logo 7 ($p_{holm} = 1.000$). Likewise, Logo 4 was not different from Logo 6 ($p_{holm} = .137$) and Logo 7 ($p_{holm} = 1.000$). Overall, based on the descriptive ratings, participants highly associated

Logos 1, 2, and 4 with ‘competence,’ although the post-hoc results indicated some similarities with several other logo stimuli.

Table 22. Median and IQR Results in the Competence Dimension

Dimension	Logos	Median	IQR
Competence	Logo 1	4	2
	Logo 2	4	2
	Logo 3	3	3
	Logo 4	4	3
	Logo 5	3	2
	Logo 6	3	2
	Logo 7	3	3
	Logo 8	3	2
	Logo 9	3	2
	Logo 10	3	2

In ‘sophistication,’ the Friedman test also showed a statistically significant difference across all 10 logos, $\chi^2 = 130.2$, $df = 9$, $p < .001$, Kendall’s $W = .123$. Logos 1 and 2 received the highest median scores (both $Mdn = 4$ and $IQR = 3$) (Table 23). Conover’s post-hoc comparisons (Appendix Table B7) further confirmed no significant difference between Logos 1 and 2 ($p > .05$), while both were significantly different from the remaining logos ($p < .05$). Thus, participants highly associated **Logos 1 and 2** with ‘sophistication.’

Table 23. Median and IQR Results in the Sophistication Dimension

Dimension	Logos	Median	IQR
Sophistication	Logo 1	4	3
	Logo 2	4	3
	Logo 3	3	2
	Logo 4	3	3
	Logo 5	3	2
	Logo 6	3	3
	Logo 7	3	3
	Logo 8	3	3

Logo 9	3	2
Logo 10	3	2

Lastly, in ‘ruggedness,’ the Friedman test also showed a statistically significant difference across all 10 logos, $\chi^2 = 69.16$, $df = 9$, $p < .001$, Kendall’s $W = .065$. Logos 1, 2, 3, and 4 achieved the highest median score (all $Mdn = 4$), with $IQRs$ being 3, 2, 2, and 3, respectively (Table 24). Conover’s post-hoc comparisons (Appendix Table B9) revealed no significant difference among them (all $p_{holm} = 1.000$). However, these logos were statistically comparable to several other logos. For instance, Logo 1 did not statistically differ from Logo 6 ($p_{holm} = 1.000$) and Logo 7 ($p_{holm} = .089$). Logo 2 did not statistically differ from Logo 6 ($p_{holm} = .745$). Similar patterns were found in Logos 3 and 4; both were statistically comparable to Logos 6, 7, and 10. Nevertheless, Logos 1, 2, 3, and 4 were significantly different from the lower-rated Logos 5, 8, and 9 ($p_{holm} < .05$). Therefore, participants rated **Logos 1, 2, 3, and 4** as more highly associated with ‘ruggedness’ based on the highest descriptive ratings, while the post-hoc comparisons indicated overlapping patterns with several other logos. Furthermore, the relatively small Kendall’s W and overlapping post-hoc patterns indicated weaker differentiation among the logo stimuli for ‘ruggedness’ compared to the other BP dimensions.

Table 24. Median and IQR Results in the Ruggedness Dimension

Dimension	Logos	Median	IQR
Ruggedness	Logo 1	4	3
	Logo 2	4	2
	Logo 3	4	2
	Logo 4	4	3
	Logo 5	3	3
	Logo 6	3	3
	Logo 7	3	3
	Logo 8	3	2
	Logo 9	3	2
	Logo 10	3	3

In summary, participants perceived higher levels of ‘sincerity’ and ‘sophistication’ in Logos 1 and 2; they perceived higher levels of ‘excitement’ and ‘ruggedness’ for Logos 1, 2, 3, and 4; and they highly perceived ‘competence’ in Logos 1, 2, and 4. These highly perceived logos for all BP dimensions are presented in Table 25.

Table 25. Highly Associated Logos with BP Dimensions

Dimensions	Highly Associated Logos
Sincerity	Logos 1 and 2
Excitement	Logos 1, 2, 3, and 4
Competence	Logos 1, 2, and 4
Sophistication	Logos 1 and 2
Ruggedness	Logos 1, 2, 3, and 4

4.6.1.2 Element-level Analysis

To examine individual logo element patterns, element-level analyses were conducted for shape and typeface. Color was not analyzed because each logo included multiple colors, presenting a confounding effect that prevents clear isolation of color effects. Therefore, the dataset was organized by grouping the whole logos by the same shape and typeface categories. The regrouped data were then analyzed using descriptive statistics (median and IQR), Friedman tests, and Conover’s post-hoc comparisons.

Shape

As presented in Table 26, the Friedman tests revealed statistically significant differences across the 5 shapes (organic, circular, triangular, square, and spiral) in all BP dimensions (all $p < .001$). Table 27 shows the corresponding median and IQR scores for all shapes.

Table 26. Friedman Test Results of Logo Shapes for BP Dimensions

Dimensions	χ^2F	df	p	Kendall's W
Sincerity	125.3	4	< .001	0.265
Excitement	73.40	4	< .001	0.156

Competence	53.42	4	< .001	0.113
Sophistication	81.96	4	< .001	0.174
Ruggedness	25.88	4	< .001	0.055

Table 27. Median and IQR Results of Logo Shapes for BP Dimensions

Dimensions	Organic		Circular		Triangular		Spiral		Square	
	Median	IQR	Median	IQR	Median	IQR	Median	IQR	Median	IQR
Sincerity	4	2	4	2	3	2	3	2	4	2
Excitement	3	3	3	3	3	2	4	3	3	3
Competence	4	3	3	3	3	2	4	3	4	3
Sophistication	3	3	3	3	3	2	3	3	3	3
Ruggedness	3	3	3	3	3	3	4	3	3	3

For ‘sincerity,’ the Friedman test showed a statistically significant difference across all 5 logo shapes, $\chi^2 = 125.3$, $df = 4$, $p < .001$, Kendall’s $W = .265$. Organic, circular, and square shapes received the highest median ratings (all $Mdn = 4$ and $IQRs = 2$). Conover’s post-hoc comparisons (Appendix Table E1) revealed no significant difference between organic and circular shapes ($p_{holm} = 1.000$), while both differed significantly from the remaining shapes (all $p_{holm} < .05$). Therefore, **organic** and **circular** shapes were most associated with ‘sincerity.’

For ‘excitement,’ the Friedman test showed a statistically significant difference across all 5 logo shapes, $\chi^2 = 73.4$, $df = 4$, $p < .001$, Kendall’s $W = .156$. The spiral shape received the highest median score ($Mdn = 4$, $IQR = 3$), while the remaining shapes received median ratings of 3. However, Conover’s post-hoc comparisons (Appendix Table E2) revealed that organic shape was not significantly different from circular ($p_{holm} = .160$), while it differed significantly from triangular ($p_{holm} = .007$), spiral ($p_{holm} = .017$), and square ($p_{holm} < .001$). Circular, triangular, and spiral did not differ significantly from one another (all $p_{holm} > .05$), while all four shapes differed significantly from square (all $p_{holm} < .05$). Thus, **spiral** and **organic** shapes were the most associated with ‘excitement’

because the spiral received the highest median rating, while the post-hoc results showed a stronger overall ranking pattern for the **organic** shape.

For ‘competence,’ the Friedman test showed a statistically significant difference across all 5 logo shapes, $\chi^2 = 53.42$, $df = 4$, $p < .001$, Kendall’s $W = .113$. Organic, spiral, and square shapes received the highest median ratings (all $Mdn = 4$ and $IQRs = 3$). Despite having the highest median, Conover’s post-hoc comparisons (Appendix Table E3) revealed that the square shape was significantly lower than all other shapes (all $p_{holm} < .001$). There were no significant differences among organic, circular, triangular, and spiral shapes (all $p_{holm} > .05$). Overall, although organic, spiral, and square shapes were highly associated with ‘competence’ descriptively, the post-hoc results provided more consistent evidence for the ‘competence’ association with organic and spiral shapes. Thus, **organic** and **spiral** shapes were retained as the most associated with ‘competence.’

For ‘sophistication,’ the Friedman test showed a statistically significant difference across all 5 logo shapes, $\chi^2 = 81.96$, $df = 4$, $p < .001$, Kendall’s $W = .174$. All shapes received the same median score (all $Mdn = 3$) with an IQR of 2 for the triangular shape and the same $IQRs$ of 3 for the remaining shapes. However, Conover’s post-hoc comparisons (Appendix Table E4) revealed no significant difference between organic and circular shapes ($p_{holm} = .597$), while both shapes differed significantly from other shapes (all $p_{holm} < .05$). Spiral was significantly higher than triangular ($p_{holm} = .041$) and square ($p_{holm} < .001$), while triangular and square showed no significant difference between them ($p_{holm} = .226$). Although all shapes yielded the same medians, the post-hoc tests indicated that organic and circular shapes were significantly higher than the others. Thus, **organic** and **circular** shapes were more associated with ‘sophistication.’

For ‘ruggedness,’ the Friedman test showed a statistically significant difference across all 5 logo shapes, $\chi^2 = 25.88$, $df = 4$, $p < .001$, Kendall’s $W = .055$. The spiral shape received the highest median score ($Mdn = 4$, $IQR = 3$), while other shapes received the same median (all $Mdn = 3$ and $IQRs = 3$). However, Conover’s post-hoc comparisons (Appendix Table E5) revealed no significant differences among organic, circular, triangular and spiral shapes (all $p_{holm} = 1.000$), while the square shape received significantly lower ratings than the previous four shapes (all $p_{holm} < .05$). Overall, the **spiral** shape was most highly associated with ‘ruggedness’ due to its highest descriptive

rating, although its rating did not differ significantly from organic, circular, and triangular shapes.

Typeface

As shown in Table 28, the Friedman tests of the four logo typefaces (display, sans-serif, serif, and script) revealed statistically significant differences (all $p < .001$) for all BP dimensions. Table 29 presents the corresponding median and IQR scores.

Table 28. Friedman Test Results of Logo Typefaces for Each BP Dimension

Dimensions	χ^2F	df	p	Kendall's W
Sincerity	77.62	3	< .001	0.219
Excitement	74.45	3	< .001	0.210
Competence	40.25	3	< .001	0.114
Sophistication	46.54	3	< .001	0.131
Ruggedness	25.55	3	< .001	0.072

Table 29. Median and IQR Results of Logo Typefaces for Each BP Dimension

Dimensions	Display		Sans-serif		Serif		Script	
	Median	IQR	Median	IQR	Median	IQR	Median	IQR
Sincerity	4	3	3	2	3	2	3	3
Excitement	3	3	4	3	3	2	3	2
Competence	4	3	3	3	3	2	3	3
Sophistication	3	3	3	2	3	2	3	3
Ruggedness	3	3	4	2	3	3	3	3

In ‘sincerity,’ the Friedman test showed a statistically significant difference across all four logo typefaces, $\chi^2 = 77.62$, $df = 3$, $p < .001$, Kendall’s W = .219. The display typeface received the highest median rating ($Mdn = 4$, $IQR = 3$). Conover’s post-hoc comparisons (see Appendix Table E6) also revealed that display typeface differed

significantly from the other three typefaces (all $p_{holm} < .001$). Therefore, the **display** typeface was most associated with ‘sincerity.’

In ‘excitement,’ the Friedman test showed a statistically significant difference across all four logo typefaces, $\chi^2 = 74.45$, $df = 3$, $p < .001$, Kendall’s $W = .210$. Sans-serif received the highest median ratings ($Mdn = 4$, $IQR = 3$), while the remaining typefaces received median ratings of 3. However, Conover’s post-hoc comparisons (see Appendix Table E7) revealed that the display typeface was significantly higher than the other three typefaces (all $p_{holm} < .05$). Sans-serif was also significantly higher than serif and script (both $p_{holm} < .05$), while serif and script did not differ significantly (all $p_{holm} = .069$). Overall, sans-serif received the highest descriptive rating for ‘excitement,’ while the post-hoc results showed that the display typeface had a significantly higher overall ranking than sans-serif, serif, and script. Therefore, **display** and **sans-serif** typefaces showed the strongest associations with ‘excitement.’

In ‘competence,’ the Friedman test showed a statistically significant difference across all four logo typefaces, $\chi^2 = 40.25$, $df = 3$, $p < .001$, Kendall’s $W = .114$. The display typeface received the highest median rating ($Mdn = 4$, $IQR = 3$). Conover’s post-hoc comparisons (see Appendix Table E8) also revealed that the display typeface was significantly higher than sans-serif ($p_{holm} = .042$), serif ($p_{holm} < .001$), and script ($p_{holm} < .001$). Therefore, the **display** typeface was most associated with ‘competence.’

In ‘sophistication,’ the Friedman test showed a statistically significant difference across all four logo typefaces, $\chi^2 = 46.54$, $df = 3$, $p < .001$, Kendall’s $W = .131$. All four typefaces received the same median ratings (all $Mdn = 3$), with IQR s of 3, 2, 2, and 3, respectively. Despite the same medians, Conover’s post-hoc comparisons (see Appendix Table E9) indicated that the display typeface was significantly higher than the other three typefaces (all $p_{holm} < .001$). Sans-serif did not differ significantly from serif and script typefaces (both $p_{holm} > .05$); serif was significantly lower than script ($p_{holm} < .010$). Overall, the post-hoc results indicated that the **display** typeface was most associated with ‘sophistication.’

In ‘ruggedness,’ the Friedman test showed a statistically significant difference across all four logo typefaces, $\chi^2 = 25.55$, $df = 3$, $p < .001$, Kendall’s $W = .072$. Sans-serif received the highest median ($Mdn = 4$, $IQR = 2$), while other display, serif, and script typefaces

received the same scores (all $Mdn = 3$ and $IQRs = 3$). However, Conover's post-hoc comparisons (see Appendix Table E10) indicated no significant difference between display and sans-serif ($p_{holm} = .597$), while both were significantly higher than serif and script (both $p_{holm} < .05$). Serif and script did not differ significantly ($p_{holm} = .597$). Therefore, sans-serif received the highest descriptive rating for 'ruggedness,' while the post-hoc results indicated that both **display** and **sans-serif** typefaces were more highly associated with 'ruggedness' than serif and script.

4.6.1.3 Summary of RQ1 Results

Overall, the RQ1 results indicated that different logo designs were associated with different BP dimensions, although several logos were strongly associated with more than one dimension. The element-level analysis further identified specific shape and typeface patterns associated with each BP dimension. Table 30 summarizes the whole-logo and element-level findings, showing similar design patterns for 'sincerity' and 'sophistication,' but different patterns for the other dimensions.

Table 30. Summary of RQ1 Findings

Dimensions	Whole-logo Level	Element Level	
	Highly Associated Logos	Associated Shapes	Associated Typefaces
Sincerity	Logos 1, 2	Organic, Circular	Display
Excitement	Logos 1, 2, 3, 4	Organic, Spiral	Display, Sans-serif
Competence	Logos 1, 2, 4	Organic, Spiral	Display
Sophistication	Logos 1, 2	Organic, Circular	Display
Ruggedness	Logos 1, 2, 3, 4	Spiral	Display, Sans-serif

4.6.2 Results of RQ2: Logo Design Preferences

RQ2: Do participants' preferences differ across logo designs?

To examine whether participants' preferences ($n = 122$) differed across the 10 logo designs, a chi-square goodness-of-fit test was conducted. The results revealed a statistically significant difference in logo preferences, $\chi^2 = 174.2$, $df = 9$, $p < .001$,

indicating that the logos were not equally preferred. As shown in Figure 12, Logo 1 received the highest preference among participants (41%), followed by Logo 2 (23.8%). Preference then dropped considerably, with Logo 3 (7.4%) and each of the remaining logos receiving less than 6%. Logos 5 and 9 received the lowest preferences (1.6% each). Overall, the results demonstrated a notable preference for Logos 1 and 2 over the remaining logo designs.

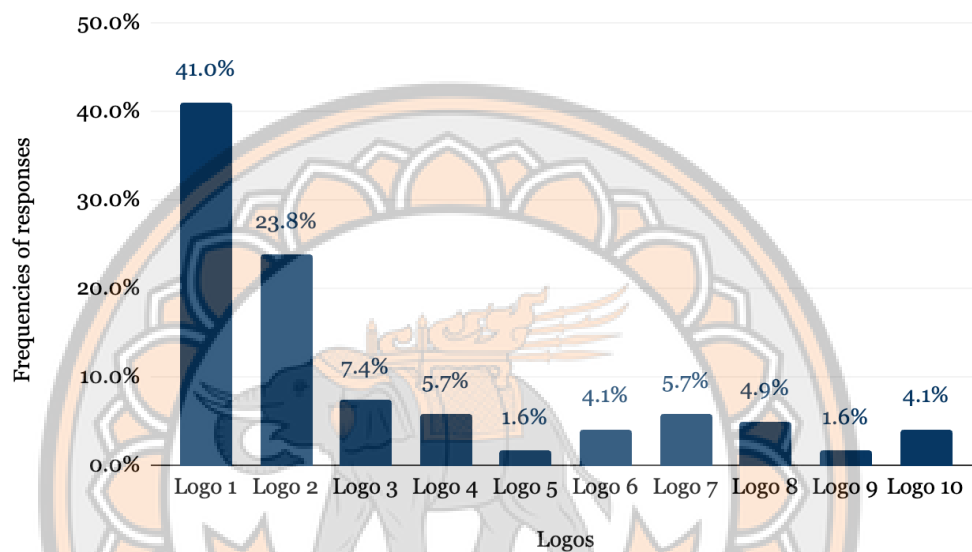


Figure 12. Participants' Logo Preferences

To further explore the reasons underlying participants' logo preferences, two follow-up questions examined the reasons for selecting their preferred logos and the core BP facets evoked by these logos. Participants could select up to three options for each question; therefore, the total number of responses may exceed the number of participants.

Table 31. Frequencies of Participants Reported Reasons for Preferred Logos

Logos	I like the color.	I like the shape.	I like the typeface.	It felt culturally appropriate or meaningful.	It gave me a good impression of the brand.	It encouraged me to explore more about the brand. (e.g., visit the brand's page, search for its story, & check its products.)
Logo 1	37	43	15	6	9	13
Logo 2	21	17	8	3	7	10
Logo 3	4	7	2	2	2	1

Logo 4	5	2	2	1	2	2
Logo 5	2	2	0	0	2	0
Logo 6	3	1	1	1	3	0
Logo 7	6	7	4	2	0	1
Logo 8	4	5	1	0	2	1
Logo 9	0	1	0	0	2	1
Logo 10	3	2	0	1	3	1

Note: Participants were allowed to select up to 3 options.

Table 31 presents the **reasons** why participants selected their preferred logos. For Logo 1, the most frequently reported reasons were shape (43 responses), color (37 responses), and typeface (15 responses). Similarly, Logo 2 was primarily preferred due to its color (21 responses) and shape (17 responses), followed by its encouragement to explore more about the brand (10 responses). For the remaining logos, color and shape remained the most frequent reasons for preference. Color was selected most frequently for Logos 4, 5, 6, and 10, while shape was prominent for Logos 3, 5, 7, 8, and 9. Other reasons, including typeface, cultural appropriateness, good brand impressions, and encouragement to explore the brand, were reported less frequently across these logos. The detailed response frequencies for all logos are presented in Table 31.

