

**Faculty of Arts, Humanities and Cultures
School of Design**



The Role of Aesthetics in a Successful Logo Design.

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Finally, I think doubting myself was a mistake, because I triumphed!

Abstract

Logos are important; they grab consumers' attention, make a strong first impression, and are a valuable visual representation of a brand. The visual appearance of logos is therefore important in terms of how they are viewed by consumers and how they influence consumer perceptions of the brand that the logos represent. The central question that is explored in this thesis is what visual attributes of a logo contribute to the logo's aesthetic appeal and the approach taken is one that analyses data derived from consumer responses. The work described is therefore a collection of consumer-driven studies that use interviews, focus groups and surveys; the latter may be described as psychophysical experiments.

The experimental part of the thesis is structured into three experimental chapters that describe 7 studies. In Chapter III, a set of focus groups and interviews collected information from consumers about logo aesthetics and some related concepts such as familiarity. Chapter IV includes two experiments where participants were asked to scale various logos in terms of visual attributes. The data from these experiments allowed a factor analysis that derived four main visual factors: vibrancy, simplicity, sophistication and balance, in order of decreasing share of the variance. These four factors can be considered to form a 4-D aesthetic space for logos.

Chapter V describes cross-cultural studies of logo preference using a Likert scale and particularly explored the role of colour and whether a logo was a simple icon or had text. It was found that logos without an icon, consisting only of text, were perceived as being less preferred than logos with an icon. It was also found logos that were coloured were more preferred than logos that were achromatic or multicoloured.

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1. Introduction

This thesis is concerned with the design aesthetics of logos. The work described addresses the question of what visual attributes of a logo contribute to the logo's aesthetic appeal. Although some studies have approached this question from a theoretical standpoint, this thesis explores logo aesthetics from the point of view of the consumer. In other words, the thesis includes several experiments where data is collected from consumers concerning their preferences for various logos and the aspects of logos that most contribute to those preferences.

The thesis is structured with a literature review followed by three experimental chapters. The first experimental chapter (Chapter III) describes qualitative research to explore the attributes of logos that contribute to their aesthetic appeal. A set of focus groups and interviews allow consumers to speak about their preferences and elicits their views about logo aesthetics and some related concepts such as familiarity. Chapter III finishes with a survey where people are asked to describe various logos in their own words. This was used to inform the following experimental chapters where a more quantitative approach was adopted.

Chapter IV describes two studies; the first was a pilot study with 10 attributes and 50 logos and the second was a main study with 26 attributes and 50 logos. The aim of these studies was to collect data that could be used in factor analysis to ascertain the primary factors that define logo aesthetics. The pilot was interesting and provided some useful insights but it has a couple of limitations. Firstly, for factor analysis the idea is to ask participants to scale a number of logos according to a large number of attributes; it doesn't matter if some of these attributes are correlated (in fact it is important in factor analysis that such correlations exist). It is important, however, that the attributes completely span the space of attributes that might be important. It is hard to argue that 10 attributes chosen in the pilot study would do this; however, in the main study a larger number (26) of attributes was used (these being informed from Chapter III) that is more consistent with related published work. Secondly, the 50 logos in the

pilot study were logos from well-known companies, ones that are popular within a wide range of population such as Apple and BP. This presents a problem because it is possible that a participant's aesthetic response to a logo might be influenced by their pre-conceived views of the company that the logo represents. In short, we might be conflating logo visual aesthetic response with memory and brand awareness. In the main study, the logos used were from start-up companies with which the participants would have no knowledge or pre-conceived views (such as newer logos that are both new and created for an emerging startups companies). Factor analysis of the main study produced four main factors: vibrancy, simplicity, sophistication and balance, in order of decreasing share of the variance. We can think of these four factors of forming a 4-D aesthetic space for logos.

Chapter V describes three studies. In the first study 301 participants evaluated 50 logos in terms of their preference (like/dislike) and in the second study 436 participants evaluated 51 logos using a slightly more nuanced metric (a Likert scale for preference). The second also explored the effect of culture and the 436 participants were drawn from four cultural groups (China, UK, South Korea and Saudi Arabia). It was found that logos without an icon, consisting only of text, were perceived as being less preferred than logos with an icon. It was also found logos that were coloured were more preferred than logos that were achromatic (mainly consisting of one colour) or multi-coloured (having a variety of mix of colours which sometimes are not contrasting).

The thesis makes three important contributions. Firstly, the approach taken to base the study on consumer responses is different from many other studies in this area and this data-driven approach may inspire other researchers to adopt similar methods. Secondly, the thesis produced of a low-dimensional aesthetic space which could be used as a framework for studying consumer responses to logos in future research. Thirdly, several new insights about the role of colour and form on logo preference were revealed based on the experimental work and the consumer responses. These contributions are described in discussion section of each chapter.

2. Literature Review

2.1 Introduction

Due to the increasingly visual nature of today's world, a company's logo can communicate meaning to customers even in the absence of words (van Der Lans *et al.*, 2009). Businesses invest time, money, and resources in creating aesthetically pleasing corporate logos. Developing the company's logo to an organisational asset that establishes the brand's identity and helps to create a positive company reputation (Napoles, 1988). This lead researchers and marketing professionals to be fascinated by the role that brand and corporate logos play in establishing a long-lasting competitive advantage (Balmer, 1995; Bernstein, 1986; Henderson and Cote, 1998; van Riel *et al.*, 2001). However, little systematic research has been done on the impact of logos on consumers' logo perceptions (Henderson and Cote, 1998; Pittard *et al.*, 2007; van der Lans *et al.*, 2009; van der Lans *et al.*, 2009; van Riel *et al.*, 2001). As a result, little is known about the relationship between logo designers and the outcomes of the corporate logos they create. This thesis/chapter will therefore discuss the significance and influence of corporate visual identity on logo design. In addition to the effect of aesthetics on consumer responses and the degree to which culture influences how a company logo is perceived.

2.2 Corporate Visual Identity (CVI)

2.2.1 Definitions of CVI

A corporate visual identity (CVI) communicates an organization's ideas and aims, as well as its business and characteristics, and serves as its most tangible self-expression asset (van Den Bosch *et al.*, 2006). CVI's design elements can be seen on a variety of firm stationery, printed materials, commercials, websites, cars, buildings,

interiors, and corporate attire (van Den Bosch *et al.*, 2006). The company's name, logo, colour scheme, font style, slogan, tagline, or description must all be included in the CVI. CVI has a significant impact on how a firm portrays itself to internal (brand managers and employees) and external stakeholders (customers). As a result, design can be a significant aspect of an organization's visual identity at times. Numerous studies have shown an indisputable link between a company's reputation and its long-term success (Bickerton, 2000; Fombrun and Rindova, 1998; Greyser, 1999; Roberts and Dowling, 2002). For instance, a theory of Olins (2002) presents the CVI importance and how it identifies the organisational strategy, structure, and vision. This theory shaped how CVI can be managed and projected to the audience through the CVI distinctive identity. According to van Riel (2000), CVI has gotten minimal attention in literature and has rarely been investigated at all. Additional groups of researchers were concerned with the look and significance of business logos (Henderson and Cote, 1998; van Riel and van Den Ban, 2001), typography (Doyle and Bottomley, 2002), and other design aspects (Henderson and Cote, 1998; van Riel and van Den Ban, 2001; Gabrielsen *et al.*, 2000). Yet, there was minimal CVI in management and communication literature (van Den Bosch *et al.*, 2006). Often, a CVI conveys an organisation's values and goals, as well as its business and characteristics. Hence, CVI in corporate communication serves distinct goals.

While the majority of CVI goals are directed at external stakeholders. CVI provides initial exposure and brand recognition to a company (Balmer and Gray, 2000; Dowling, 1993; Du Gay, 2000), it is crucial for nearly all businesses to have a strong CVI so that customers are aware of their presence, even if they are unable to recall their name. Also, and most importantly, a brand's visual identity gives people more ways to remember it (van Den Bosch *et al.*, 2006). Besides, a CVI represents an organisation to outside stakeholders, which improves its reputation and image (Schultz *et al.*, 2000). This is crucial because an unsuccessful visual identity may indicate a struggling business (Baker and Balmer, 1997). Several studies have shown that a company's reputation and its success go hand in hand (Bickerton, 2000; Fombrun & Rindova, 1998; Greyser, 1999; Roberts and Dowling, 2002). Likewise, CVI talks about how committed workers are to the organisation and where they work. Leading to organisations wanting to spend a lot of money on developing and implementing their CVI. During times of organisational change, CVI gets extra attention (van Den Bosch

et al., 2006). Also, in the event of mergers, acquisitions, and takeovers, CVI is a fundamental aspect of strategic choices, as it represents the organisational change and is one of the few immediately manageable variables (Baker and Balmer, 1997; Balmer and Dinnie, 1999; Brun, 2002). Using new CVI development tools raises questions about things like strategic decisions and the CVI chosen. Besides, corporate logos are used to promote other organisational artefacts and how a group works as a whole, according to Pilditch (1970).

As designers create or enhance the brand's visual identity, it is recommended that they place themselves in the shoes of the organisation they are designing for (Pilditch, 1970). Open and dynamic organisations appear to make greater use of their CVI than closed and static ones. These organisations must be flexible and quick to act in order to thrive in a dynamic environment (van Den Bosch *et al.*, 2006). Therefore, there must be a constant growth and awareness of business strategy at all organisational levels (Dutton and Dukerich, 1991).

2.2.2 Organisation & Stakeholders

Muzellec and Lambkin (2006) determined in a pilot study that four primary drivers are accountable for corporate rebranding initiatives: changes in ownership structure, corporate strategy, a shift in competitive position, and changes in the external environment (2006). Similarly, in an exploratory study, the "Leiden Octahedron" was used as a model to assess the organisational factors that influence the consistency of a CVI (van Den Bosch, 1999). Also, Demenint *et al.* (1989) added information to Leavitt's model of 1965 in an even manner. As they concentrated on the visual aspect of an organization's response to a changing environment. They illustrated how a company adapts to change using six categories. These included organisational objectives, strategy, structure, culture, and technology, in addition to stakeholders. Figure 1 depicts the best-fitting and most explanatory structural equation model for CVI.

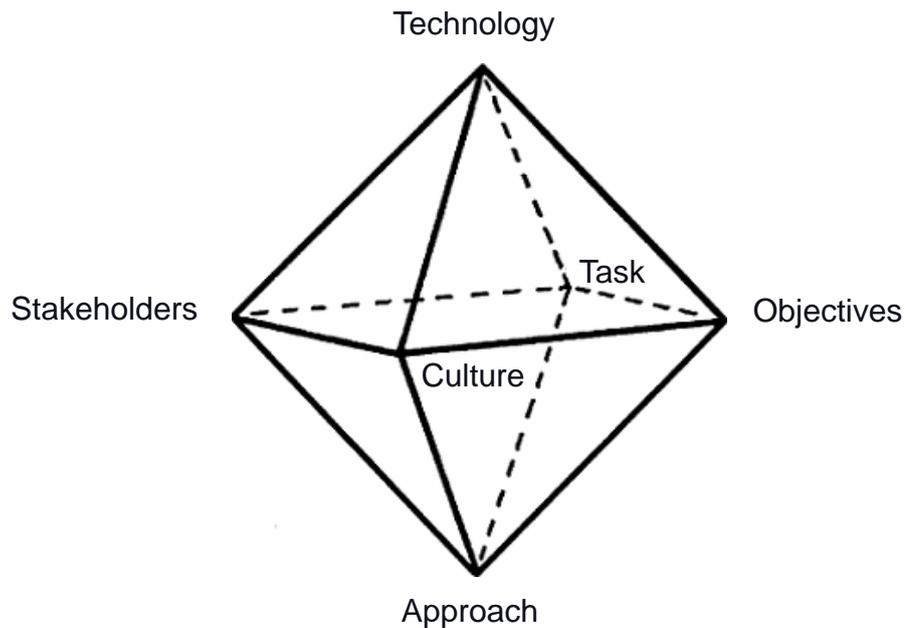


Figure 1 - Based on van Den Bosch (1999) "Leiden Octahedron" organisation CVI responds to a changing environment.

Organisation strategy, its culture, together with technology all influence the results of a collection of the organisation working toward its goal. Similarly, organisational dimensions, according to the various perspectives on organisations found in the literature, emphasise an organisation's strategy (Johnson and Scholes, 1999; Mintzberg *et al.*, 1998), organisational structure, and the principles of coordination among various functions and tasks (Hall, 1991; Hodge, Anthony, and Gales, 1996; Mintzberg, 1979), as well as its culture, which includes how the organisation's members' shared values and beliefs (Deal and Kennedy, 1982; Schein, 1992; Trice and Beyer, 1993). Using open systems theory, which explains how an organisation interacts with and adapts to its environment to thrive, researchers discovered a second important organisational attribute (Lawrence and Lorsch, 1967).

“Whereas products and packaging provide visual cues, services are inherently invisible before they are delivered and can only be assessed retrospectively. It may be that service organizations have to work harder to make themselves and their services visible”

van Den Bosch et al. (2005).

As the value of CVI is relatively obvious for firms operating in a competitive environment, it may also be crucial for other industries. For example, governmental entities with no alternative service providers do not have to lock in their clients (van Den Bosch *et al.*, 2005). However, even if these governmental entities do not have to compete for every new client, they nonetheless deserve to be acknowledged for their contributions to society. Governmental institutions are increasingly perceived as brands; in this case, the brand implies a performance guarantee (Vredenburg *et al.*, 2020). In most cases, the context in which the CVI operates is the most important aspect of the CVI. Before they can be communicated to the outside world, a company's guiding principles must be ingrained in its employees (Fombrun and van Riel, 2004). However, prior to implementation, the CVI should be understood by and supported by the organization's workforce.

This directs our attention to the corporate image that is projected by the CVI. In addition to a clear and unambiguous perception of the organisation, it is crucial that the CVI is able to maintain consistency. If there are too many distinct visual signals, there may be a perception of lack of concentration. Thus, precise logo design criteria are necessary (Henderson and Cote, 1998), tools used to evaluate design elements (Gabrielsen *et al.*, 2000), and an analysis of visual interpretation are required (Moriarty, 1996). Consequently, it is impossible to overstate the significance of CVI in research, including the potential benefits of visuals in persuasion in corporate logo design (Blair, 1996; Fleming, 1996; Birdsell and Groarke, 1996).

2.2.3 Brand Image

CVI design elements are essential for shaping consumers' views of a business or brand since they may trigger strong brand connections and attitudes (Schmitt and Simonson, 1997). For example, Jun *et al.* (2008) describe CVI as providing stakeholders with vital information (VI), business identity (BI) or corporate identity (CI) referring to managing a company's public image. Indeed, corporate logos enable consumers to differentiate between distinct businesses (Aaker, 1991). According to contemporary attitude research, affective and cognitive components distinguish consumers' attitude responses to advertising messages, and ad-induced attitude studies experimentally support both components (Leigh *et al.*, 2006).

As visual expressions are an essential component of branding strategy, CVI is typical of the CI framework. Henderson *et al.* (2003) established criteria for the design of visual expressions and identified the relationship between design and desired reactions. This stemmed as academic researchers were interested in exploring the concept of CVI. According to Bosch *et al.* (2004), CVI is divided into three stages: tactical, operations, and design. The tactical and more strategic level encompasses company identity, corporate branding, and international features. The CVI system, design processes, and maintenance are all included at the operational level. The design level consists of corporate names, logos, slogans, colours, and typography (Bosch *et al.*, 2004).

Melewar and Saunders (2000), concentrated on the practical communication components of visual identity (VI) and suggested the corporate visual identity system (CVIS) to manage CI efficiently. By associating the CVI with a brand's symbolic representation, CVI is established as a creative symbolic depiction of brands utilising specific themes pertinent to the company or product for image development (2000). Focusing on the corporate logo design, CVI forms can be split into four categories: wordmarks, letter forms, pictorial marks, and abstract marks (Wheeler, 2003). Wheeler explains,

“A wordmark is a standalone word; letter forms are the single letter utilised as a distinctive graphic focal point for a company logo; a pictorial style employs a literal and recognisable image, and an abstract style uses visual shapes to reflect a brand attribute.”

Wheeler (2001), p. 44.

2.2.4 Organisational Structure

To ensure CVI uniformity, van Den Bosch *et al.* (2005) advised that management and staff should be given a list of management measures to ensure CVI uniformity. Not restricted to: Current CVI Guidelines, Simple Access to CVI Guidelines, Comprehensive CVI Guidelines, Continuous User Consultation, Preferred Suppliers for Building Signage, Business Apparel, or Printed Materials as an example. More

examples include supervisors setting an example, CVI being integrated in induction programmes, and technical tools like word processor and presentation templates. This is crucial as staff may not know about management tools and standards. Some additional recommendations in Table 1 (van Den Bosch *et al.*, 2005).

Table 1 - Managing CVI (reproduced from van Den Bosch *et al.*, 2005).

<i>Dependent Variable</i>	<i>Organization and CVI</i>	
	<i>Management Characteristics</i>	<i>CVI Management Instruments</i>
Consistent CVI	Knowledge of organization strategy	Up-to-date CVI guidelines
	Tools and support	Access to CVI guidelines
	Managerial quality	Extensive CVI guidelines
	Internal communication	Regular consultation with users
	Open and dynamic	Preferred suppliers
		Technical tools
	Knowledge of CVI strategy	Managers setting an example
	CVI tools and support	CVI as a topic in induction programs
	CVI socialization processes	CVI helpdesk
		CVI manager

Note: CVI = Corporate Visual Identity.

2.2.5 Rebranding

The commercial/retail environment is becoming more and more visual (Balmer, 1995, p. 26). The company's logo speaks to customers in a language separate from its voice content (van der Lans *et al.*, 2009). Companies invest a significant amount of time, money, and resources into developing a visually appealing corporate (either inhouse or recruiting an external design agency) logo because it is a valuable organisational asset that represents the organisation's identity and contributes to its favourable reputation (Napoles, 1988). The significance of the logo, especially the role of corporate and brand logos in building a long-term competitive edge, has aroused the attention of marketing academics and professionals (Balmer, 1995; Bernstein, 1986; Henderson and Cote, 1998; van Riel *et al.*, 2001). As the term corporate visual identity (CVI) refers to the "means by which an organisation communicates its corporate philosophy and personality through the use of logos, fonts, nomenclature, architecture,

and interior design, among other instruments," it is evident that corporate visual identity (CVI) encompasses a variety of visual elements (Balmer, 1995, p. 26). Thus, it is the easiest way for a business to introduce itself (Baker and Balmer, 1997). CVI is frequently present in all operational sectors, the surroundings of business locations, and media advertising.

For instance, the luxury automobile market demonstrates the significance of a comprehensive CVI implementation. The manufacturer of Bentley automobiles, for example, adheres to a style guide for all showrooms, service centres, brochures, manuals, and promotional ads. They ensure that the logo appears on all CVI outputs. A comprehensive CVI offers organisations a potent, unmistakable symbol of excellence. Many businesses employ branding strategies, whether consciously or unconsciously, but they frequently do so much less thoroughly than automobile manufacturers (Idris and Whitfield, 2014). To maintain a uniform print and online presence, they adopt style manuals and guidelines, protect their logos and trademarks, and guard their brand names (Idris and Whitfield, 2014).

Similarly, a newly designed CVI serves as a channel for communicating change (Baker and Balmer, 1997). Another example of how communication has changed in the field of education. UK institutions that have recently transitioned from the polytechnic sector, and in particular, UK universities that have recently undergone redesign. Many organisations change their logo and visual identity in order to reposition themselves visually through rebranding.

For instance, in May 2009, Teesside Polytechnic Figure 2 changed its name to Teesside University. Following a name change to the University of Teesside and a new logo and CVI. The Vice-Chancellor asserts that Teesside's dynamic, colourful,

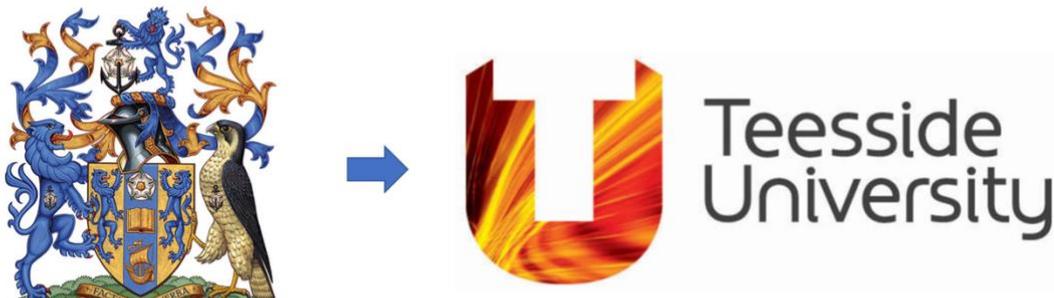


Figure 2 - Rebranded logo of University of Teesside compared to the previous logo

and upbeat new visual identity will make it easier to market the institution as the self-assured and forward-thinking one it has developed into.

Additionally, it will increase the global exposure and influence. With a new, fresh visual identity and mission of "inspiring achievement," changing their logo and name from the University of Teesside a contemporary design. A university press release from 2009 emphasised that Teesside University is now the name known among their students and the public. Following that change Teesside University received the University of the Year and Outstanding Employer Engagement Initiative at 2009/2010 THE Awards.

What motivates any organisation's decision to rebrand or rename is multifaceted, and in the case of HE (Higher Education), cannot be reduced to a single factor (Idris and Whitfield, 2014). In their research examining Kwame Nkrumah University's rebranding initiatives in Ghana, Williams, Osei, and Omar (2012) imply that the motivations driving organisational renaming are the same as or comparable to those for rebranding. The desire to indicate a new course for future growth (Daly and Moloney, 2005; Kilic and Dursun, 2006), a therapeutic endeavour to recast or eliminate previous promises or assessments, or even simple aesthetic concerns may lead to a facelift in brand appearance are some examples (Daly and Moloney, 2005, p. 31). It is also asserted that branding in HE is illusory and that there is little evidence to demonstrate its efficacy from a practical aspect (Bunzel, 2007; Temple, 2006). In contrast, the 2003 decision by MIT to abandon its historic emblem in favour of a stark non-heraldic design may have had unintended consequences. Nonetheless, the institution continues to use its heraldic seal on all diplomas and for ceremonial purposes, signifying a degree of caution (Idris and Whitfield, 2014). Indicating that rebranding does not entail the loss of all heritage.

Indeed, if we take the current findings seriously, it may be pointless to create a modern CVI (Idris and Whitfield, 2014). However, opinions on branding are often evenly split (van Den Bosch, 2002; Elving, and De Jong, 2006; Melewar and Jenkins, 2002). Baker and Balmer (1997), Melewar and Akeel (2005), Hemsley-Brown and Goonawardana (2007), Lowrie (2007), Alessandri *et al.* (2006), Athiyaman (1997), are a few works that offer insight into this argument. There is little proof that a university's reputation

and visual identity are related (Alessandri *et al.*, 2006). Even if it is a slight modification, it still has potential, particularly for non-Ivy League colleges, which make up the majority of universities and are typically less well-known among prospective students (Idris and Whitfield, 2014). The modifications and effects made to their logos may not garner as much attention as the rebranding of a huge corporation's logo. The risks are significantly lower.

2.2.6 The Corporate Logo

The corporate logo has been recognised in literature as a prerequisite for an organization's success since the beginning of the Social and Industrial Revolution in 1760 since it is defined as a company's signature with essential communication and distinctiveness that may portray a company's image (Henderson and Cote, 1998; Henrion and Parkin, 1967; Margulies, 1977; Melewar, 2003; Melewar and Saunders, 1999; Olins, 1978; Pild, 1970). Multiple new enterprises (start-ups) need a logo to represent their ambitions as well as the standards and sources of their goods (Crafts and Harley, 1992; Deane, 1979; Floud and McCloskey, 1994; West, 1978). When a firm merges or acquires another, corporate logos are given particular attention when developing a new corporate identity (Melewar and Saunders, 1998; van den Bosch, Elving, and de Jong, 2006). Prior to the eighties, practitioners studied early references to a logo, identity, image, and reputation in connection to the effect of design characteristics before they were part of an organisation's visual design. These previous references focused on visual identification (Balmer, 1995, 1998; Bernstein, 1986; Henrion and Parkin, 1967; Olins, 1991; Pilditch, 1970; Simoes, Dibb, and Fisk, 2005; van Riel, 1995).

Furthermore, in marketing, logos have long been emphasised (Foroudi *et al.*, 2014). Despite their widely acknowledged significance, it is surprising that so little research has been conducted on business logos. The topic of the corporate logo has only been the focus of a few empirical research studies (Hagtvedt, 2011; Henderson and Cote, 1998; Hynes, 2009; Muller, Kocher, and Crettaz, 2011; Pittard *et al.*, 2007; van Der Lans *et al.*, 2009). According to Hagtvedt (2011), even imperfect typeface logos have a negative impact on perceived corporate credibility, they favourably impacted

perceived firm innovativeness in an examination into the effect of incomplete typograph (typo) logos on consumer opinions of the organisation. Unfinished font logos negatively affect people's perceptions of the company as a whole. The critical research of corporate logos by Henderson and Cote (1998) revealed three fundamental design dimensions: naturalness, elaborateness, and harmony by looking at more prominent design qualities. Pittard *et al.* (2007) studied aesthetic theory and logo design while examining consumer reaction to proportion across cultural. They observed that "The divine proportion is preferred throughout history. "Natural shapes shown in divine proportion were the most popular logos". (p. 457). In order to explain how these factors help to produce a consistent corporate image, Hynes (2009) establishes a "triadic link between colour, design, and the elicited meanings of logos" (p. 455). The results show how complicated and challenging it is to separate the triangle dynamics formed by meaning, colour, and corporate identity (Hynes, 2009). Muller *et al.* (2011) examined the effects of visual renewal through brand logos on additional logo categorizations. The outcomes demonstrate how logo modification affects the perception of brand modernity. A few characteristics of a logo define the brands attitude and demonstrate how it influences the modernity, attitude, and loyalty of a company. After analysing cross-national logos, van der Lans *et al.* (2009) found that cross-national clusters may react differently to the dimensions of logo design. In addition, they proposed that elements of universal design include elaborateness, naturalness, and harmony. Similarly, responses to logo design aspects (elaborateness, naturalness, and harmony) and components (repetition, proportion, and parallelism) are largely consistent. These responses include emotion, shared meaning, subjective familiarity, and correct and incorrect recognition (van Der Lans *et al.*, 2009, p. 968).

While the company logo has an impact on the company's image and reputation (Henderson and Cote, 1998; Pittard *et al.*, 2007; van Der Lans *et al.*, 2009; van Riel *et al.*, 2001), the literature on this subject only discusses conclusions and insights that add to current knowledge and help validate and refine the findings. Numerous marketing papers highlight the obvious advantages of having a clear, cheerful company logo: corporate image, corporate reputation, advertising attitude, familiarity, and recognition (Foroudi *et al.*, 2014). With additional research, the change in the company's font style helps to communicate the company's goals (Henderson *et al.*,

2004; Spaeth, 1995, 1999). It was also discovered that a font can help increase the value of a company (Hagtvedt, 2011). Logo design becomes increasingly significant as a means of differentiating a company from its competitors (Foroudi *et al.*, 2014) and because the design also communicates to stakeholders independently of spoken information, design sends a message or creates effective communications for businesses (Andriopoulos and Gotsi, 2001; van Der Lans *et al.*, 2009). Consequently, brand managers and researchers must comprehend the significance of corporate logo design in terms of customers' responses to the logo, business, and product (Henderson and Cote, 1998; van Riel *et al.*, 2001).

The work of Foroudi *et al.*, (2014) is a conceptual framework, exploring the 12 assumptions regarding how customers would interpret a company's logo or name and is depicted in Figure 3. Foroudi *et al.* (2014) conclude that: (a) the more consumers like the company's name, the more they like the logo; (b) consumers like the corporate logo more if they like the corporate typography; (c) customers are more likely to like a company's logo based on how it looks; (d) customers like a company's logo more if the colour appeal to them based on their colour preference.

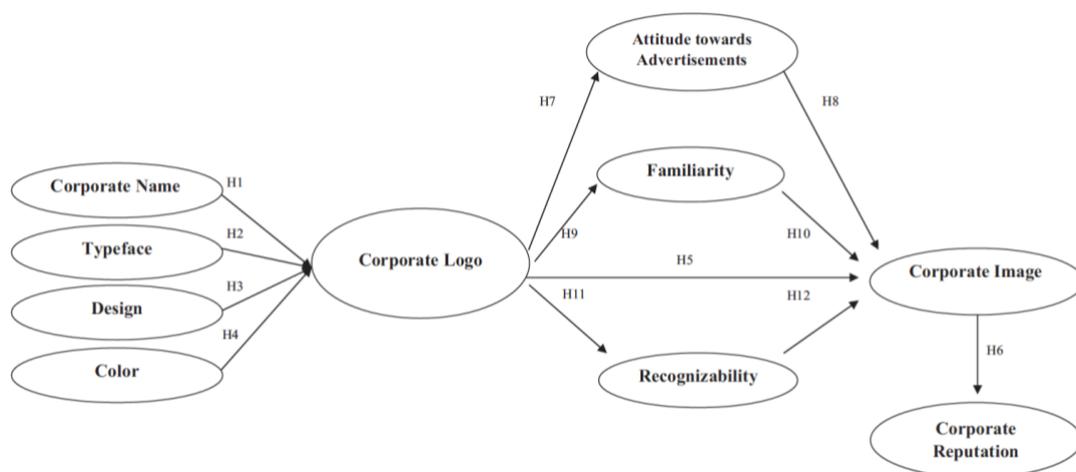


Figure 3 - Foroudi *et al.* conceptual framework of customer perceptions toward linking corporate logo, company image, and reputation, 2014 p. 2271.

In addition, “logos contribute significantly to an increase in familiarity and respect for a business” (Chadwick and Walters, 2009, p. 71). Product and business familiarity refer to the extent to which a consumer is acquainted with a particular product category and its respective manufacturer (Josiassen *et al.*, 2008). According to Melewar and

Saunders (1998), the orientation of a company's logo determines the link between product familiarity and the logo (the visual elements of a corporate identity system). Familiarity with a product or brand "refers to the consumer's understanding of the product and its attributes, as well as the consumer's ability to assess the quality of the product" (Herrera and Blanco, 2011, p. 286). Furthermore, a logo's effectiveness can be enhanced through familiarity (Hem and Iversen, 2004; van Der Lans *et al.*, 2009; van Der Lans *et al.*, 2009). Familiar logos are often viewed and processed more quickly, and customer views of a company or product are influenced by familiarity with the logo (Henderson *et al.*, 2003). Josiassen *et al.* (2008) propose that "image could serve as a summary cue that consumers use to summarise and encapsulate the evaluation of a product that they are familiar with" and that consumers use "image as a proxy for the performance of a product when they have prior experiences with the performance of other, similar products" (p. 424).

Familiarity with a product or brand "refers to the consumer's comprehension of the product, and its attributes, as well as his/her capacity to judge its quality" (Herrera and Blanco, 2011, p. 286), impacts the perceptions held by individuals towards the organisation. Bernstein (1986) and Zajonc (1968) reach the conclusion that familiarity is the monotonic function that exists between familiarity and likeness for all kinds of items and that assessments of familiarity occur in part on a sub-conscious level (Zajonc, 1968). Therefore, familiarity influences the establishment of a company's image, it is acknowledged that a logo is the key element in developing a corporate identity. Businesses regularly employ logos to controls public image of their brands, since they are the most significant form of communication. The logo of a firm is one of its most prominent nonverbal indicators.

Consequently, the corporate logo is used in the company's communication process to achieve a consensus definition among the target audience (Aaker, 1991; Balmer and Gray, 2000; Downey, 1986; Henderson and Cote, 1998; Melewar *et al.*, 2005; Muller *et al.*, 2011; Pittard *et al.*, 2007; van Den Bosch, 2005; van Der Lans *et al.*, 2009). Businesses must comprehend how design might affect each response because it may elicit a variety of responses (Henderson *et al.*, 2004). A company's logo communicates its corporate visual identity (van Den Bosch *et al.*, 2005; van Der Lans *et al.*, 2009).

Consequently, consumers can recognise a firm and its products through its logo, according to the discussion that emphasises the significance of the corporate logo (Balmer and Gray, 2000; Downey, 1986; van Den Berg, 1986; Bosch *et al.*, 2006). This promotes a favourable corporate image, which improves consumers' impressions of the firm.

2.2.7 CVI Remarks

Even though certain research has established a connection between business logos and corporate image (Balmer and Gray, 2000; Dowling, 1994; Fombrun and van Riel, 2004; Muller *et al.*, 2011; Olins, 1989; van Den Bosch *et al.*, 2005; van Der Lans *et al.*, 2009), in contrast, Foroudi *et al.* (2014) propose a validated technique for tracing the connection between the concept of a corporate logo, its influences (such as its backdrops), and its outcomes. With the goal of bridging research gaps and responding to previous research requests from the standpoint of marketers (Henderson and Cote, 1998; Pittard *et al.*, 2007; van Den Bosch *et al.*, 2005; van Der Lans *et al.*, 2009). As per the confidence of Foroudi *et al.* (2014), if a future study employs the same research scales and components, the outcomes may vary. Therefore, additional research is recommended to widen and enhance the indicated measuring scales. To increase the validity of future investigations, it was suggested that the instrument be copied, enlarged, and applied to multiple samples. Additionally, it is advised that equivalent study be performed in other countries. Accordingly, the studies conducted in this thesis will investigate the connection between the company logo, and its perceived consequences on customers.

Thus the CVI is an essential component in the process by which the brand remains connected to its roots as well as the core values that the brand represents. CVI is quietly working in the background, and its importance shines when managed and implied correctly. The research and literature that are written about CVI signals how important it is to believe in the guidelines that have been set forth for the brand as a whole. After that, the brand's design guidelines could be reflected across all of its outlets, which would result in increased popularity among various stakeholders.

2.3 Logo Design

2.3.1 Definitions of Corporate Logo Design

The idea of a corporate logo has been defined variously in various research and authors have ascribed it various meanings, but the general opinion seems to be that it is a symbol that denotes the company's reputation and enhances how customers view it (Hatch and Schultz, 2001; van Riel and van Den Ban, 2001; van Den Bosch, De Jong and Elving, 2005). Many of these concepts are inspired by marketing (Bernstein 1986; van Riel and Balmer 1997; Henderson and Cote, 1998) and design viewpoints (Selame and Selame, 1975; Napoles, 1988; Olins, 1989). Even if several writers have defined "corporate logo," it is generally accepted as the core of corporate identity (van Riel and Balmer, 1997; Balmer, 2001; van Den Bosch *et al.*, 2006). The corporate logo is the most organized management tool for coordinating the ideal traits that businesses must communicate to their both internal and external stakeholders. The corporate logo, as a critical component of brand recognition, should take a multidisciplinary approach (van Riel and Balmer, 1997; Balmer, 2001; 2009; Simoes, Dibb, and Fisk, 2005). However, according to Henderson and Cote (1998), marketing literature lacks a comprehensive study on the effect of logo design on consumer ratings. In addition, there is a lack of comprehension regarding the components of a company logo (van Riel and van Den Ban, 2001). Here, this thesis plays a crucial role in bridging the literature gap. According to marketing specialists, the corporate logo may serve as a symbol of the organization's character and values, as well as an indication of the promises made to customers (Kay, 2006). In terms of personality, intelligence, and conduct, each organisation differs from the others (Bernstein, 1986). These studies provide a rationale for the work described in this thesis.

Similarly, the corporate logo serves as the foundation for corporate identification and is the primary component of a company's visual identity (Balmer, 2001). According to literature, the corporate logo captures a company's character and ideals to successfully communicate them to stakeholders (Bernstein 1986; van Heerden and Puth, 1995). According to Balmer (2008), a corporate logo is "a distinctive manner in which an organisation's name is conveyed, generally in typographic form" (p. 899).

Design literature describes the corporate logo as a combination of elements (colour, font, name, and design) that emphasise a company's products and services. It also reflects its capacity to help consumers identify and differentiate a brand or company (Mollerup, 1999). In contrast, Henderson and Cote (1998) use a more process-oriented perspective to comprehend the most important design aspects and dimensions.

2.3.2 Logo Design Characteristics

As consumers are the primary recipients of marketing studies indicating that the corporate logo is used to promote positive business sentiments and directly influences purchase intentions, this can have a significant impact on a company's financial success (Bloch, 1995; Hutton, 1997; Henderson, Giese, and Cote, 2004). Furthermore, the company logo is employed as a crucial economic benefit to reduce consumer search costs (Cohen, 1991) and to assist overcome global boundaries and language barriers through aesthetic reactions (Cohen 1991; Bloch 1995; Schmitt *et al.*, 1995; Kohli and Suri, 2002; Pittard, Ewing, and Jevons, 2007). The qualities of a logo's design affect how customers react to it (Henderson and Cote, 1998).

According to numerous academics, design can affect consumers' level of recognition, clarity of meaning, familiarity with the subject, and impact (Cohen, 1991; Henderson and Cote, 1998). Bloch (1995) viewed corporate logos as an aesthetic response that creates a crucial component of stimulation that could pique consumers' interest and elicit an emotional response (Veryzer, 1993; Bloch, 1995). The reaction to a company's logo is related to nonconscious processing (happening in the subconscious) , which involves determining a person's receptivity to stimuli (Seaman *et al.*, 1983; Lewicki 1986; Veryzer, 1993; 1999). Using the aesthetic response theory, Veryzer (1999) defined aesthetics as the sensitive selection or evaluation of formal, emotional, or symbolic components of a setting or product that may give non-instrumental benefits that increase customer pleasure or delight. Likewise, Lewicki (1986) investigated how nonconscious algorithms could observe certain design traits. Adding to Peterson and Ross (1972), corporate names communicate between companies and customers, and name modifications become communication subjects.

2.3.2.1 Logo Design Dimensions

This section will evaluate the most significant elements of the company's logo. The notion of the corporate logo and its multiple features, such as colour (Baker and Balmer, 1997; Gabrielsen *et al.*, 2000), typography (Henderson *et al.*, 2004), brand name (Napoles, 1988; Hatch *et al.*, 2003), and finally design characteristics (Alessandri, 2001). With a review of earlier research, authors have studied how corporate logo design, including typograph, colours, designs, and brand names, may help create a positive company image. Pronounceable company or product names are frequently used in corporate logos. When these elements are made concrete, they help create a positive corporate image.

2.3.2.2 Colour

To get a competitive edge, businesses use the appropriate colours to connect with their target markets and to support their brand by making it easier for customers to identify them (Balmer and Gray, 2000). A company's use of colour is crucial and may be quite effective in marketing communications. The corporate logo and colour communicate a brand's outward presence (Schmitt and Pan, 1994). Additionally, it has an impact and elicits instinctive responses and associations that might support corporate identities and client impressions (Madden *et al.*, 2000). Colour is a tool that can draw customers' attention to the business logo.

Furthermore, rather than reflecting the culture of the advertiser, the colour selection should reflect the aesthetic sensibility of the buyer. It is crucial to understand hue (e.g., blue, red) and colour value (light to dark) that generates contrast and legibility is necessity when selecting colour (Gabrielsen *et al.*, 2000). Shepard and Cooper (1992) classified visual skills into perception, mobility, cognitive processes, visual domains, and light and colour reception. Since colour is a way to communicate and is an integral part of corporate and marketing communications. As a result, it can change people's feelings and attitudes, affect their thoughts and actions, and help businesses stand out from competitors (Aslam, 2006). Studies show that our reactions to colours can be

instinctively learned or based on associations (Humphrey, 1976). Therefore, colour can convey the company's positioning and is a crucial cue for emphasising information to draw attention, effectively encouraging people to act in a particular way. Thus, colours and visual appeal are advised to be used differently in different cultures to communicate with audiences. A good example is traffic signs; the primary colours are vivid and vibrant, narrowed down to three colours (e.g., red, amber, green). However, Foroudi and his colleagues (2017) note that research indicates a colour can elicit a variety of responses from individuals, that it can be used as an expressive tool in corporate visual identities, and that it has a connection to natural phenomena (Foroudi *et al.*, 2017).

Furthermore, cultural differences exist in how people respond to colour (Jenkins, 1991). People can recognise different design elements, according to research by Gabrielsen *et al.* (2000). Of all the elements, colour produces the best results. Other components of corporate visual identity, such as typography, are also impacted by colour (Henderson *et al.*, 2004).

2.3.2.2.1 Colour Harmony

The origin of the word "harmony" can be traced back to the Greek word *harmonia*, which can be translated as "fitting together" (Westland *et al.*, 2007). Pythagoras (about 580–500 BC) is credited with developing the mathematical theory known as the harmony of the spheres, which can be described as "a mathematical theory in which the planets are separated from one another by intervals corresponding to the harmonic lengths of strings." The concept was subsequently extended to incorporate forms and colours that corresponded to the different notes on the musical scale.

According to Arnheim, the use of colour based in compositions can be simply characterised in terms of whether or not they are "visually right or wrong." (Kuehni, 2005). Students who take art and design classes develop a better understanding of the formal elements that make up composition. This understanding of compositional and design components is what Arnheim means when he uses the term "visual rightness." Evans defines "visual rightness" as the simultaneous interaction of the

composition's component components within a certain visual space. This interaction is expressed as objects in a specified space, stated as size, shape, colour, and texture, which produce dynamic interactions when these elements interact. Visual rightness is achieved when a composition's component components have a "visual rightness." (Ohta and Robertson, 2005). In a book about two-dimensional design, Bowers describes visual art as "...the arrangement of elements and characteristics within a defined area... a grouping of related components that make sense together... balanced by an overall appearance of continuity." (2000). Concepts like rightness and visual balance apply equally to the idea of colour harmony and art theorists and practitioners have developed a thorough grasp of which hue combinations complement each other the best.

On the other hand, an alternative view is that it is not simple to predict which colour combinations are harmonious. So, for example, even though Granville (2002) asserts that "Colour harmony is colour usage that pleases people" and then goes on to say that "Fashion and fad are primary arbitrators of colour harmony," it seems as though he is dismissing the notion that colour harmony is specifically about certain relationships. Kuehni, who shares a similar stance, asserts that there are no universal principles of harmony since people's judgements of beauty and harmony are highly influenced by culture and nurture (2005). Kuehni's argument is based on the idea that there are no universal laws of beauty.

One of the most popular theories of colour harmony was proposed by Newton. Newton proposed a number of hypotheses regarding the relationships between colours and musical tones in an effort to uncover the fundamental principles of colour harmony. The hue circle of Newton can demonstrate the well-known phenomenon that the combination of red and green light produces yellow. However, his undeveloped work on complementary colours became highly influential in the history of painting (Wright, 1999). It is now believed that the musical octave and the diatonic musical scale served as inspiration for the seven colours that made up Newton's spectrum (Holtzschue, 2006). However, the spectrum does not gradually change colour from one end to the other; therefore it is likely that categorical perception is involved in the process of colour band perception. In most cases, distinct categories rather than gradual transitions are used to describe changes in a variable that occurs along a continuum. By organising his seven spectral hues into an imperfect circle (Figure 5) Newton came up with the geometric colour models that would later serve as the foundation for many different hypotheses regarding the relationship between colour and harmony.

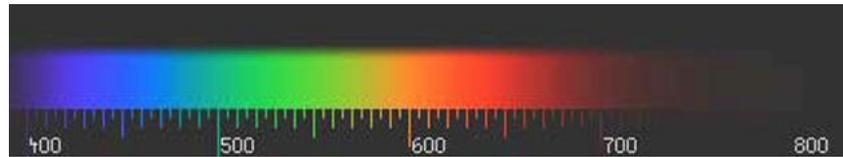


Figure 4 - Representation of the spectral colours

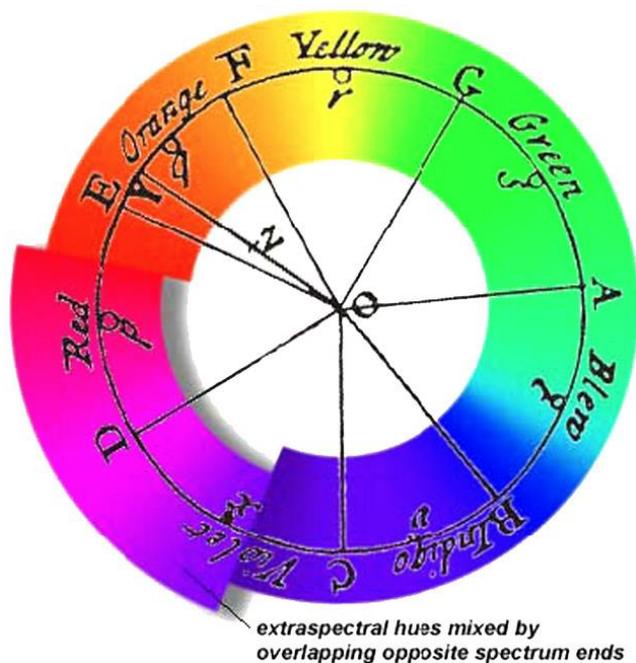


Figure 5 - Newton's colour circle

Because single wavelengths cannot produce all hues, Newton's circle was incomplete (Wright, 1999). By combining blue and red light, the non-spectral colour purple is produced. Even the spectrum demonstrates that the circular hue pattern is the most logical. In Figure 4 - Representation of the spectral colours, the two ends of the spectrum resemble one another more than the green hue in the middle. Newton conceived of hue as a circular phenomenon after observing that the two colour extremes of the spectrum are comparable (Koenig, 2003). The circularity of hues is caused by perception rather than by physics (Wong, 1997). Newton came to the view that the circularity of colours provided a geometric method for predicting the colour and saturation of light mixtures.

In spite of this, the quest for colour harmony laws has occupied the minds of some of the world's most celebrated artists and scientists (Gage, 2000). Several colour issues, such as hue circularity, the nature of colour primaries, and the concept of complimentary colours, are deemed essential to comprehending the evolution of colour harmony concepts (Holtzschue, 2006).

Despite the fact that colour harmony is predominantly concerned with successful art and/or design, it appears that certain concepts have remained consistent over time (Ohta and Robertson, 2005). Numerous advocates have demonstrated the value of complementary colour relationships, for example, throughout the centuries (Itten, 2001). However, despite this, perhaps the most important statement on this topic was made by Kuehni, who wrote, "It is abundantly clear that there are no universal laws of (colour) harmony" (Kuehni, 2005).

In addition, it appears that the most recent scientific methods are becoming increasingly detached from the context of art and design (Wong, 1997). Therefore, preferences empirically determined in the laboratory may bear no resemblance to the preferences and decisions made by art and design practitioners in the context of an expressive concept or design brief (Westland *et al.*, 2007).

2.3.2.2.2 Colour preference

The creation of a logo is an essential component of branding because it has the potential to communicate organisational characteristics (Van den Ban and Heijmans, 2001). It can be a key corporate asset that companies spend a lot of time and money promoting (Rubel, 1994), and it provides a lot of opportunity to differentiate the company from competitors (Argenti and Druckenmiller, 2003). As a result, logos should be instantly recognisable, elicit a widely shared meaning in the target market, and produce positive results (Robertson, 1989). Despite their importance and widespread use, many logos elicit negative reactions, are difficult to recognise, and harm the company's reputation (Bird, 1992). This poor performance could be attributed in part to the initial selection of the incorrect logos (Henderson and Cote, 1998).

What is the role in colour in the suitability of logos? Are there differences in colour preference patterns between individuals, and if so, are these differences due to hue, value, and/or chroma? The answers to these questions have changed dramatically throughout history. Colour preferences, according to Cohn (1894), von Allesch (1924), and Chandler (1934), were almost entirely individual. "We must be rather sceptical about the existence of colour preference," Dorcus (1926) concluded. Eysenck (1941) investigated the intercorrelations between subjects' judgements and discovered that they were significant. Guilford declared in the title of one of his papers in 1940, "There is a system in colour preferences". Granger (1952) concluded that "colour preferences are objective in the sense that... they are to a large extent independent of individual preference." Guilford and Smith (1959) and Helson and Lansford (1970) made the implicit assumption that their subjects were mostly in agreement. Burnham *et al.* (1963) were more cautious: "Preferences for... single chromatic patches are obscured by large variations among individuals, in contrast to the relatively small variation of judgements made at different times by the same individual."