The second follow-up question examined the specific BP facets. These facets were categorized into the main BP dimensions, and Table 32 presents the **BP dimensions** evoked by participants' preferred logos. Logo 1 was most frequently associated with 'excitement' (53 responses), followed by 'sincerity' (47 responses) and 'sophistication' (27 responses). Logo 2 was most frequently associated with 'sincerity' (28 responses), followed by 'sophistication' (18 responses) and 'competence' (14 responses). Among the remaining logos, 'excitement' was the most frequently associated dimension for Logos 3, 4, 7, and 9; 'sincerity' was most frequently associated with Logos 6, 8, and 10; and 'sophistication' was most frequently associated with Logos 5 and 7 (see details in Table 32). Compared to the logos that received higher BP responses, the remaining logos received fewer BP responses, corresponding to the smaller number of participants who selected these logos as their preferred logo designs.

Table 32. Frequencies of BP Dimensions Perceived by Preferred Logos

Logos	Sincerity	Excitement	Competence	Sophistication	Ruggedness
Logo 1	47	53	10	27	3
Logo 2	28	12	14	18	5
Logo 3	7	11	1	2	2
Logo 4	5	6	4	1	0
Logo 5	0	2	1	3	0
Logo 6	5	4	1	1	0
Logo 7	4	7	1	7	0
Logo 8	10	7	0	1	0
Logo 9	1	3	2	0	0
Logo 10	5	2	3	1	2

Note: Participants were allowed to select up to 3 options.

The **specific BP facets** that participants associated with their preferred logos are presented in Appendix Table C1. For Logo 1, the most frequently perceived traits included *imaginative* (26 responses) and *up-to-date* (21) within ‘excitement,’ *cheerful* (17) within ‘sincerity,’ and *charming* (19) within ‘sophistication.’ For Logo 2, prominent facets included *down-to-earth* (13 responses) within ‘sincerity,’ *charming* (12) within ‘sophistication,’ and *reliable* (12) within ‘competence.’ Among the remaining logos, Logo 3 was most frequently associated with *up-to-date* (4 responses), Logo 4 with *wholesome* (3), Logo 5 with *upper-class* (2), and Logo 6 with *cheerful* (3). Similarly, the most frequently perceived traits for Logos 7, 8, 9, and 10 were *charming* (4), *honest*, *cheerful*, and *imaginative* (4 each), *cheerful*, *daring*, *spirited*, *up-to-date*, *reliable*, and *intelligent* (1 each), and *reliable* (3), respectively (see detailed facets in Appendix Table C1).

In summary, RQ2 revealed significant differences in participants’ preferences across the 10 logo designs, with Logos 1 and 2 receiving notably higher preferences than the other logos. Color and shape were the most frequently reported reasons for selecting these

two logos. Among those who preferred Logo 1, ‘excitement’ was the most frequently perceived BP dimension, while ‘sincerity’ was most frequently perceived among those who preferred Logo 2. These findings partly supported RQ1, in which Logos 1 and 2 also received strong associations across all BP dimensions.

4.6.3 Results of RQ3: Logo Design Preferences Between Nationalities

RQ3: Do logo design preferences differ between Thai and Burmese participants?

4.6.3.1 Whole-logo Preferences Between Nationalities

To investigate whether logo design preferences differed between Thai and Burmese respondents, a chi-square test of independence was conducted. The analysis revealed no statistically significant association between nationality and whole-logo preference, $\chi^2 = 16.24$, $df = 9$, $p = .062$ with a moderate effect size (Cramer’s $V = 0.365$). Despite the non-significant result, descriptive variations were observed between the two groups. Thai participants showed the highest preference for Logo 1, while Burmese participants showed relatively similar preferences for Logos 1 and 2, as shown in Figure 13.

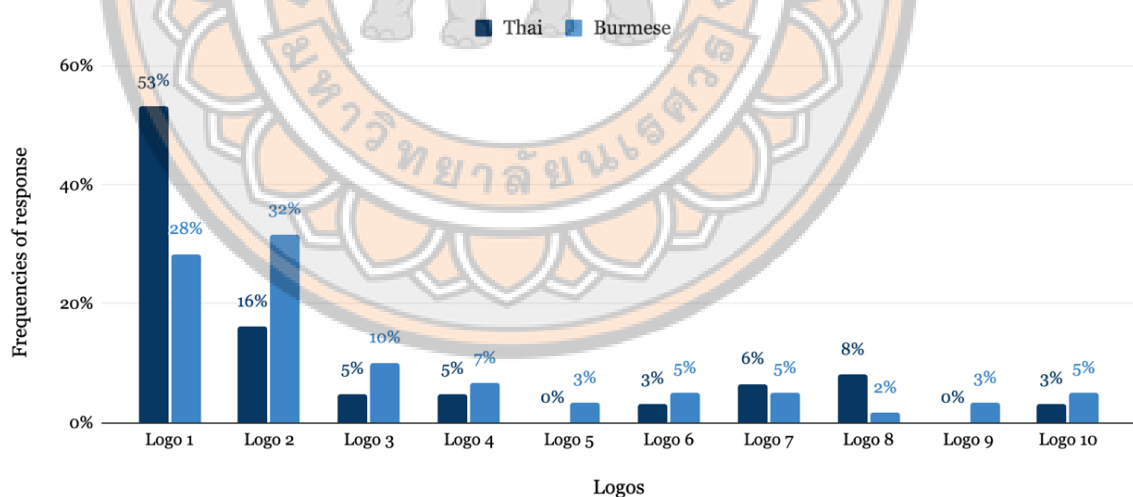


Figure 13. Logo Preferences Between Nationalities

Logo 1 was the most preferred design among Thai participants (53%), followed by Logo 2 (16%) and Logo 8 (8%). Logo 7 received 6%; Logos 3 and 4 each received 5%; Logos 6 and 10 each received 3%; and neither Logo 5 nor Logo 9 was selected among Thai participants. Among Burmese participants, Logo 2 received the highest preference (32%), closely followed by Logo 1 (28%). Logo 3 received 10%; Logo 4 received 7%;

Logos 6, 7, and 10 each received 5%; Logos 5 and 9 received 3%; and Logo 8 received 2%. Overall, Logos 1 and 2 were the two most preferred designs in both groups, with a slight difference in the descriptive rankings between nationality groups.

4.6.3.2 Element-level Preferences Between Nationalities

To further examine preferences for individual logo elements, shape and typeface preferences were compared between Thai and Burmese participants. Chi-square tests of independence were conducted to examine the associations between nationality and these preferences. Figure 14 and Figure 15 show the distribution of shape and typeface preferences by nationality.

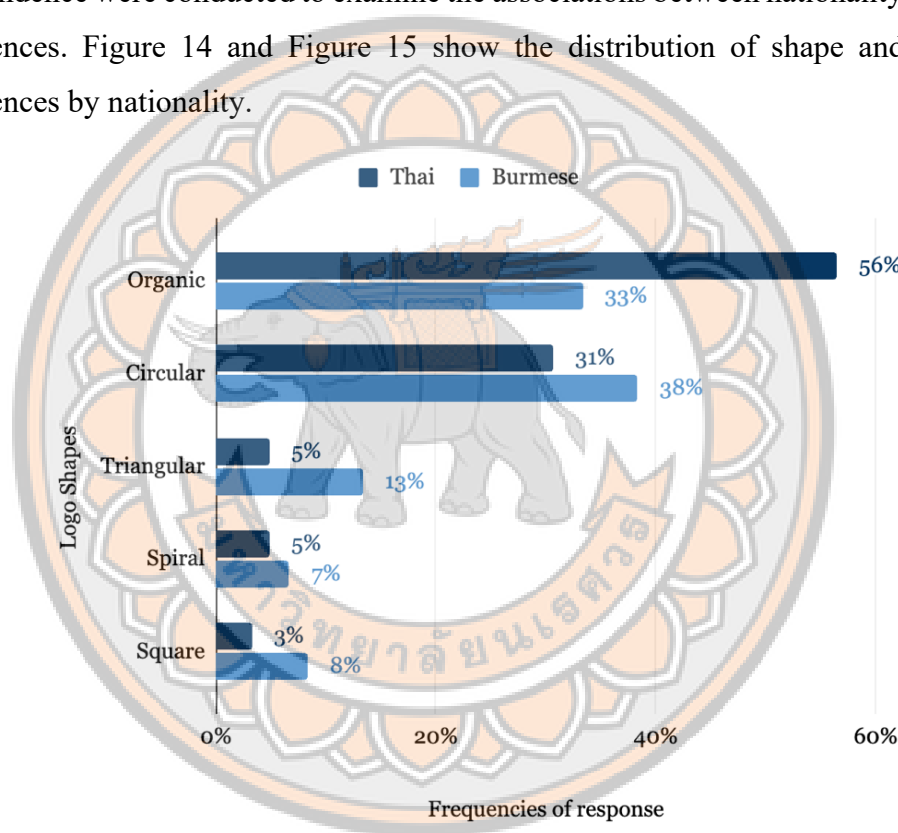


Figure 14. Logo Shape Preferences Between Nationalities

Regarding shapes, the chi-square test of independence revealed no statistically significant association between nationalities and preferred logo shape, $\chi^2 = 8.143$, $df = 4$, $p = .086$ ($n = 122$), with a small effect size (Cramer's $V = .258$). As shown in Figure 14, organic shapes received the highest preference among Thai participants (56%), followed by circular shapes (31%), while circular shapes were most preferred among Burmese participants (38%), followed by organic shapes (33%). Triangular, spiral, and square shapes received considerably lower preferences in both groups. Overall, despite

some descriptive differences in ranking, organic and circular shapes were the two most preferred shape categories among both nationality groups.

Regarding typefaces, the chi-square test of independence also revealed no statistically significant association between nationalities and preferred logo typeface, $\chi^2 = 4.274$, $df = 3$, $p = .233$ ($n = 122$), with a small effect size (Cramer's $V = 0.187$). As shown in Figure 15, the display typeface was the dominant preference among both Thai (77%) and Burmese participants (75%). Moreover, Thai participants also selected script (15%), sans-serif (5%), and serif (3%), indicating substantially lower preferences. Similarly, Burmese participants less frequently selected sans-serif (10%), serif (8%), and script (7%). Overall, the results demonstrate a highly similar preference for display typefaces across the two nationality groups.

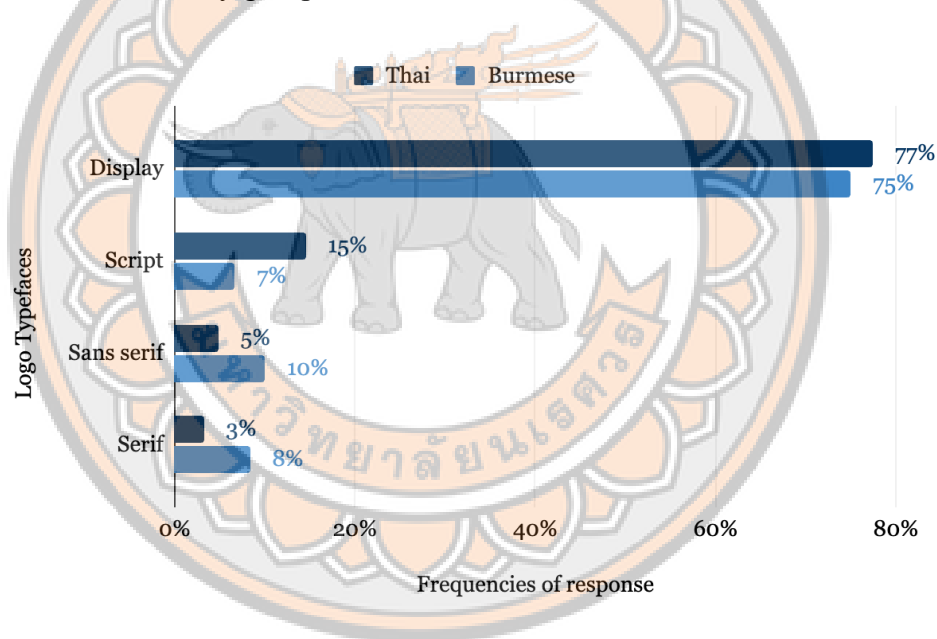


Figure 15. Logo Typeface Preferences Between Nationalities

4.6.3.3 Additional Descriptive Comparisons Between Nationalities

Descriptive Variations Between Nationalities: Reasons for Preferred Logos

Appendix Table D1 presents descriptive differences in the reasons Thai and Burmese participants reported for selecting their preferred logos.

Among Thai participants, Logo 1 was mainly preferred because of its shape (29 responses), color (28), and typeface (15). Logo 2 was mainly preferred because of its color (10), typeface (7), and shape (6). For the remaining logos, shape was prominent for Logos 3, 7, 8, and 10, while color was frequently reported for Logos 4, 6, 8, and 10. Logos 5 and 9 received no responses because they were not selected as preferred logos by Thai participants.

Among Burmese participants, Logo 1 was mainly preferred because of its shape (14 responses), color (9), and cultural appropriateness or meaningfulness (6). For Logo 2, color and shape were equally the most frequently reported reasons (11 responses each), followed by encouragement to explore more about the brand (7). For the remaining logos, shape was prominent for Logos 3, 5, 7, and 8, while color was prominent for Logos 4, 5, 7, and 10. Other reasons, including good brand impressions and encouragement to explore the brand, were also reported for some of the less frequently preferred logos (see detailed reasons in Appendix Table D1).

Overall, shape and color were prominent reasons for selecting Logo 1 in both nationality groups. However, the third most frequently reported reason differed descriptively: Thai participants reported typeface, while Burmese participants reported cultural appropriateness or meaningfulness. For Logo 2, color was prominent in both groups, although other frequently reported reasons differed between Thai and Burmese participants.

Descriptive Variations Between Nationalities: BP Perceptions of Preferred Logos

Descriptive differences were also observed in the BP dimensions associated with participants' preferred logos (Appendix Table D2). Among Thai participants who preferred Logo 1, 'excitement' was the most frequently reported BP dimension (38 responses), followed by 'sincerity' (26) and 'sophistication' (23). Among Burmese participants who preferred Logo 1, 'sincerity' was most frequently reported (21 responses), followed by 'excitement' (15). For Logo 2, 'competence' received the highest frequency among Thai participants (8 responses), while 'sincerity' was most frequently reported among Burmese participants (23 responses).

Further details about BP dimensions for all logos are presented in Appendix Table D2, comprising both nationality groups. Furthermore, detailed BP facets for separate

nationality groups are presented in Appendix Table D3 (Thais) and in Appendix Table D4 (Burmese).

Descriptive Variations Between Nationalities: General Logo Element Preferences

Descriptive variations were also observed in participants' general element preferences for café and tea shop logos (Appendix Tables D5, D6, and D7). These results extend the data reported in Section 4.4 by presenting the color, shape, and typeface preferences separately for Thai and Burmese participants.

For color (Appendix Table D5), white was the most frequently selected option among Thai participants (43 responses), followed by pink (22 responses). Among Burmese participants, white was the most frequently selected (27 responses), followed by brown (24 responses). Pink also showed a noticeable descriptive difference, receiving 22 selections among Thai participants but none among Burmese participants.

For shape (Appendix Table D6), natural shapes were the most frequently selected by both Thai (35 responses) and Burmese participants (37), followed by circular shapes (29 and 25 responses, respectively). As their third most frequent selection, Thai participants selected oval/ellipse and abstract shapes (16 responses each), while Burmese participants selected abstract shapes (20 responses).

For typeface (Appendix Table D7), decorative (33 responses) and script/handwritten typefaces (32) were most frequently selected among Thai participants, while script/handwritten (29) and decorative typefaces (25) were most frequently selected among Burmese participants.

Overall, these results indicate generally similar preferences for shapes and typefaces, despite some descriptive differences in color preferences between the nationality groups.

4.6.3.4 Summary of RQ3 Results

RQ3 found no statistically significant associations between nationality and whole-logo, shape, or typeface preferences. Both nationality groups generally showed similar preference patterns, particularly for Logos 1 and 2 at the whole-logo level, organic and circular shapes, and display typefaces. Nevertheless, descriptive variations were observed in the relative preferences for particular logos, reasons for logo preferences,

BP perceptions associated with preferred logos, and general logo element preferences between the two nationality groups.

4.7 Summary of Key Results

This chapter presented the data analysis results of this study, including the response rate, data cleaning, data normality testing, demographic characteristics, descriptive results, and reliability analysis. The reliability analysis confirmed strong internal consistency of the BP measurement items, while the non-normal distribution of the data informed the selection of subsequent non-parametric analyses.

Regarding the research questions:

- **RQ1** identified significant differences in BP perceptions across the logo designs and associations between particular shapes and typefaces and BP dimensions.
- **RQ2** revealed significant differences in participants' logo preferences, and Logos 1 and 2 received the highest preferences.
- **RQ3** found no statistically significant associations between nationality and whole-logo, shape, or typeface preferences, despite some descriptive variations.

Overall, these results provide the empirical basis for the discussion and interpretation presented in Chapter 5.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter discusses the findings of the study reported in Chapter 4. The major findings exhibited that certain logo designs, particularly Logos 1 and 2, were strongly associated with all BP dimensions and were also the most preferred designs. At the element level, organic and spiral shapes, along with display typefaces, prominently influenced BP perceptions and preferences. Despite some descriptive variations, Thai and Burmese participants generally demonstrated similar logo preference patterns.

This chapter will discuss these findings in detail that address the three research questions. Theoretical and practical implications, limitations of the study, and suggestions for future research will be presented.

5.1 Discussion of RQ1: Brand Personality and Logo

RQ1 investigated which logo designs participants perceived as most strongly associated with each of Aaker's five BP dimensions. These findings were examined at both the whole-logo and element levels to provide further insights into these associations.

Overall, the findings demonstrated that participants associated certain logo designs with multiple BP dimensions despite their intended dimensions. Several logos, particularly Logos 1 and 2, received strong BP perceptions across all BP dimensions. These findings imply that consumers evaluate BP by integrating various colors, shapes, and typefaces rather than relying solely on separate logo elements. While some BP dimensions (e.g., 'sincerity' and 'sophistication') were associated with relatively consistent visual characteristics (e.g., organic/circular shapes and display typefaces), others (e.g., 'excitement,' 'competence,' and 'ruggedness') were communicated through diverse visual combinations.

Table 33 summarizes the visual characteristics of the highly rated logos, in which the associations of individual elements with BP perceptions are discussed throughout this section in relation to previous literature.

Table 33. Visual Characteristics of the Highly Rated Logos

Logo	Colors	Shape	Typeface
Logo 1	White, Pink, Green	Organic	Display
Logo 2	White, Green	Circular	Display
Logo 3	Yellow, Red, Black	Triangular	Sans-serif
Logo 4	Red, Orange	Spiral	Display

5.1.1 Sincerity Dimension

In the sincerity dimension, **Logos 1 and 2** received the strongest BP associations across the 10 logos. These logos mainly shared light-colored palettes, natural or circular shapes, and display typefaces, providing a basis for understanding why participants consistently associated them with ‘sincerity.’ This finding is consistent with previous studies finding green (Kim & Sung, 2013; Ridgway, 2011), white (Labrecque & Milne, 2012) and pink (Gupta & Dingliwal, 2023; Labrecque & Milne, 2012) are associated with ‘sincerity.’ However, it contradicts Andrade et al. (2024), who found that products (e.g., mugs) that included white, pink, and yellow, together with organic or circular shapes and decorative or monospaced typefaces, were more associated with ‘excitement.’

Colors may be the strongest cues for ‘sincerity’ in Logos 1 and 2. The comparison between **Logo 1** and Logo 10 may explain the possible influence of color. Both logos shared the same organic shape and display typeface; however, Logo 10, which used darker green and brown colors, received lower sincerity ratings. Although this comparison does not isolate fully the effect of color, it suggests that the lighter color palette used in Logo 1 might have had a stronger impact on sincerity perceptions than the darker palette used in Logo 10. Similarly, **Logo 2** also shared the same light-colored palette as Logo 1, except for the absence of pink. However, Logos 7 and 8, using the same circular shape as Logo 2, received lower sincerity ratings. Thus, these comparisons suggest that color combinations used in Logos 1 and 2 contributed more strongly to ‘sincerity’ than other elements. Labrecque and Milne (2012) confirmed that customers’ perceptions of BP change when they view logos in full color and that color alone enhances certain personality perceptions. Moreover, the findings of Kronberg (2020)

also indicated that, in most cases, the inclusion of color in the logo produced more noticeable BP perceptions compared to the monochrome logo (no color + circular shape).

Although color may be the most influential element in logo designs, the influence of individual colors could not be interpreted independently as they were presented in combination. At the **element-level analysis** of shapes and typefaces on BP perceptions, organic and circular shapes and display typefaces were highly associated with ‘sincerity.’

- The organic shape in Logo 1 may have contributed to ‘sincerity’ because it conveys *naturalness* (Chen et al., 2023), while the teapot shape reflects *asymmetry* design that may be associated with ‘sincerity’ (Luffarelli et al., 2019). The circular shape of Logo 2 may have increased ‘sincerity’ through its communication of *comfort, softness, balance, and perfection* (Adir et al., 2012; Jiang et al., 2016).
- Display typefaces may also have reinforced ‘sincerity’ because of the *natural* visual qualities. The Stonehenge font used in Logos 1 and 2 has shown high levels of engagement across all 5 BP dimensions (Grohmann et al., 2012).

Overall, Logos 1 and 2 were most strongly associated with ‘sincerity.’ The consistent findings on shapes and typefaces through element-level findings suggest that ‘sincerity’ is most effectively communicated through harmonious combinations of soft and natural visual characteristics rather than isolated design elements.

5.1.2 Excitement Dimension

Unlike ‘sincerity,’ the excitement dimension was associated with four different logo designs: **Logos 1, 2, 3, and 4**. This implies that participants associated ‘excitement’ with multiple combinations of colors, shapes, and typefaces rather than with one specific logo design.

Participants mainly associated **Logos 3 and 4** with ‘excitement’ due to their use of highly saturated color combinations. This finding aligns with many previous studies that report positive associations between saturated colors and ‘excitement’: yellow (Kim & Sung, 2013; Kronberg, 2020; Ridgway, 2011), red (Kim & Sung, 2013; Kronberg, 2020), and orange (Apriyansyah et al., 2024; Labrecque & Milne, 2012). The role of black in ‘excitement’ is less evident in previous studies. However, in **Logo 3**, the black Berlin

Sans FB font may have increased ‘excitement’ because this font has been found to be *active, loud, strong, warm, and exciting* (Shaikh, 2007), while black has been associated with *modernity, energy, strength, self-confidence, calmness, and relaxation* (Kim & Sung, 2013; Soliman et al., 2024). Therefore, the combined influence of both color and typeface may influence the excitement perceptions of Logo 3. However, Kim and Sung (2013) found that the black color received the lowest mean score for ‘excitement.’ The excitement perceptions of **Logo 4**, designed with red and orange, the spiral shape, and the display typeface, are consistent with Andrade et al. (2024), who found that the brand product with red and orange, the spiral shape, and the decorative typeface received higher excitement perceptions. The Curlz font, a display typeface used in Logo 4, may also contribute to ‘excitement’ due to its *active, relaxed, young, and exciting* traits (Shaikh, 2007).

Although saturated colors have been widely associated with ‘excitement,’ lighter color palettes used in **Logos 1 and 2** were also perceived as exciting. This notable finding may have occurred due to the exciting qualities of the green and pink colors. Research has found that green and pink are associated with ‘excitement’ due to the green’s symbolism of *new life or the future* (Leelayudthyothin, 2022) and pink’s traits of being *cool, young, imaginative, trendy, spirited, and exciting* (Ridgway & Myers, 2014; Ridgway, 2011). Similarly, the Stonehenge font elicited excitement perceptions in Logos 1 and 2 because of its ability to reflect all BP dimensions (Grohmann et al., 2012).

These four logos differed in shape, including organic, circular, triangular, and spiral shapes. However, these same shapes used in other logos received considerably lower excitement ratings, suggesting that shape alone was insufficient to communicate ‘excitement.’ Notably, three of these highly rated logos shared the same display typeface category, suggesting that typefaces may have also increased ‘excitement’ when they were presented together with other visual elements.

The **element-level analysis** further showed that organic and spiral shapes, as well as display and sans-serif typefaces, were most strongly associated with ‘excitement.’

- The asymmetric shape of the organic teapot shape may increase ‘excitement’ (Bajaj & Bond, 2018; Luffarelli et al., 2019), while the spiral shape contributed

to it by its *independent, spirited, young, up-to-date, contemporary, and imaginative* traits (Andrade et al., 2024).

- Similarly, display and sans-serif typefaces may enhance ‘excitement’ through their exciting visual characteristics. For example, the Curlz font evokes *active, relaxed, young, and exciting* traits, while the Berlin Sans FB font conveys *active, loud, strong, warm, and exciting* traits (Shaikh, 2007).

Overall, ‘excitement’ was communicated through several different visual designs. This finding suggests that ‘excitement’ is a flexible BP dimension that can be expressed through different combinations of colors, shapes, and typefaces rather than constant visual designs.

5.1.3 Competence Dimension

‘Competence’ was associated with three logos: **Logos 1, 2, and 4**. This suggests that participants perceived this dimension through diverse combinations of visual elements rather than a single dominant design pattern as in the previous two dimensions.

The competence perceptions of **Logos 1 and 2** may have been influenced primarily by their white and green color combinations. Although previous studies have reported limited direct associations between ‘competence’ and the colors used in these logos, they may convey meanings consistent with ‘competence’ in Thailand and Myanmar. Particularly, white is commonly associated with professional uniforms in schools and workplaces. Previous studies have shown that green can be associated with ‘competence’ through sustainable and environmentally responsible brand images, such as *eco-friendliness, reliability, intelligence, and success* (Acharya & Gupta, 2016; Hynes, 2009; Ridgway, 2011; Sander et al., 2021). Research also found that green *reduced anxiety levels* and increased *comfort and soothingness* (Clarke & Costall, 2008). Together, these meanings may have increased competence-related perceptions such as *hardworking, intelligent, corporate, successful, secure, and reliable*.

The shapes and typefaces of Logos 1 and 2 may also enhance ‘competence.’ The organic shape of Logo 1 may have contributed to *nature* and *environmental* associations, while the symmetrical circular shape of Logo 2 may also have reinforced ‘competence.’ This interpretation aligns with Luffarelli et al. (2019), who reported that *logo asymmetry*

could decrease ‘competence,’ and with Waaijer (2018), who found that the circular logo shape contributed to brand competence. Furthermore, the Stonehenge display typeface may have increased ‘competence’ due to its representation of all BP dimensions and the quality of the heavier font weight in the display typeface category (Grohmann et al., 2012).

Unlike Logos 1 and 2, **Logo 4** employed a darker and more saturated color palette. Its association with ‘competence’ aligns with prior research suggesting that darker or more saturated colors can increase perceptions of competence (Labrecque & Milne, 2012). As in Logos 1 and 2, Logo 4 also employed the display typeface category. These findings imply that ‘competence’ may be communicated through different combinations of colors and shapes while maintaining a consistent typeface design.

The results of **element-level analysis** also identified organic and spiral shapes, together with display typefaces, as the most associated elements.

- Organic shapes, as discussed earlier, may communicate ‘competence’ through their associations with *nature* and *environment*. Spiral shapes convey it due to the symbolism of *advancement*, *growth*, *vitality*, and *creativity* (Andrade et al., 2024).
- Display typefaces may also increase ‘competence’ because their larger size and heavier font weight create impressions of prominence and strength. Grohmann et al. (2012) similarly reported that increased font weight enhances competence and ruggedness perceptions.

Overall, ‘competence’ appeared to be communicated through different combinations of colors and shapes, while the display typeface remained a consistent visual cue across the whole-logo and element-level analyses. These findings suggest that competence perceptions may be more flexible in terms of color and shape but are reinforced by a consistent typographic style.

5.1.4 Sophistication Dimension

Similar to ‘sincerity,’ **Logos 1 and 2** strongly conveyed the perceptions of sophistication. Both logos shared predominantly light-colored palettes, organic or circular shapes, and

display typefaces, suggesting that participants associated a consistent pattern of visual characteristics with ‘sophistication.’

Among the visual elements in these logos, colors likely play an important role in conveying ‘sophistication.’ Regarding Logo 1, research has demonstrated that pink or lighter pink is positively associated with ‘sophistication’ and its *feminine* characteristics (César Machado et al., 2021; Gupta & Dingliwal, 2023; Labrecque & Milne, 2012). However, Logo 8, which incorporated similar light pink colors and intended to convey ‘sophistication,’ received considerably lower ratings for this dimension. The white color used in the backgrounds of both logos may also reinforce ‘sophistication’ by conveying *luxury* and *cleanliness*, which was noted as a *luxurious color* by the participants in this present study and supported by the findings of Kooldeep and Devi (2021), who associated white, pink, and green in a logo with ‘sophistication.’ Although these previous findings provide roles of color in sophistication perceptions, overall perceptions are more likely influenced by the combination of other elements.

Shape may also have contributed to ‘sophistication.’ The organic or natural shape used in Logo 1 may evoke ‘sophistication,’ which is consistent with the findings of Jabbar (2014) and César Machado et al. (2021). The circular or rounded or symmetrical design used in Logo 2 may also increase ‘sophistication,’ supporting the previous studies demonstrating the association of circular shapes with ‘sophistication’ and its feminine trait (Bajaj & Bond, 2018; Bicaku, 2025; Lieven, 2018; Lieven et al., 2015).

Display typefaces may also enhance ‘sophistication.’ The Stonehenge font used in Logos 1 and 2 has been shown to evoke strong personality perceptions across all BP dimensions (Grohmann et al., 2012). Although Grohmann et al. (2012) associated lighter font weights with ‘sophistication,’ the present study found that the heavier display typeface, through the Stonehenge font, may also convey this dimension.

The **element-level analysis** also supported the whole-logo results, identifying organic and circular shapes, along with display typefaces, as the strongest indicators of ‘sophistication.’ The consistency between the whole-logo and element-level findings implies that both organic and circular shapes, together with display typefaces, contributed meaningfully to ‘sophistication’ even when they were evaluated separately from other logo elements.

Overall, the findings for ‘sophistication’ showed consistent visual characteristics through the two highest-associated logos. The overlapping findings between the whole-logo and element-level analyses also confirmed the logo elements used in these logos convey ‘sophistication.’ However, the comparison with other logos suggests that individual elements alone were insufficient to explain sophistication perceptions and indicates the importance of considering other visual elements within the overall logo design.

5.1.5 Ruggedness Dimension

As in ‘excitement,’ ‘ruggedness’ was associated with the four different logo designs: **Logos 1, 2, 3, and 4**, suggesting that participants associated this dimension with diverse visual combinations. Furthermore, the logos ratings for ‘ruggedness’ were less consistent compared to the other BP dimensions and suggested variability in how participants perceived this dimension.

The communication of ‘ruggedness’ through **Logo 1** aligns with previous studies that found its association with green (Batra, 2016; Ridgway & Myers, 2014; Ridgway, 2011), white, and pink (Kooldeep & Devi, 2021). However, some studies, such as Labrecque and Milne (2012) and Jabbar (2014), report that green and pink have little or no association with ‘ruggedness.’ In the literature, darker colors have commonly been associated with this dimension (Labrecque & Milne, 2012). Nevertheless, the present study found that logos with predominantly light color palettes were also perceived as rugged. Therefore, these findings indicate that the communication of ‘ruggedness’ through colors may be inconsistent. The organic shape may also reinforce nature-related associations that align with ruggedness traits of *outdoorsy* and *western*, while the Stonehenge display typeface may have increased these perceptions.

Logo 2 confirmed the association of green, white, and the Stonehenge display typeface with ‘ruggedness,’ as in Logo 1. Additionally, Logo 2 demonstrates that a circular shape may convey masculine ruggedness when combined with other visual elements. However, previous studies often reported a contradictory finding that circular shapes were associated with feminine perceptions of *comfortableness* or *softness* (Jiang et al., 2016) and *femininity* (Bicaku, 2025; Lieven, 2018; Lieven et al., 2015). However, the absence

of asymmetry in the symmetrical circular logo design may contribute to ruggedness perceptions, as Luffarelli et al. (2019) reported that logo asymmetry could decrease ‘ruggedness.’ Therefore, the interaction of all elements in Logo 2 may possibly evoke this dimension rather than the influence of a single element.

Logos 3 and 4 used yellow, red, black and orange. Some studies found associations of ‘ruggedness’ with orange (Kooldeep & Devi, 2021) and red (Kim & Sung, 2013), while its associations with yellow and black are not widely found in the literature. The use of vivid color palettes in these logos may confirm their suitability for ‘ruggedness’ (Labrecque & Milne, 2012). The triangular shape in Logo 3 may also increase ruggedness perceptions because the angular shape communicates *masculinity* (Waaier, 2018) and *hardness or durability* (Jiang et al., 2016). However, Logo 9 received lower ruggedness ratings despite having the same triangular shape and being expected to evoke this dimension. Therefore, the finding indicates the importance of considering multiple visual elements rather than shape alone. Moreover, this study also found that the spiral shape used in Logo 4, the sans-serif typeface (the Berlin Sans FB font) in Logo 3, and the display typeface (the Curlz font) in Logo 4 may increase ‘ruggedness.’

The findings of **element-level analysis** indicated that spiral shapes, display and sans-serif typefaces were highly associated with ‘ruggedness.’

- The symbolism of the spiral shape, such as *cycles, growth, and vitality* (Andrade et al., 2024), may also relate to nature-oriented ruggedness traits such as outdoorsy, rugged, and tough.
- The typefaces may also be suitable to represent this dimension because, for example, the Impact font is “*masculine, hard, rugged, stiff, strong, loud, assertive, and coarse*” (Shaikh, 2007; Shaikh et al., 2006; Wang, 2013), while sans-serif typefaces are “*rugged, ugly, cheap, cool, and young*” (Shaikh, 2007).

Overall, ‘ruggedness’ was a visually variable BP dimension in this study. The whole-logo findings indicated the weak differentiations between the tested logo stimuli, while the element-level analysis identified spiral shapes together with display and sans-serif typefaces as consistent indicators. Therefore, the findings suggest that participants’ interpretation of ‘ruggedness’ is varied and that the visual cues associated with ‘ruggedness’ are less stable than those of the other BP dimensions. Aaker et al. (2001)

asserted that ‘ruggedness’ (and ‘sophistication’) are more influenced by culturally specific or aspirational meanings than the other BP dimensions, therefore possibly explaining participants’ association with different designs and susceptibility of these perceptions to individual and cultural differences.

5.1.6 Summary of RQ1 Discussion

The findings suggest that BP perceptions were influenced by both whole logo designs and individual logo elements. Specifically, ‘sincerity’ and ‘sophistication’ demonstrated consistent logo designs at both the whole-logo and element levels, whereas ‘excitement,’ ‘competence,’ and ‘ruggedness’ were communicated through more diverse visual combinations. These findings suggest that some BP dimensions may be communicated through more stable visual characteristics, while others may be communicated with different combinations of logo elements.

Table 34 shows the comparison of the whole-logo and element-level analyses and demonstrated that consumers did not always evaluate logo personalities in the same way. In ‘ruggedness,’ for example, the whole-logo findings indicated that four shapes—organic, circular, triangular, and spiral—were more associated, while spiral shapes were most associated in the element-level findings. This difference may be explained by how logos are presented. Presenting the complete logo may create a combined overall impression due to the interaction of multiple design elements, while element-level analysis revealed associations between particular logo elements and BP dimensions. Leelayudthyothin (2022) also noted that BP perceptions may vary depending on whether an individual views the entire logo or each element of the logo separately. This implies that consumers may perceive logo personalities differently depending on whether they evaluate whole logos or individual logo elements.

Another possible explanation for this difference is how consumers interpret logo designs. Brands in diverse categories, including food, cosmetics, and technical appliances, are considered sincere if they fulfill consumers’ expectations and provide high-quality or positive experiences; conversely, they are regarded as insincere if the experiences are unfavorable (Maehle et al., 2011). Ridgway and Myers (2014) also found that consumers associated some logo colors with BP traits derived from commonly

understood color significances. Therefore, participants of this study may have associated logos with any BP dimension based on their personal experiences and the common understanding of color within their cultures.

On the other hand, certain situations can also affect participants' associations. The café or tea shop logos in the present study were designed by using the elements found in the broader logo and BP literature. This gap between design characteristics and expected industry may influence participants' perceptions. Furthermore, the duration of logo exposure during data collection may also affect participants' perceptions. Short exposure times may have fostered more intuitive and holistic processing, while longer exposure could encourage participants to use a more analytical evaluation of individual design elements.

Table 34. Summary of RQ1 Findings

Dimensions	Whole-logo Pattern	Element-level Pattern	Interpretation
Sincerity	Logos 1 & 2; similar predominantly lighter visual characteristics	Organic/Circular + Display	Consistent soft and natural visual designs
Excitement	Logos 1, 2, 3, & 4; diverse visual characteristics	Organic/Spiral + Display/Sans-serif	Flexible visual combinations
Competence	Logos 1, 2, & 4; varied colors/shapes with display typeface	Organic/Spiral + Display	Flexible colors/shapes with consistent typography
Sophistication	Logos 1 & 2; similar predominantly lighter visual characteristics	Organic/Circular + Display	Consistent soft and natural visual designs
Ruggedness	Logos 1, 2, 3, & 4; diverse visual characteristics and weak differentiation	Spiral + Display/ Sans-serif	Most varied pattern

5.2 Discussion of RQ2: Logo Preferences

The results of RQ2 indicated that participants highly preferred Logo 1 and 2, while Logo 5 and Logo 9 were the least preferred.

5.2.1 The Highest Preference, Logo 1

Logo 1 received the highest preference among the 10 logo designs. Participants reported shape and color as the most frequently reported reasons, followed by typeface. This finding suggests that the combinations of natural shape and predominant lighter white, pink, and green colors may have particularly contributed to participants' preferences. Previous studies have also reported white as participants' highly preferred color (Huang et al., 2008; Saito, 1996) and Thais' preferences for green and pink in a food context (Jantathai et al., 2014). Regarding shape, research also found that natural logos have received higher preferences (Machado et al., 2015; Pittard et al., 2007). Thus, both color and shape elements in Logo 1 are consistent with previous findings on visual preferences.

Participants perceived multiple BP dimensions through the Logo 1 design. 'Excitement' was the most frequently perceived dimension, followed by 'sincerity' and 'sophistication.' Specifically, participants selected the *imaginative*, *up-to-date*, *charming*, and *cheerful* traits. This pattern suggests that Logo 1 conveyed a wide range of BP perceptions, which also partly aligns with the RQ1 findings, in which Logo 1 was strongly associated with all BP dimensions rather than a single dominant BP association.