Furthermore, consumers do not only examine the sensory features of a logo, such as colour, shape, and size; they also decipher the stimulus into categorical codes, such as brand, and prefer certain elements of the stimulus over others (Pieters and Warlop, 1999). Colours not only draw attention, influence moods, and clarify and emphasise environmental features (Teller and Bornstein, 1987), but they also influence participants' short-term colour memory (Bynum *et al.*, 2006). Colour is important in marketing because it influences brand image formation (Tavassoli, 2001). Furthermore, when people were aware of how brands were tempted to manipulate impressions, colours congruent with those impressions were perceived to be more appropriate (Bottomley & Doyle, 2006). Print colour can be used consistently to help maintain positive brand equity; especially for Chinese brand names, print colour can be an effective retrieval cue for meaning, which can influence purchase repetition and thus preference (Tavassoli, 2001).

Finally, colour preference can be used to screen for generalised psychopathology (French, 1996). Colour preferences and meanings differ across nationalities and cultures, which can help clarify image perceptions of different brands or organisations (Madden *et al.*, 2000). Deep blue green, brilliant green, and black were found to be the most popular colours in Japan, China, and Indonesia, while olive, dark grey, and gold were found to be the least popular (Saito, 1996). In Senegal, black was the preferred colour (D'Hondt and Vandewiele, 1983), whereas red was in the Netherlands

(Wiegersma and de Kierck, 1984). Blue was the most popular colour in the United States (Silver *et al.*, 1988).

2.3.2.2.3 Colour meaning

Colour is a means of communication. Colour meanings have been the subject of extensive investigation in the field of design due to the fact that this quality of colour can be used to express product or brand messages.

Theorists in the field of aesthetics make a distinction between two distinct kinds of meaning: embodied and referential (Won and Westland, 2018). The meaning that is "embodied" in a colour is the meaning the colour has in and of itself; for instance, the hue yellow may be associated with optimism. However, there is evidence to suggest that the meanings of colours change depending on the context. This type of meaning is known as referential meaning (Deliza *et al.*, 2003). In one study, for instance, participants were asked to rank colours on a range of bi-polar semantic scales (such as beautiful-ugly), both in an abstract sense and when employed with an object (such as a chair). It was discovered that the meanings of colours varied depending on the context in which they are used (Labrecque *et al.*, 2013). Several further investigations (Meyers-Levy and Zhu, 2010) came to the same conclusion that the environment or culture had an effect on the meaning of colours, and these findings prompted a reconsideration of the theory of colour and context (Taft, 1997). On the other hand, despite the fact that colour meanings can at times be influenced by context, there is also some new data suggesting that certain colour meanings are not affected by context (Slatter and Whitfield, 1997). Because of this, it is common for embodied and referential meanings to play significant roles in the design of product colour as well as the hue of the packaging. In addition, despite the fact that customers might have some knowledge of colour associations (particularly those that are embodied), activation frequently takes place without their conscious understanding of it (Won and Westland, 2018).

Colour can also have an effect on the expectations of consumers. The expectations of consumers are connected to their own feelings that are founded on their prior experiences with a product or the brand images that are shaped and disseminated as a result of marketing operations (Ural and Yilmazer, 2010). These sentiments can also have an effect on customer satisfaction, which occurs when a customer's expectations are met, and is a significant factor that can play a role in the consumer's choice to

make a purchase (Jacobs *et al.*, 1991) The connection between colour and the expectations of consumers has been the subject of a great number of research. For example, Deliza *et al.* (2003) evaluated six features in the decision-making process for a product, including colour, price, information, brand, language, and shape. They discovered that colour has substantial effects on expectations and found that shape is also important. Previous studies on colour meaning in the fields of packaging and branding have suggested that colour (including the hues of the product itself as well as the colours on packages) can alter consumer expectations for things like quality, flavour intensity, and product texture, amongst other things. This is true in both cases (Kauppinen-Räsänen and Luomala, 2010).

Thus, colour is a method for developing favourable expectations in brand packaging or logos. In other words, smart use of colour meaning information can provide chances in design and marketing promotion by invoking or reinforcing specific associations for packaging, logos, and products (Won and Westland, 2018).

2.3.2.3 Typograph

According to marketing experts like Jenkins (1991) and Kapferer (1992); typography distinguishes an organisation's visual identity and may become recognisable enough to stand alone without a logo, e.g., Coca-Cola's typograph. Childers and Jass (2002) assert that the choice of a font can change the meaning of the phrase it is used with and help the audience understand the goals and values of the company. Businesses use fonts as "letters" to communicate with customers (2002).

Furthermore, the company logo and its unique typography represent its visual identity (Henderson *et al.*, 2004). Meaning, a typograph is one of the components of a corporate logo because it describes the visual perceptual quality of a company, which is the art or talent of creating communication (Pan and Schmitt, 1996; Hutton, 1997; Childers and Jass, 2002; McCarthy and Mothersbaugh, 2002; Henderson *et al.*, 2004). To achieve business communication objectives, typograph is a crucial visual tool

(Foroudi *et al.*, 2004). Therefore, a company's font, in accordance with Mothersbaugh (2002), is an essential part of its organisational and communication goals.

2.3.3 Logo Design Naming

As logo affects brand recognition and serves a variety of communication goals (MacInnis *et al.*, 1999), the element of the corporate identity that is the easiest to recognise is the corporate name (Lippincott and Margulies, 1988). Creating a corporate image is crucial in building a company's acceptance and global recognition and guiding consumer expectations (Smith, 1990; Gray and Balmer, 1998). Many people link corporate identity with a corporate logo and the firm name, according to Baker and Balmer (1997). Meaningful names with attractive expressions are simpler to recall (Childers and Houston, 1984). Visual statements are communicated more concisely through words and images. Consumers' perceptions of an organisation's quality can be affected by its brand name, which also serves as the basis for differentiating one company from another. According to Peterson and Ross (1972), corporate names communicate between businesses and their clients, and name changes become conversational subjects.

While managers play a vital role in the company's development through physical products, they become increasingly integrated into the visual vocabulary of management thinking (Shee and Abratt, 1989). Employees should be aware of a company's logo and its meanings because research shows that corporate visual identity significantly communicates the corporate name (Bernstein, 1986; Melewar and Saunders, 1998; Simoes *et al.*, 2005). The corporate name is a framework in which a corporate identity interpretation can shape and impact the company's image through cultural artefacts (Hatch and Schultz, 1997). Klink and Altheide's (2003) examination of the relationship between a brand name and its mark found that when the design of the brand mark is suitable to the design of the brand name, it may express and improve the desired brand meaning. However, shortened names, such as ABC or BBC, are used when a company name is excessively long (Mollerup, 1999, p. 117). The name of a corporation or band can be established or determined using the phonetic composition of an abbreviation of the original name (Mollerup, 1999). However,

according to Mollerup (1999), a full name, for example, Mercedes Benz, may be seen as a symbol because it is hard to tell if a person with that name the company's founder is, owner, relative, or anything else (p. 112). Specific names reflect the nature of the business (Mollerup, 1999, p. 113). Metaphorical names convey the company's nature while hinting at the product through a shared quality (Mollerup, 1999, p. 114). A well-known phrase with no apparent relationship to the company or what it stands for is called a discovered name (Mollerup, 1999, p. 115). Artificial names are phrases explicitly coined for a company or product (Mollerup, 1999, p. 116).

As a result, using a company's name helps products in the early stages of distribution, and the association of organisation and brand name boosts the overall value afterwards (Foroudi *et al.*, 2017). Incorporating a company name into the brand may help improve the brand's perception and preference among customers.

Hence, companies want their logos to be instantly recognisable as being associated with their brands and designing a logo that can quickly capture people's attention is an essential step in building a successful business. A corporate name ought to be understood worldwide, one that is exclusive, one that is simple to recall, and one that is connected to a logo (Foroudi *et al.*, 2017). Thus, most businesses begin using English names to enhance customers' perceptions of quality and develop a more international presence (Henderson *et al.*, 2004). When people are unfamiliar with the company or product, one of the most important variables in advertising is the name of the company or product. If the firm does business with customers in other countries, the corporate name ought to be able to work worldwide to make the most of the chances that a name may provide. The potential influence that language may have on brand names, most multinational corporations are worried about the language they use for their business names (Melewar and Saunders, 1999). Language is the fundamental representation of culture, and naming anything carelessly may lead to disaster among the target population; as a result, names should be chosen with caution (Melewar and Saunders, 1999). Language is the most fundamental indicator of civilization. Thus, when a brand becomes global, it can make or break a company's objectives.

2.3.4 Logo Design & Design Characteristics

While logo design is a unique and creative way of communicating a message (Cohen, 1991), and as the importance of a company's logo design in distinguishing itself from competitors is growing (Foroudi *et al.*, 2017). Then, choosing a logo design is a challenging undertaking for every organisation, and a well-crafted corporate logo allows for instant recognition and fast association (Henderson and Cote, 1998). According to Henderson and Cote (1998), the design of a corporate logo can convey formal qualities (van Riel and van Den Ban, 2001), which depend on the organisation's goal. According to Henderson and Cote (1998), selecting and changing corporate logos assists businesses in eliciting the necessary responses from their target consumers. The design characteristics of logos that Henderson and Cote identify affect consumers' reactions to them (1998). Numerous academics assert that design may impact consumers' level of recognition, clarity of meaning, familiarity with the subject, and effectiveness— as mentioned in 1998 by Henderson and Cote; Cohen in 1991. Bloch (1995) remarked how people perceive corporate logos as aesthetic stimuli that can pique people's interest and evoke an emotional response (Veryzer, 1993; Bloch, 1995). Nonconscious processing influences how people respond to corporate logos and determines how sensitive a person is to stimuli (Seaman *et al.*, 1983; Lewicki, 1986; Veryzer, 1999). In his 1986 study, Lewicki examined how nonconscious algorithms can observe different design characteristics. Similarly, Veryzers (1999) defined aesthetics as the deliberate selection or appreciation of the formal, communicative, or metaphorical characteristics of the environment or a product. He found that these elements could offer non-instrumental advantages that boost client satisfaction or contentment. Veryzer defines aesthetics as "the thoughtful choosing or appreciation of formal, expressive, or symbolic features of an environment or thing" (1999).

2.3.5 Logo Design Remarks

Most researchers feel that the "corporate logo" is the most essential aspect of a company's brand. The corporate logo is the most structured management tool for connecting with internal and external stakeholders, if not the best. According to Henderson and Cote (1998), there is no systematic study on the effect of logo design on customer perceptions of a company in the marketing literature. Several of these studies, in addition to the fact that the corporate logo and colour scheme reflects a brand's public face, illustrate why the study in this thesis is significant (Schmitt and Pan, 1994). Nevertheless, research conducted by Foroudi and colleagues (2017) indicates that different people react differently to the same colour. Culture-specific differences exist in how colour affects individuals. Therefore, a company's name should be globally recognisable, distinct, and easy to recall. Nonetheless, the brand name is recommended to be coupled with a logo (Foroudi *et al.*, 2017). Its visual identity consists of its logo and a distinct font (Henderson *et al.*, 2004). Additionally, memorable names are easier to recall (Childers and Houston, 1984).

The significance of logo design lies in the relationship between the created meanings and the perception of the recipient. The fact that previous research has aided the current thesis work in navigating the terrain and discovering new findings is both interesting and enjoyable. The logo design not only has the ability to convey meaning but, in some instances, can also serve as a brand's guiding principle.

2.4 Aesthetics

2.4.1 Definitions of Aesthetics

Despite the limited amount of literature on marketing and consumer aesthetics, it is nonetheless crucial (Bloch 1995; Bloch *et al.*, 2003; Holbrook and Hubbrook, 1979; Levy and Czepiel, 1974; Wallendorf, 1980). Schmitt and Simonson's (1997) work is notable in managing brand and corporate aesthetics because it tackles brand image and identity challenges by managing brand and corporate aesthetics. As a result,

emphasis is placed on the artistic execution of the brand's presentation or its visual attractiveness. Everyday items might satisfy clients' aesthetic needs through sensory experiences (Heilbrun, 2002). Holbrook and Hirschman (1982) assert that consuming experiential-type brands causes consumers to yearn to engage in enjoyable activities. Thus, the desire for creativity, feelings, and enjoyment is at the heart of the phenomena known as the "consumer experience" (Venkatesh and Meamber, 2008). The aesthetic component of consumer experiences and other studies of similar consuming experiences are discussed in consumer research, particularly regarding spatial aesthetics (Maclaran and Brown, 2005). For example a research on aesthetics, for example, focuses on consumption at the Nike Town shopping site (Pealoza, 1999; Sherry, 1998). The Nike site analyses consumer mobility through the retail space and interactions with intertextual displays that include celebrities, products, and corporate storylines.

“Remember, that a picture, before it is a picture of a battle horse, a nude woman, or some story, is essentially a flat surface covered in colours arranged in a certain order.”

Denis M., in Definition of Neo-Traditionism (1890).

The architecture, sculptural components, graphics, product designs, and layouts all stimulate various senses in a way that appeals to the customer's imagination and supports the development of cultural meanings such as rivalry, excellence in performance, style, and recreation—making Nike Town buying experience sensual, dramatic, and experiential. It is aesthetic mainly (Venkatesh and Meamber, 2008).

Moreover, research on the creation and consumption of cultural products such as film plots, artworks, literary texts, and advertising has provided us with a new perspective on aesthetics. Holbrook and Grayson (1986) and Stern (1986) are two examples of books that discuss, among other meaning like materialism, nostalgia, and cultural myths. Schroeder's recent work on the artist, the art market, advertising imagery, and contemporary consumption practices as Schroeder considers representation to be an essential way of experiencing the world, and photography to be a means of developing individual and cultural identities.

The pragmatic explanation offered by Dewey in 1934 states that all experiences, whether aesthetic or not, have a similar structure. Dewey criticises the fact that artefacts from the “high” or “fine” art traditions have been held in such high regard that they have essentially been cut off from the circumstances in which art develops and, as a result, have grown removed from our everyday lives. Dewey urges us to go back to the core ideas of what it means to experience art and the different kinds of aesthetic experiences that make up everyday life. For him, the aesthetic experience is not distinct from daily life but rather a part of it. Dewey (1934) asserted that everyday experience goes through an aesthetic phase in which objects and events arrange themselves in a comprehensive, deliberate pattern that is recognised through emotion. Dewey (1934) contends that while aesthetic experience is a special quality of emotional experience that is particular to the individual, it is also a component of the ordinary experience of the aesthetic object. Individual characteristics, behaviours, and preferences determine aesthetic experience.

2.4.2 Everyday Consumption

Consumption of experiential-type goods, according to the consumer research literature, becomes not just a desire to solve issues, as mentioned in product market theory, but also a need to engage in pleasure-seeking or joyful experiences (Arnould and Price, 1993; Holbrook and Hirschman, 1982). Nevertheless, Thompson, Locander, and Polio (1990) believe that, in addition to supplying meanings to consumers and contributing to their identity construction, consuming experiences may also play a deeper function of deeper significance.

“The traditional view of aesthetics as reflection or contemplation of objects is evident in many consumer practises: shoppers look at products with an eye for style, exercisers evaluate their bodies, and teenagers draw impressive pictures”.

Rantala and Lehtonen (2001), p. 79 – 80.

Rantala and Lehtonen use shopping and exercise as examples of everyday consumer practises to show that consequently, many everyday things, including apparel and consumer goods, shopping, exercise, home design, have elements of aesthetics.

2.4.3 Consumer’s Emotion & Aesthetics

According to scholars, the purpose of art is to enrich people's lives via emotional satisfaction and pleasurable experiences (Carroll, 2001). Recent consumer surveys consider art consumption and, in many instances, address art production issues (Joy, 2000). Expression theory in aesthetics comes closest to recognising emotions as the basis of aesthetic experience (Townsend, 1997). The imitation theory, often known as formalism, and the expression theory are the two most frequently referenced theories in the study of aesthetics. The imitation hypothesis focuses on representational concerns, namely the degree to which an artwork properly imitates reality. According to Venkatesh and Meamber (2008), the main problem with this theory is that it ignores both the viewer's emotional response to the aesthetic object and the artist's emotional investment in its creation.

In contrast, the expressiveness theory emphasises the sentiments and emotions derived from a person's aesthetic experience (2008). Thus, customers are exposed to popular images with artistic connections or directly consume creative products. In another possibility, as indicated by Schroeder (2002), art moves into other institutional areas of life and becomes a part of everyday interactions. So, according to Schroeder (2002), art may be where customers' impressions of advertising always come from. In short, art can be a big part of how a person spends their time and money daily. As a

result, aesthetic consumer experiences can arise from everyday objects and situations and artworks and artistic events. Art and aesthetics, according to Barilli (1989; 1993), Dissanayake (1992), and Read (1965), play a significant influence on how we view ourselves and the world.

At a fundamental level, consumers have strong beliefs about the limits of aesthetics in their daily lives, according to Venkatesh and Meamber (2008). They can describe how aesthetic concerns affect their day-to-day concerns. As a result, when we consider consumer emotions toward aesthetics, as argued by Dewey (1934), aesthetics appears to be linked to emotions (Dickie, 1971).

According to the expression theory of aesthetics, aesthetic items elicit a wide range of emotions, ranging from simple to complex (Townsend, 1997, p. 79). This connection between aesthetics and emotions is critical in developing aesthetic matter. In conclusion, this literature outlines the fundamental contours of the aesthetic subject and identifies some of the challenges associated with the aesthetic subject. Future research on this topic needs to be refined and given more attention to better understand the role of aesthetics in logo design. Venkatesh and Meamber (2008) state that “Future research may include specific design issues, investigations into specific artistic/popular cultural phenomena, the blurring boundaries between commerce and entertainment (e.g., products as art/art as products) and how these are creating new symbols, icons, such as products and consumer environments, and what these changes are doing to these phenomena.” (p. 66).

2.4.4 Remarks

Marketing and consumer aesthetics literature is scarce but critical (Bloch, 1995; Bloch *et al.*, 2003; Holbrook and Hubbrook, 1979; Levy and Czepiel, 1974; Wallendorf, 1980). Dewey (1934) said that everyday experience has an aesthetic phase in which objects and events arrange themselves in a comprehensive, deliberate pattern recognised emotionally. Dewey (1934) argues that aesthetic experience is a

component of the ordinary experience of an aesthetic object. Aesthetic experience might be influenced by individual traits, behaviours, and preferences. According to consumer research literature, experiential-type goods are consumed not just to solve problems, as in product market theory, but also for pleasure-seeking or joyful experiences (Arnould and Price, 1993; Holbrook and Hirschman, 1982). Expression theory recognises emotions as the basis of aesthetic experience (Townsend, 1997). However, according to Venkatesh and Meamber (2008), some theories ignore the viewer's emotional response to the aesthetic object and the artist's emotional investment in its creation.

2.5 Consumer Response

2.5.1 Consumer & Visual Construction

Aesthetic formality and aesthetic appeal are two aspects of aesthetics that affect customers' psychological responses and inclinations (Wang *et al.*, 2011). According to Kitsopoulou (2018, p. 70), aesthetic stimuli elicit consumers' cognitive, emotional, and outcomes, even if these dimensions appear to work at distinct levels depending on consumers' motivation improves orientations such as task willingness, objectives, interests, and attitudes, and various views about oneself. Sutcliffe and Namoune (2008) contend that aesthetics is the most crucial predictor of a consumer experience and overall appeal, to the point that aesthetic assessment may even overrule user usability experience in the digital field. Generally, most human meanings are expressed visually (Patterson, 1991). However, Chernev (2004), Horsky and Honea (2009), Batra *et al.* (2009), and Giese *et al.* (2014) have revisited the counter-intuitive theory of the aesthetic middle, which posits that moderately attractive visuals elicit more positive reactions from consumers than visuals with higher or lower aesthetic appeal. In contrast, research by Bloch *et al.* (2003) and Creusen and Schoormans (2005) supports the concept that aesthetic beauty is positively associated with purchase intentions, mainly when designs appear to be of equivalent utilitarian value (Kotler and Rath, 1984).

In a similar study conducted in 1971, Mehrabian concluded that only 7% of the significance of any message is conveyed verbally, with the remaining 93% communicated nonverbally. Weisser (1988) reached a similar conclusion, stating that approximately 80% of human communication is nonverbal, whereas Birdwhistell (1970) asserted that words typically convey only 30% of the meaning in social interactions. In persuasion situations, therefore, visual signals are always more likely to be trusted than verbal ones, regardless of uncertainty or consistency, according to Knapp (1980).

“Most people think that corporate identity is about symbols, logotypes, colours, typography, even about buildings, products, furniture, about visual appearance, design. And it is”

Olins, 1989, p. 78.

According to Paivio's Dual Coding theory (1971), images have a distinct advantage over words because they allow semantic encoding to occur along two different pathways. As shown in Figure 6, when people process a picture, they not only consider the visual components but also automatically verbalise the information they are seeing (Paivio, 1971). According to the notion, this dual coding speeds up access to semantic storage and strengthens encoding, which considerably aids recollection. The later study found that a recall is often stronger for objects provided as pictures than for those presented as words (Paivio and Csapo, 1973). Additionally, the visual system can integrate information (Paivio, 1991) and directly influence affective-emotional responses (Paivio, 2006). As seen in Figure 4, according to the dual coding theory, the possibility of learning and memory is significantly increased by any pertinent visual signals (Kitsopoulou, 2018). A notable bias toward the visual sensory modality is supported concurrently with the Colavita investigations (1974).

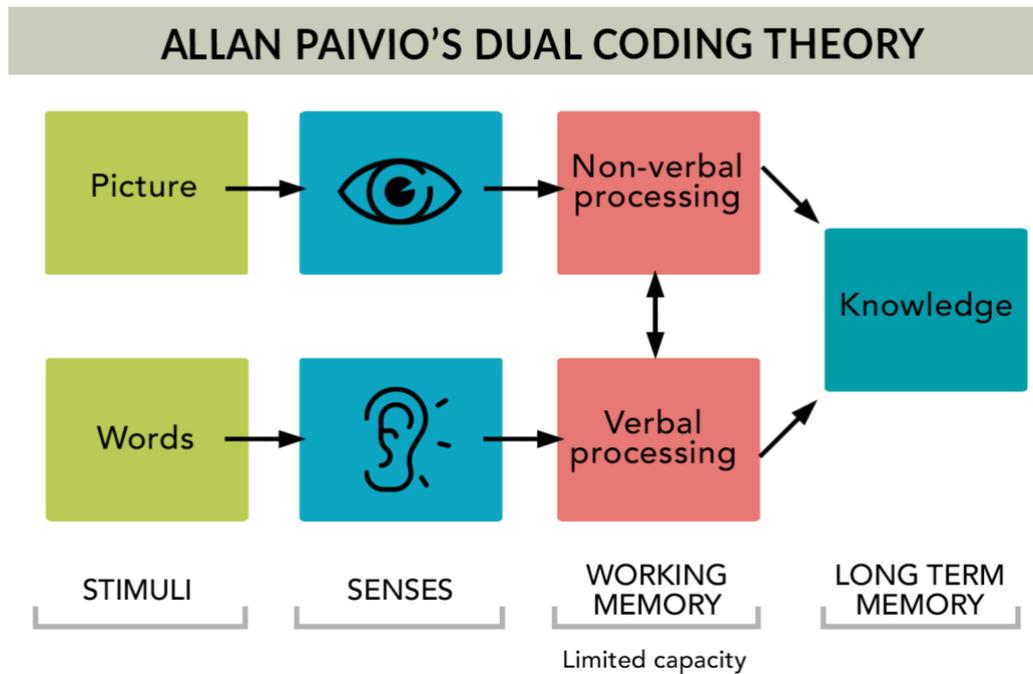


Figure 6 - Paivio's Dual Coding Theory, designed by Rollins School of Public Health.

In contrast to Paivio (1986), Nelson's (1979) and later Weldon's (1987) theories separated between conceptual and perceptual processing of images and words. They indicated that images activate a meaning code, but terms operate indirectly through phonetic representation. The application of Nelson's model was more general, whereas Weldon's model provided evidence that process disassociation can be task-specific. Moreover, in a separate study, Weldon and Roediger (1987) concluded that, in general, pictures stimulate more conceptual thinking than words. As a result, they result in superior performance on tasks requiring conceptual processing, such as consumer recall and recognition (1987). Consequently, visual communication has an enormous advantage when visual and verbal information are contrasted in recall tasks.

2.5.2 Consumer & Behaviour Insights

Academics and practitioners emphasise the value of research on memory and recall effects and other processes like attention capture; frequently is mentioned in marketing literature around consumer attention and memory (Kitsopoulou, 2018).