This finding can be compared with Andrade et al. (2024), whose visual stimuli containing related design elements, such as organic shape and pink, white, and yellow colors, were associated with 'excitement,' 'sincerity,' and 'sophistication.' Although this present study did not use yellow, the BP patterns observed for Logo 1 were generally comparable. It provides insights into the possibility that slightly different combinations of visual characteristics may produce similar BP perceptions.

Previous studies have associated the *asymmetric* shape with 'excitement' (Bajaj & Bond, 2018; Luffarelli et al., 2019) as the organic teapot shape of Logo 1 reflects the asymmetry. The organic or natural feature of the shape may also communicate 'sincerity' (Chen et al., 2023) and 'sophistication' (Jabbar, 2014). Regarding the colors used in Logo 1, Kooldeep and Devi (2021) found an association between 'sophistication' and

the logo colors white, pink, and green. Numerous studies have found that pink is associated with traits such as *imaginative*, *charming*, and *cheerful* and other sophistication perceptions (César Machado et al., 2021; Gupta & Dingliwal, 2023; Labrecque & Milne, 2012; Ridgway & Myers, 2014; Ridgway, 2011). The font used in this logo may also influence participants' perceptions across several dimensions, as the Stonehenge font of the display typeface is associated with higher levels of all personality dimensions, according to Grohmann et al. (2012).

Additionally, the cultural significance of color may have increased the excitement and sincerity perceptions. In Thailand, Thai people associated the green color of the real estate logo with 'sincerity' (Leelayudthyothin, 2022), while they favored green and pink desserts due to their regular uses in food (Jantathai et al., 2014). In Myanmar, white and green symbolize *honesty*, *sincerity*, *cleanliness*, *youth*, and *enthusiasm* through the evident use of the school and office uniforms, while Paing (2024) also found that green represents the *naturalness* and *authenticity* of local food. Therefore, the culturally rooted significances of colors may have increased participants' preferences for the logo.

Overall, the strong preference for Logo 1 appears to be derived from its shape and color. At the same time, participants who preferred the logo perceived several BP dimensions in the design, particularly 'excitement,' 'sincerity,' and 'sophistication.' Together, these findings suggest that the preference for Logo 1 was primarily due to its soft and natural visual characteristics and communication of the multiple BP perceptions.

5.2.2 The Second Highest Preference, Logo 2

Logo 2 was the second-highest preferred logo among the 10 logo designs. The primary factors for this preference were its color and shape, followed by its ability to encourage participants to explore more about the brand. This finding suggests that light green and white colors and the circular shape may have particularly attracted participants' attention. Previous studies have also reported that white and green colors are highly preferred in Asian and food-related contexts (Huang et al., 2008; Jantathai et al., 2014; Saito, 1996), while circular or round shapes received greater preferences or favorable consumer responses in various contexts (Silvia & Barona, 2009; Xu et al., 2020; Zhou et al., 2021).

Among those who preferred Logo 2, ‘sincerity’ was the most frequently perceived BP dimension, followed by ‘sophistication’ and ‘competence.’ The strong sincerity perceptions of Logo 2 are consistent with its whole-logo findings in RQ1, where it received a high sincerity rating. As discussed in RQ1, its green and white colors, circular shapes, and display typeface may have increased these perceptions.

Specifically, *down-to-earth*, *charming*, and *reliable* were particularly prominent BP facets. The *down-to-earth* facet may be particularly relevant to Logo 2 because previous studies have found the associations of green (Chang & Lin, 2010; Gupta & Dingliwal, 2023; Pham, 2014; Ridgway, 2011), white (Chang & Lin, 2010), and the circular shape (Gold, 2019) with this perception. Similarly, white has been associated with the *reliable* trait (Pham, 2014), while the orb (circular) logo shape has been associated with the *charming* trait (Jabbar, 2014). These associations may support why participants perceived these perceptions through their preferred logo.

Overall, the second-highest preferred logo, Logo 2, was primarily due to its color and shape, while its perceptions of ‘sincerity,’ ‘sophistication,’ and ‘competence.’ Thus, the preference for Logo 2 may be because of its communication of several positive emotions.

5.2.3 The Least Preferred Logos

Apart from Logos 1 and 2, the other logos received the significantly lower participants’ preferences. Particularly, Logos 5 and 9 were the lowest. Logo 5 had blue and brown colors with the square shape and serif typeface, while Logo 9 used two green tones with the triangular shape and display typeface.

Compared to the highly preferred Logos 1 and 2, higher saturation and lower lightness (darker) levels of the colors were used in Logos 5 and 9. As saturation and lightness may influence color perceptions (Labrecque & Milne, 2012), differences in color tones may have contributed to their lower preferences. Previous research also identified dark brown (also used in Logo 5) as one of the least-preferred colors (Huang et al., 2008). However, participants frequently selected brown and green in the general color-preference task for the café and tea shop logos, while the whole logos did not receive notable preferences. Therefore, this contrast implies that color preference may vary based on the tone and the visual context in which it appears.

Shape may also have contributed to the low preferences. In the general shape-preference task, participants frequently selected natural and circular shapes for café and tea shop logos, while square and triangular shapes were less frequently preferred. This pattern is consistent with previous studies reporting higher preferences for smooth curved contours than angular ones (Palumbo & Bertamini, 2016). Similarly, angular shapes have received lower preferences or less favorable consumer responses than circular shapes in previous studies (Silvia & Barona, 2009; Xu et al., 2020). Angular shapes or sharp angles have also been associated with *seriousness* or *less positive* impressions (Ting et al., 2025) and *unpleasant* or *threatening* associations (Larson et al., 2012). Moreover, one participant in this present study commented that “the triangular logos resemble road signs.” Together, these findings illustrate that the logo shape may produce unintended associations depending on the context. However, shape alone does not fully explain the low preferences for Logos 5 and 9, as other logos containing similar shape designs received higher preferences.

Similarly, other logos that contained the same display typeface category as Logo 9 received higher preferences, and serif typefaces were also the third most preferred in the general element-preference task, despite being used in the low-preferred Logo 5. Thus, this finding suggests that participants evaluated these logos as complete visual designs rather than responding only to one isolated element.

Overall, the low preferences for Logos 5 and 9 demonstrate that a preference for an individual logo element does not translate into a similar preference for the complete logo design. Their lower preferences may instead reflect on which logo element designs are presented and how they are perceived together in a whole logo design.

5.2.4 Logo Element Preferences for Café or Tea Shop Brands

Participants’ general preferences for logo elements of café and tea shop brands provide deeper insight into the whole-logo preferences identified in RQ2. These general element preferences were collected separately from the 10 pre-designed logos from the logo evaluation items and represent participants’ preferred colors, shapes, and typefaces for café and tea shop logos.

As reported in Section 4.4, the three most frequently preferred colors for café or tea shop logos were white, brown, and black. White was also used in the highly preferred Logos 1 and 2, indicating some alignment between participants' general color preferences and their whole-logo preferences. Two participants additionally expressed preferences for "cool and modern designs using colors such as black, white, gray, brown, navy, and gold." However, this correspondence was not consistent across colors. Although brown was the second most preferred color, the brown used in Logos 5 and 10 received relatively low whole-logo preferences. Thus, general color preferences and whole-logo preferences varied across the logo designs.

A similar pattern was observed for shape preferences. The three most frequently preferred shapes for café or tea shop logos were natural (organic), circular, and abstract shapes. This result corresponds with the strong whole-logo preferences for Logos 1 and 2, which employed organic and circular shapes, respectively. However, other logos that had identical shapes received low preferences, specifically Logo 10 with an organic shape and Logos 7 and 8 with circular shapes. These differences between general shape preferences and whole-logo preferences also suggest that participants' preferences may vary depending on how individual elements are presented together with other elements within a whole logo.

Regarding general typeface preferences, participants most frequently selected script/handwritten, decorative, and serif typefaces. In the whole-logo preference, the script/handwritten typeface was used in Logos 7 and 8, which received low selections. Moreover, the highly preferred Logos 1 and 2 used the Stonehenge font from the display typeface category, although display typefaces received only a moderate preference in the general preference task. Participants' comments also indicated preferences for particular font styles, including the Curlz font (a display typeface) used in Logo 4. These findings suggest that typeface preference may relate to the specific appearance of a font rather than solely to its broader typeface category.

Overall, the general element-preference findings only partly corresponded with participants' whole-logo preferences. Natural (organic) and circular shapes and some colors used in Logos 1 and 2 were also generally preferred, while the patterns for typefaces were less consistent. These differences indicate that preferences for individual

logo elements may not be the same as the preference for whole logos and may be influenced by how those elements are presented in complete logo designs.

5.3 Discussion of RQ3: Logo Preferences Between Nationalities

5.3.1 Whole-logo Preferences Between Nationalities

The RQ3 findings indicated no statistically significant differences in whole-logo preferences between Thai and Burmese participants and suggested that both nationality groups similarly preferred the tested logo designs. This similarity may reflect some shared responses to visual branding between the two neighboring cultural contexts and suggest a potential of standardized branding designs in the cross-border markets.

Nevertheless, the moderate effect size and the descriptive variations observed between the nationality groups suggest that the potential cultural differences should also be considered. Previous cross-cultural research also reported that certain logo design preferences can be shared across countries with different cultural orientations, although responses to particular designs may still vary across cultures (Torres et al., 2019). Further research with larger and more diverse samples would be needed to determine whether these patterns are noticeable.

5.3.2 Element-level Preferences Between Nationalities

The element-level findings also indicated similar overall preferences for both shapes and typefaces between the two nationalities and suggested that Thai and Burmese shared preferences for these logo elements.

Despite this overall similarity, the shape preferences indicated some variation. Although organic and circular shapes were the most frequently preferred among both nationalities, Thais showed the highest preference for organic shapes, while Burmese participants favored circular shapes. These findings suggest a general similar shape preference between the nationalities, with some difference in the relative preferences for particular shapes. Previous research has also demonstrated both similarities and differences in shape responses across cultures. Lee et al. (2025) identified a consistent cross-cultural preference for symmetrical forms in the study of shape and curvature preferences across

10 countries, while Spence and Ngo (2012) found that some symbolic associations between shapes and sensory characteristics of food and beverages were culture-specific. Despite the similarly non-significant result, typeface preferences appeared more similar across these nationalities. Display typefaces were the most preferred category among both Thai and Burmese participants, while the other typefaces received considerably low preferences. This finding suggests substantial similarity in typeface preferences within the present sample. Ho and Chau (2025) also identified some shared responses to typeface characteristics across cultural groups, although preferences for particular typographic characteristics may vary according to cultural and linguistic backgrounds. Overall, the element-level findings indicated broadly similar shape and typeface preferences between Thai and Burmese consumers, with lesser variation observed for typefaces. These findings suggest that some visual preferences may be shared across the two cultural groups while still having variation in the appeal of particular design elements. Future studies with larger and more diverse samples could be used to examine whether these observed differences report systematic cultural differences or similarities.

5.3.3 Summary of RQ3 Discussion

Overall, the RQ3 findings indicate similarity in overall logo preferences between Thai and Burmese participants at both the whole-logo and element levels. However, the moderate effect size for whole-logo preference and the descriptive variations observed for particular logos and design elements suggest that some nationality-related variation may exist within this overall similarity. Therefore, the findings indicate shared preference patterns alongside potential variations between the two cultural groups, which highlight future investigation with larger and more diverse samples.

5.4 Summary of Key Findings

This study examined how different logo and logo element designs and visual elements were associated with BP perceptions and participants' preferences and whether these preferences varied between Thai and Burmese participants. Based on the results and discussion, the key findings are summarized according to the research questions.

RQ1: Which logo designs are perceived as most strongly associated with each BP dimension? The findings indicated that different logo and element designs were strongly associated with different BP dimensions. At both the whole logo and element levels, similar design patterns were found for ‘sincerity’ and ‘sophistication.’ Specifically, Logos 1 and 2 at the whole-logo level and organic/circular and display typeface at the element level. However, ‘excitement,’ ‘competence,’ and ‘ruggedness’ showed different patterns. Particularly, the highly preferred Logos 1, 2, 3, and 4 were associated with several BP dimensions at the whole-logo level, while the element-level findings identified associations of specific shape and typeface designs with each BP dimension. These findings indicate that BP associations should be considered in relation to both complete logo designs and particular logo elements.

RQ2: Do participants’ preferences differ across logo designs? The findings revealed that participants showed significantly different preferences across logo designs, with Logos 1 and 2 receiving the highest preferences and Logos 5 and 9 the lowest. Logos 1 and 2 were highly preferred due to their color and shape and were frequently perceived by multiple BP perceptions, especially ‘excitement’ and ‘sincerity.’ These associated BP dimensions with these logos also partly corresponded to the BP perceptions identified in RQ1. Participants’ general element preferences for particular colors, shapes, and typefaces in the café and tea shop context also only partly align with the whole logo design preferences. Thus, the findings suggest that logo preferences may be affected by the way the designs are presented and may be considered by the combined visual effect of all presented logo elements.

RQ3: Do logo design preferences differ between Thai and Burmese participants? RQ3 found no statistically significant associations between nationality and whole-logo, shape, and typeface preferences. Therefore, Thais and Burmese broadly share similar preference patterns. However, descriptive variations were observed for particular logos and design elements, with higher variation observed in shape preferences than in typeface preferences. Therefore, the two cultural groups may generally share similar logo design preferences with some differences in the relative appeal of particular visual designs.

Taken together, these findings suggest that logo-related BP perceptions and preferences should be considered not only in relation to individual visual elements but also to the combined effects of those elements within complete logo designs, especially in the case of using real-world whole logo designs. Moreover, although Thai and Burmese participants generally showed similar visual preferences, the observed descriptive variations suggest that cultural context should not be disregarded. These findings provide the basis for the theoretical and practical contributions discussed in the following section.

5.5 Contributions and Implications

5.5.1 Theoretical Contributions

Numerous previous studies have demonstrated the associations of particular visual elements with BP perceptions (e.g., Chen et al., 2023; Labrecque & Milne, 2012; Shaikh et al., 2006). Kim and Lim (2019) identified colors, shapes, and typefaces as the three basic elements of logo designs, and Andrade et al. (2024) developed a framework of these visual elements associated with Aaker's (1997) five BP dimensions. Building on this literature, the present study incorporated these logo elements together within whole logo designs and examined their associations with BP at both the whole-logo and element levels. The findings of this study provide three major contributions to the existing research on logo design, BP, and consumer preferences.

First, this study extends the current understanding of how logos are associated with BP. The findings showed participants did not always perceive BP in the same way when evaluating whole logos and individual logo elements, supporting the finding of Leelayudthyothin (2022) that BP perceptions may vary based on whether consumers evaluate an entire logo or its individual elements. The findings also indicated that some logos were highly associated with all BP dimensions, extending the existing research by demonstrating that combining visual elements within a complete logo may result in broader BP associations than those found for individual elements.

Second, the study extends existing evidence of how particular visual elements are associated with BP. For example, Jabbar (2014) reported no specific BP association for

green when the color was evaluated separately. However, the green-dominant Logos 1 and 2 in the present study showed strong associations across all five BP dimensions. The present study also found that predominantly lighter-colored logos could be strongly associated with ‘excitement,’ although previous studies have associated saturated or vivid colors, such as yellow, red, and orange, with this dimension (Apriyansyah et al., 2024; Gupta & Dingliwal, 2023; Kim & Sung, 2013; Kronberg, 2020; Labrecque & Milne, 2012; Ridgway, 2011). A similar pattern was found for typefaces. Although display typefaces were associated with all five BP dimensions at the element level, logos using the same display typeface category, but with different fonts, did not show the same BP association patterns. These findings provide additional evidence that BP associations may vary among specific visual elements, even within the same broad element category and when those elements are presented within whole logo designs.

Third, this study extends logo design and BP research to the underrepresented contexts of Thailand and Myanmar in this area of research. Previous research highlighted the need for branding and BP research across different cultures rather than assuming the applicability of BP dimensions and meanings in all contexts (Calderón-Fajardo et al., 2023; Sung & Tinkham, 2005). By examining appropriate BP and logo preferences among Thai and Burmese participants, the present study adds evidence from two neighboring Southeast Asian countries. The findings indicated similar preferences in logo designs between these two nationalities, with some descriptive variations observed for particular visual designs. Thus, this study extends the cross-cultural understanding of visual design, BP, and consumer preferences in Thailand and Myanmar.

5.5.2 Practical Implications

As both local and cross-country businesses proliferate in the digital era, developing personality-representative logos that increase competitive advantage becomes crucial. However, creating or redesigning logos is costly and time-consuming, and incorporating desired BP into logos is more challenging because it requires guidelines and research. Thus, this study aims to provide practical strategic guidelines to create relevant BP through logos for the local SMEs in Thailand and Myanmar, ultimately contributing to cultural identity, differentiation, and aesthetics in digital platforms.

Designing for BP

The findings provide several practical considerations for designing logos intended to communicate particular BP dimensions. At the whole-logo level findings, the highly associated logos indicated that the same logo design may communicate a broad range of BP perceptions. For instance, Logos 1 and 2 (white, green, pink, organic/circular shape, and display typeface) showed strong associations with all BP dimensions. Logos 3 and 4 (yellow, red, black, orange, triangular/spiral shape, and sans-serif/display typeface) were highly associated with ‘excitement’ and ‘ruggedness,’ while Logo 4 was also associated with ‘competence.’ At the individual element level, the findings suggest the following design considerations:

- **Sincerity and Sophistication:** Organic or circular shapes and display typeface
- **Excitement:** Organic or spiral shapes and display or sans-serif typeface
- **Competence:** Organic or spiral shapes and display typeface
- **Ruggedness:** Spiral shapes and display or sans-serif typefaces.

As the highly preferred Logos 1 and 2 primarily represented ‘sincerity’ and ‘excitement,’ these two dimensions emerged as the most prominent BP perceptions, and they may therefore be particularly relevant when developing café and tea shop logos for Thai and Burmese consumers.

Designing for Consumer Preference

Based on the participants’ reported reasons for their logo preferences, color and shape emerged as important considerations. However, designers should consider both levels rather than assuming that responses to individual visual elements will correspond directly with responses to the whole logo, as both BP associations and logo design preferences did not always show consistent patterns between whole-logo and general element levels.

Across the preference findings from both levels, several visual characteristics emerged as potentially relevant options for cafés and tea shop logos.

For colors, Thai and Burmese participants strongly preferred Logos 1 and 2, which included predominantly lighter-colored palettes (white, pink, and green) and general colors, such as white, brown, black, and green. Thus, they may be useful for café and

tea shop logos. Moreover, practitioners should consider hue, saturation, and lightness (HSL) when selecting colors, as different variations of the same color may produce different responses. However, because color was not independently controlled in the present study, these findings should not be interpreted as strong evidence that lighter colors alone produce higher preferences.

For shape, consumers strongly preferred natural/organic, circular, and abstract shapes for café and tea shop brands. However, angular abstract shapes, such as triangles and squares, may require careful consideration as they may evoke unintended associations depending on the design context.

For typefaces, display or decorative and script/handwritten typefaces emerged as potentially relevant design options. Notably, although display typefaces were associated with all BP dimensions at the element level, different display fonts did not show the same BP association patterns within whole-logo designs. The *Stonehenge* font used in Logos 1 and 2 was associated with all BP dimensions, and the *Curly* font used in Logo 4 was associated with ‘excitement,’ ‘competence,’ and ‘ruggedness.’ In contrast, the **Impact font** used in the less preferred Logos 9 and 10 was not highly associated with any BP dimension. Therefore, practitioners should consider the characteristics of the specific font and its compatibility with other logo elements rather than relying solely on its general typeface category.

Localization

The broadly similar preference patterns observed between Thai and Burmese participants suggest that some visual design approaches may have cross-market applicability in Thailand and Myanmar. However, the descriptive variations in preferences for particular elements, especially shape, indicate that businesses should also consider local consumer responses when adapting logo designs.

Participants’ preference for simple, modern, and creative designs may also provide useful direction for café and tea shop brands in these markets, as participants noted, “We prefer modern and creative designs that meet the needs of this era.” Finally, because the logo stimuli were presented digitally, the findings should primarily inform digital logo applications and should not be assumed to apply equally to printed visuals.

5.6 Limitations and Suggestions for Future Research

The main limitations of this study were related to the sample size, the logo designs, and the questionnaire. The following discussed suggestions for future research relating to these limitations.

In this study, the sample size was limited because of the challenges related to internet and social media access that hinder the availability of Burmese participants amid political situations. A larger and more diverse sample could improve the generalizability of the findings and provide greater statistical power for detecting potential differences between nationality groups. Moreover, this study observed that the results of BP association patterns within 'competence' and 'ruggedness' were less consistent and that logo preference patterns might have potential variations between nationalities. Hence, future studies with larger or more diverse samples could examine whether these variations represent systematic differences.

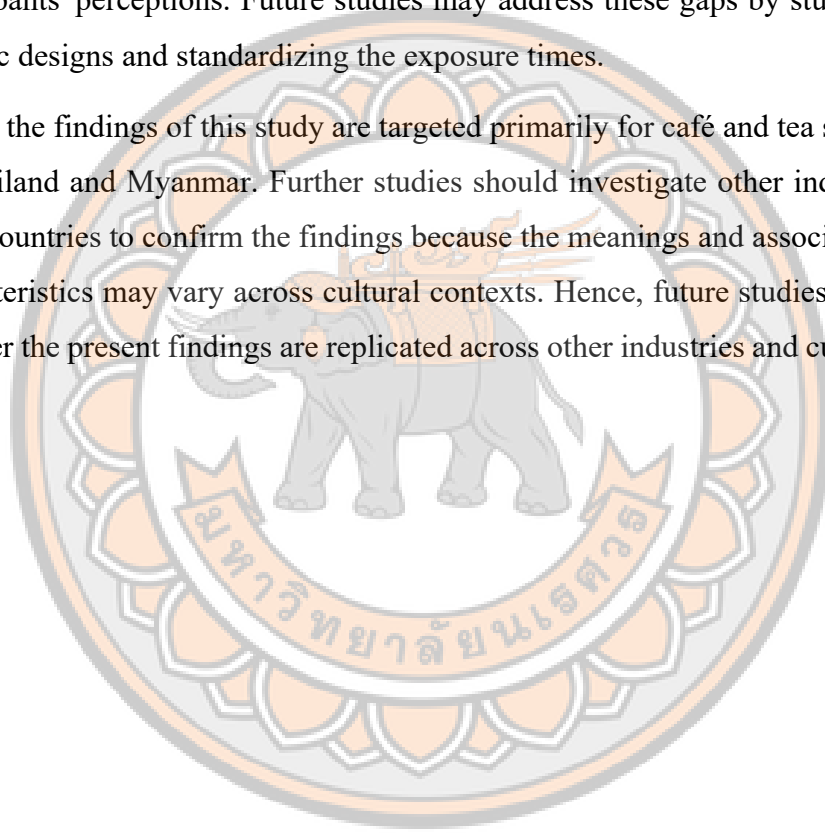
Similar to the limitations of Andrade et al. (2024), this study did not display all 42 BP traits in the 10 logo evaluation items. Some traits with similar meanings were merged to make the items simple and concise and to prevent participants' confusion and incorrect data associations while selecting relevant traits for each logo with loads of complex words and meanings. Future studies could examine the full set of 42 BP traits or develop alternative measurement approaches that preserve the complete construct while minimizing respondent burden and potential confusion.

This study did not independently control the visual elements across the logo stimuli, which the potential confounding effect limited the ability to isolate the specific contribution of each element to BP perceptions and logo preferences. Because each complete logo incorporated multiple visual characteristics simultaneously, the observed responses may have reflected the combined effects of colors, shape, and typeface rather than the independent effect of any single element. Additionally, participants' general preferences for individual visual elements also did not always correspond with their preferences for whole logos. Future research could use controlled experimental stimuli in which one visual element is systematically manipulated while the others are held constant to allow the independent and combined effects of color, shape, and typeface on both BP perceptions and/or logo preferences.

The logo designs developed in this study are based on three basic logo elements: colors, shapes, and typefaces. Accordingly, future studies may also investigate other logo designs/elements, such as animated logos and sonic logos.

The design elements used in this study were not specifically chosen for the café and tea shop context, which may have affected participants' perceptions of design appropriateness and BP associations. Additionally, the exposure duration to the stimuli was not controlled and may influence the extent of visual processing and the participants' perceptions. Future studies may address these gaps by studying industry-specific designs and standardizing the exposure times.

Lastly, the findings of this study are targeted primarily for café and tea shop businesses in Thailand and Myanmar. Further studies should investigate other industries or even other countries to confirm the findings because the meanings and associations of visual characteristics may vary across cultural contexts. Hence, future studies could examine whether the present findings are replicated across other industries and cultural contexts.





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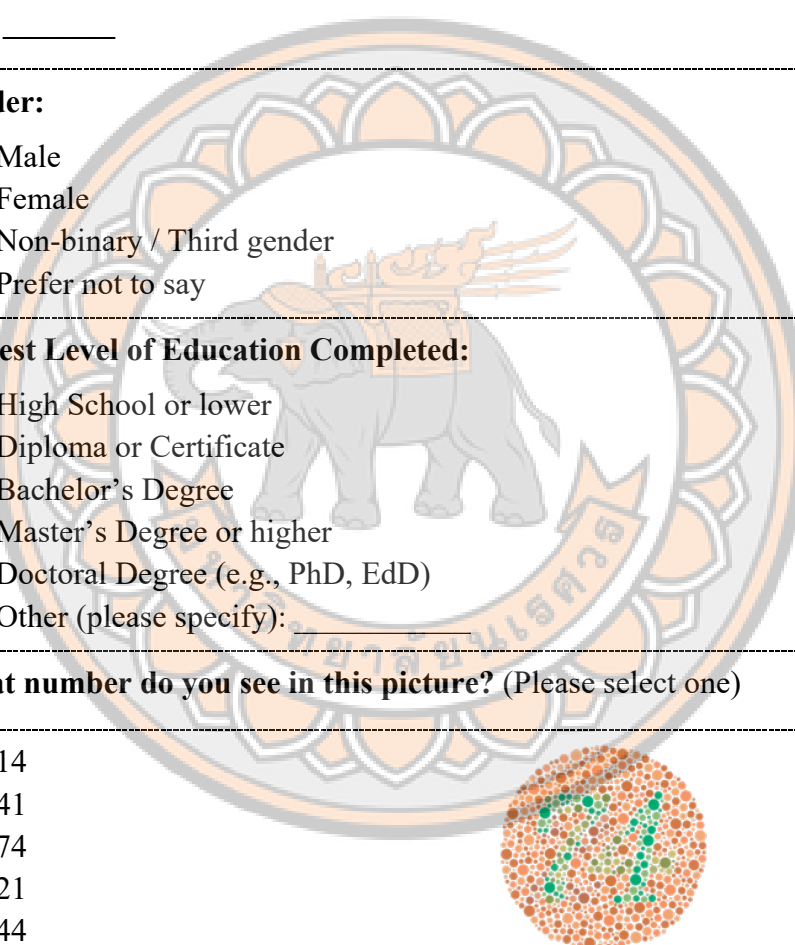
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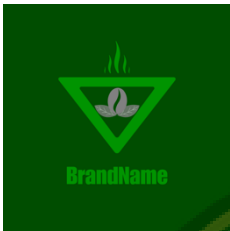
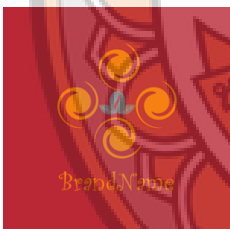
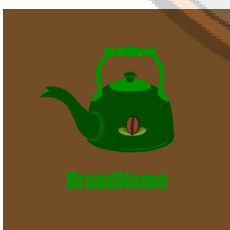
APPENDIX

Appendix A: Questionnaire Form

SECTION 1: GENERAL INFORMATION (DEMOGRAPHICS) QUESTIONS	
1. Nationality: ☐ Burmese ☐ Thai	
2. Age: _____	
3. Gender: ☐ Male ☐ Female ☐ Non-binary / Third gender ☐ Prefer not to say	
4. Highest Level of Education Completed: ☐ High School or lower ☐ Diploma or Certificate ☐ Bachelor's Degree ☐ Master's Degree or higher ☐ Doctoral Degree (e.g., PhD, EdD) ☐ Other (please specify): _____	
5. What number do you see in this picture? (Please select one)	
☐ 14 ☐ 41 ☐ 74 ☐ 21 ☐ 44	
	
SECTION 2: LOGO AND BRAND PERSONALITY ASSOCIATIONS	
Please associate each brand logo with the following 5 words: sincerity, excitement, competence, sophistication, and ruggedness. Use a scale from 1 to 7, where 1 means least associable and 7 means most associable.	
Words	Definitions

1. Sincerity	It is when you see a brand logo and experience any of these feelings—down-to-earth, honest, wholesome, and cheerful.
2. Excitement	It is when you see a brand logo and experience any of these feelings—daring, spirited, imaginative, and up-to-date.
3. Competence	It is when you see a brand logo and experience any of these feelings—reliable, intelligent, and successful.
4. Sophistication	It is when you see a brand logo and experience any of these feelings—upper class & charming.
5. Ruggedness	It is when you see a brand logo and experience any of these feelings—outdoorsy and tough.

1.	 Brand Logo TYM ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
2.	 Brand Logo BEX ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
3.	 Brand Logo ZEK ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
4.	 Brand Logo LUZ ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]

5.		Brand Logo JIR ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
6.		Brand Logo NAL ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
7.		Brand Logo VOS ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
8.		Brand Logo QIM ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
9.		Brand Logo HUD ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]
10.		Brand Logo RAN ○ Sincerity [1=Least associable to 7=Most associable] ○ Excitement [1=Least associable to 7=Most associable] ○ Competence [1=Least associable to 7=Most associable] ○ Sophistication [1=Least associable to 7=Most associable] ○ Ruggedness [1=Least associable to 7=Most associable]

SECTION 3: PARTICIPANTS' PREFERENCES ON LOGO ELEMENTS

11. Of the logos shown above, which one do you prefer? (Please select one)

- ☐ Brand Logo TYM
- ☐ Brand Logo BEX
- ☐ Brand Logo ZEK
- ☐ Brand Logo LUZ
- ☐ Brand Logo JIR
- ☐ Brand Logo NAL
- ☐ Brand Logo VOS
- ☐ Brand Logo QIM
- ☐ Brand Logo HUD
- ☐ Brand Logo RAN

11.a. What is/are the main reason you selected this logo? (Choose up to 3 options, or you can also write your answer.)

- ☐ I like the color.
- ☐ I like the shape.
- ☐ I like the typeface.
- ☐ It felt culturally appropriate or meaningful.
- ☐ It gave me a good impression of the brand.
- ☐ It encouraged me to explore more about the brand. (e.g., visit the brand's page, search for its story, check its products.)
- ☐ Other (please specify): _____

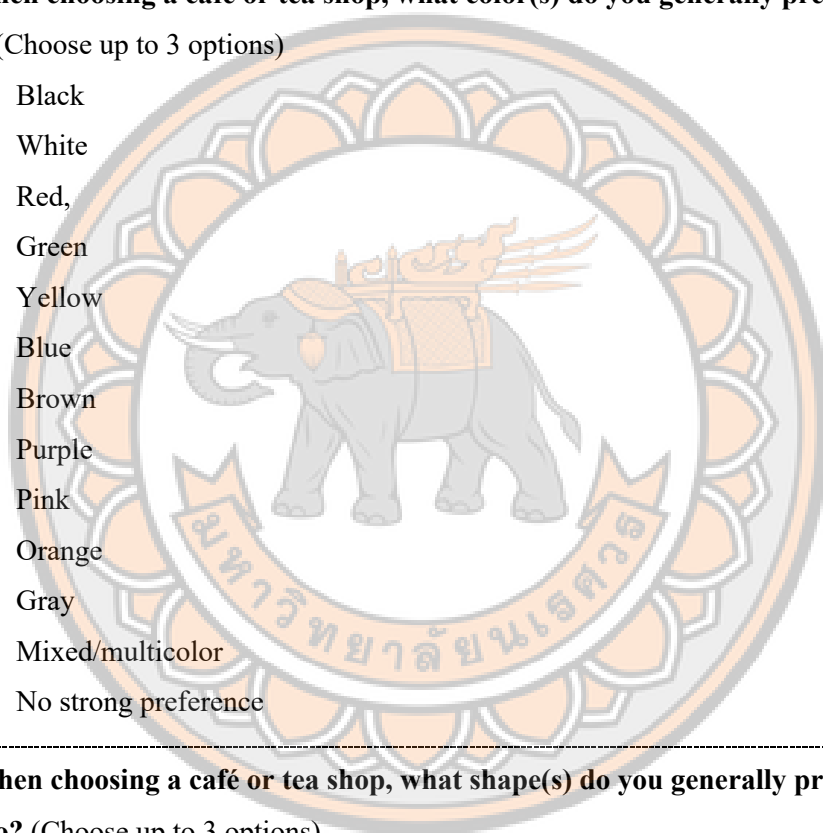
11.b. What emotions/traits does this logo you selected above evoke for you? (Choose up to 3 options)

- ☐ down-to-earth
- ☐ honest
- ☐ wholesome
- ☐ cheerful
- ☐ daring
- ☐ spirited
- ☐ imaginative
- ☐ up-to-date

- ☐ reliable
- ☐ intelligent
- ☐ successful
- ☐ upper class
- ☐ charming
- ☐ outdoorsy
- ☐ tough

12. When choosing a café or tea shop, what color(s) do you generally prefer to see in its logo? (Choose up to 3 options)

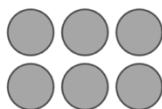
- ☐ Black
- ☐ White
- ☐ Red,
- ☐ Green
- ☐ Yellow
- ☐ Blue
- ☐ Brown
- ☐ Purple
- ☐ Pink
- ☐ Orange
- ☐ Gray
- ☐ Mixed/multicolor
- ☐ No strong preference



13. When choosing a café or tea shop, what shape(s) do you generally prefer to see in its logo? (Choose up to 3 options)

Each shape example is provided for you to refer to your preferred shape design.

☐ Circle



☐ Square



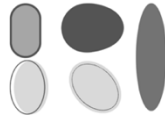
☐ Triangle



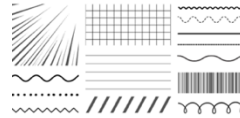
☐ Rectangle



- ☐ Oval / Ellipse



- ☐ Line (Horizontal/Vertical/ Diagonal)



- ☐ Abstract shape



- ☐ Natural shape



- ☐ No strong preference

14. When choosing a café or tea shop, what typeface(s)/font style(s) do you generally prefer to see in its logo? (Choose up to 3 options)

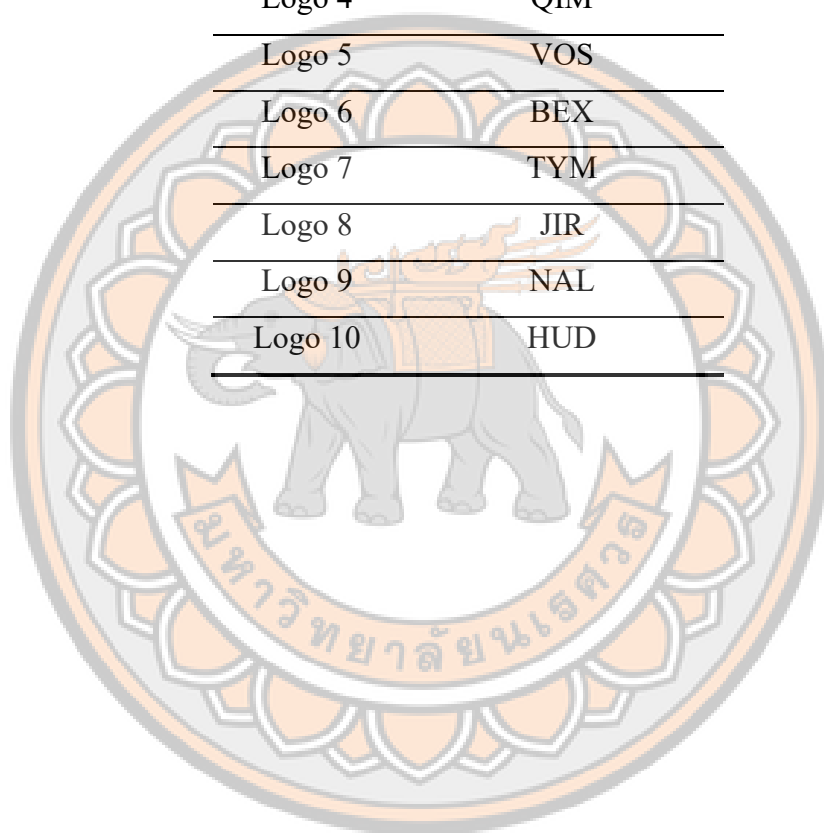
Each typeface's font example is provided for you to refer to your preferred typeface design.

- ☐ Serif - Serif Font Design Example
- ☐ Sans-serif - Sans-Serif Font Design Example
- ☐ Script/handwritten style - *Script Font Design Example*
- ☐ Display - Display Font Design Example
- ☐ Decorative - **Decorative Font Design Example**
- ☐ Monospaced - Monospaced Font Design Example
- ☐ No strong preference

Please write here if you have any additional comments, suggestions, or thoughts you'd like to share about the logos.