Studies found that drawing attention was one of the primary functions of marketing texts when they examined marketing visuals (Pieters and Wedel, 2004; 2007; Milosavljevic and Cerf, 2008). It was also discovered that visual qualities affect engagement, as well as several visual aspects, their importance for catching attention was evident together with how they might influence customer behaviour (Gorn *et al.*, 1997; Janiszewski, 1988; 1993). They explain the vital role of visuals in theoretical models of marketing literature. Most crucially, researchers have found modern marketing's dependence on customers' connections to brands. In addition, appealing to the consumer's personality is becoming increasingly relevant with the rise of modern technologies; it is not a novel finding. In his famous 1985 book 'Art & Mass Media' Robert Pelfrey argues that appealing to consumers' personalities makes advertising so effective. After reviewing the relevant articles, Wolfe and Horowitz (2004) estimated that there are between ten and fifteen levels of attributes and an additional three second-order attributes that significantly influence the deployment of consumer attention in visual situations. They claim that certain visual stimuli characteristics can control how attention is used. They add that these characteristics are not only present in the initial stages of visual processing but also act as a specific abstraction from the visual input. Others, such as Quinlan and Humphreys (1987), have demonstrated that colour is processed faster than shape.

Additionally, Milosavljevic *et al.* (2012) show that visual saliency influences decisions at quick decision speed even more than preferences do and that it is particularly potent when people do not have strong preferences among the available options. As a result, visual salience may be an essential element of marketing for instantaneously and automatically attracting attention (Pieters *et al.*, 2010). It depends, at least partly, on how salient features interact with their environment. In support of this finding, Anderson, and Donk (2017) asserted that the underlying salience of the modified object can affect how modifications are prioritised, leading to more focused object targeting. Thus, salient signals, which serve as cues for drawing attention in a real-world setting, play a crucial role in object prioritising and targeting. For instance, alert has been shown to improve sales through memory-related brain functions (Rosbergen, Pieters, and Wedel, 1997; Janiszewski, 1998; Wedel and Pieters, 2000), as well as to have favourable impacts on customer preferences and behaviours

(Lohse, 1997; Pieters and Warlop, 1999). Like this, Edell and Staelin (1983) proposed a model to account for variations in consumer responses to verbal and visual stimuli by combining measures of the consumer's cognitive activity and theories of information storing and recall, likelihood, and speed of recall. Viewers focus more on the visual cues and use fewer processing resources on the more challenging verbal content. It has been determined that visuals are perceived to be more engaging, enjoyable, and straightforward to comprehend than auditory text. (Edell and Staelin, 1983).

More specifically, the studies by Henderson and Cote (1998), Henderson *et al.* (2003), and van Der Lans *et al.* (2009) talk about how shared meaning and subjective familiarity of stimuli improve consumer perception and interpretation of logos and have a bigger effect on consumer memory and recall than abstract logos (Shinar *et al.*, 2003) or stimuli with multiple meanings (Rodewald and Bosma, 1972). So, businesses can improve their brands by making a good impression and increasing brand choice by using the design elements of their logos (Zajonc, 1968; Henderson *et al.*, 2003; Henderson and Cote, 1998).

2.5.3 Psychophysical Experimentation

Psychophysics studies the relationship between physical stimuli and their subjective correlates, or perceptions (Snodgrass, 1975). Psychophysicists typically employ stimuli that can be measured objectively, such as pure tones of varying intensities or lights of varying luminance. Regardless of the sensory domain, the psychophysical classification scheme includes three main topics: absolute thresholds, discrimination thresholds, and scaling. Psychophysics is most often used to create scales of human experience of different aspects of physical stimuli (Peter and Churchill, 1986). Take the example of the physical stimulus visual psychophysics. The goal of visual psychophysics (and psychophysics in general) is to elicit relatively simple mental phenomena that can be quantified by presenting physical stimuli that are readily described by a small number of parameters such as luminance, contrast, or spatial frequency (Peter and Churchill, 1986).

Psychophysical experiments have traditionally employed the method of limits, the method of constant stimuli, and the method of adjustment to evaluate the perception of subjects in stimulus detection and difference detection tasks (Karsten and John, 1991). Psychophysics experiments determine if a subject can detect a stimulus, identify it, differentiate it from another stimulus, and describe the magnitude or nature of this difference (Kendall, 1962). The stimuli may include, among other things, alternate products or services, advertising copy themes, packaging designs, brand names, and sales presentations (Kerlinger, 1973).

The empirical laws of psychophysics are derived from measurements including the magnitudes of stimuli just noticeably distinct from one another, the proportion of errors made when comparing two stimuli, the time required to complete such judgements, and self-reports of confidence in comparative judgements or stimulus strength (Likert, 1967). Some laws define the relationship between physical events and their mental representations, such as feelings and sensations (Albaum, 1997). These empirical relationships are explained by the theories of psychophysics, which also propose neural mechanisms that give rise to experimental results (Churchill *et al.*, 1984).

2.5.4 Consumer Response Remarks

Visuals express most human meanings (Patterson, 1991). Chernev (2004), Horsky and Honea (2009), Batra *et al.* (2009), and Giese *et al.* (2014) have revisited the counter-intuitive theory of the aesthetic middle, which posits that moderately attractive visuals elicit more positive reactions from consumers than more or less attractive visuals. People process a picture visually and verbally (Paivio, 1971).

In this case, highlight Paivio's research contribution. Weldon and Roediger (1987) found that pictures stimulate conceptual thinking more than words. They improve conceptual processing tasks like consumer recall and recognition (1987). In recall tasks, visual communication has a huge advantage over verbal. When studying marketing visuals, studies found that grabbing attention was a primary function (Pieters and Wedel, 2004; 2007; Milosavljevic and Cerf, 2008). Viewers focus on visual cues and process verbal content less. Visuals are more engaging, pleasant,

and understandable than auditory text (Edell and Staelin, 1983). Shared meaning and subjective familiarity of stimuli improve consumer perception and interpretation of logos and have a more significant effect on consumer memory and recall than abstract logos (Shinar *et al.*, 2003) or stimuli with multiple meanings (Rodewald and Bosma, 1972). Using logo design elements in businesses can make a good impression and increase brand choice (Zajonc, 1968; Hendreson *et al.*, 2003; Henderson and Cote, 1998).

As a result, the work done in this thesis will shed light on the fundamentals that a participant prefers and considers when evaluating a corporate logo. It is also crucial because it will aid previous research literature in how consumer perceptions influence brand logo design and future prospects.

2.6 Culture & Brand Logo Design

2.6.1 Cultural & Consumer Perception

It may be challenging to create brands and icons that cross cultural boundaries (de Mooij, 2000). More marketing academics focus on creating successful brands in a market that is becoming increasingly global (Chan *et al.*, 1997; Abou Aish *et al.*, 2003). Because they may contain easily understandable pictorial representations, icons may be significant to businesses involved in international trade. Despite the importance of logo design in marketing communications and strategic brand management, research on these topics in marketing journals is typically limited and of a narrow scope (Kilic *et al.*, 2009). Marketing and brand managers work diligently to distinguish their products from the competition with a unique brand. Before creating a brand, they must first create a brand identity. A brand identity is a distinct network of brand associations that imply a commitment to customers (Ghodeswar, 2008). As a result, if a marketing or brand manager intends to influence customers' purchasing decisions, a strong brand identity with appropriate components and brand connections must be created (Uggla,

2006). These systems rely on visual signals such as brand markings (logos and symbols) (Schechter, 1993).

Instead, whether a logo or icon designed for a domestic market can be successfully used in a foreign market is an essential question in international marketing (Kilic *et al.*, 2009). International brands must have visually appealing and transferable stimuli (Pittard *et al.*, 2007). To support the idea of visual transferability, claims of cultural similarity in response to design are made (Henderson *et al.*, 2003). However, not everyone agrees with this viewpoint (Kilic *et al.*, 2009). For example, Schmitt and Simonson (1997) argue that some cultures have stronger preferences for generalised representations than others. In collectivist societies, for example, symmetry is highly valued, whereas, in individualistic societies, more iconoclastic forms of innovation are typically preferred. In cultures that value peace, such as Asian cultures, angular forms associated with conflict may not be the best choice (Schmitt and Simonson, 1997; Henderson *et al.*, 2003).

According to Meggs, corporate logos and marks began to incorporate shapes inspired by science, technology, and engineering (1998). Where a study on the evolution of graphic styles throughout history. It demonstrated how the vibrant Victorian aesthetics of the nineteenth century influenced western graphic design (Meggs, 1998). The work of specific designers significantly influenced the design of company logos throughout this period. Designer Paul Rand argued that good identity systems should be simple and employ universal elementary shapes. Figure 7 shows some of the ingenious work of designer Paul Rand. Logos for big companies like UPS and IBM are easy to pick out. This was sensible because the markets and operations of many of these firms were growing increasingly worldwide.

Furthermore, the introduction of new communication technologies had an impact on design. CBS designer Georg Olden emphasised simplicity at the time due to design constraints and the information processing constraints imposed by early black and white television (Meggs, 1998). As a result, it is conceivable that many businesses still prefer clearer and uncomplicated methods of icon design (Kilic *et al.*, 2009). Research by Kilic *et al.* (2009) indicates that icon design there are some preference communalities between cultures. Although one might assume that Globalisation has somewhat homogenised icon design, the data indicate the contraire.

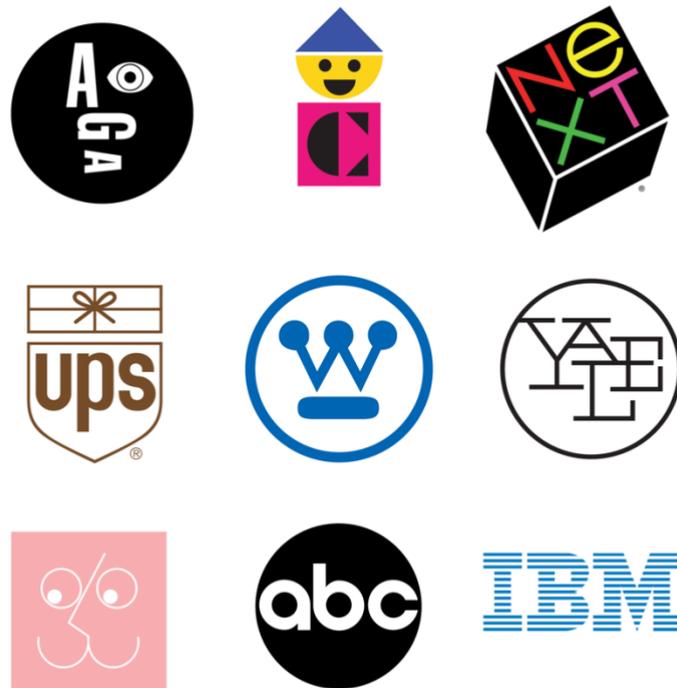


Figure 7 - Some of Paul Rand designed logos Simple & Unique.

Also, globalisation may have resulted in more global cultural characteristics being represented by brand marks. As a result, marketing managers and brand mark designers must incorporate virtual and aesthetic elements from various cultures into the icons they create. This may improve icon recognition and, as a result, the brand's overall communication effectiveness (Kilic *et al.*, 2009). While previous research found that brand names have consistent meaning across countries, this effect may be altered when the name is accompanied by the brand logo. According to Henderson *et al.* (2003), visual brand characteristics may have a greater impact in developing countries than in the United States. On a global scale, corporate identity, for example, was discovered to have a greater influence on consumers in China than in the United States (Han and Schmitt, 1997). The visual aspects of the brand are also thought to have significant benefits in India, assisting in the resolution of literacy, phonetics, pronunciation, language, and dialect issues (Ekuan *et al.*, 2001). Another example, Yin (1999) discovered that Western corporations advertising in China believed the

three most essential cues to change were the language of the advertisements, the product qualities, and the models or spokespersons.

Which leads us to the distinction between two rising cultures: first, global consumers seek significance in their lives as consumers through the consumption of products that are commonly acknowledged as worldwide and transcend individual national cultures (Steenkamp and de Jong, 2010). These consumers use global brands to establish an imagined identity, which they share with others who have similar characteristics (Hannerz, 1990; Holt *et al.*, 2004) and acknowledge the distinctiveness of local communities (Steenkamp and de Jong, 2010). Second, local customers favour products that are indigenously designed and controlled, as well as those with comparatively high levels of distinctive local content (Steenkamp and de Jong, 2010). Various constructs have been used to compare consumers' affinity for global vs local consumer culture (Gammoh *et al.*, 2011; Nijssen and Douglas, 2011).

Some individuals see foreign brands as economic and cultural threats (Cleveland *et al.*, 2013). Anti-globalization sentiment is reflected in the preference for locally produced goods (Steenkamp *et al.*, 2003). Studies have shown that including ethnic signals in advertising, such as a local model or celebrity, can correspond with individuals' ethnic identity, which is one of the most important aspects of self-concept (Carrus *et al.*, 2009). Others studies have discovered that global superstars are associated with status, modernism, cosmopolitan sophistication, and technology (Zhou and Belk, 2004) and can boost a brand's prestige (Steenkamp, 2013). Kilic *et al.* (2009) concluded that the brand name is second only to the spokesperson and brand logo in the local market. On a global scale, the spokesperson is the most valuable, followed by the brand name and logo (2009). Their findings show that when a company wants to position itself as global, segmentation based on customer traits is required, as is a different strategy depending on the product category.

2.6.2 Cultural & Brand Remarks

It may be hard to make brands and icons that appeal to people from different cultures (de Mooij, 2000). More marketing professors today focus on how to make successful brands in a market that is becoming more global (Chan *et al.*, 1997; Abou Aish *et al.*, 2003). Marketing and brand managers work hard to give their products a unique brand that makes them stand out. They must first make a brand identity before they can make a brand. A brand identity is a unique set of brand associations that show customers that you are committed to them (Ghodeswar, 2008). So, if a marketing or brand manager wants to influence customers' buying decisions, they must create a strong brand identity with the right parts and connections (Uggla, 2006). International brands need to have things that are visually appealing and easy to share (Pittard *et al.*, 2007). Arguments for the notion of visual transferability rely on purported differences in the ways that individuals of various cultures react to design (Henderson *et al.*, 2003). Meggs says that company logos started to use shapes that were influenced by science, technology, engineering, and in some cases, cultural preferences (1998). Also, globalisation may have made it so that brand marks show more global cultural traits. So, marketing managers and people who make brand marks have to use visual and conceptual elements from different cultures in the icons they make. On a global scale, it was found that corporate identity has a bigger effect on consumers in China than in the United States (Han and Schmitt, 1997). These people use global brands to create a made-up identity that they share with other people who are like them (Hannerz, 1990; Holt *et al.*, 2004). Research shows that using a local model or celebrity in advertising can correspond with a person's ethnic identity, which is one of the most important parts of their sense of self (Carrus *et al.*, 2009).

As a result, the fundamentals that a corporate brand must consider when attempting to enter a global or new market are established. It also ties in with the research used in this thesis, as literature shows that for a company to position itself as global, customer segmentation and a different strategy for each product category are required.

2.7 Conclusion

According to the literature, there has been a significant gap to fill beginning with the CVI, which assists the organisation in remaining true to its legacy and principles. CVI's significance is highlighted when it is managed and conveyed properly. Research and literature on CVI demonstrate the importance of adhering to brand standards. Moreover, the majority of researchers say that a company's "corporate logo" is the most significant. The company logo is the most streamlined tool for communicating with internal and external stakeholders. Henderson and Cote (1998) discovered no systematic research on the impact of logo design on customer perceptions of a business. The importance of this idea is demonstrated by numerous studies and the fact that a brand's logo and colour scheme reflect its public image (Schmitt and Pan, 1994). According to Foroudi and colleagues, however, individuals react differently to the same colour (2017). Therefore, colour effects differ for example by cultures. It is recommended, therefore, that a company's name be globally recognisable, unique, and distinctive. Therefore, its logo and typography constitute its visual identity (Henderson *et al.*, 2004). With recalling distinctive names, it is easy to do so (Childers and Houston, 1984). The significance of logo design relies on the perspective of the recipient. Previous research aided the current dissertation in navigating the terrain and uncovering new ideas. A brand's logo can convey meaning and serve as its guiding principle.

Marketing and consumer aesthetics literature is scarce but significant. Dewey (1934) asserted that ordinary experience includes an aesthetic phase in which objects and events form a comprehensive, intentional pattern. Moreover, he asserts that aesthetic experience is a component of everyday aesthetic object experience. Individual characteristics, behaviours, and pursuits impact aesthetic experience. According to consumer research, experiential-type products are purchased not only to solve problems, but also for pleasure-seeking or enjoyable experiences (Arnould and Price, 1993; Holbrook and Hirschman, 1982). According to expression theory, aesthetic perception is founded on emotion (Townsend, 1997) and these theories disregard the emotional response of the viewer to the beautiful object and the emotional investment of the artist in its creation.

The majority of human meanings are visual in nature (Patterson, 1991). Chernev (2004), Horsky and Honea (2009), Batra *et al.* (2009), and Giese *et al.* (2014) have investigated the aesthetic medium hypothesis, which states that moderately beautiful visuals elicit more favourable responses from consumers than more or less attractive visuals. Visual and verbal image processing (Paivio, 1971).

Emphasise Paivio's research Weldon and Roediger assert that visuals drive conceptual thought more than words (1987). On enhancing memory and recognition (1987). Visual communication is superior to verbal when recalling information. Studies show that, marketing graphics should be captivating (Pieters and Wedel, 2004; 2007; Milosavljevic and Cerf, 2008). Priority is given to visual clues over verbal information. Visuals are more engaging and comprehensible than verbal text (Edell and Staelin, 1983). Shared meaning and subjective recognition of stimuli enhance consumer perception and interpretation of logos and have a stronger impact on consumer memory and recall than abstract logos (Shinar *et al.*, 2003; Rodewald and Bosma, 1972). Using logo design elements, companies can improve brand recognition (Zajonc, 1968; Hendreson *et al.*, 2003; Henderson and Cote, 1998).

This thesis will elucidate the factors participants evaluate when evaluating a company logo. It contributes to earlier research on how consumer perceptions affect brand logo design and future prospects. To create trademarks and logos that appeal to multiple cultures (de Mooij, 2000). More marketing instructors currently emphasise global brand development (Chan *et al.*, 1997; Abou Aish *et al.*, 2003). Marketing and brand managers work to distinguish their products. They must first establish a brand identity. A brand identity is comprised of various brand connections that demonstrate concern for customers (Ghodeswar, 2008). If a marketing or brand manager wishes to influence clients' purchasing decisions, he or she must establish a strong brand identity (Uggla, 2006). International brands need shareable, engaging content (Pittard *et al.*, 2007). To demonstrate visual transferability, numerous cultural reactions to design are documented (Henderson *et al.*, 2003). This explains the important considerations a corporation brand must make when entering a global or new market. Literature argues that in order for a company to position itself as global, client segmentation and a distinct strategy for each product category are required. When developing the current research, this literature must also consider all past investigations. It becomes a suggestion of knowledge.

3. Exploration of Logo Aesthetics: Study I & Study II

3.1 Introduction

The purpose of the descriptive investigation in this chapter is to explore the variables that contribute to how logo design is viewed and perceived, as well as the features that are most important. To determine the extent to which brand familiarity influences logo selection, what is the most crucial factor contributing to the logo's visual appeal? This chapter presents studies, despite being distinct, are nonetheless equally relevant. The research study I starts with a focus group to start a conversation about how to describe the logo and get feedback from the participants on how they see brand logos. Then, more in-depth one-on-one interviews are conducted with professional designers regarding their viewpoints on the same logos presented previously in the focus group to learn their perspectives on what is significant in the logo designs. In the final step of this chapter's investigation, an online survey is administered to various audiences to collect their opinions on the presented logo designs. The findings of this study are consistent with previous literature on familiarity and preference in logo design, as they indicate a significant correlation between prior knowledge (familiarity) and the participants' evaluation of the general design of the logo. For example, the logos that some participants had not seen before were evaluated differently than the ones they were familiar with; this may suggest that design characteristics such as the shape of a logo design are subject to be evaluated based on the viewer's prior knowledge and thus influence the viewer's preference for this specific logo design rather than the quality of the design. Another finding indicates that different logos from different cultures were viewed either significantly negatively or positively, indicating that viewers from different cultures may not reflect on design in the same way; this could be crucial information for brands seeking to expand internationally. Consequently, this chapter's findings can be used to suggest evaluation criteria and design enhancements for brand logos.

3.2 Study I: Focus Group & Interviews

3.2.1 Research Questions

There are numerous questions assessing the participants' ability to recognise logos. In contrast, the questions for study I attempts to elucidate the primary components of the evaluation procedure when viewing a brand logo, and record how the ratings differ between well-known logos, such as for example the Pepsi logo, and unfamiliar logos, such as those from start-ups. The questions are: Does brand familiarity influence logo preference? And what factors contribute to its aesthetic appeal?

3.2.2 Data Collection & Data Analysis

3.2.2.1 Participants: Recruiting Participants, Sample Size & Non-participation.

Participants were invited via Microsoft Teams and a poster displayed in the post graduate researcher (PGR) office. They were asked to choose between the available focus group dates on the calendar, and individual interviews aiming professional designers followed.

This section of the study included seven focus group members and five interviewees, for a total of 12 people participating in this study. However, this research has a few significant drawbacks. The first problem is primarily with how focus groups are recruited. Although four to five people are recommended for focus groups (Morgan, 1988; Morgan, 1998), studies employing this approach often need a minimum of 10 to 12 participants (Morgan *et al.*, 2002). For instance, while the advantages of focus group technique are captured in smaller groups of four or five people, it is recommended that there be two or three groups of focus groups to maximise research benefits (Morgan *et al.*, 2002). However, it was challenging to locate a time that worked for all of the focus group participants in the present study.

A few participants were held back for a variety of reasons, including time constraints, as they could not be in the study for more than half an hour. Due to heavy snow that year in the UK, some participants were unable to participate. Others did not show up and did not provide any explanation, not even via email.

3.2.2.2 Procedure: Data Collection Settings, Repeat Interviews, Audio/visual Recording & Duration.

In order to conduct the focus group, a two-hour meeting room at the School of Design at University of Leeds had to be reserved. Although the study did not require the full two hours, it was advisable to allow participants to take their time and ask questions without feeling rushed. It was vital to reserve the meeting room because it provides a calm and atmosphere for participants to discuss the listed images. The space had windows, a large conference table, a projector, and a microphone. Later the one-on-one interviews, were held in the Glass room also at School of Design at University of Leeds campus, since it was an ideal setting for one-on-one uninstructed inquiries.

The participants' majors including their genders are displayed in Table 2 Each participant is given a code name beginning with the letter P, as it is recommended that participant names remain anonymous. The participants are also divided according to the study in which they participated. The top section of the table, experienced designers conducted "Personal Interviews" prior to the "Focus group." However, the participants of the focus group and the interview groups are distinct and the majority have different design backgrounds. Participants with design backgrounds who were accompanied by a higher level of professionalism in design were instrumental in answering the question of what influences our perception of logo design and its appeal.

Table 2 - Description of Sample (Participants).

Study	Number of Participants	Educational Background	Specialty	Gender
<i>Personal Interview</i>	5	P1 – Design	PhD Interactive design	Female
		P2 – Design	PhD Interior design	Female
		P3 – Design	MA in graphic design	Female
		P4 – Design	MA in colour chemistry	Female
		P5 – Design	MA in brand marketing	Male
<i>Focus Group</i>	7	P6 – Designer	BA in Mosaic design	Female
		P7 – Non-Designer	MA in Chemistry	Female
		P8 – Non-Designer	MA in Cultural heritage	Female
		P9 – Designer	MA in Fashion design	Female
		P10 – Designer	MA in UX	Male
		P11 – Designer	MA Infographic techno.	Male
		P12- Non-Designer	MA in textile	Male

Although repeated interviews provide opportunities that are not available within a single-interview research design, and despite the fact that such an approach is particularly appropriate for research that deals with issues or research that aims to capture something about events, experiences, and perceptions over time, repeated interviews are not always appropriate for research design. In this study the discussion is a one-on-one experience and requires the interviewee's undivided attention, the participants were asked to provide their feedback on the images of logos that were displayed. The only possible advantage to this is that they may emerge from the experience with a greater understanding of the various aspects of logo design.