Table A1. Codes Used to Present Logo Stimuli in the Questionnaire

Logo No.	Codes
Logo 1	ZEK
Logo 2	RAN
Logo 3	LUZ
Logo 4	QIM
Logo 5	VOS
Logo 6	BEX
Logo 7	TYM
Logo 8	JIR
Logo 9	NAL
Logo 10	HUD



Appendix B: Post Hoc Results With and Without Median Imputation (Whole-logo Level)

Table B1. Sincerity Dimension – Before Missing Data Imputation

		T-Stat	df	Wi	Wj	r _{rb}	p	P _{bonf}	P _{holm}
Logo 1	Logo 2	0.066	1,053	863	865.5	-0.107	0.947	1	1
Logo 1	Logo 3	7.676	1,053	863	572.5	0.757	< .001	< .001	< .001
Logo 1	Logo 4	7.226	1,053	863	589.5	0.735	< .001	< .001	< .001
Logo 1	Logo 5	9.367	1,053	863	508.5	0.769	< .001	< .001	< .001
Logo 1	Logo 6	7.266	1,053	863	588	0.635	< .001	< .001	< .001
Logo 1	Logo 7	4.479	1,053	863	693.5	0.487	< .001	< .001	< .001
Logo 1	Logo 8	5.945	1,053	863	638	0.535	< .001	< .001	< .001
Logo 1	Logo 9	6.949	1,053	863	600	0.591	< .001	< .001	< .001
Logo 1	Logo 10	7.702	1,053	863	571.5	0.745	< .001	< .001	< .001
Logo 2	Logo 3	7.742	1,053	865.5	572.5	0.76	< .001	< .001	< .001
Logo 2	Logo 4	7.292	1,053	865.5	589.5	0.77	< .001	< .001	< .001
Logo 2	Logo 5	9.433	1,053	865.5	508.5	0.825	< .001	< .001	< .001
Logo 2	Logo 6	7.332	1,053	865.5	588	0.733	< .001	< .001	< .001
Logo 2	Logo 7	4.545	1,053	865.5	693.5	0.528	< .001	< .001	< .001
Logo 2	Logo 8	6.011	1,053	865.5	638	0.65	< .001	< .001	< .001
Logo 2	Logo 9	7.015	1,053	865.5	600	0.717	< .001	< .001	< .001
Logo 2	Logo 10	7.768	1,053	865.5	571.5	0.683	< .001	< .001	< .001
Logo 3	Logo 4	0.449	1,053	572.5	589.5	-0.027	0.653	1	1
Logo 3	Logo 5	1.691	1,053	572.5	508.5	0.241	0.091	1	1
Logo 3	Logo 6	0.41	1,053	572.5	588	-0.039	0.682	1	1
Logo 3	Logo 7	3.197	1,053	572.5	693.5	-0.336	0.001	0.064	0.037
Logo 3	Logo 8	1.731	1,053	572.5	638	-0.225	0.084	1	1
Logo 3	Logo 9	0.727	1,053	572.5	600	-0.077	0.468	1	1
Logo 3	Logo 10	0.026	1,053	572.5	571.5	0.042	0.979	1	1
Logo 4	Logo 5	2.14	1,053	589.5	508.5	0.266	0.033	1	0.684
Logo 4	Logo 6	0.04	1,053	589.5	588	-0.057	0.968	1	1
Logo 4	Logo 7	2.748	1,053	589.5	693.5	-0.306	0.006	0.275	0.146
Logo 4	Logo 8	1.281	1,053	589.5	638	-0.203	0.2	1	1
Logo 4	Logo 9	0.277	1,053	589.5	600	-0.06	0.782	1	1
Logo 4	Logo 10	0.476	1,053	589.5	571.5	0.03	0.634	1	1
Logo 5	Logo 6	2.101	1,053	508.5	588	-0.321	0.036	1	0.718
Logo 5	Logo 7	4.888	1,053	508.5	693.5	-0.486	< .001	< .001	< .001
Logo 5	Logo 8	3.422	1,053	508.5	638	-0.461	< .001	0.029	0.018
Logo 5	Logo 9	2.418	1,053	508.5	600	-0.374	0.016	0.711	0.347
Logo 5	Logo 10	1.665	1,053	508.5	571.5	-0.251	0.096	1	1
Logo 6	Logo 7	2.788	1,053	588	693.5	-0.253	0.005	0.243	0.135
Logo 6	Logo 8	1.321	1,053	588	638	-0.18	0.187	1	1
Logo 6	Logo 9	0.317	1,053	588	600	0.019	0.751	1	1
Logo 6	Logo 10	0.436	1,053	588	571.5	0.1	0.663	1	1
Logo 7	Logo 8	1.466	1,053	693.5	638	0.153	0.143	1	1
Logo 7	Logo 9	2.47	1,053	693.5	600	0.27	0.014	0.614	0.314
Logo 7	Logo 10	3.223	1,053	693.5	571.5	0.346	0.001	0.059	0.035
Logo 8	Logo 9	1.004	1,053	638	600	0.205	0.316	1	1
Logo 8	Logo 10	1.757	1,053	638	571.5	0.272	0.079	1	1
Logo 9	Logo 10	0.753	1,053	600	571.5	0.114	0.452	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B2. Sincerity Dimension – Replaced Missing Data with Median Score

		T-Stat	df	Wi	Wj	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.31	1,089	880	892	-0.12	0.757	1	1
Logo 1	Logo 3	7.273	1,089	880	598.5	0.705	< .001	< .001	< .001
Logo 1	Logo 4	6.989	1,089	880	609.5	0.71	< .001	< .001	< .001
Logo 1	Logo 5	8.926	1,089	880	534.5	0.727	< .001	< .001	< .001
Logo 1	Logo 6	7.182	1,089	880	602	0.622	< .001	< .001	< .001
Logo 1	Logo 7	4.198	1,089	880	717.5	0.453	< .001	0.001	< .001
Logo 1	Logo 8	5.581	1,089	880	664	0.494	< .001	< .001	< .001
Logo 1	Logo 9	6.717	1,089	880	620	0.572	< .001	< .001	< .001
Logo 1	Logo 10	7.441	1,089	880	592	0.724	< .001	< .001	< .001
Logo 2	Logo 3	7.583	1,089	892	598.5	0.74	< .001	< .001	< .001
Logo 2	Logo 4	7.299	1,089	892	609.5	0.754	< .001	< .001	< .001
Logo 2	Logo 5	9.236	1,089	892	534.5	0.81	< .001	< .001	< .001
Logo 2	Logo 6	7.493	1,089	892	602	0.739	< .001	< .001	< .001
Logo 2	Logo 7	4.508	1,089	892	717.5	0.526	< .001	< .001	< .001
Logo 2	Logo 8	5.891	1,089	892	664	0.631	< .001	< .001	< .001
Logo 2	Logo 9	7.027	1,089	892	620	0.711	< .001	< .001	< .001
Logo 2	Logo 10	7.751	1,089	892	592	0.662	< .001	< .001	< .001
Logo 3	Logo 4	0.284	1,089	598.5	609.5	-0.002	0.776	1	1
Logo 3	Logo 5	1.654	1,089	598.5	534.5	0.241	0.099	1	1
Logo 3	Logo 6	0.09	1,089	598.5	602	0.001	0.928	1	1
Logo 3	Logo 7	3.075	1,089	598.5	717.5	-0.318	0.002	0.097	0.056
Logo 3	Logo 8	1.692	1,089	598.5	664	-0.225	0.091	1	1
Logo 3	Logo 9	0.555	1,089	598.5	620	-0.057	0.579	1	1
Logo 3	Logo 10	0.168	1,089	598.5	592	0.051	0.867	1	1
Logo 4	Logo 5	1.938	1,089	609.5	534.5	0.238	0.053	1	1
Logo 4	Logo 6	0.194	1,089	609.5	602	-0.035	0.846	1	1
Logo 4	Logo 7	2.79	1,089	609.5	717.5	-0.304	0.005	0.241	0.129
Logo 4	Logo 8	1.408	1,089	609.5	664	-0.219	0.159	1	1
Logo 4	Logo 9	0.271	1,089	609.5	620	-0.058	0.786	1	1
Logo 4	Logo 10	0.452	1,089	609.5	592	0.021	0.651	1	1
Logo 5	Logo 6	1.744	1,089	534.5	602	-0.27	0.081	1	1
Logo 5	Logo 7	4.728	1,089	534.5	717.5	-0.469	< .001	< .001	< .001
Logo 5	Logo 8	3.346	1,089	534.5	664	-0.461	< .001	0.038	0.024
Logo 5	Logo 9	2.209	1,089	534.5	620	-0.341	0.027	1	0.602
Logo 5	Logo 10	1.486	1,089	534.5	592	-0.226	0.138	1	1
Logo 6	Logo 7	2.984	1,089	602	717.5	-0.271	0.003	0.131	0.073
Logo 6	Logo 8	1.602	1,089	602	664	-0.211	0.109	1	1
Logo 6	Logo 9	0.465	1,089	602	620	-0.001	0.642	1	1
Logo 6	Logo 10	0.258	1,089	602	592	0.081	0.796	1	1
Logo 7	Logo 8	1.382	1,089	717.5	664	0.143	0.167	1	1
Logo 7	Logo 9	2.519	1,089	717.5	620	0.27	0.012	0.536	0.274
Logo 7	Logo 10	3.242	1,089	717.5	592	0.333	0.001	0.055	0.033
Logo 8	Logo 9	1.137	1,089	664	620	0.225	0.256	1	1
Logo 8	Logo 10	1.86	1,089	664	592	0.268	0.063	1	1
Logo 9	Logo 10	0.723	1,089	620	592	0.098	0.47	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B3. Excitement Dimension – Before Missing Data Imputation

		T-Stat	df	Wi	Wj	r _{rb}	p	P _{bonf}	P _{holm}
Logo 1	Logo 2	1.679	1,053	862	797	0.151	0.093	1	1
Logo 1	Logo 3	3.164	1,053	862	739.5	0.341	0.002	0.072	0.034
Logo 1	Logo 4	2.647	1,053	862	759.5	0.285	0.008	0.371	0.165
Logo 1	Logo 5	9.221	1,053	862	505	0.752	< .001	< .001	< .001
Logo 1	Logo 6	7.774	1,053	862	561	0.699	< .001	< .001	< .001
Logo 1	Logo 7	7.387	1,053	862	576	0.67	< .001	< .001	< .001
Logo 1	Logo 8	7.361	1,053	862	577	0.677	< .001	< .001	< .001
Logo 1	Logo 9	7.18	1,053	862	584	0.681	< .001	< .001	< .001
Logo 1	Logo 10	8.601	1,053	862	529	0.809	< .001	< .001	< .001
Logo 2	Logo 3	1.485	1,053	797	739.5	0.243	0.138	1	1
Logo 2	Logo 4	0.969	1,053	797	759.5	0.187	0.333	1	1
Logo 2	Logo 5	7.542	1,053	797	505	0.789	< .001	< .001	< .001
Logo 2	Logo 6	6.095	1,053	797	561	0.652	< .001	< .001	< .001
Logo 2	Logo 7	5.708	1,053	797	576	0.6	< .001	< .001	< .001
Logo 2	Logo 8	5.682	1,053	797	577	0.703	< .001	< .001	< .001
Logo 2	Logo 9	5.501	1,053	797	584	0.701	< .001	< .001	< .001
Logo 2	Logo 10	6.922	1,053	797	529	0.738	< .001	< .001	< .001
Logo 3	Logo 4	0.517	1,053	739.5	759.5	-0.087	0.606	1	1
Logo 3	Logo 5	6.057	1,053	739.5	505	0.661	< .001	< .001	< .001
Logo 3	Logo 6	4.61	1,053	739.5	561	0.45	< .001	< .001	< .001
Logo 3	Logo 7	4.223	1,053	739.5	576	0.419	< .001	0.001	< .001
Logo 3	Logo 8	4.197	1,053	739.5	577	0.512	< .001	0.001	< .001
Logo 3	Logo 9	4.016	1,053	739.5	584	0.464	< .001	0.003	0.001
Logo 3	Logo 10	5.437	1,053	739.5	529	0.567	< .001	< .001	< .001
Logo 4	Logo 5	6.573	1,053	759.5	505	0.714	< .001	< .001	< .001
Logo 4	Logo 6	5.127	1,053	759.5	561	0.526	< .001	< .001	< .001
Logo 4	Logo 7	4.739	1,053	759.5	576	0.507	< .001	< .001	< .001
Logo 4	Logo 8	4.714	1,053	759.5	577	0.5	< .001	< .001	< .001
Logo 4	Logo 9	4.533	1,053	759.5	584	0.511	< .001	< .001	< .001
Logo 4	Logo 10	5.953	1,053	759.5	529	0.694	< .001	< .001	< .001
Logo 5	Logo 6	1.446	1,053	505	561	-0.268	0.148	1	1
Logo 5	Logo 7	1.834	1,053	505	576	-0.307	0.067	1	1
Logo 5	Logo 8	1.86	1,053	505	577	-0.315	0.063	1	1
Logo 5	Logo 9	2.04	1,053	505	584	-0.343	0.042	1	0.79
Logo 5	Logo 10	0.62	1,053	505	529	-0.145	0.535	1	1
Logo 6	Logo 7	0.387	1,053	561	576	-0.076	0.699	1	1
Logo 6	Logo 8	0.413	1,053	561	577	-0.064	0.68	1	1
Logo 6	Logo 9	0.594	1,053	561	584	-0.011	0.553	1	1
Logo 6	Logo 10	0.826	1,053	561	529	0.126	0.409	1	1
Logo 7	Logo 8	0.026	1,053	576	577	0.043	0.979	1	1
Logo 7	Logo 9	0.207	1,053	576	584	0.053	0.836	1	1
Logo 7	Logo 10	1.214	1,053	576	529	0.191	0.225	1	1
Logo 8	Logo 9	0.181	1,053	577	584	0.04	0.857	1	1
Logo 8	Logo 10	1.24	1,053	577	529	0.173	0.215	1	1
Logo 9	Logo 10	1.421	1,053	584	529	0.201	0.156	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B4. Excitement Dimension – Replaced Missing Data with Median Score

		T-Stat	df	Wi	Wj	r _{rb}	p	P _{bonf}	P _{holm}
Logo 1	Logo 2	1.754	1,089	887.5	818.5	0.156	0.08	1	1
Logo 1	Logo 3	2.973	1,089	887.5	770.5	0.317	0.003	0.135	0.063
Logo 1	Logo 4	2.364	1,089	887.5	794.5	0.259	0.018	0.822	0.366
Logo 1	Logo 5	9.543	1,089	887.5	512	0.759	< .001	< .001	< .001
Logo 1	Logo 6	7.955	1,089	887.5	574.5	0.704	< .001	< .001	< .001
Logo 1	Logo 7	7.345	1,089	887.5	598.5	0.647	< .001	< .001	< .001
Logo 1	Logo 8	7.37	1,089	887.5	597.5	0.671	< .001	< .001	< .001
Logo 1	Logo 9	7.192	1,089	887.5	604.5	0.673	< .001	< .001	< .001
Logo 1	Logo 10	8.526	1,089	887.5	552	0.788	< .001	< .001	< .001
Logo 2	Logo 3	1.22	1,089	818.5	770.5	0.215	0.223	1	1
Logo 2	Logo 4	0.61	1,089	818.5	794.5	0.153	0.542	1	1
Logo 2	Logo 5	7.789	1,089	818.5	512	0.798	< .001	< .001	< .001
Logo 2	Logo 6	6.201	1,089	818.5	574.5	0.651	< .001	< .001	< .001
Logo 2	Logo 7	5.591	1,089	818.5	598.5	0.571	< .001	< .001	< .001
Logo 2	Logo 8	5.617	1,089	818.5	597.5	0.682	< .001	< .001	< .001
Logo 2	Logo 9	5.439	1,089	818.5	604.5	0.68	< .001	< .001	< .001
Logo 2	Logo 10	6.773	1,089	818.5	552	0.707	< .001	< .001	< .001
Logo 3	Logo 4	0.61	1,089	770.5	794.5	-0.095	0.542	1	1
Logo 3	Logo 5	6.57	1,089	770.5	512	0.681	< .001	< .001	< .001
Logo 3	Logo 6	4.981	1,089	770.5	574.5	0.474	< .001	< .001	< .001
Logo 3	Logo 7	4.371	1,089	770.5	598.5	0.423	< .001	< .001	< .001
Logo 3	Logo 8	4.397	1,089	770.5	597.5	0.522	< .001	< .001	< .001
Logo 3	Logo 9	4.219	1,089	770.5	604.5	0.471	< .001	0.001	< .001
Logo 3	Logo 10	5.553	1,089	770.5	552	0.573	< .001	< .001	< .001
Logo 4	Logo 5	7.18	1,089	794.5	512	0.736	< .001	< .001	< .001
Logo 4	Logo 6	5.591	1,089	794.5	574.5	0.549	< .001	< .001	< .001
Logo 4	Logo 7	4.981	1,089	794.5	598.5	0.512	< .001	< .001	< .001
Logo 4	Logo 8	5.007	1,089	794.5	597.5	0.509	< .001	< .001	< .001
Logo 4	Logo 9	4.829	1,089	794.5	604.5	0.522	< .001	< .001	< .001
Logo 4	Logo 10	6.163	1,089	794.5	552	0.697	< .001	< .001	< .001
Logo 5	Logo 6	1.588	1,089	512	574.5	-0.278	0.112	1	1
Logo 5	Logo 7	2.198	1,089	512	598.5	-0.336	0.028	1	0.506
Logo 5	Logo 8	2.173	1,089	512	597.5	-0.349	0.03	1	0.51
Logo 5	Logo 9	2.351	1,089	512	604.5	-0.381	0.019	0.851	0.366
Logo 5	Logo 10	1.017	1,089	512	552	-0.198	0.31	1	1
Logo 6	Logo 7	0.61	1,089	574.5	598.5	-0.108	0.542	1	1
Logo 6	Logo 8	0.585	1,089	574.5	597.5	-0.088	0.559	1	1
Logo 6	Logo 9	0.762	1,089	574.5	604.5	-0.037	0.446	1	1
Logo 6	Logo 10	0.572	1,089	574.5	552	0.084	0.568	1	1
Logo 7	Logo 8	0.025	1,089	598.5	597.5	0.053	0.98	1	1
Logo 7	Logo 9	0.152	1,089	598.5	604.5	0.064	0.879	1	1
Logo 7	Logo 10	1.182	1,089	598.5	552	0.188	0.238	1	1
Logo 8	Logo 9	0.178	1,089	597.5	604.5	0.04	0.859	1	1
Logo 8	Logo 10	1.156	1,089	597.5	552	0.162	0.248	1	1
Logo 9	Logo 10	1.334	1,089	604.5	552	0.189	0.182	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B5. Competence Dimension – Before Missing Data Imputation

		T-Stat	df	Wi	Wj	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.065	1,053	803.5	806	-0.036	0.948	1	1
Logo 1	Logo 3	2.767	1,053	803.5	696.5	0.367	0.006	0.259	0.132
Logo 1	Logo 4	2.301	1,053	803.5	714.5	0.337	0.022	0.97	0.431
Logo 1	Logo 5	7.176	1,053	803.5	526	0.651	< .001	< .001	< .001
Logo 1	Logo 6	5.042	1,053	803.5	608.5	0.49	< .001	< .001	< .001
Logo 1	Logo 7	4.086	1,053	803.5	645.5	0.465	< .001	0.002	0.002
Logo 1	Logo 8	6.18	1,053	803.5	564.5	0.604	< .001	< .001	< .001
Logo 1	Logo 9	6.167	1,053	803.5	565	0.631	< .001	< .001	< .001
Logo 1	Logo 10	6.297	1,053	803.5	560	0.723	< .001	< .001	< .001
Logo 2	Logo 3	2.832	1,053	806	696.5	0.44	0.005	0.212	0.113
Logo 2	Logo 4	2.366	1,053	806	714.5	0.373	0.018	0.817	0.381
Logo 2	Logo 5	7.24	1,053	806	526	0.71	< .001	< .001	< .001
Logo 2	Logo 6	5.107	1,053	806	608.5	0.566	< .001	< .001	< .001
Logo 2	Logo 7	4.15	1,053	806	645.5	0.516	< .001	0.002	0.001
Logo 2	Logo 8	6.245	1,053	806	564.5	0.696	< .001	< .001	< .001
Logo 2	Logo 9	6.232	1,053	806	565	0.683	< .001	< .001	< .001
Logo 2	Logo 10	6.361	1,053	806	560	0.708	< .001	< .001	< .001
Logo 3	Logo 4	0.465	1,053	696.5	714.5	-0.043	0.642	1	1
Logo 3	Logo 5	4.409	1,053	696.5	526	0.544	< .001	< .001	< .001
Logo 3	Logo 6	2.276	1,053	696.5	608.5	0.224	0.023	1	0.438
Logo 3	Logo 7	1.319	1,053	696.5	645.5	0.104	0.188	1	1
Logo 3	Logo 8	3.413	1,053	696.5	564.5	0.369	< .001	0.03	0.018
Logo 3	Logo 9	3.4	1,053	696.5	565	0.501	< .001	0.031	0.018
Logo 3	Logo 10	3.53	1,053	696.5	560	0.434	< .001	0.02	0.012
Logo 4	Logo 5	4.874	1,053	714.5	526	0.548	< .001	< .001	< .001
Logo 4	Logo 6	2.741	1,053	714.5	608.5	0.289	0.006	0.28	0.137
Logo 4	Logo 7	1.784	1,053	714.5	645.5	0.193	0.075	1	1
Logo 4	Logo 8	3.879	1,053	714.5	564.5	0.442	< .001	0.005	0.003
Logo 4	Logo 9	3.866	1,053	714.5	565	0.501	< .001	0.005	0.003
Logo 4	Logo 10	3.995	1,053	714.5	560	0.536	< .001	0.003	0.002
Logo 5	Logo 6	2.133	1,053	526	608.5	-0.364	0.033	1	0.563
Logo 5	Logo 7	3.09	1,053	526	645.5	-0.366	0.002	0.092	0.051
Logo 5	Logo 8	0.996	1,053	526	564.5	-0.135	0.32	1	1
Logo 5	Logo 9	1.008	1,053	526	565	-0.141	0.313	1	1
Logo 5	Logo 10	0.879	1,053	526	560	-0.071	0.379	1	1
Logo 6	Logo 7	0.957	1,053	608.5	645.5	-0.14	0.339	1	1
Logo 6	Logo 8	1.138	1,053	608.5	564.5	0.104	0.255	1	1
Logo 6	Logo 9	1.125	1,053	608.5	565	0.185	0.261	1	1
Logo 6	Logo 10	1.254	1,053	608.5	560	0.202	0.21	1	1
Logo 7	Logo 8	2.095	1,053	645.5	564.5	0.307	0.036	1	0.583
Logo 7	Logo 9	2.082	1,053	645.5	565	0.295	0.038	1	0.583
Logo 7	Logo 10	2.211	1,053	645.5	560	0.345	0.027	1	0.491
Logo 8	Logo 9	0.013	1,053	564.5	565	0.048	0.99	1	1
Logo 8	Logo 10	0.116	1,053	564.5	560	0.088	0.907	1	1
Logo 9	Logo 10	0.129	1,053	565	560	0.11	0.897	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B6. Competence Dimension – Replaced Missing Data with Median Score

		T-Stat	df	Wi	Wj	r _{rb}	p	P _{bonf}	P _{holm}
Logo 1	Logo 2	0.051	1,089	836	838	-0.019	0.959	1	1
Logo 1	Logo 3	3.187	1,089	836	711	0.396	0.001	0.067	0.035
Logo 1	Logo 4	2.397	1,089	836	742	0.354	0.017	0.752	0.334
Logo 1	Logo 5	7.42	1,089	836	545	0.66	< .001	< .001	< .001
Logo 1	Logo 6	5.393	1,089	836	624.5	0.505	< .001	< .001	< .001
Logo 1	Logo 7	4.284	1,089	836	668	0.48	< .001	< .001	< .001
Logo 1	Logo 8	6.514	1,089	836	580.5	0.62	< .001	< .001	< .001
Logo 1	Logo 9	6.514	1,089	836	580.5	0.645	< .001	< .001	< .001
Logo 1	Logo 10	6.413	1,089	836	584.5	0.724	< .001	< .001	< .001
Logo 2	Logo 3	3.238	1,089	838	711	0.458	0.001	0.056	0.032
Logo 2	Logo 4	2.448	1,089	838	742	0.378	0.015	0.654	0.305
Logo 2	Logo 5	7.471	1,089	838	545	0.712	< .001	< .001	< .001
Logo 2	Logo 6	5.444	1,089	838	624.5	0.578	< .001	< .001	< .001
Logo 2	Logo 7	4.334	1,089	838	668	0.515	< .001	< .001	< .001
Logo 2	Logo 8	6.565	1,089	838	580.5	0.704	< .001	< .001	< .001
Logo 2	Logo 9	6.565	1,089	838	580.5	0.692	< .001	< .001	< .001
Logo 2	Logo 10	6.463	1,089	838	584.5	0.679	< .001	< .001	< .001
Logo 3	Logo 4	0.79	1,089	711	742	-0.071	0.429	1	1
Logo 3	Logo 5	4.233	1,089	711	545	0.515	< .001	0.001	< .001
Logo 3	Logo 6	2.205	1,089	711	624.5	0.209	0.028	1	0.492
Logo 3	Logo 7	1.096	1,089	711	668	0.077	0.273	1	1
Logo 3	Logo 8	3.327	1,089	711	580.5	0.357	< .001	0.041	0.025
Logo 3	Logo 9	3.327	1,089	711	580.5	0.474	< .001	0.041	0.025
Logo 3	Logo 10	3.225	1,089	711	584.5	0.378	0.001	0.058	0.032
Logo 4	Logo 5	5.023	1,089	742	545	0.53	< .001	< .001	< .001
Logo 4	Logo 6	2.996	1,089	742	624.5	0.289	0.003	0.126	0.062
Logo 4	Logo 7	1.887	1,089	742	668	0.183	0.059	1	0.832
Logo 4	Logo 8	4.118	1,089	742	580.5	0.443	< .001	0.002	0.001
Logo 4	Logo 9	4.118	1,089	742	580.5	0.49	< .001	0.002	0.001
Logo 4	Logo 10	4.016	1,089	742	584.5	0.489	< .001	0.003	0.002
Logo 5	Logo 6	2.027	1,089	545	624.5	-0.351	0.043	1	0.644
Logo 5	Logo 7	3.136	1,089	545	668	-0.371	0.002	0.079	0.04
Logo 5	Logo 8	0.905	1,089	545	580.5	-0.125	0.366	1	1
Logo 5	Logo 9	0.905	1,089	545	580.5	-0.128	0.366	1	1
Logo 5	Logo 10	1.007	1,089	545	584.5	-0.094	0.314	1	1
Logo 6	Logo 7	1.109	1,089	624.5	668	-0.159	0.268	1	1
Logo 6	Logo 8	1.122	1,089	624.5	580.5	0.102	0.262	1	1
Logo 6	Logo 9	1.122	1,089	624.5	580.5	0.181	0.262	1	1
Logo 6	Logo 10	1.02	1,089	624.5	584.5	0.173	0.308	1	1
Logo 7	Logo 8	2.231	1,089	668	580.5	0.319	0.026	1	0.492
Logo 7	Logo 9	2.231	1,089	668	580.5	0.306	0.026	1	0.492
Logo 7	Logo 10	2.129	1,089	668	584.5	0.318	0.033	1	0.536
Logo 8	Logo 9	0	1,089	580.5	580.5	0.047	1	1	1
Logo 8	Logo 10	0.102	1,089	580.5	584.5	0.053	0.919	1	1
Logo 9	Logo 10	0.102	1,089	580.5	584.5	0.068	0.919	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B7. Sophistication Dimension – Before Missing Data Imputation

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.495	1,053	826	845.5	-0.11	0.62	1	1
Logo 1	Logo 3	5.855	1,053	826	595.5	0.577	< .001	< .001	< .001
Logo 1	Logo 4	3.493	1,053	826	688.5	0.403	< .001	0.022	0.013
Logo 1	Logo 5	7.607	1,053	826	526.5	0.685	< .001	< .001	< .001
Logo 1	Logo 6	5.017	1,053	826	628.5	0.551	< .001	< .001	< .001
Logo 1	Logo 7	3.912	1,053	826	672	0.429	< .001	0.004	0.003
Logo 1	Logo 8	5.118	1,053	826	624.5	0.545	< .001	< .001	< .001
Logo 1	Logo 9	7.226	1,053	826	541.5	0.639	< .001	< .001	< .001
Logo 1	Logo 10	7.226	1,053	826	541.5	0.717	< .001	< .001	< .001
Logo 2	Logo 3	6.35	1,053	845.5	595.5	0.66	< .001	< .001	< .001
Logo 2	Logo 4	3.988	1,053	845.5	688.5	0.483	< .001	0.003	0.002
Logo 2	Logo 5	8.103	1,053	845.5	526.5	0.741	< .001	< .001	< .001
Logo 2	Logo 6	5.512	1,053	845.5	628.5	0.647	< .001	< .001	< .001
Logo 2	Logo 7	4.407	1,053	845.5	672	0.533	< .001	< .001	< .001
Logo 2	Logo 8	5.614	1,053	845.5	624.5	0.698	< .001	< .001	< .001
Logo 2	Logo 9	7.722	1,053	845.5	541.5	0.756	< .001	< .001	< .001
Logo 2	Logo 10	7.722	1,053	845.5	541.5	0.747	< .001	< .001	< .001
Logo 3	Logo 4	2.362	1,053	595.5	688.5	-0.355	0.018	0.826	0.385
Logo 3	Logo 5	1.753	1,053	595.5	526.5	0.311	0.08	1	1
Logo 3	Logo 6	0.838	1,053	595.5	628.5	-0.092	0.402	1	1
Logo 3	Logo 7	1.943	1,053	595.5	672	-0.139	0.052	1	0.836
Logo 3	Logo 8	0.737	1,053	595.5	624.5	-0.106	0.462	1	1
Logo 3	Logo 9	1.372	1,053	595.5	541.5	0.181	0.17	1	1
Logo 3	Logo 10	1.372	1,053	595.5	541.5	0.229	0.17	1	1
Logo 4	Logo 5	4.115	1,053	688.5	526.5	0.608	< .001	0.002	0.001
Logo 4	Logo 6	1.524	1,053	688.5	628.5	0.207	0.128	1	1
Logo 4	Logo 7	0.419	1,053	688.5	672	0.121	0.675	1	1
Logo 4	Logo 8	1.626	1,053	688.5	624.5	0.216	0.104	1	1
Logo 4	Logo 9	3.734	1,053	688.5	541.5	0.476	< .001	0.009	0.006
Logo 4	Logo 10	3.734	1,053	688.5	541.5	0.575	< .001	0.009	0.006
Logo 5	Logo 6	2.591	1,053	526.5	628.5	-0.36	0.01	0.437	0.223
Logo 5	Logo 7	3.696	1,053	526.5	672	-0.341	< .001	0.01	0.006
Logo 5	Logo 8	2.489	1,053	526.5	624.5	-0.36	0.013	0.583	0.285
Logo 5	Logo 9	0.381	1,053	526.5	541.5	-0.097	0.703	1	1
Logo 5	Logo 10	0.381	1,053	526.5	541.5	-0.078	0.703	1	1
Logo 6	Logo 7	1.105	1,053	628.5	672	-0.088	0.269	1	1
Logo 6	Logo 8	0.102	1,053	628.5	624.5	0.007	0.919	1	1
Logo 6	Logo 9	2.21	1,053	628.5	541.5	0.301	0.027	1	0.547
Logo 6	Logo 10	2.21	1,053	628.5	541.5	0.35	0.027	1	0.547
Logo 7	Logo 8	1.207	1,053	672	624.5	0.091	0.228	1	1
Logo 7	Logo 9	3.315	1,053	672	541.5	0.356	< .001	0.043	0.024
Logo 7	Logo 10	3.315	1,053	672	541.5	0.386	< .001	0.043	0.024
Logo 8	Logo 9	2.108	1,053	624.5	541.5	0.323	0.035	1	0.634
Logo 8	Logo 10	2.108	1,053	624.5	541.5	0.342	0.035	1	0.634
Logo 9	Logo 10	0	1,053	541.5	541.5	0.089	1	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B8. Sophistication Dimension – Replaced Missing Data with Median Score

		T-Stat	df	Wi	Wj	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.491	1,089	859.5	879	-0.092	0.623	1	1
Logo 1	Logo 3	6.188	1,089	859.5	614	0.588	< .001	< .001	< .001
Logo 1	Logo 4	3.844	1,089	859.5	707	0.423	< .001	0.006	0.004
Logo 1	Logo 5	7.927	1,089	859.5	545	0.692	< .001	< .001	< .001
Logo 1	Logo 6	5.444	1,089	859.5	643.5	0.565	< .001	< .001	< .001
Logo 1	Logo 7	4.171	1,089	859.5	694	0.437	< .001	0.001	0.001
Logo 1	Logo 8	5.457	1,089	859.5	643	0.558	< .001	< .001	< .001
Logo 1	Logo 9	7.549	1,089	859.5	560	0.647	< .001	< .001	< .001
Logo 1	Logo 10	7.423	1,089	859.5	565	0.717	< .001	< .001	< .001
Logo 2	Logo 3	6.679	1,089	879	614	0.665	< .001	< .001	< .001
Logo 2	Logo 4	4.335	1,089	879	707	0.491	< .001	< .001	< .001
Logo 2	Logo 5	8.418	1,089	879	545	0.743	< .001	< .001	< .001
Logo 2	Logo 6	5.936	1,089	879	643.5	0.654	< .001	< .001	< .001
Logo 2	Logo 7	4.663	1,089	879	694	0.518	< .001	< .001	< .001
Logo 2	Logo 8	5.948	1,089	879	643	0.701	< .001	< .001	< .001
Logo 2	Logo 9	8.04	1,089	879	560	0.757	< .001	< .001	< .001
Logo 2	Logo 10	7.914	1,089	879	565	0.722	< .001	< .001	< .001
Logo 3	Logo 4	2.344	1,089	614	707	-0.355	0.019	0.867	0.404
Logo 3	Logo 5	1.739	1,089	614	545	0.311	0.082	1	1
Logo 3	Logo 6	0.744	1,089	614	643.5	-0.084	0.457	1	1
Logo 3	Logo 7	2.016	1,089	614	694	-0.152	0.044	1	0.792
Logo 3	Logo 8	0.731	1,089	614	643	-0.106	0.465	1	1
Logo 3	Logo 9	1.361	1,089	614	560	0.181	0.174	1	1
Logo 3	Logo 10	1.235	1,089	614	565	0.203	0.217	1	1
Logo 4	Logo 5	4.083	1,089	707	545	0.608	< .001	0.002	0.001
Logo 4	Logo 6	1.6	1,089	707	643.5	0.212	0.11	1	1
Logo 4	Logo 7	0.328	1,089	707	694	0.105	0.743	1	1
Logo 4	Logo 8	1.613	1,089	707	643	0.216	0.107	1	1
Logo 4	Logo 9	3.705	1,089	707	560	0.476	< .001	0.01	0.006
Logo 4	Logo 10	3.579	1,089	707	565	0.54	< .001	0.016	0.009
Logo 5	Logo 6	2.483	1,089	545	643.5	-0.35	0.013	0.594	0.303
Logo 5	Logo 7	3.755	1,089	545	694	-0.351	< .001	0.008	0.005
Logo 5	Logo 8	2.47	1,089	545	643	-0.36	0.014	0.615	0.303
Logo 5	Logo 9	0.378	1,089	545	560	-0.097	0.705	1	1
Logo 5	Logo 10	0.504	1,089	545	565	-0.1	0.614	1	1
Logo 6	Logo 7	1.273	1,089	643.5	694	-0.109	0.203	1	1
Logo 6	Logo 8	0.013	1,089	643.5	643	-0.002	0.99	1	1
Logo 6	Logo 9	2.105	1,089	643.5	560	0.29	0.036	1	0.711
Logo 6	Logo 10	1.979	1,089	643.5	565	0.317	0.048	1	0.818
Logo 7	Logo 8	1.285	1,089	694	643	0.106	0.199	1	1
Logo 7	Logo 9	3.377	1,089	694	560	0.366	< .001	0.034	0.019
Logo 7	Logo 10	3.251	1,089	694	565	0.377	0.001	0.053	0.028
Logo 8	Logo 9	2.092	1,089	643	560	0.323	0.037	1	0.711
Logo 8	Logo 10	1.966	1,089	643	565	0.312	0.05	1	0.818
Logo 9	Logo 10	0.126	1,089	560	565	0.06	0.9	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B9. Ruggedness Dimension – Before Missing Data Imputation

		T-Stat	df	Wi	Wj	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.199	1,053	741	749	-0.056	0.843	1	1
	Logo 3	0.323	1,053	741	728	0.036	0.747	1	1
	Logo 4	0.745	1,053	741	711	0.107	0.456	1	1
	Logo 5	4.408	1,053	741	563.5	0.423	< .001	< .001	< .001
	Logo 6	1.887	1,053	741	665	0.255	0.059	1	1
	Logo 7	2.967	1,053	741	621.5	0.402	0.003	0.138	0.089
	Logo 8	5.451	1,053	741	521.5	0.594	< .001	< .001	< .001
	Logo 9	4.01	1,053	741	579.5	0.405	< .001	0.003	0.002
	Logo 10	3.253	1,053	741	610	0.42	0.001	0.053	0.037
Logo 2	Logo 3	0.521	1,053	749	728	0.075	0.602	1	1
	Logo 4	0.944	1,053	749	711	0.129	0.346	1	1
	Logo 5	4.606	1,053	749	563.5	0.462	< .001	< .001	< .001
	Logo 6	2.086	1,053	749	665	0.248	0.037	1	0.745
	Logo 7	3.166	1,053	749	621.5	0.36	0.002	0.072	0.048
	Logo 8	5.649	1,053	749	521.5	0.615	< .001	< .001	< .001
	Logo 9	4.209	1,053	749	579.5	0.495	< .001	0.001	0.001
	Logo 10	3.452	1,053	749	610	0.449	< .001	0.026	0.019
Logo 3	Logo 4	0.422	1,053	728	711	0.091	0.673	1	1
	Logo 5	4.085	1,053	728	563.5	0.489	< .001	0.002	0.002
	Logo 6	1.564	1,053	728	665	0.223	0.118	1	1
	Logo 7	2.645	1,053	728	621.5	0.283	0.008	0.374	0.224
	Logo 8	5.128	1,053	728	521.5	0.628	< .001	< .001	< .001
	Logo 9	3.688	1,053	728	579.5	0.435	< .001	0.011	0.009
	Logo 10	2.93	1,053	728	610	0.363	0.003	0.156	0.097
Logo 4	Logo 5	3.663	1,053	711	563.5	0.419	< .001	0.012	0.009
	Logo 6	1.142	1,053	711	665	0.152	0.254	1	1
	Logo 7	2.222	1,053	711	621.5	0.23	0.026	1	0.609
	Logo 8	4.706	1,053	711	521.5	0.496	< .001	< .001	< .001
	Logo 9	3.265	1,053	711	579.5	0.315	0.001	0.051	0.036
	Logo 10	2.508	1,053	711	610	0.38	0.012	0.553	0.309
Logo 5	Logo 6	2.52	1,053	563.5	665	-0.306	0.012	0.534	0.309
	Logo 7	1.44	1,053	563.5	621.5	-0.19	0.15	1	1
	Logo 8	1.043	1,053	563.5	521.5	0.15	0.297	1	1
	Logo 9	0.397	1,053	563.5	579.5	-0.058	0.691	1	1
	Logo 10	1.155	1,053	563.5	610	-0.125	0.248	1	1
Logo 6	Logo 7	1.08	1,053	665	621.5	0.143	0.28	1	1
	Logo 8	3.563	1,053	665	521.5	0.483	< .001	0.017	0.013
	Logo 9	2.123	1,053	665	579.5	0.293	0.034	1	0.713
	Logo 10	1.366	1,053	665	610	0.231	0.172	1	1
Logo 7	Logo 8	2.483	1,053	621.5	521.5	0.356	0.013	0.593	0.316
	Logo 9	1.043	1,053	621.5	579.5	0.149	0.297	1	1
	Logo 10	0.286	1,053	621.5	610	0.118	0.775	1	1
Logo 8	Logo 9	1.44	1,053	521.5	579.5	-0.22	0.15	1	1
	Logo 10	2.198	1,053	521.5	610	-0.263	0.028	1	0.62
Logo 9	Logo 10	0.757	1,053	579.5	610	-0.052	0.449	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table B10. Ruggedness Dimension – Replaced Missing Data with Median Score