All sessions were documented using both a voice note recorder (Olympus brand) and an audio recorder on an (Apple) iPhone. The usage of both devices was motivated by the moderator's desire to capture the session as clearly as possible. The two devices

were carefully placed at the meeting table's ends. Additionally, so that if one device malfunctions, a backup exists. The audio recordings are then stored securely and discarded when the analysis is complete, so as not to break any confidentiality and in accordance with the University's code of ethics addressing this topic.

The length of the focus group was one and a half hours. Despite the intensity of the conversation, the interviews lasted only an hour.

3.2.2.3 Data Analysis: Data Saturation, Transcripts, Analysis Methods, Derivation of Themes & Software.

In terms of data saturation, it needs to be confirmed that the data analysis through the reading of transcripts has opened up a whole new set of topics for further discussion in relation to this study. The focus group and interview transcripts were also dense in terms of analysis, as they were defined by the displayed visuals (logos) and any additional impression or statement from a participant would merely indicate or confirm what had previously been discussed and commented upon. Thereby confirming the emergence of themes and conclusions that helped answer the questions addressed in this chapter.

The audio transcriptions of the conversation were recorded on audio, and the resulting text files (transcripts) were then transcribed to word documents. The combined transcripts and unified file including all responses were then exported to NVivo 12 so that the process analysis could commence and thematic coding can be performed.

This work has been coded by the moderator alone, as it will be included in this thesis. As a result, I am the sole proprietor of his work. Description of the coding tree: The coding tree is devoted to the transcripts' essential components. As seen in Table 3, tagged and categorised by the codes from where the responses originated. The following codes were based on the participants' response:

- Designers or non-designer
- Previous knowledge about the brand logo
- Personal preference
- Positive comments
- Elaborated remarks
- Design related inputs
- Questionable
- Agreement
- Disagreement (with what is said)
- Change of mind (following comments)
- Positive and negative responses in the same sentence
- Ambiguity in the response
- Neutral responses

The significance of coded remarks and the descriptive way of analysis is to examine the most coded responses, for which prior knowledge had a substantial impact on the participant comments made regarding logo design. As preference emerges while searching for and evaluating a specific image or logo. This suggests that there is some level of familiarity with a certain design, which influences the likelihood of like the logo design. The comprehensive code component of this study is also similar to the statements made while describing logo design features. It's worth noting that there were some unfavourable and opposing comments, as well as some confusion about the logos the survey examined, and these comments help the investigation of what emotional impact a design has on the logo design.

An inductive technique of analysis was used, in which the themes developed as the text was being analysed, and then those individual concepts were grouped together into larger themes in order to make the study more condensed and ordered. After that, the themes were analysed, a train of thought was developed, and the findings were reported.

Table 3 - Codes used when analysing the participant's transcripts.

Nodes			
Name	Files	References	
Participants		0	0
Responses		0	0
Previous knowldge		5	232
Prefrence		5	127
Positive		5	115
Elaborated		4	93
Design related		4	87
Q		4	53
Agree		4	50
Negative		4	41
Change of mind		4	34
PnN		5	33
Ambiguity		4	33
Disagree		4	20
Neutral		3	12

This investigation was carried out utilising a variety of software, the earliest of which is displayed below:

Microsoft Teams: to schedule individuals to take part in the focus group as well as the individual interviews. The fact that this software checks to ensure that the participant does not have a double booking at the same time or day is one of the primary reasons why its utilisation is so important. Additionally, it is essential since it is connected to both the moderator and the participant's email, so it will give a reminders 15 minutes before the meeting, and it will also register the meeting as an event on their calendar. Additionally, it retains the date of the meeting so that it can be accessed later if necessary.

Apple Voice Memo recorder: The application known as Voice Memos found on the Apple iPhone is an excellent tool for recording interviews, comments, personal observations, and a variety of other types of speech. Even though there is no limit to the length of recordings that may be stored, it is recommended to have enough storage

space available on the recording device to capture all the recordings without interruptions.

An additional voice recorder: A Olympus voice recorder also performed a role in the recording of these sessions. Despite the fact that it is not quite as innovative as Apple's model. This product was selected because it offered a secondary solution in the event that a previous device failed to record the participant's comments in an understandable manner. The device was also put some distance away from the Apple device in order to ensure that it would record the comments from the opposite side of the meeting room. The files that had been saved on the device were then shared on the moderators PC, and after that, they were exported into a format that was appropriate for being transferred to the later phases.

Otter voice transcription: Otter's automatic transcribing of audio files is performed using AI technology that does natural language processing. The English language is processed by the speech-to-text engine, and the speaker identification algorithm learns in real time who is speaking and when. Otter is a dependable option to consider if a transcription service is needed for straightforward audio or video recordings and are seeking for one that is either free or offers affordable rates. Importing (or uploading) transcripts to Otter from one's own computer or mobile device is possible. After a file is imported into Otter, it will process the audio speech and generate a transcription of it. Audio formats include: AAC, MP3 and M4A file types (including Apple voice memos), WAV and many more. However, it is essential to review the transcripts to identify any possible spelling or grammatical error. Additionally, you may import files as long as their overall size does not exceed 5 GB and you do not exceed your 600 minutes per month limit. In addition, the free plan limits the maximum number of importable files to three and the maximum number of custom vocabulary phrases to five. The user then has the option to subscribe, which provides them with extra options and does not impose a limit to the recorded time period of their work.

NVivo 12 Plus: is a computer tool for qualitative data analysis (QDA) that was created by QSR International. NVivo may aid qualitative researchers in analysing, and deriving insights from unstructured or qualitative data such as interview transcripts, survey answers, and many others. To accomplish these functions, NVivo facilitates the methodical analysis of qualitative datasets. Moreover, users are able to classify, sort,

and organise data, look closely into data relationships, and integrate analysis with linking, shaping, searching, and modelling. It is therefore ideal for academic and commercial researchers in a wide range of fields, including social sciences and sociology, as well as marketing.

Microsoft Excel: The Excel files were then imported in excel format to generate closely examined sheets, graphs and diagrams. In addition, the Excel sheet provides a useful tool for creating a table displaying the results and participant quotes. The findings then are easily transcribes in the later stage.

Microsoft Word: The programme Microsoft Word, created by Microsoft. With the help of this programme, authors and moderators can discuss their progress in writing and illustrate their findings and contributions by adding diagrams and tables to a real text that is simple to distribute.

3.2.2.4 Finding: Responses Presented

Each participant is given a code name, and that name is shown next to each of the quotes that are made. Following that, the coding procedure shown in a

Table 4 provides a concise and accurate description of what each quotation refers to. Examples of each code from every participant as well as examples of the responses to each code.

Table 4 - Responses Sample of Interviews & Focus Group Study.

Code	Responses (participant code)
<i>Previous knowledge</i>	<p>“I think they slightly change” (P2)</p> <p>“I can distinguish like good solid three” (P4)</p> <p>“looks similar to that for Bank of America” (P3)</p> <p>“All of them, Apple, Cola, Microsoft, FedEx, all of them” (P10)</p> <p>“that's BP” (P1)</p>

<i>Personal preference</i>	<p>“uninspiring to me, personally” (P3) “I stopped eating fast food over ten years ago” (P11) “I actually do really enjoy trying weird flavoured chips” (P7) “I’ll choose Hermes” (P5) “I’m not into cars” (P7) “the black one just doesn’t really look appealing to me” (P3)</p>
<i>Positive comments</i>	<p>“I like the look” (P8) “super happy” (P10) “sleekest of them” (P6) “winning McDonald’s” (P4) “it looks the friendliest” (P3) “I got happier” (P1)</p>
<i>Elaborated remarks</i>	<p>“Okay, and you might actually invest money into that, but I think smaller companies like do not really have the resources to be like to adapt their logo if that makes sense.” (P11) “desperately need water that does not tap water, than I’d probably grab water” (P10) “And you know, and even though it is not related to the actual word Amazon, it did it has nothing to do with forest, rain forest” (P9) “I have to compare it all and have to relate it on a scale by looking at it with Amazon one vs Apple one.” (P3)</p>
<i>Design related</i>	<p>“they just flipped the M” (P5) “The colours are red and blue” (P6) “round symbol” (P9) “tiny symbol” (P2) “bigger ones stand out more” (P1) “I can clearly remember the colours” (P10)</p>
<i>Questionable</i>	<p>“Is this an actual simulation?” (P2) “for dairy production?” (P8) “Is that only for logos?” (P6) “five, maybe” (P8) “What does the word mean? Like in that context” (P11) “Are they in the solar business?” (P6)</p>
<i>Agreement</i>	<p>“It makes more sense” (P4) “I like it; what can I say” (P1) “Right, exactly” (P1) “If visually, is it nice” (P3) “Yeah, yeah, that’s what I’m thinking of” (P4)</p>

	"That's probably yes" (P10)
<i>Disagreement</i>	<p>"No, definitely not. Definitely not." (P3) "it feels strange to me" (P2) "That's not true. I don't know, but just like a random guess" (P7) "So maybe that's why you won't trust it." (P3) "very confusing." (P10) "It looks weird to me." (P4)</p>
<i>Change of mind</i>	<p>"that is some McDonald's campaign, is it? If it is?.. I do not know." (P3) "I do not know. It could be. I do not know." (P5) "now, I remember that" (P6) "it doesn't look like a pet shop anymore" (P2) "Maybe there's something not quite right with that. But I couldn't tell what it is" (P3) "Now I'll give it a five" (P9)</p>
<i>Positive & negative</i>	<p>"remind me of that. I could be completely wrong, but that is kind of" (P11) "I think the colours are nice, but I would have absolutely no idea what it is associated with" (P3) "No, just because I know too much about it, I think." (P6) "I cannot remember, and I have always remembered it like this." (P4) "I kind of like the Arabic font compared to the English type, which I do not like." (P8)</p>
<i>Ambiguity</i>	<p>"that would be my guess." (P8) "I have no idea based on typography" (P5) "luxury cars, maybe" (P3) "I have no idea." (P10) "I'm thinking, is this for bread? or what?" (P3) "Maybe it has to do with the environment and sustainability" (P7)</p>
<i>Neutral</i>	<p>"It depends on the product" (P4) "Okay, new to me" (P7) "It is okay" (P9)</p>

The results pose several questions, such as what is acceptable and what is not when analysing a company logo. After comparing the logos, participants chose the one with which they were most familiar. Asking whether they had a mental image of the corporation's logo that caused them to view the unfamiliar as unattractive and the familiar as more appealing.

Following a review of prior research on familiarity and logo design preference, this study reaches the following conclusion: this study confirms prior findings regarding logo recognition and preference. In addition, the study provides up-to-date information on the aesthetics of logo design, as participants' comments typically refer to the progression and likeness of the logo's visual aesthetics when viewing new, never-before-seen logo designs. In addition, they mentioned how difficult it was to evaluate the design without understanding the meaning of the brand logo. In addition, when participants viewed new logos, their reaction rate was significantly higher because they evaluated them based on prior logos they had viewed or sought to match in design, company line, or previous logo from the list provided. Furthermore, it was discovered that participants place emphasis on design elements such as colour and shape. Signifying that there is an interest in what the logo represents, as it has a substantial impact on the design evaluation. As a result, this research uncovered an important aspect of logo design DNA, and the findings of this study, logo designers are aided by a new discovery indicating which aspects are important when designing a logo and what should be prioritised regardless of whether a company is designing a new logo or rebranding an existing one.

3.2.3 Discussions

During the emphasis focus group and interviews, the following themes were explored. See

Table 5 for the rationale behind each logo's selection, as well as a description of the three parts used to project the logos during focus group and interview sessions. In response to the primary research question posed in study I participants were asked the following sub questions.

Table 5 - Research Questions & Topics of both Focus Group & Interviews.

<i>Portion</i>	<i>Sub-Topic</i>	<i>Duration</i>	<i>Question</i>
<i>Part 1</i>	Logo familiarity	10 Minutes	How many logos can you recognise?
<i>Part 2</i>	Logo recall from memory	25 Minutes	Can you guess the logos? And how many can you point out?
<i>Part 3</i>	Design Alternation of Logo designs	25 Minutes	What are your thoughts on these images?

3.2.3.1 Part 1: Logo Familiarity

Q1: How many logos can you recognise?

Participants were shown graphics that comprised a variety of logos, see image 1. Then ask whether they can recognize them and distinguish the logos; the more they can distinguish, the better, as it will help participants get into the topic and establish rapport.

1.2 Image information: The Financial Times (Slide 1) Figure 8 - Financial Times was selected to start the conversation because it featured several well-known and multinational companies that the majority of participants could recognise. Also included are some of the least familiar. Moreover, it includes various colours and sizes, as well as a little angle (tilted).



Figure 8 - Financial Times (2019).

In this arrangement of logos, some of the logos have been cropped (such that they are not entirely displayed), while others have been concealed. This arrangement is also notable for the placement of these well-known, prosperous, and internationally-recognized companies. All of the logos are organised at an angle, which may have been done to deceive the mind or to fit as many logos as possible into the space provided.

1.4 Findings: Even though the vast majority (75%) of participants were able to correctly identify all of the logos that were displayed, some of them also started to indicate how they felt about them. Which suggests that logos are about more than just design and have other connotations associated with them (such as love, hate, etc.). Considering that participants came from a different countries and cultural backgrounds contributed to how they perceived and differentiated between these logos. In addition, their confidence in identifying these logos is a clear indicator that they are familiar with the content, having either seen it in the past or engaged with it recently. An intriguing finding is that none of the participants, including the Chinese, were able to identify the Bank of China logo that was placed between the L'Oréal and Intel logos. The fact that almost all of the participants said they were unfamiliar with the logo in the middle (bank of China) suggests that its placement in the middle of the composition may have

helped it stand out to them, or it may have been the means by which they identified the logo as being different (white and red) from the one they were familiar with. Overall, the image improved the flow of the presentation and helped document how the participants see logos.

Q 1.2: Can you guess the logos? And how many can you point out?

The second half of the first section of the study aimed to determine whether or not participants could recall the logo from memory.

1.2.2 Image information: Even though the logos are all manufactured by the same corporation (Pepsi products), they have various brand extensions, such as chips and energy drinks. The editing of the images focuses on the area containing all of the featured logos. Figure 9. Was gathered from the PepsiCo Facebook group, banner picture



Figure 9 - PEPSICO Facebook page (2019).

1.2.3 The reason behind the selection: The logos are overlapping in such a way that they appear to have been cropped. Leading to a clipped logo mosaic. This image was used to determine how many participants could identify and name the brands even without the whole logo being shown.

1.2.4 Findings: Three of the five logos were recognised by the majority of participants (85%) under these conditions, indicating a very high level of recognition. This emphasises the notion that a logo is more than just a complete, proportional design; it

is about the brand logo's characteristics, colour, and placement. Again, this is intended to measure how well logos are remembered and recognised.

3.2.3.2 Part 2: Logo Recall

Q 2: A series of inquiries

- Can you name the logo?
- Their line of business?
- Their country of origin?
- Can you rate the design? (When they first see it and after design explanation).

This section of the study focuses on the recall factor and the brand's history, which includes the brand's origin, line of business, and logo design elements. The final question is more precise than the others because it demonstrates a deeper awareness of the brand's history and hints at prior exposure to the brand. At the beginning of the investigation, the participants are shown a solid-colour logo fragment. The participants' ability to recognise this design characteristic and the logo to which it belongs is then tested. Afterward, participants are shown the brand's original logo in full colour and asked if they recognise it. In each case, they are asked to rate the logo before or after it is exhibited and described, to determine if the rating changes as a result of the explanation. On a scale from one to five, they are able to evaluate the design. The recommended value of five is established so that if a participant dislikes the design for personal reasons, they can select a neutral number, such as three. The rating of five can also provide a more precise rating, as its being popular with several applications used today. Next, a discussion is launched regarding the design features of the brand logo and how they relate to their industry. If participants were unfamiliar with a logo or its brand heritage and were given a certain rating, that rating would change once they gained more knowledge. This may show that brand influences the design rating of a logo, which suggests that if we compare unfamiliar designs, say for a new company (start-up), they will not be easily assessed due to the unfamiliarity of the brand rather than the design quality of the logo. Similarly, this may provide insight into how logos of worldwide brands can be judged if they originate from a foreign country with which viewers have no past ties.

Moreover, the responses of the participants demonstrated that when it came to colour, the majority scored higher (85%) when describing logos they are familiar with in full colour, specifically the logo's mark or a portion of it, when compared to monochrome logos.

2.2 Image information: Amazon logo with colour, American (USA), e-commerce. (*One of the logo examples presented*). Figure 10 Section of Amazon Logo, followed by Figure 11 of the actual Amazon logo in full colour



Figure 10 - Section of Amazon Logo



Figure 11 - Amazon Logo in Full Colour

2.3 The reason behind the selection: With the Amazon logo on two separate slides, one with the smile in monochrome and the other with the entire logo in black and orange against a white background. This method was employed to determine if the brand's colour and shape had an effect on how participants remembered the brand. The study confirmed that Amazon is a globally recognised brand, but when participants were asked to recall the previous Amazon logo in comparison to the current one, only a small percentage (20%) did so. This may suggest that as the

popularity of the Amazon logo increased, people began to recognise it by the wording (recent) logo rather than the old logo, which featured a river banks.

2.4 Findings: The arrow from A to Z was mentioned after the explanation of how Amazon began by selling only books and how it now sells everything. Amazon also made the arrow swoop by pressing the letter Z and smiling. However, when participants were asked to rate it once more, they awarded it better scores. Which begs the question of whether they kept their high ranking because they see the logo more often or because they have other associations with it unrelated to its superior design. Aside from that, these logos were picked because they represent a variety of countries and industries, not because they represent the most popular or most thriving businesses. Some of these start-ups are successful locally or regionally, but this does not imply that they are widely known. In addition, multinational businesses from other regions of the world, such as Almarai from Saudi Arabia and Baidu from China, were chosen to be unrecognisable to a worldwide audience in order to highlight how viewers interpret a logo design when they have no link with the brand.

3.2.3.3 Part 3: Stimulating Emotional Responses

Q 3: What are your opinions on these images?

Emotional perceptions towards these images; this was the third and final section of slides. Images strategically placed to evoke emotions and draw users' attention to specifics. The objective was to determine whether the participants understood what they were seeing and/or assumed the visuals had been altered. Also concentrating on the emotional responses to altered versions of well-known corporate logos and branding packages.

3.1 Image information: The Pepsi Smiles Campaign contained variations Figure 12 is shown in the beginning of this part of the presentation. A Pepsi campaign which cost \$1 million, Pepsi Smile campaign in 2009: Pepsi used varied proportions for the white region in the circle logo, as illustrated in Figure 12 and specifically in the circular logo, resulting in the smile. This did not sit well with stakeholders, who insisted that Pepsi

maintain the same wave/colour size (with no changes) on the beloved blue design. In contrast, when participants were asked about the numerous Pepsi can colours they indicated that they were unaware of them and preferred the original blue can. Despite their familiarity with the brand and the fact that some of them do not drink soda, they readily recognise and identify it. The other half of the participants were unaware of the change.



Figure 12 - Pepsi Smile Campaign (2009).

3.2 The reason behind the selection: using these specific well-known brand (Pepsi and Amazon) case study helps us determine whether stakeholders still have confidence in the brand after it has been redesigned, or whether their impressions have changed. The significance of this section of the research rests in the unaltered uniqueness of these advertising, as some of these are actual case studies conducted by multinational organisations.

3.3 Image information: McDonald's celebrates International Women's Day with a campaign held in the United States state of California in 2018. To honour that day, they turned the iconic golden M logo upside down, creating a letter W instead of their M logo, which distinguishes the brand. As seen in Figure 13, McDonald's used the same colour as their iconic yellow and made a minor change that some saw as significant. Surprisingly, all participants identified the logo as McDonald's.



Figure 13 - McDonald's flips its iconic logo to celebrate International Women's Day. CA, USA (2018).

3.4 Image information: The Apple logo is an icon that we may encounter frequently, yet it has been discovered that the mind records and stores the image, allowing it to become familiar. This familiarity affects how we perceive and recognise the logo. However, the use of the final image with an Apple logo on the back of an iPhone helped confirm the findings of a study conducted at UCLA in which 85 people were asked to draw an Apple logo from memory (2015). With only one participant correctly drawing it, the remaining 84 participants either got it fully incorrect or got it partially right. The study was a neuroscience one that questioned if the brain can retain track of and pay attention to features even when we view logos on a daily basis. In Figure 14, the image was slightly edited with the Apple logo to see who could fully recognise the flaws in the logo compared to the original. Through horizontally flipping the leaf on top of the Apple to the opposite side. Also through filling the bulge at the bottom of the logo where it usually located. Approximately 7 out of 10 individuals thought the bottom looked strange. Two individuals looked at the leaf. And just one person noted that the bite seemed a little bigger, otherwise unaltered.



Figure 14 - The Apple logo horizontally flipping with the leaf on top of the Apple to the opposite side.

3.5 Findings: As the participants were familiar with the shown brand logos, this section of the research yielded more specific results. This resulted in a number of issues, such as what is permitted and what is not when a brand logo design is altered. This brings us back to the first and second parts of this study, and the question of whether participants compare logos based on personal preference and then choose the one with which they are most familiar, or whether they have a mental image of the brand in which anything different is perceived as strange or negative. Indicating that prior brand exposure and mental image of the brand's logo are critical.

3.2.4 Conclusion

Considering designers with varying levels of experience against diverse backgrounds, it was evident that familiarity has a significant impact on how logos are seen and communicated. For instance, at the beginning of the study I (part 1), the majority of participants (90%) were able to recognise not less than 5 of the logos provided in the collage of logos image, indicating a high level of memorability. This emphasises the need for memorability with both the logo design and the brand it represents for a good logo design to be recalled. In addition, in part 1.2 of the study, individuals were still

able to recognise the brand logos, despite the fact that they were cropped and altered and not a perfectly proportioned design. This also suggests that the brand logo's attributes, colour, shape, and arrangement within the space have an impact on memory recall. The purpose of the study I was to assess how logos are viewed, remembered, and recognised. This may point to some significant conclusions regarding the study's objective. Furthermore, when participants were asked to rate logos (part 2) after a description of the logo's features, brand line of business, and design elements, they rated the logos better than when they initially saw it or when they had no prior knowledge of it. Which begs the question of whether individuals maintained their high ranking based on how they assessed the logo design and how frequently they observed it, or if they had additional connections unrelated to the logo's design, like for example personal selection preference.

However, (part 3) is a more comprehensive study that explores cultural and worldwide preferences in terms of emotional preferences towards the company logo. How a well-known brand logo that has been altered can still be recognised and remembered. After all, the selection of familiar brands has a significant impact on recognition and recall, which is why it is preferable to test the same study with unfamiliar brand logos, such as start-up logos, so that the true evaluation of the logo design can be reached when personal preference, brand association, and brand familiarity are removed from the equation.

3.3 Study II: Describe the Logo Study

3.3.1 Research Questions

In this chapter, study I looked at logo image recall and its effect on logo design preference. In contrast, the second study (Study II) focuses on the underlying values and traits that are highlighted when asked to explain a logo design. As the name implies, the *Describe the Logo* study asks participants to comment on 15 global, randomly selected start-up brand logos in order to answer the question, "What are the

major aspects that contribute to a logo's overall visual appeal?" And the goal is to learn about the perceptions of participants when they view each of the 15 logos.

3.3.2 Data Collection & Data Analysis

The primary objective of this research portion is to 1) draw attention to the aspects of a logo's design that are of the utmost significance. 2) Determine whether or not there are a set of standard features that can be used to evaluate a logo design; 3) locate any hidden components that a designer would need to focus on during the first part of the creative process for a logo design. Due to COVID-19 restrictions, a different strategy was applied to the study, which was originally planned to be conducted in-person; instead, an online survey was used. Utilizing the university-affiliated Microsoft Forums online account, the investigation was conducted. In light of the COVID situation and the constraints of our surroundings, the online survey most properly represents the launching point for this study and future ones. However, this affected the logos that could be examined in the study, as analysing the logos would require considerable time by the participant. In this study, however, it was meant to last no more than 10 minutes, making it more appealing to participants. It was also appealing because it did not require a great deal of information about the participants, but it limited the amount of logos to be examined. The survey questions were developed with the logo and its descriptions in mind. Under a total of 17 questions were text boxes. The first question asked participants to select their native language from a list (English – Arabic – German – French – Other). A broad question that asked participants to identify the key visual component of a logo design was posed after this. Then, 15 uniform questions were created about a displayed logo and a text box with the straightforward query, "Can you describe this logo". The list of participants is shown in Table 6, where there are no participant codes because there was no necessity to include personal information. However, they were just required to identify their native language. The overall number of participants was 48, with the majority speaking Arabic (18) and English (16) and a lesser percentage speaking other languages (15) see Table 6. The significance of this study rests in the quality of the logo description. However, all the questions had to be answered in English, but this did not pose a difficulty for those who spoke English as a second language. The replies

as a whole are analysed and compiled to produce a theme that answers the topic of what logo design elements are significant.