		T-Stat	df	Wi	Wj	r _{rb}	p	p _{bonf}	p _{holm}
Logo 1	Logo 2	0.258	1,089	771	781.5	-0.045	0.797	1	1
	Logo 3	0.258	1,089	771	760.5	0.044	0.797	1	1
	Logo 4	0.675	1,089	771	743.5	0.114	0.5	1	1
	Logo 5	4.751	1,089	771	577.5	0.439	< .001	< .001	< .001
	Logo 6	2.308	1,089	771	677	0.281	0.021	0.954	0.424
	Logo 7	3.241	1,089	771	639	0.421	0.001	0.055	0.036
	Logo 8	5.782	1,089	771	535.5	0.605	< .001	< .001	< .001
	Logo 9	4.358	1,089	771	593.5	0.422	< .001	< .001	< .001
	Logo 10	3.437	1,089	771	631	0.417	< .001	0.027	0.018
Logo 2	Logo 3	0.516	1,089	781.5	760.5	0.075	0.606	1	1
	Logo 4	0.933	1,089	781.5	743.5	0.129	0.351	1	1
	Logo 5	5.009	1,089	781.5	577.5	0.473	< .001	< .001	< .001
	Logo 6	2.566	1,089	781.5	677	0.275	0.01	0.469	0.261
	Logo 7	3.499	1,089	781.5	639	0.372	< .001	0.022	0.016
	Logo 8	6.04	1,089	781.5	535.5	0.622	< .001	< .001	< .001
	Logo 9	4.616	1,089	781.5	593.5	0.506	< .001	< .001	< .001
	Logo 10	3.695	1,089	781.5	631	0.431	< .001	0.01	0.008
Logo 3	Logo 4	0.417	1,089	760.5	743.5	0.091	0.676	1	1
	Logo 5	4.493	1,089	760.5	577.5	0.501	< .001	< .001	< .001
	Logo 6	2.05	1,089	760.5	677	0.252	0.041	1	0.771
	Logo 7	2.983	1,089	760.5	639	0.295	0.003	0.131	0.079
	Logo 8	5.524	1,089	760.5	535.5	0.635	< .001	< .001	< .001
	Logo 9	4.1	1,089	760.5	593.5	0.447	< .001	0.002	0.002
	Logo 10	3.179	1,089	760.5	631	0.349	0.002	0.068	0.042
Logo 4	Logo 5	4.076	1,089	743.5	577.5	0.435	< .001	0.002	0.002
	Logo 6	1.633	1,089	743.5	677	0.185	0.103	1	1
	Logo 7	2.566	1,089	743.5	639	0.243	0.01	0.469	0.261
	Logo 8	5.107	1,089	743.5	535.5	0.507	< .001	< .001	< .001
	Logo 9	3.683	1,089	743.5	593.5	0.33	< .001	0.011	0.008
	Logo 10	2.762	1,089	743.5	631	0.36	0.006	0.263	0.152
Logo 5	Logo 6	2.443	1,089	577.5	677	-0.295	0.015	0.663	0.324
	Logo 7	1.51	1,089	577.5	639	-0.196	0.131	1	1
	Logo 8	1.031	1,089	577.5	535.5	0.15	0.303	1	1
	Logo 9	0.393	1,089	577.5	593.5	-0.058	0.695	1	1
	Logo 10	1.314	1,089	577.5	631	-0.148	0.189	1	1
Logo 6	Logo 7	0.933	1,089	677	639	0.12	0.351	1	1
	Logo 8	3.474	1,089	677	535.5	0.471	< .001	0.024	0.017
	Logo 9	2.05	1,089	677	593.5	0.282	0.041	1	0.771
	Logo 10	1.129	1,089	677	631	0.2	0.259	1	1
Logo 7	Logo 8	2.541	1,089	639	535.5	0.361	0.011	0.503	0.261
	Logo 9	1.117	1,089	639	593.5	0.155	0.264	1	1
	Logo 10	0.196	1,089	639	631	0.096	0.844	1	1
Logo 8	Logo 9	1.424	1,089	535.5	593.5	-0.22	0.155	1	1
	Logo 10	2.345	1,089	535.5	631	-0.281	0.019	0.865	0.404
Logo 9	Logo 10	0.921	1,089	593.5	631	-0.076	0.357	1	1

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Appendix C: Brand Personality and Logo Preference

Table C1. Frequencies of Detailed BP Facets Evoked by the Preferred Logos (Thai and Burmese participants)

Logos	Sincerity				Excitement				Competence			Sophistication		Ruggedness
	Down-to-earth	Honest	Wholesome	Cheerful	Daring	Spirited	Imaginative	Up-to-date	Reliable	Intelligent	Successful	Upper class	Charming	
Logo 1	12	8	10	17	1	5	26	21	7	1	2	8	19	2
Logo 2	13	4	5	6	0	2	5	5	12	2	0	6	12	4
Logo 3	1	1	3	2	3	1	3	4	0	1	0	2	0	0
Logo 4	1	0	3	1	2	1	1	2	0	2	2	0	1	0
Logo 5	0	0	0	0	0	1	1	0	0	1	0	2	1	0
Logo 6	1	0	1	3	2	1	0	1	0	1	0	1	0	0
Logo 7	0	0	3	1	2	2	2	1	0	0	1	3	4	0
Logo 8	0	4	2	4	0	1	4	2	0	0	0	0	1	0
Logo 9	0	0	0	1	1	1	0	1	1	1	0	0	0	0
Logo 10	1	1	1	2	0	0	2	0	3	0	0	0	1	0

Note: Participants were allowed to select up to 3 options.

Appendix D: Differences Between Nationalities

Table D1. Frequencies of Participants Reported Reasons for Preferred Logos

Logos	I like the color.		I like the shape.		I like the typeface.		It felt culturally appropriate or meaningful.		It gave me a good impression of the brand.		It encouraged me to explore more about the brand. (e.g., visit the brand's page, search for its story, & check its products.)	
	Thai	Burmese	Thai	Burmese	Thai	Burmese	Thai	Burmese	Thai	Burmese	Thai	Burmese
Logo 1	28	9	29	14	15	0	0	6	5	4	9	4
Logo 2	10	11	6	11	7	1	0	3	1	6	3	7
Logo 3	2	2	3	4	2	0	0	2	0	2	0	1
Logo 4	2	3	1	1	1	1	0	1	1	1	0	2
Logo 5	0	2	0	2	0	0	0	0	0	2	0	0
Logo 6	2	1	0	1	1	0	0	1	1	2	0	0
Logo 7	3	3	4	3	3	1	0	2	0	0	1	0
Logo 8	4	0	4	1	1	0	0	0	1	1	0	1
Logo 9	0	0	0	1	0	0	0	0	0	2	0	1
Logo 10	1	2	1	1	0	0	0	1	1	2	1	0

Note: Participants were allowed to select up to 3 options.



Table D2. Frequencies of BP Dimensions Evoked by the Preferred Logos

Logos	Sincerity		Excitement		Competence		Sophistication		Ruggedness	
	Thai	Burmese	Thai	Burmese	Thai	Burmese	Thai	Burmese	Thai	Burmese
Logo 1	26	21	38	15	7	3	23	4	3	0
Logo 2	5	23	5	7	8	6	7	11	2	3
Logo 3	3	4	4	7	0	1	1	1	1	1
Logo 4	2	3	1	5	2	2	1	0	0	0
Logo 5	0	0	0	2	0	1	0	3	0	0
Logo 6	2	3	2	2	0	1	0	1	0	0
Logo 7	2	2	3	4	0	1	5	2	0	0
Logo 8	9	1	5	2	0	0	1	0	0	0
Logo 9	0	1	0	3	0	2	0	0	0	0
Logo 10	1	4	1	1	1	2	0	1	1	1

Note: Participants were allowed to select up to 3 options.

Table D3. Frequencies of Detailed BP Facets Evoked by the Preferred Logos among Thai Participants

Logos	Sincerity			Excitement			Competence			Sophistication		Ruggedness			
	Down-to-earth	Honest	Wholesome	Cheerful	Daring	Spirited	Imaginative	Up-to-date	Reliable	Intelligent	Successful	Upper class	Charming	Outdoor	Tough
Logo 1	3	2	5	16	1	3	18	16	5	0	2	8	15	2	1
Logo 2	2	0	0	3	0	1	1	3	8	0	0	3	4	1	1
Logo 3	0	0	1	2	1	0	2	1	0	0	0	1	0	0	1
Logo 4	0	0	1	1	0	0	1	0	0	1	1	0	1	0	0
Logo 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Logo 6	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0
Logo 7	0	0	1	1	0	1	1	1	0	0	0	2	3	0	0
Logo 8	0	4	2	3	0	0	3	2	0	0	0	0	1	0	0
Logo 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Logo 10	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1

Note: Participants were allowed to select up to 3 options.

Table D4. Frequencies of Detailed BP Facets Evoked by the Preferred Logos among Burmese Participants

Logos	Sincerity				Excitement				Competence			Sophistication		Ruggedness	
	Down-to-earth	Honest	Whole some	Cheerful	Daring	Spirited	Imaginative	Up-to-date	Reliable	Intelligent	Successful	Upper class	Charming	Outdoorsy	Tough
Logo 1	9	6	5	1	0	2	8	5	2	1	0	0	4	0	0
Logo 2	11	4	5	3	0	1	4	2	4	2	0	3	8	3	0
Logo 3	1	1	2	0	2	1	1	3	0	1	0	1	0	0	1
Logo 4	1	0	2	0	2	1	0	2	0	1	1	0	0	0	0
Logo 5	0	0	0	0	0	1	1	0	0	1	0	2	1	0	0
Logo 6	1	0	1	1	1	0	0	1	0	1	0	1	0	0	0
Logo 7	0	0	2	0	2	1	1	0	0	0	1	1	1	0	0
Logo 8	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0
Logo 9	0	0	0	1	1	1	0	1	1	1	0	0	0	0	0
Logo 10	1	1	1	1	0	0	1	0	2	0	0	0	1	0	1

Note: Participants were allowed to select up to 3 options.

Table D5. Frequencies of Preferred Colors for Café or Tea Shop Logos

Colors	Thai (n=62)	Burmese (n=60)
Black	18	17
White	43	27
Red	4	5
Green	16	13
Yellow	1	10
Blue	7	6
Brown	18	24
Purple	6	2
Pink	22	0
Orange	0	10
Gray	5	13
Mixed/multicolor	13	10
No Strong Preference	2	3

Note: Participants were allowed to select up to 3 options.

Table D6. Frequencies of Preferred Shapes for Café or Tea Shop Logos

Shapes	Thai (n=62)	Burmese (n=60)
Circle	29	25
Square	8	10
Triangle	8	14
Rectangle	11	5
Oval/Ellipse	16	9

Lines (Horizontal/Vertical/Diagonal)	8	4
Abstract shape	16	20
Natural shape	35	37
No Strong Preference	2	0

Note: Participants were allowed to select up to 3 options.

Table D7. Frequencies of Preferred Typefaces for Café or Tea Shop Logos

Typefaces	Thai (n=62)	Burmese (n=60)
Serif	26	18
Sans-serif	4	14
Script/handwritten	32	29
Display	10	12
Monospaced	10	8
Decorative	33	25
No Strong Preference	1	2

Note: Participants were allowed to select up to 3 options.

Appendix E: Post Hoc Test Results of Shape and Typeface (Element-Level Analysis)

Table E1. Sincerity Dimension – Shape

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Organic	Circular	0.329	468	441.5	447.5	-0.107	0.742	1	1
Organic	Triangular	7.714	468	441.5	301	0.757	< .001	< .001	< .001
Organic	Spiral	7.33	468	441.5	308	0.735	< .001	< .001	< .001
Organic	Square	9.307	468	441.5	272	0.769	< .001	< .001	< .001
Circular	Triangular	8.044	468	447.5	301	0.76	< .001	< .001	< .001
Circular	Spiral	7.659	468	447.5	308	0.77	< .001	< .001	< .001
Circular	Square	9.636	468	447.5	272	0.825	< .001	< .001	< .001
Triangular	Spiral	0.384	468	301	308	-0.027	0.701	1	1
Triangular	Square	1.592	468	301	272	0.241	0.112	1	0.336
Spiral	Square	1.977	468	308	272	0.266	0.049	0.487	0.195

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E2. Excitement Dimension – Shape

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Organic	Circular	2.059	468	423	381.5	0.151	0.04	0.4	0.16
Organic	Triangular	3.275	468	423	357	0.341	0.001	0.011	0.007
Organic	Spiral	2.953	468	423	363.5	0.285	0.003	0.033	0.017
Organic	Square	8.833	468	423	245	0.752	< .001	< .001	< .001
Circular	Triangular	1.216	468	381.5	357	0.243	0.225	1	0.674
Circular	Spiral	0.893	468	381.5	363.5	0.187	0.372	1	0.744
Circular	Square	6.774	468	381.5	245	0.789	< .001	< .001	< .001
Triangular	Spiral	0.323	468	357	363.5	-0.087	0.747	1	0.747
Triangular	Square	5.558	468	357	245	0.661	< .001	< .001	< .001
Spiral	Square	5.881	468	363.5	245	0.714	< .001	< .001	< .001

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E3. Competence Dimension – Shape

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Organic	Circular	0	468	399.5	399.5	-0.036	1	1	1
Organic	Triangular	2.703	468	399.5	346	0.367	0.007	0.071	0.043
Organic	Spiral	2.122	468	399.5	357.5	0.337	0.034	0.344	0.137
Organic	Square	6.669	468	399.5	267.5	0.651	< .001	< .001	< .001
Circular	Triangular	2.703	468	399.5	346	0.44	0.007	0.071	0.043
Circular	Spiral	2.122	468	399.5	357.5	0.373	0.034	0.344	0.137
Circular	Square	6.669	468	399.5	267.5	0.71	< .001	< .001	< .001
Triangular	Spiral	0.581	468	346	357.5	-0.043	0.562	1	1
Triangular	Square	3.966	468	346	267.5	0.544	< .001	< .001	< .001
Spiral	Square	4.547	468	357.5	267.5	0.548	< .001	< .001	< .001

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E4. Sophistication Dimension – Shape

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Organic	Circular	0.53	468	418	428.5	-0.11	0.597	1	0.597
Organic	Triangular	5.85	468	418	302	0.577	< .001	< .001	< .001
Organic	Spiral	3.379	468	418	351	0.403	< .001	0.008	0.003
Organic	Square	7.439	468	418	270.5	0.685	< .001	< .001	< .001
Circular	Triangular	6.38	468	428.5	302	0.66	< .001	< .001	< .001
Circular	Spiral	3.909	468	428.5	351	0.483	< .001	0.001	< .001
Circular	Square	7.968	468	428.5	270.5	0.741	< .001	< .001	< .001
Triangular	Spiral	2.471	468	302	351	-0.355	0.014	0.138	0.041
Triangular	Square	1.589	468	302	270.5	0.311	0.113	1	0.226
Spiral	Square	4.06	468	351	270.5	0.608	< .001	< .001	< .001

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E5. Ruggedness Dimension – Shape

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Organic	Circular	0.429	468	372	381	-0.056	0.668	1	1
Organic	Triangular	0.095	468	372	370	0.036	0.924	1	1
Organic	Spiral	0.524	468	372	361	0.107	0.601	1	1
Organic	Square	4.097	468	372	286	0.423	< .001	< .001	< .001
Circular	Triangular	0.524	468	381	370	0.075	0.601	1	1
Circular	Spiral	0.953	468	381	361	0.129	0.341	1	1
Circular	Square	4.526	468	381	286	0.462	< .001	< .001	< .001
Triangular	Spiral	0.429	468	370	361	0.091	0.668	1	1
Triangular	Square	4.002	468	370	286	0.489	< .001	< .001	< .001
Spiral	Square	3.573	468	361	286	0.419	< .001	0.004	0.003

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E6. Sincerity Dimension – Typeface

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Display	Sans-serif	7.819	351	378	258.5	0.757	< .001	< .001	< .001
Display	Serif	9.127	351	378	238.5	0.769	< .001	< .001	< .001
Display	Script	4.776	351	378	305	0.487	< .001	< .001	< .001
Sans-serif	Serif	1.309	351	258.5	238.5	0.241	0.192	1	0.192
Sans-serif	Script	3.042	351	258.5	305	-0.336	0.003	0.015	0.005
Serif	Script	4.351	351	238.5	305	-0.486	< .001	< .001	< .001

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E7. Excitement Dimension – Typeface

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Display	Sans-serif	2.828	351	368.5	323.5	0.341	0.005	0.03	0.01
Display	Serif	8.734	351	368.5	229.5	0.752	< .001	< .001	< .001
Display	Script	6.912	351	368.5	258.5	0.67	< .001	< .001	< .001
Sans-serif	Serif	5.907	351	323.5	229.5	0.661	< .001	< .001	< .001
Sans-serif	Script	4.084	351	323.5	258.5	0.419	< .001	< .001	< .001
Serif	Script	1.822	351	229.5	258.5	-0.307	0.069	0.416	0.069

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E8. Competence Dimension – Typeface

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Display	Sans-serif	2.317	351	346.5	309	0.367	0.021	0.126	0.042
Display	Serif	6.519	351	346.5	241	0.651	< .001	< .001	< .001
Display	Script	3.893	351	346.5	283.5	0.465	< .001	< .001	< .001
Sans-serif	Serif	4.202	351	309	241	0.544	< .001	< .001	< .001
Sans-serif	Script	1.576	351	309	283.5	0.104	0.116	0.696	0.116
Serif	Script	2.626	351	241	283.5	-0.366	0.009	0.054	0.027

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E9. Sophistication Dimension – Typeface

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Display	Sans-serif	5.485	351	363	271.5	0.577	< .001	< .001	< .001
Display	Serif	6.894	351	363	248	0.685	< .001	< .001	< .001
Display	Script	3.927	351	363	297.5	0.429	< .001	< .001	< .001
Sans-serif	Serif	1.409	351	271.5	248	0.311	0.16	0.959	0.24
Sans-serif	Script	1.559	351	271.5	297.5	-0.139	0.12	0.72	0.24
Serif	Script	2.967	351	248	297.5	-0.341	0.003	0.019	0.01

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.

Table E10. Ruggedness Dimension – Typeface

		T-Stat	df	W _i	W _j	r _{rb}	p	p _{bonf}	p _{holm}
Display	Sans-serif	0.565	351	330	320.5	0.036	0.572	1	0.597
Display	Serif	4.402	351	330	256	0.423	< .001	< .001	< .001
Display	Script	3.361	351	330	273.5	0.402	< .001	0.005	0.003
Sans-serif	Serif	3.837	351	320.5	256	0.489	< .001	< .001	< .001
Sans-serif	Script	2.796	351	320.5	273.5	0.283	0.005	0.033	0.016
Serif	Script	1.041	351	256	273.5	-0.19	0.299	1	0.597

Note. Grouped by subject.

Note. Rank-biserial correlation based on individual signed-rank tests.