Table 6 - Description of Sample (Participants).

<i>Study</i>	<i>Number of Participants</i>	<i>Native language</i>	<i>Number of participants</i>
<i>Describe the logo</i>	48	English	16
		Arabic	18
		Other Languages	14

The responses were then exported to Microsoft Excel, followed by the creation of a Microsoft Word document comprising the responses of each respondent to each logo. The comments were further analysed by analysing the words and dividing the analysis of this section of the chapter into 1) Thematic analysis and 2) Word frequency count. The objective of evaluating various methods of analysis was to gain a better understanding of which factors are significant when examining a logo from different viewpoints.

3.3.2.1 Thematic Analysis (TA)

This study's analysis is produced by individual responses that share the same topic. They are grouped together and used to generate themes. These responses begin as topics generated using colour coding, which are then converted to codes and grouped together to form a unified code. In this study, the thematic approach was significant since participants responded in their own words. Therefore, it is essential to grasp the language used to describe a logo design and to identify the most important quality

when analysing the visual design of a logo. Figure 15 provides an example of how the process and analysis of each participant's response word was colour coded.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1		What is your mother tongue (language)? design?	What is visually important in a logo?	Can you describe this logo?1	Can you describe this logo?2	Can you describe this logo?3	Can you describe this logo?4	Can you describe this logo?5	Can you describe this logo?6	Can you describe this logo?7	Can you describe this logo?8	Can you describe this logo?9	Can you describe this logo?10	Can you describe this logo?11	Can you describe this logo?12	Can you describe this logo?13	Can you describe this logo?14	Can you describe this logo?15		
2		35 English	That I understand something about the company that it represents	slightly formal a little modern	Really not very informative. It could be anything.	Probably modern technology. techNovus has a bio feel to me.	I don't like it much. The blue does not have sufficient contrast with the white background	I don't like the colours. I have no idea what sort of company this might represent.	Very strange. Nude? Is it something like pornhub?	Quite modern. Not sure what sort of company it might represent though. The red is very powerful and active	Another strange logo that tells me nothing about what the company is or does. I am not a fan of green but I particularly don't like this particular shade of green.	Quite nice. Probably some sort of health food production or retail company.	Obviously not my language is more sense if I could understand the language. It could be some sort of motorway cafe.	High quality design and attractive. However, the nature of the company is not very clear from the logo.	Slightly sinister. I guess it is some sort of dairy company, perhaps one that produces ice cream using liquid nitrogen. I think there is too much solid black here.	looks an effective logo to me. clearly a robotics company. The icon she left looks like some artificial brain.	Some classic colour harmony but I am not convinced this is a particularly nice colour. What is it about this colour combination. At least the nature of the company is clear.	Clever use of foreground background switching. And quite nice colour. What is it about this colour combination though?		
3		THEME		TYPE	ICON	TYPE & ICON	TYPE & ICON	TYPE & ICON	TYPE	ICON	ICON	TYPE & ICON	TYPE	TYPE	TYPE & ICON	TYPE & ICON	TYPE & ICON	ICON		
4		FORM																		
5		COLOUR																		
6		IMPRESSION																		
7		CULTURE																		

Figure 15 - Example of participant #35 colour coded responses.

Then, these colour codes are combined into NVivo to form code groups known as "Nodes," where a selection of words; participant responses were connected to the relevant node to construct better organised references for each subject (see Figure 16). The creation of Colour, Shapes, Impressions, Culture, and Brands was facilitated by the advent of codes. Through the categorisation of codes, these themes coincided with the study's aims and provided an answer to the study's fundamental question addressing the most significant aspects to examine when assessing a logo design

Name	Files	References
Shape		0
Q	30	73
Positive	10	14
PnN	11	15
Neutral	27	53
Negative	23	58
General	48	48
Feedback	0	0
Q	40	191
Positive	44	211
PnN	24	49
Neutral	31	73
Negative	45	184
Colour	1	3
Q	12	16
Positive	18	50
PnN	9	12
Neutral	12	23
Negative	15	29
Brand	0	0
Q	17	42
Positive	11	21
PnN	12	18
Neutral	14	22
Negative	12	22

Drag selection here to code to a new node

General x

<Files\\1> - 5 1 reference coded [1.24% Coverage]

Reference 1 - 1.24% Coverage

General The visual aesthetics

<Files\\10> - 5 1 reference coded [3.15% Coverage]

Reference 1 - 3.15% Coverage

General symbol or logo

<Files\\11> - 5 1 reference coded [2.08% Coverage]

Reference 1 - 2.08% Coverage

General - Easy to remember
- Simple to read

<Files\\12> - 5 1 reference coded [5.83% Coverage]

Reference 1 - 5.83% Coverage

General I'll pay attention if the logo has an attractive visualisation.

<Files\\13> - 5 1 reference coded [2.17% Coverage]

Reference 1 - 2.17% Coverage

General shape, colour

<Files\\14> - 5 1 reference coded [4.58% Coverage]

Reference 1 - 4.58% Coverage

General Colours, Shape, Space, Typography.

Figure 16 - Nodes on NVivo.

3.3.2.1.1 Themes

Codes help to create themes, and themes in turn help to identify what contributes to an overall pleasing logo design. The themes that are grouped are those that were chosen based on the number of participants who mentioned them, as well as how they responded to the questions of what stands out and is important in logo design, what standards should be used to evaluate a logo design, and finally highlighting the unnoticed components that logo designers should pay attention to when creating a brand logo. These themes may be general, but they are nonetheless focused based on the set of data gathered during this phase of the analysis. As seen in Figure 17, these themes focus on colour, shape, brand, and all-around participant's experience.

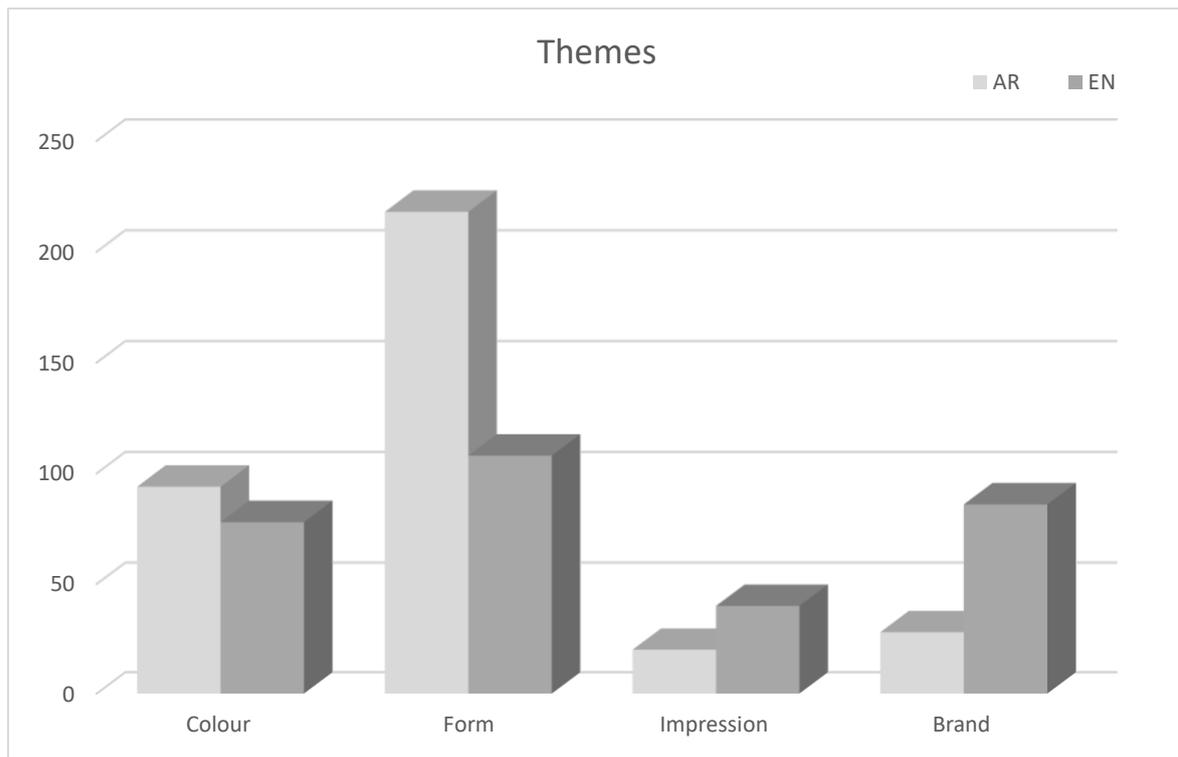


Figure 17 - Themes comparison between Arabic and English speakers most used words.

3.3.2.1.2 Discussions

As seen in Figure 18. The first to be analysed is the total input – *Feedback* – as the study analysis shows a positive response, meaning that the majority of the responses were positive in light of the observed logos. Following that was Q, which stands for questionable, implying that the participants had an ambiguous response, indicating that there was a level of consistency in the evaluation as they (the responders) struggled to make sense of the logo design, which could indicate that there was an assumption and guessing that occurred during the evolutionary process of logo design. Because it received neither a positive nor a negative reaction in the same logo evaluation, this uncertain issue was picked as a node under the feedback theme. They were followed by a negative reaction to the logo design, showing that some people did not accept and despised it.

The neutral answers node was then created to record comments that did not have a negative or positive link with the logos displayed. These responses, while impartial and unbiased, help us determine what may be irrelevant in the design process. Finally, during a more in-depth inspection or critique of the participant, the PnN node aggregated all of the responses that provided both positive and negative feedback. For example, 'the logo is OK, but if the colour was different,' participant #24 stated, implying critical thought throughout the evaluation process and a preference in when specific logos were reviewed.

The *Shape* theme earned the second-most comments and acknowledgements, indicating that the majority of participant answers recognised shape as an assessment factor and relevance when looking at a logo design. This proved that form trumps other considerations like colour scheme and brand awareness.

The findings may shed light on crucial concepts when the design process is still in its early phases. This can be used as a guideline for graphic designers, logo designers, and brand agencies when creating their own designs. The participants looked over the form, wondering what it meant and how it related to their understanding of the logo's business. Then came the *Negative* feedback from the participants, who questioned the shape of the generated logo, and then came the neutral responses to the designed form logo. Finally, after the *PnN* responses, the positive responses were identified as having the least importance in this study. The third most commented on theme is *Colour*, with the majority of responses expressing positive feelings about the overall colours of the selected logos, followed by negative comments indicating that there is a level of preference that may influence the decision when evaluating a logo design based on colour. While the neutral responses were less significant, the questionable and ambiguous responses appear to have minimal effect when evaluating the colour element of the logo design. Colour theme may have a major role in the judgement process after form and before brand recognition. See Figure 18.

Lastly, the *Brand* theme were replies show brand recognition or assumption based on brands that the participant is familiar with, as a demonstration of the names of brands that were stated in a range of responses. Similarity or likeness of the logo brand to a brand logo that may be similar or identical to the one exhibited, where it is obvious that negative and positive responses to the logos have the same ratio. In

Table 7 are examples of participant responses to each node (code) and theme and logo number starting with L.

Table 7 - Response Sample of Assessment of brands knowledge.

<i>Node</i>	<i>Theme</i>	<i>Quote</i>	<i>Logo</i>
<i>Positive comments</i>	Feedback	"Looks tech to me. Simple clear and has dimensions in it"	L4
	Shape	"Font is fairly easy to read"	L10
	Colour	"I love the colour simplicity and balance"	L5
	Brand	"Modern, simple, conveys a message about product or service."	L14
<i>Questionable</i>	Feedback	"What's is this logo?"	L2
	Shape	"Incomplete circle?"	L3
	Colour	"Why black colour?"	L12
	Brand	"..Fashion magazine? Underwear brand?"	L6
<i>Negative</i>	Feedback	" It's simple and boring"	L1
	Shape	" Feels not in line with brand"	L6
	Colour	"..The colours are not suitable..."	L14
	Brand	"...not really indicating the company of institution."	L8
<i>Neutral</i>	Feedback	"What's is this logo?"	L2
	Shape	"Incomplete circle?"	L3
	Colour	"Why black colour?"	L12
	Brand	"..Fashion magazine? Underwear brand?"	L6
<i>PnN</i>	Feedback	"..powerful colour but not that creativity"	L2
	Shape	"Simple but could be red like two letters"	L15
	Colour	"Too bright for me. But quite interesting"	L11
	Brand	"It looks to belong a professional company. It looks boring and serious"	L1

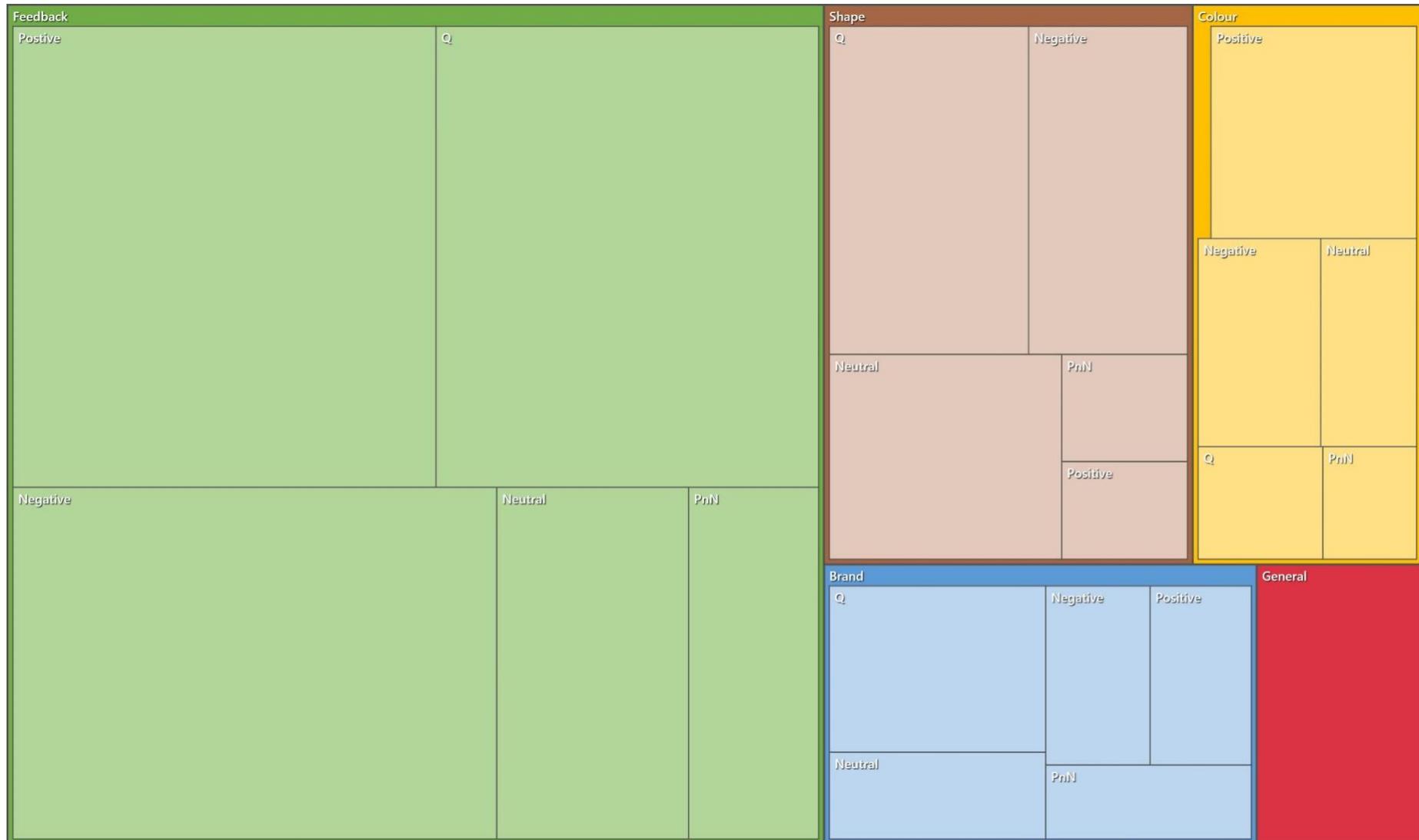


Figure 18 - Participants' common impressions.

3.3.2.1.3 Conclusion

By omitting the familiarity factor, as was done in the previous study (Study I) of this chapter, the usage of start-up logos in this study aids in achieving the purpose of the research. In fact, it made it simpler to identify the important factors that participants consider when evaluating a company's logo design from a foreign country that they are unfamiliar with. Although using only 15 logos may appear to be a small number, the goal was to make the assessment criteria testing as quick and easy as possible without overburdening participants with information and activities. As a result, the study aided in the analysis of the logo's design from the recipient's point of view. It also highlighted a crucial component that is fundamental to logo design's DNA. Yet again, the most crucial elements of logo design are colour and form, followed by brand recognition. Examining the sample of study that led to the conclusion would surely aid future logo designers in understanding which elements are vital when creating a logo.

3.3.2.2 Word Frequency Analysis

As stated by the section's heading, the emphasis of this study is on the participant-reported keywords. When commenting on a logo design in writing, these words bring to light the most essential terms used to describe it. This is significant since the word frequency method demands that every word be precisely analysed, documented, numbered, and cross-referenced with other terms in order to establish whether different languages use the same or different terms to describe the logos provided. Alternatively, these differences, if they exist, are noteworthy because they highlight similarities and contrasts between cultures.

3.3.2.2.1 Discussions

The terms that were transcribed through Microsoft Excel and NVivo are listed in Table 8 along with how frequently each term was used and the word count in numbers. The list was then returned to Excel, where a summary of the terms was condensed to the ten most frequently used and discussed terms from over one thousand words in order

to cross-reference them with each culture. Although there were a total of three language groups (English, Arabic, and Other), the analysis of the study chose to dismiss the other languages because they did not contribute any evidence to the study, and only two languages (Arabic and English) were the focus of the analysis at this time. These highlighted terms were the most mentioned and most frequently used by participants to define a logo design.

Table 8 - Arabic & English Attributes.

	<i>Word</i>	<i>Count</i>		<i>Word</i>	<i>Count</i>
AR Attributes	colour	94	EN Attributes	colour	78
	simple	94		brand	86
	modern	36		simple	46
	typograph	30		modern	20
	balanced	32		typograph	24
	brand	28		memorable	26
	bold	26		friendly	8
	friendly	10		harmonious	6
	harmonious	4		bold	14
	memorable	6		balanced	4

Though Table 8 indicates the two languages side by side to demonstrate a comparison of the most often used terms in both the Arabic and English languages is compared, the demonstration of the most frequently used terms in Figure 19 were colour, simplicity or simple, modern, typograph, balance or balanced, brand, bold, friendly, harmonious, and finally memorable.

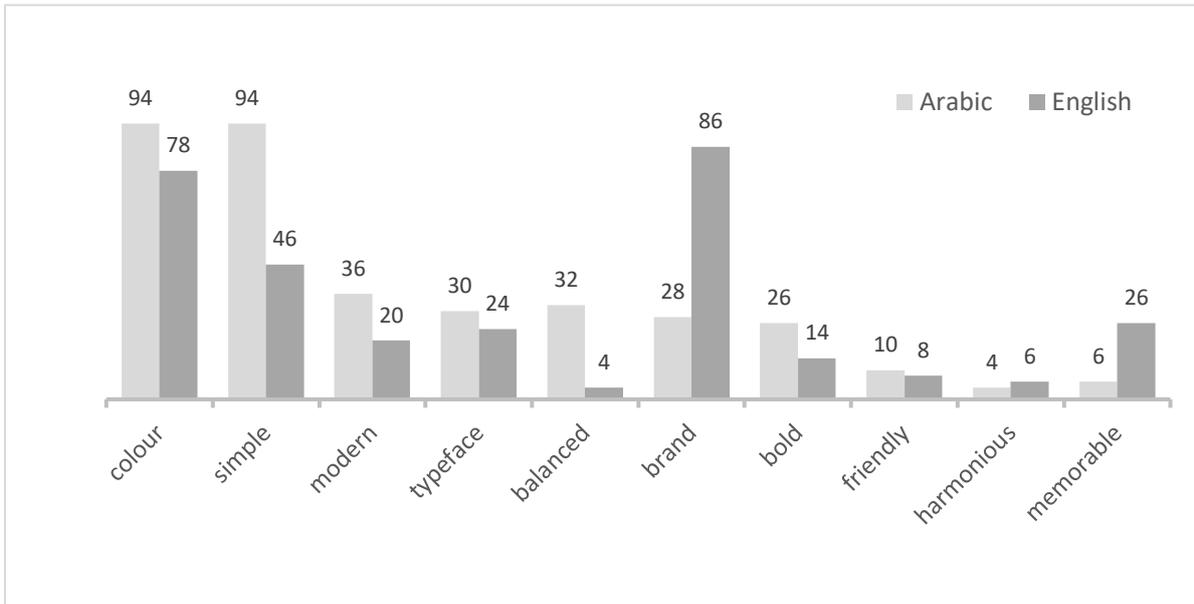


Figure 19 - Specific Attributes from Arabic & English Speaking Participants.

With colour being the most important mentioned word in both languages. Interestingly the chart shows that Arabic speaker did emphasize that shape (simplicity played an important role when evaluating a logo design while English speaker focus more on the brand itself when the evaluation took place. Both English and Arabic speaking participants expressed that all the logos were harmonious which might hint to their own impression about the design or what the brand is selling.

The colour in focus was an interesting response which matched well in the world cloud generated from the participant's responses to what is important in visual design of a logo. The first question in the survey. As see in the Figure 20, colour was highly cited after 29 percent of the 45 participants said colour was important when visually examining a logo design, followed by other descriptions.



Figure 20 - Word Cloud Count (main words).

3.3.2.2.2 Findings

In order to determine what characteristics to the logo design judgement and its aesthetic appeal. The purpose of this section of the study is to analyse responses based on word frequency (word occurrence). When the study's word frequency segment focused on the study of cultural remarks about the same logo design across native Arabic and English speaking participants, interesting insights were uncovered. When describing the logo design, the study discovered significant parallels and contrasts. For example colour was associated highly similar between English and Arabic responses. Though, while commenting on a logo's design, English speakers emphasised the value of the brand, whereas Arabic speakers concentrated on the logo's characteristics, such as its simplicity. This could imply that English speakers are more concerned with what the logo signifies for the brand than with its design. This could also imply that Arabic speakers prefer simple designs to more complicated designs. According to the study, both cultural groups regard harmony as the least remark.

When analysing the verbal written debate of a logo design, both Arabic and English native speakers emphasised their logo's essential characteristics. However, this does not necessarily imply that the majority of these speakers would agree on the same design elements. Nevertheless, this does not imply that there are no broad commonalities, and this chapter attempted to identify the most relevant criteria for evaluating a logo's design. The development of these significant findings is made possible by removing brand familiarity, employing start-up logos to assist participants evaluate the design without bias or prior knowledge.

3.3.2.2.3 Conclusion

This part of the research was able to make a definite distinction between the terms that dominated the comments in each of the different languages thanks to the frequency of the words. With colour being the topic that is brought up the most, and harmony in design receiving the fewest mentions. This study sheds light on the most essential aspects of the design; however, a more in-depth study can be conducted to determine what contributes to the visual attractiveness of a logo using the same terms but on a broader scale of logos, which could be those of well-known brands or start-ups. The scope of the new study would be broadened to incorporate logos from a greater variety of organisations, and it would be ideal if the research was carried out on a global scale in order to incorporate a greater number of cultural perspectives.

3.4 General Discussions

This chapter is concerned with how logo design is viewed and perceived and which logo features are most important to the logo aesthetic. Two research studies were carried out. The first was a study with a focus group followed by interviews with professional designers. This study explored three different aspects of logo aesthetics; familiarity, memorability and personal preference. The second was a survey carried out online where participants were asked to describe various logos using text; analysis (using thematic analysis and word frequency) of this text helped to identify which terms were important when describing a logo.

In the focus group experiment it was noted that participants contributed more when new logos were discussed. There were some evidence that colour and shape are important and that the brand represented by the logo is tied up in people's perception and preference of the logo. This raises the question of whether logo aesthetics are affected by someone's preconceptions about the brand; this issue will be discussed in more detail in the next two chapters. There was also some evidence that familiarity and memorability may affect how logos are perceived; for example, with previously unfamiliar logos, participants rated the logos higher once they had been explained or discussed in the focus group.

In the second study 15 logos were evaluated by 48 participants (the study was carried out online and was somewhat restricted because of COVID). The logos chosen were start-up logos so that the participants would not be influenced by any preconception of the brand when asked to describe the logo appearance. Thematic analysis of the recorded text descriptions revealed that colour and form were most important followed by the industry sector that the participants associated the logos with (even with unfamiliar start-up logos it was interesting that participants tried to link the logo with brand activity). A word-frequency analysis focussed on the responses from English and Arabic native speakers found broad similarity between the two groups. Analysis of text from both groups revealed that colour and simplicity were frequently mentioned and that harmony was infrequently mentioned. However, there were some differences; English speakers expressed more interest in the brand. From this analysis it was possible to identify a number of terms that participants used frequently in their descriptions of the logos and these were used to inform the design of the first experiment in the next chapter.

In addition, the graphic below illustrates the most essential terms used to evaluate a presented logo design Figure 21. Using the traffic light technique, the red colour represents the terms that are utilised the least value when analysing the logos in terms of the brand/company theme. Following that is the amber yellow colour, resonating that colour frequently mentioned when participants appraised logos. Lastly, the shape and form of the logo design received the most comments, as participants frequently mentioned and commented on the shape aspects when they evaluated the logo. In Figure 22, is a demonstration of themes and the frequencies of mentions based on percentage and colours.

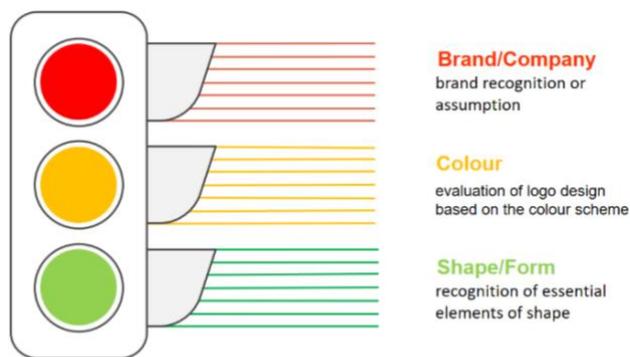


Figure 21 - Describe the Logo Study Key Important Features.

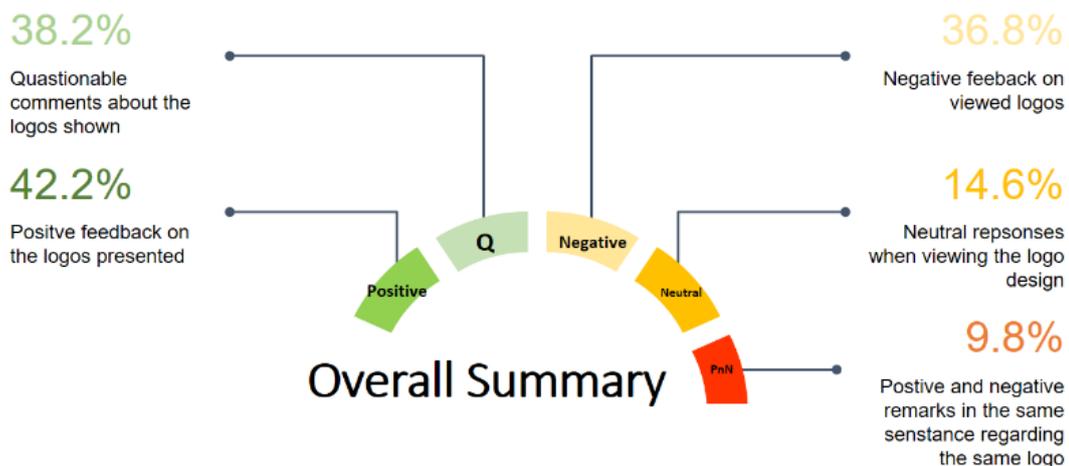


Figure 22 - Overall Summary of Coded Responses.

4. Identification of Key Attributes to Explain the Logo Aesthetics: Study III & Study IV.

4.1 Introduction

Prior research in chapter IV has demonstrated that familiarity with logos is necessary for developing a preference for a particular logo design. This discovery opens the door to a new challenge: understanding the significance of the elements that comprise an appealing logo design and how they should be implemented. Which resulted in this chapter's studies, in which the importance of understanding the reasons and techniques by which participants evaluate logos was emphasised. This two-study chapter comprises a pilot study (Study III) in which participants are asked to evaluate well-known brand logos and a subsequent main study (Study IV) that looks at start-up logo evaluations. These studies are important because they provide a range of evaluation-supporting traits that are consistent with earlier research and set the way for subsequent logo design investigations.

4.2 Study Design

Both studies were conducted using an online survey platform; however, both were conducted in a laboratory setting as opposed to the conventional online setting for online studies. This was done because laboratory investigations may yield more accurate results than online studies, while often involving fewer participants. The pilot study featured fewer participants (20 vs. 30) than the main study, however in the main study, participants were required to evaluate a broader variety of attributes (26 vs. 10). As inputs, the pilot study utilised a Likert scale, but the main study utilised a multiple-choice grid. All evaluations were exported to Microsoft Excel, where they were analysed.

4.2.1 Study III: 10 Attributes (50 Well-known brand logos)

The focus of Study III was to collect user responses to well-known logos from major companies; 50 logos were chosen to provide as much variety as possible while keeping the survey concise and accurate. From a global list of organisations, these logos were chosen to represent a wide range of industries. The focus was the electronic, communication, food and beverage, energy, vehicle, entertainment, and education industries. Participants were asked to scale the logos based on a variety of attributes.

4.2.1.1 Participants

There were 22 participants in this study, consisting of 16 females and 6 males. Their ages ranged from 18 to 44 years old. Eight participants from China, four participants from Saudi Arabia, two participants from the United States, one participant from the United Kingdom, and seven participants from other countries; all contributed to the diversity of responses. Although the questionnaire was accessible online, all 22 individuals completed it under similar settings in the same laboratory at the University of Leeds to ensure consistent display and presentation.

Additionally, the participants took a colour deficiency test before starting the survey. Each participant was then presented with a logo and asked to evaluate it according to the study's 10 attributes. On a 5-point Likert scale, respondents were asked to rate the logo's association with the mentioned attributes: extremely, very, moderately, slightly and not at all. The attributes were complex, proportional, unique, familiar, memorable, colourful, feminine, bold, friendly and modern. These attributes were chosen to represent the various perceptions that individuals are likely to have of the corporate logo design. This method was used for each logo displayed to each participant in a random order. During the study, 11,000 unique data points were collected (50 logos × 22 participants × 10 attributes).

4.2.1.2 The Selection of Logo Images

The inclusion of 50 logos in this analysis has a straightforward rationale. Despite the fact that this is a pilot study, the purpose was to include as many well-known logos as possible in the installation study in order to start uncovering the qualities and attributes necessary for efficiently evaluating corporate logo image. However, this is not a straightforward task, as each of the fifty logos must be evaluated based on a list of ten characteristics. Therefore, having more than 50 logos at this stage would have overburdened participants, saddled them with a substantial amount of weight, and exhausted them to the point where they may have dropped out of the study.

A logo was chosen based on a random sample of the most famous logo marks when the survey was conducted. A small number of well-known global logos were extracted from a vast sea of familiar logos using a randomisation technique. According to previous research, familiarity plays a role in how brand logos are perceived; therefore, the purpose of this pilot study was to determine what factors, other than familiarity, contribute to the success of a corporate logo design. The selection of logos for well-known global brands that the participants would have seen in their lifetime facilitated the study's objectives. This is especially significant because unfamiliar logos could have led to confusion, which was not the objective of the study at this stage. The logos that were selected are listed in Table 9.

4.2.1.3 The Selection of Attributes

A successful corporate logo serves the needs of the business while also communicating the organization's brand and core values. A successful corporate logo must be both effective and appealing, so an efficient logo serves both of these purposes. A successful logo is not merely an aesthetically pleasing symbol; rather, it combines these two aspects. And because design cannot be considered an independent art form because it must serve a functional purpose. Therefore, this pilot study aims to determine what factors contribute to the success of the presented logos. In consideration of the length of the study and the evaluation of 50 logos in one setting,

it was essential that the questions asked in this pilot study be both broad and specific. As a result, ten attributes were selected based on their prevalence in prior research; these attributes represented the majority of the general characteristics when evaluating a logo design. In the survey, respondents were asked to evaluate the following attributes, in the following order:

[Attribute 1] **Complex**: Designs having multiple variables (shape and form) are referred to as "complex." Therefore, assessing the complexity of logo designs may be more valid, as they more accurately reflect our multidimensional reality than designs that investigate individual parts in isolation.

[Attribute 2] **Proportional**: In design, proportion relates to the relative sizes of design elements. In logo design, it may not be necessary to worry about the actual size of a particular design element, but the relationship of individual elements to other aspects within the design may be of far greater relevance.

[Attribute 3] **Unique**: Unique implies that there is just one of a particular type. Due to this, testing the originality of the logo design only results in a superior version of something that was previously excellent. Uniqueness is being able to get better. A superior version of what already existed.

[Attribute 4] **Familiar**: According to earlier literature, familiarity is non-dualistic; it is a fact of our existence and one of the major ways we interact with the world. In this way, testing familiarity is interpreted as a comprehensive grasp of something, or an intimate relationship with it, incorporates the concepts of engagement and comprehension with the logo design.

[Attribute 5] **Memorable**: It is virtually impossible to classify what makes a design memorable. General principles, rather than absolute laws, govern many areas of design and typography. But designs that stand out tend to have a lot to do with movement and things that are different or unexpected. Not all visual notations are

aesthetically pleasing; some are made to be shocking or strange on purpose so that people will talk about them and remember them.

[Attribute 6] **Colourful:** Colour is a vital part of design, if not the most important. According to the Institute for Colour Research, people make an unconscious judgement on a place or object within 90 seconds of first seeing it, with colour accounting for between 62% and 90% of that decision. Because once colours are chosen to be assessed as a characteristic in this study, they bring design meaning. As colours cause people to feel and express what they believe.

[Attribute 7] **Feminine:** The aesthetic effects of fonts on logo design, such as whether it is masculine or feminine, are comparable to the effects of colour. Where masculine fonts are characterised by geometric and straight lines, sharp edges, and a bold appearance. In contrast, feminine fonts tend to be cursive, smooth, and comprised of fine lines. In addition, they are more refined and exquisite than masculine counterparts. In order to investigate whether feminine designs have a different influence on preferences while evaluating a presented logo design, it is crucial to determine whether these fine lines have an effect on preferences.

[Attribute 8] **Bold:** Every product or service contends with numerous rivals for consumers' attention. Where boring or uninspired designs are likely to blend into the background. Innovative design involves more than just creating with something new. Instead, the finest designers go deep to find a brand's guiding principles. It is important to evaluate how bold the logo design is since the best designs raise concerns that encourage viewers to think about the world around them and pay attention to the brand's logo. Bold design serves more purposes than simply spreading awareness of your brand. It is the statement made by a carefully designed logo.

[Attribute 9] **Friendly:** Paul Rand stated that a logo identifies, not sells. A logo typically offers minimal information about a company. Moreover, a logo's meaning derives from the product it represents, not the other way around. The product represented by a logo

is far more important than the logo itself. Because its significance outweighs its appearance. While virtually everything may be used to inspire a logo, it is only when it comes to the friendliness of a corporation's logo design that it is interesting to see how much this attribute influences its appearance.

[Attribute 10] **Modern**: In modern logo design, historic and modern elements are combined to create a brand symbol that has the appearance of being modern. In addition, modern design features clean text and lines, vibrant colours, and elements that are sharply defined. In this pilot study, the selection of an attribute that expresses modernism in global logo design is extremely important for the purpose of determining the significance of this attribute in the overall evaluation of logo design.

4.2.1.4 Procedure & Scaling Methods

The scale items were assigned numerical values (Extremely = 5 , ..., Not at all = 1). They were then subject to statistical analysis which was performed using SPSS software.

4.2.1.5 Findings

Table 9 lists each of the logos and the mean scores for each logo for each of the 10 attributes. In Figure 23, the mean scores for each attribute are shown. All respondents ranked familiarity and memorability as the two most crucial factors. Note that the familiarity attribute received the greatest score, while the memorability attribute received the second-highest score. It shows the range of responses in addition to the mean values. The evaluations of five logos are unusual. The vibrant colour choices of the logos for the Museum of London, Microsoft, and Firefox are exceptional and the 3M and Apple logos are exceptionally bold and modern respectively.

Table 9 - 50 logos + 10 attributes / 22 participants.

	complex	proportional	unique	familiar	memorable	colourful	feminine	bold	friendly	modern	M	SD
University of Leeds	1.68	2.68	2.77	3.64	3.50	1.00	1.50	3.23	2.91	3.23	2.61	0.86
Twitter	1.32	3.23	3.55	3.86	4.23	2.77	2.23	2.59	4.09	3.73	3.16	0.88
Target	1.32	3.59	2.68	3.09	4.05	2.73	1.91	3.41	2.23	2.59	2.76	0.77
Walmart	1.68	2.36	2.45	3.23	3.18	3.36	2.09	2.27	3.36	2.77	2.68	0.56
Shell	2.32	3.64	3.77	4.32	4.18	4.05	2.32	3.77	2.50	2.68	3.35	0.76
Apple	1.27	3.14	4.45	4.64	4.73	1.27	2.27	2.68	3.41	4.36	3.22	1.26
Microsoft	1.73	3.36	3.41	4.50	4.23	4.45	1.91	2.91	3.23	3.00	3.27	0.91
IBM	2.86	3.36	3.41	4.27	3.59	1.86	1.68	2.95	2.05	2.50	2.85	0.79
McDonald	1.18	3.86	4.14	4.91	4.86	3.09	2.55	3.36	4.32	3.64	3.59	1.07
Toyota	2.68	3.45	3.41	3.95	3.45	2.09	1.82	2.64	2.27	1.77	2.75	0.73
Samsung	1.55	2.95	3.18	4.45	3.73	2.36	2.09	3.00	2.59	3.23	2.91	0.79
Ford	2.00	3.27	2.82	4.41	3.91	2.05	2.09	2.64	2.68	1.91	2.78	0.81
Honda	2.32	3.14	2.91	4.05	3.32	2.05	1.59	2.73	2.14	1.82	2.60	0.72
HP	1.95	3.55	3.14	4.05	3.91	2.09	2.09	3.05	2.91	3.09	2.98	0.71
Tesco	2.95	2.82	3.09	4.23	3.64	3.45	1.86	2.91	3.23	2.77	3.10	0.59
PetroChina	2.73	3.45	3.23	1.73	2.50	3.86	2.32	2.82	2.77	2.36	2.78	0.58
Exxon Mobil	2.23	2.77	2.27	2.05	2.27	1.55	1.41	2.45	1.55	2.50	2.10	0.44
BP	3.45	3.05	3.55	2.86	3.32	4.00	2.73	2.68	3.36	3.05	3.20	0.39
VW	3.05	3.59	3.77	4.23	3.91	1.91	2.00	3.36	2.86	2.95	3.16	0.73
Colgate	1.45	2.64	2.55	4.41	3.86	2.36	2.14	2.95	2.91	2.77	2.80	0.79
Mazda	2.59	3.55	3.36	4.27	3.64	1.82	2.45	2.77	2.86	2.64	3.00	0.67
Batman	2.41	3.86	4.09	4.55	4.41	2.91	1.68	3.68	2.27	2.73	3.26	0.94
Subway	1.45	3.55	3.64	4.50	4.14	3.68	2.50	2.95	3.50	3.09	3.30	0.82
Motorola	2.36	3.00	3.09	3.68	3.09	2.18	1.64	2.59	2.23	2.41	2.63	0.56
Roxy	3.68	3.73	3.45	2.32	2.32	1.09	2.18	2.32	1.95	2.50	2.55	0.79
Lacoste	2.82	2.64	3.77	4.59	4.27	2.59	1.64	3.18	2.09	2.50	3.01	0.90
Verizon	1.41	2.50	1.82	2.14	2.14	1.45	1.50	2.59	2.14	2.68	2.04	0.45
National Geographic	1.45	2.23	2.27	1.91	2.09	2.36	2.05	2.73	2.23	2.45	2.18	0.32
Firefox	3.68	3.05	4.05	4.09	3.86	4.36	2.27	3.32	3.09	2.82	3.46	0.63
Nissan	2.00	3.32	2.73	4.05	3.27	1.09	1.68	2.36	1.95	2.50	2.50	0.83
BMW	2.18	3.41	3.86	4.23	4.18	2.68	2.32	2.64	2.64	2.50	3.06	0.74
Hitachi	1.95	2.41	2.00	1.82	1.91	1.18	1.50	2.36	1.91	2.05	1.91	0.34
Nestle	3.64	2.82	4.27	4.09	4.14	1.95	3.14	2.50	3.68	2.50	3.27	0.77
Siemens	1.27	3.14	2.23	3.36	2.95	1.55	1.82	2.64	2.41	2.41	2.38	0.65
Boeing	2.73	2.45	3.32	2.41	2.32	1.91	1.59	2.82	2.09	2.36	2.40	0.46
Amazon	1.82	2.95	3.64	4.32	4.32	2.50	2.55	3.05	4.05	3.50	3.27	0.80
P&G	1.27	2.86	2.36	3.82	3.64	1.77	2.09	3.18	2.55	2.73	2.63	0.76
Hyundai	2.09	2.91	2.45	3.36	3.18	1.73	1.77	2.50	2.27	2.27	2.45	0.52
Sony	2.18	2.64	2.73	3.86	3.36	1.09	1.45	2.64	1.95	2.41	2.43	0.78
3M	1.18	3.55	3.18	3.27	3.73	2.41	1.91	4.05	2.27	2.95	2.85	0.85
Museum of London	4.05	2.27	4.09	2.23	2.68	4.59	2.86	3.14	4.05	3.95	3.39	0.81
Pepsi	1.82	3.09	4.09	4.59	4.14	3.82	2.50	3.50	3.41	3.50	3.45	0.78
Rolex	2.27	3.00	3.55	4.09	3.91	2.23	2.27	3.09	2.36	2.32	2.91	0.69
Unilever	3.68	3.86	4.27	4.00	3.95	2.68	2.95	3.00	3.91	3.59	3.59	0.50
Bentley	3.82	3.68	4.14	4.00	3.73	1.09	1.77	3.14	2.36	2.50	3.02	0.99
Goldman Sachs	1.50	2.45	2.00	2.05	2.41	1.14	1.68	2.86	2.00	2.32	2.04	0.48
Yamaha	3.73	2.32	3.05	3.00	3.00	2.50	1.73	2.91	2.14	1.73	2.61	0.61
BBC	1.18	4.14	3.45	4.32	4.50	1.09	1.82	3.91	2.73	3.41	3.05	1.22
LSO	2.77	2.41	4.00	1.45	2.32	1.86	2.91	2.73	2.59	3.59	2.66	0.71
Goodwill	3.23	3.05	3.73	2.00	2.95	2.64	1.91	3.18	3.23	3.09	2.90	0.54
M	2.28	3.09	3.26	3.58	3.50	2.37	2.05	2.93	2.73	2.77		
SD	0.84	0.49	0.68	0.96	0.75	0.98	0.43	0.41	0.67	0.57		

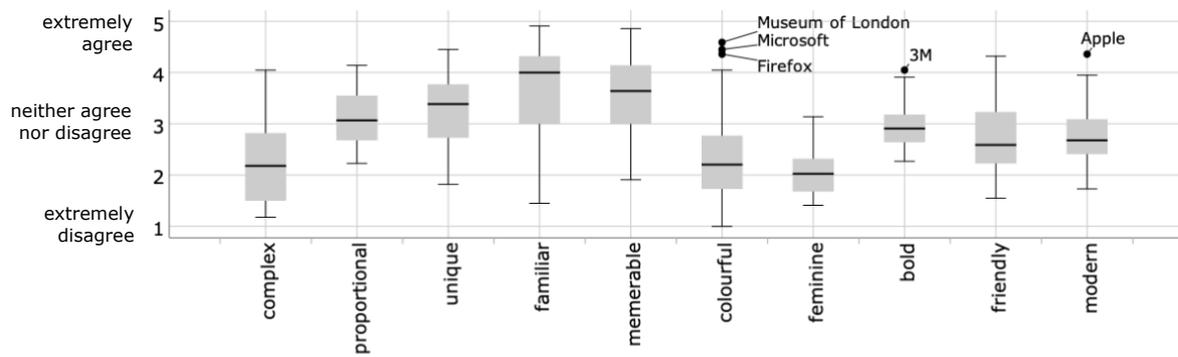


Figure 23 - The Median Values for Each Attribute in the Pilot Study.

The analysis produced details of the correlations between the attributes. Table 10 shows the correlation coefficients between pairs of attributes. It was found that colourfulness had statistically significant positive associations with the following attributes: friendliness ($p = 0.001$), femininity ($p = 0.001$), boldness ($p = 0.022$), modernism ($p = 0.036$), uniqueness ($p = 0.003$), and memorability ($p = 0.036$). Correlations between more variables were revealed, suggesting that component analysis may be able to reduce the complexity of the feature space to some extent. This demonstrates that when all participants evaluate the logo of a well-known brand, the two characteristics are substantially connected. In contrast, the least correlated attributes were feminine and complex. It was determined that familiarity and memorability had the highest level of correlation, followed by the friendly and feminine attributes. In contrast, friendliness and vibrancy were qualities with a moderate degree of association, but boldness and vibrancy were among those with the lowest degree of correlation.

The study was successful and indicates that factor analysis may be applicable. The idea of using factor analysis or Principal Component Analysis (PCA) is to perform a dimensionality reduction on the data from N attributes to a number much smaller than N . Dimensionality reduction using PCA requires that some of the attributes are correlated and this Study has confirmed that this is the case. However, factor analysis was not carried out on these data. This is because several limitations of this study were revealed and these were corrected in the second study that follows.

Specifically, the number of participants (22) and attributes (10) were relatively small. The latter is a particular concern because in order to make the factor analysis useful, the attributes need to span the full range of likely participant reactions even if some of the attributes are highly correlated. Further, although the use of well-known logos was well intentioned, subsequently it was felt that that the use of these logos might mean that participants confuse the attributes of the visual logos with the attributes of the brands that those logos represent.

Table 10 - The correlation between each of the 10 attributes. It shows the correlation coefficients (r) & the p values from the statistical test.

		complex	proportional	unique	familiar	memorable	colourful	feminine	bold	friendly	modern
complex	Pearson Correlation Sig. (2-tailed) N	1 50									
proportional	Pearson Correlation Sig. (2-tailed) N	-0.034 0.816 50	1 50								
unique	Pearson Correlation Sig. (2-tailed) N	.465** 0.001 50	.441** 0.001 50	1 50							
familiar	Pearson Correlation Sig. (2-tailed) N	-0.173 0.231 50	.502** 0 50	.417** 0.003 50	1 50						
memorable	Pearson Correlation Sig. (2-tailed) N	-0.192 0.182 50	.585** 0 50	.576** 0 50	.900** 0 50	1 50					
colourful	Pearson Correlation Sig. (2-tailed) N	0.199 0.167 50	0.057 0.695 50	.388** 0.005 50	0.132 0.359 50	0.257 0.071 50	1 50				
feminine	Pearson Correlation Sig. (2-tailed) N	0.258 0.071 50	0.148 0.306 50	.609** 0 50	0.112 0.44 50	.294* 0.038 50	.473** 0.001 50	1 50			
bold	Pearson Correlation Sig. (2-tailed) N	-0.102 0.479 50	.424** 0.002 50	.374** 0.008 50	.328* 0.02 50	.502** 0 50	.286* 0.044 50	0.068 0.641 50	1 50		
friendly	Pearson Correlation Sig. (2-tailed) N	0.04 0.781 50	0.152 0.29 50	.549** 0 50	.322* 0.023 50	.502** 0 50	.534** 0 50	.731** 0 50	0.155 0.283 50	1 50	
modern	Pearson Correlation Sig. (2-tailed) N	-0.152 0.292 50	0.153 0.287 50	.513** 0 50	0.177 0.219 50	.393** 0.005 50	0.257 0.071 50	.523** 0 50	.321* 0.023 50	.720** 0 50	1 50

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

very strong
 strong
 moderate
 weak

4.2.2 Study IV: 26 Attributes (50 Start-up Brand Logos)

4.2.2.1 Participants

A total of 30 people were recruited for this study, which took over an hour and a half to complete. Next, it will illustrate that 50 logos were evaluated against 26 attributes. This is a long survey and completion generally took each participant over one hour and as long as 90 minutes in some cases. Although it would have been better to have even more participants, only 30 participants were recruited because of the length of the experiment. Some other related studies that have been published have used a similar number of participants.

4.2.2.2 The Selection of Logo Images

A total of 50 logos, which were chosen to represent five important industries in the start-up arena, were selected. These businesses were chosen because they are the most common sectors that a viewer may encounter, and they are broad and popular in comparison to a specialty industry that may not be appropriate for the study's objects. The purpose of this research is to better understand the motivations and procedures used by participants to evaluate logos. As seen in Table 11, the logos chosen came from the technological, financial, healthcare, manufacturing, and retail industries. While Table 11 provides a brief explanation of what each business represents, it was vital to select an equal number of logos for each category so that no industry dominates others. There were ten of each logo industry, and they were primarily collected because they included colour combination and typography style. The decision was based on start-up logos produced in the United Kingdom before 2022, with a five-year age limit. The behind choosing a start-up logo is that it is not a logo that can be readily made online, but rather a design of a firm or brand that has already invested a significant amount of money and is well-established. Also, the advantage of evaluating a start-up logo over famous logos from well-known companies; such as Apple; is that the viewer will not have any brand association with the logo, allowing them to focus more on its design. However, this doesn't imply it will

be any easier; it's just a way to see how participants will evaluate a logo if they don't know what it's for or what the brand it represents. Again, the benefits of utilising a start-up logo may outweigh the disadvantages, which is why they were used instead of website created online logos and well-known famous ones, as it is positioned in the middle.

The selection of logos included a mix of icon and typo (word) so that the unification of the logo set may be evaluated based on all of its design aspects. This has been done so that if, for example, an Apple logo is displayed, the evaluation will be based just on the icon since there are no words. In addition, the decision was based on logos from active start-up companies. The purpose of this criterion is to evaluate a logo for a brand that has demonstrated interest and commitment in its design process, as opposed to a selection of logos from computer-generated logo websites, buy as needed logos. The design of start-up logos is balanced and eliminates the brand association a participant might have when analysing the brand as opposed to the logo's attributes. However, the criterion also had to screen out some of the millions of start-up logos from around the world. Therefore, shown in Figure 24, a nation filter has been performed, and only logos from British start-ups have been selected. The option has been suggested due to the fact that the study would only involve residents of the United Kingdom.

Following this is the year filter, where logos were selected from the years prior to 2022 and no more than 5 years prior. Due to the fact that the study was conducted in 2022, few start-up logos can be collected. However, compared to the previous year, in 2021 there will be a significant increase in the number of start-up companies that are either rewarded or acquired by larger companies for millions of pounds. Consequently, they were mostly included in the survey.

In addition, the study aimed to filter even more logos based on the year and country in which they were created. The next filter is the industry in which these start-ups excelled. Despite the fact that the majority of sectors are dominated by technology

businesses, this is not the case for the majority of industries. The five industries selected from the ten leading industries in the world were as follows:

Manufacturing start-up and their derivatives. For instance, a company may produce a certain type of fabric for another company and provide it with supplies that aid in the manufacturing process. Some of the logos, despite their use of technology, are still considered to be from a manufacturing company, as we rely on technology to aid, organise, and facilitate work across industries.

Companies associated with **technology** that met the survey requirements for logo design, place of origin, and creation year. They are companies that create, manufacture, or distribute computers, computer-related equipment, computer services and software, scientific instruments, and electronic components and items are included in the technology industry.

Financial logos of start-ups are the most intriguing because the financial business is traditionally regarded as conservative. Especially with financial matters. Not only banks and stocks, but a huge array of start-ups in this section of logos came up with innovative money-related solutions. Others involved leasing, payments, and insurance.

Retailing logos are the retail sector encompasses all businesses and individuals that sell directly to consumers. The retail industry includes shops, department stores, supermarkets, market stalls, door-to-door salespeople, and online businesses.

Finally, the logos of the **health care** sector encompasses a very broad category of businesses that supply patients with a variety of goods and services. This covers things like providing individuals with treatment and palliative care, as well as treating patients and avoiding sickness. Other examples include offering rehabilitative medicine. As can be seen in Table 11, a collection of images of the logos used in the

survey and obtained from each business was assembled into a collage table. This resulted in a total of 50 logos coming from 5 distinct industries.

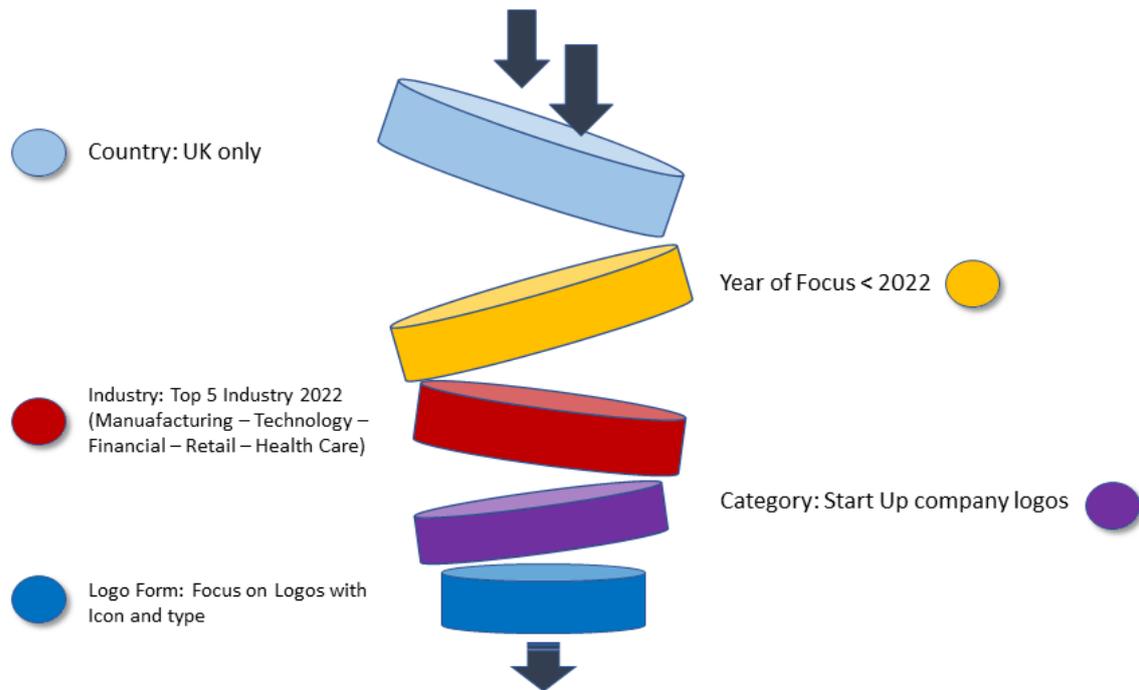
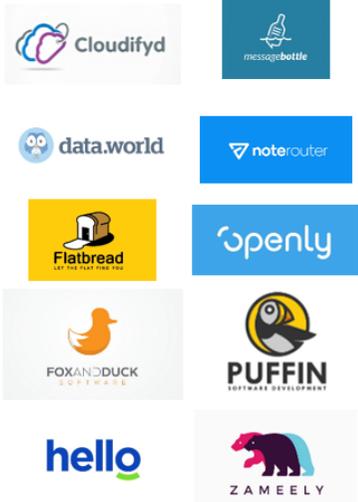
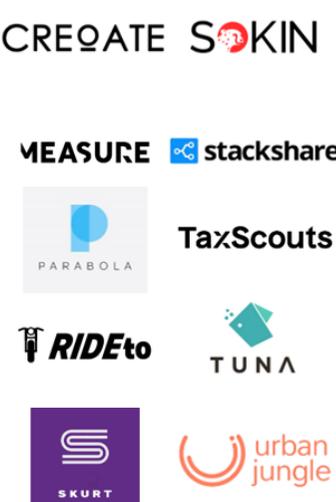
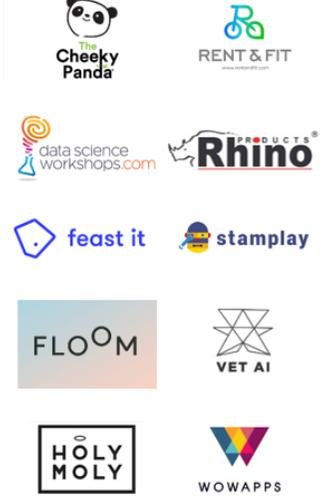


Figure 24 - Logo filter process.

4.2.2.3 The Selection of Attributes

In contrast to Study III, in which participants evaluated logos for well-known companies, in this study participants evaluated logos for start-ups. An additional list of attributes was added to the study based on a list of words that were frequently used in the responses to Chapter 3.3 Study II: Describe the Logo study, where words that can be grouped as an attribute is created and then reduced to 26 attributes. For example, in Study III, participants were asked to provide a description of the company logo. If they mention a colour, such as blue, it is grouped under the colour attribute; this also applies to the set of other words grouped together as displayed in Table 12.

Table 11 - Start-up Brand Logos Based on Industries.

	TECHNOLOGY	FINANCIAL	HEALTH CARE	MANUFACTURE	RETAIL
Description of Industry	<p>The technology industry includes companies that design, make, or distribute computers, computer-related equipment, computer services and software, scientific instruments, and electronic components and goods.</p>	<p>Financial services is a broad term that encompasses all aspects of the finance industry, from insurance and money management to payments and digital banking technology.</p>	<p>The healthcare industry includes a diverse range of industries that provide goods and services to patients. This includes things like providing rehabilitative medicine and palliative care, as well as treating people and preventing illness.</p>	<p>Fabrication, processing, or preparation of products from raw materials and commodities is a branch of manufacturing and trade. All foods, chemicals, textiles, machines, and equipment are included.</p>	<p>The retail sector includes any company or individual who sells products directly to consumers. Shops, department stores, supermarkets, market stalls, door-to-door salespeople, and internet retailers are all part of the retail sector.</p>
					

All logo images were chosen based on the presence of colour and the combination of an icon and a typeface style. The selection was based on start-up logos developed in the United Kingdom prior to 2022 and no older than five years.

Moreover, as the study intends to obtain a better understanding of the aspects that contribute to the overall visual attractiveness of a logo design by conducting this poll. When analysing a single logo, 26 separate questions or attributes are to be examined. The huge list of words, which comprised over a thousand entries, imported from NVivo and filtered using Microsoft Excel based on criteria such as the 1) number of times each word was mentioned, 2) whether it was a noun or an adjective, and 3) whether it was positive or negative (as shown in Table 12).

Table 13 shows the finalist list of 26 attributes, which includes the terms (simple - interesting - attractive - colourful - creative - dynamic - friendly - balanced - contemporary - clean - organic - concise - connected - distinct - playful - composed - funny - sustainable - unique - aligned - catchy - professional - readable - sophisticated - vibrant - adaptable) and the number of times it was mentioned in the previous study results. The most often mentioned attribute was Simple, which was mentioned 72 times, and the least frequently mentioned attribute was Adaptable, which was mentioned only once. These characteristics help to narrow the adjectives that describe the visual design aesthetics of the logos chosen for this study.

These attributes are more specific and targeted than those of the previous pilot study, despite sharing the majority of the same attributes. The limitation of the attributes used to evaluate logo designs could be a drawback of this study, but in order to conduct this study, extra preparation was needed, such as turning the monitor to show as many attributes as possible on a single slide in addition to presenting the logo. There was a limit to the number of attributes used because it was required to display them beneath each logo so that participants could assess the design without relying on memory recall.

Table 13 - Final Attributes & Word Count.

<i>Word</i>	<i>Count</i>
<i>simple</i>	72
<i>interesting</i>	29
<i>attractive</i>	21
<i>colourful</i>	13
<i>creative</i>	10
<i>dynamic</i>	10
<i>friendly</i>	10
<i>balanced</i>	9
<i>contemporary</i>	7
<i>clean</i>	6
<i>organic</i>	6
<i>concise</i>	5
<i>connected</i>	5
<i>distinct</i>	5
<i>playful</i>	5
<i>composed</i>	4
<i>funny</i>	3
<i>sustainable</i>	3
<i>unique</i>	3
<i>aligned</i>	2
<i>catchy</i>	2
<i>professional</i>	2
<i>readable</i>	2
<i>sophisticated</i>	2
<i>vibrant</i>	2
<i>adaptable</i>	1

4.2.2.4 Procedure & Scaling Methods

As in the previous study, the scale items were assigned numerical values (Extremely = 5 to Not at all = 1). They were then subsequently subjected to statistical analysis and factor analysis. The factor analysis was performed using SPSS software.

4.2.2.5 Findings

Table 14 and Table 15 lists the mean attribute scores for each of the 50 logos and Figure 25 shows the mean attribute scores for each of the 26 attributes (pooled over all images). As before (in Study II) there were correlations between the attributes; however, these correlations suggested that factor analysis could be carried out.

Table 14 - The Mean Attribute Scores for each of the 50 Logos.

		a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13	a14	a15
		simple	interesting	attractive	colourful	creative	dynamic	friendly	balanced	contemporary	clean	organic	concise	connected	distinct	playful
TECHNOLOGY	L1_1	2.70	3.23	3.13	3.37	3.30	3.13	2.87	3.10	3.07	2.97	2.70	3.23	3.77	3.23	3.53
	L1_2	2.80	3.13	2.87	3.57	2.93	2.77	3.70	3.40	3.00	3.20	3.03	3.03	3.30	2.73	3.63
	L1_3	2.70	3.73	3.43	3.70	3.80	3.77	3.87	3.60	3.17	3.07	2.93	3.03	3.60	3.87	4.07
	L1_4	3.23	3.80	3.60	3.87	3.80	3.57	3.97	3.80	3.67	3.43	3.13	3.43	3.67	3.83	4.10
	L1_5	4.70	3.83	3.97	3.57	3.23	3.13	4.00	3.83	4.07	4.37	2.73	3.93	3.10	3.33	3.27
	L1_6	3.33	3.63	3.37	2.60	3.80	3.37	3.33	3.37	3.33	3.37	2.80	3.60	3.80	3.43	3.63
	L1_7	4.00	3.00	3.07	2.87	2.73	3.17	3.27	3.43	4.00	4.00	2.37	3.97	3.73	3.23	2.83
	L1_8	4.33	3.43	3.30	2.97	3.40	3.63	3.50	3.83	3.90	4.27	2.83	4.13	3.47	3.47	3.47
	L1_9	3.03	3.83	4.03	4.07	3.37	3.83	3.73	3.50	3.90	3.77	2.97	3.40	3.70	3.67	3.67
	L1_10	3.50	4.07	4.10	4.30	4.00	3.70	3.87	3.47	4.07	3.83	3.13	3.83	3.33	3.83	3.83
FINANCIAL	L2_1	4.23	3.37	3.33	1.60	3.17	2.77	3.03	3.73	4.27	4.13	2.60	3.90	3.67	3.20	2.57
	L2_2	3.67	3.47	3.37	1.60	3.17	3.40	2.73	3.17	3.50	3.77	2.40	3.97	2.70	3.43	2.87
	L2_3	4.40	3.90	3.97	3.60	4.03	3.43	3.90	3.90	4.43	4.30	2.70	3.70	3.70	3.87	3.23
	L2_4	3.27	2.87	2.80	1.43	2.77	3.17	3.20	2.57	2.93	3.23	2.40	3.40	3.47	3.23	3.47
	L2_5	4.23	3.00	3.33	2.87	2.80	3.17	3.17	3.80	3.47	3.73	2.47	3.67	3.17	3.03	2.37
	L2_6	3.20	3.53	3.40	3.13	3.17	3.07	2.80	3.47	3.33	3.17	3.03	3.33	3.23	3.27	3.17
	L2_7	3.57	3.00	2.83	3.10	2.63	2.90	2.87	3.77	3.50	3.87	2.37	3.87	3.67	3.23	2.27
	L2_8	4.13	2.87	3.03	1.40	2.90	2.73	2.87	3.83	3.73	4.00	2.33	3.97	3.60	3.27	2.37
	L2_9	3.83	4.30	4.13	3.67	3.90	3.80	3.97	3.60	4.40	3.97	3.70	3.77	3.77	3.90	3.87
	L2_10	3.77	3.33	3.27	3.47	3.43	3.50	3.83	3.30	3.80	4.10	3.13	3.43	3.07	3.27	3.53
HEALTH CARE	L3_1	2.53	3.40	3.00	3.37	3.50	3.40	3.50	3.30	3.13	3.20	4.00	3.00	3.57	3.50	2.87
	L3_2	4.47	3.23	3.73	3.03	3.43	3.27	3.77	3.83	4.33	4.30	3.07	4.00	3.70	3.60	3.13
	L3_3	4.13	3.20	3.53	3.50	2.87	3.00	3.27	3.47	3.83	3.93	2.27	3.70	3.30	3.27	2.57
	L3_4	2.93	3.03	2.73	4.00	3.10	2.90	3.27	3.10	3.33	2.97	2.27	3.50	3.57	3.37	2.83
	L3_5	4.10	3.73	3.43	1.43	3.43	3.67	3.27	3.10	3.83	4.27	3.10	3.63	3.23	3.53	3.13
	L3_6	3.70	4.07	3.83	3.90	3.93	3.73	4.13	3.70	4.03	4.10	2.97	3.97	3.87	4.10	3.43
	L3_7	1.93	3.47	2.53	3.83	3.57	3.53	2.43	3.03	3.27	2.30	2.80	2.37	3.20	3.03	3.43
	L3_8	2.60	3.47	3.17	3.07	3.43	3.30	3.57	3.57	3.53	3.50	2.97	3.00	3.90	3.47	3.17
	L3_9	3.83	3.10	3.20	1.73	3.17	2.87	2.53	3.90	4.17	4.17	2.77	3.83	3.37	3.00	2.17
	L3_10	4.07	2.87	2.80	3.40	2.33	2.53	3.43	3.53	3.57	3.77	2.17	3.60	3.03	3.10	2.43
MANUFACTURE	L4_1	3.03	3.83	4.13	3.57	3.70	3.60	4.60	3.27	3.70	3.80	3.87	3.23	3.97	3.50	4.20
	L4_2	2.23	3.80	3.53	4.37	3.73	4.00	3.50	2.90	3.50	2.77	2.60	2.70	3.60	3.80	3.90
	L4_3	4.37	2.93	2.90	2.90	3.07	3.10	2.87	3.03	3.53	4.17	2.47	3.87	3.00	3.47	3.30
	L4_4	4.10	3.67	3.47	3.27	3.20	3.57	3.33	3.07	3.83	3.50	2.77	3.77	3.23	3.33	3.80
	L4_5	4.07	3.47	3.40	1.73	3.33	3.03	3.40	4.07	3.87	3.83	2.47	3.93	3.73	3.50	3.40
	L4_6	3.03	3.90	3.53	4.30	3.90	4.07	3.90	3.43	3.80	3.40	3.83	3.33	3.73	3.67	4.00
	L4_7	2.13	2.43	2.27	2.53	2.60	3.13	2.77	2.60	2.57	2.20	2.60	3.00	3.20	3.03	2.57
	L4_8	2.77	3.93	3.63	4.30	3.60	3.53	3.93	3.20	3.47	3.33	2.20	3.30	3.40	3.53	4.40
	L4_9	3.37	3.43	3.07	1.83	3.23	3.57	2.80	3.73	3.83	3.93	2.13	3.53	3.53	3.50	2.73
	L4_10	3.10	3.90	3.87	4.77	3.90	3.70	3.63	4.07	3.80	3.57	2.70	3.63	3.47	3.57	3.87
RETAIL	L5_1	3.87	4.00	3.83	3.40	3.97	3.63	4.27	3.53	3.83	3.70	3.10	3.87	3.57	3.73	4.17
	L5_2	2.03	2.70	2.70	3.97	2.63	3.33	2.67	3.07	2.47	2.30	2.27	2.77	3.27	2.87	3.37
	L5_3	2.50	3.47	3.40	4.70	3.30	3.80	4.37	3.67	2.93	2.67	2.33	2.90	3.43	3.43	4.30
	L5_4	4.13	3.43	3.23	2.47	3.00	3.10	3.30	3.57	3.73	4.03	2.57	3.60	3.33	3.37	2.80
	L5_5	2.73	3.60	3.37	3.17	3.53	3.10	4.37	3.53	3.33	3.43	3.07	3.23	3.97	3.33	4.30
	L5_6	3.37	3.77	3.67	3.73	3.60	3.60	3.80	3.60	3.40	3.67	2.93	3.17	3.47	3.37	3.90
	L5_7	2.23	3.80	3.67	3.63	3.37	3.63	4.33	3.63	3.23	2.83	2.97	3.07	4.07	3.47	4.13
	L5_8	3.30	3.90	3.87	4.30	3.80	3.63	4.20	3.53	3.60	3.17	2.93	3.20	3.20	3.37	3.80
	L5_9	2.70	3.13	3.13	1.67	3.10	2.70	3.27	3.50	3.77	3.17	2.27	3.33	4.00	3.37	3.27
	L5_10	2.93	3.40	3.00	3.47	3.30	3.53	3.97	3.47	3.17	3.17	2.70	2.77	3.23	3.40	4.23

Table 15 - Means for 50 Logos According to 26 Attributes (II)

		a16 composed	a17 funny	a18 sustainable	a19 unique	a20 aligned	a21 catchy	a22 professional	a23 readable	a24 sophisticated	a25 vibrant	a26 adaptable
TECHNOLOGY	L1_1	3.13	2.23	2.93	3.23	2.90	3.03	3.17	3.77	2.77	2.93	3.53
	L1_2	3.03	3.00	2.77	2.67	3.43	2.93	2.87	4.23	2.53	2.87	2.80
	L1_3	2.83	3.77	3.10	3.80	3.47	3.73	3.00	4.07	2.97	3.63	3.07
	L1_4	3.47	3.33	3.10	3.73	3.57	3.53	3.30	4.03	3.17	3.63	3.53
	L1_5	3.47	2.20	3.37	3.00	3.73	3.47	3.33	4.43	2.70	3.47	3.67
	L1_6	3.03	2.50	2.87	3.10	3.37	3.13	3.47	4.10	3.17	2.97	3.23
	L1_7	3.27	2.10	3.20	2.53	3.73	3.00	3.73	4.33	3.20	3.17	3.83
	L1_8	3.70	2.53	3.23	2.97	3.93	3.50	3.73	3.97	3.13	3.10	3.67
	L1_9	3.37	2.73	2.97	3.40	3.80	3.63	3.63	4.13	3.17	3.97	3.73
	L1_10	3.33	2.50	3.33	3.73	3.83	3.80	3.37	4.23	3.37	4.10	3.77
FINANCIAL	L2_1	3.53	2.13	3.20	3.17	4.13	3.17	3.83	3.63	3.27	2.43	3.60
	L2_2	3.17	2.10	2.70	3.20	3.93	3.27	2.93	3.27	3.03	2.60	3.47
	L2_3	3.97	2.27	3.73	3.77	3.57	3.70	4.07	4.30	3.70	3.70	3.93
	L2_4	2.43	2.40	2.67	2.63	3.13	3.17	3.03	4.13	2.53	2.57	3.03
	L2_5	3.30	1.73	2.83	2.73	3.57	2.70	2.97	4.30	2.73	2.80	3.67
	L2_6	2.90	2.23	3.00	3.30	3.77	3.20	3.07	3.83	2.80	3.33	3.00
	L2_7	3.23	1.77	3.03	2.33	3.83	2.77	3.63	4.23	2.93	2.30	3.23
	L2_8	3.33	1.93	3.00	2.77	3.77	3.03	3.63	4.43	2.80	2.40	3.37
	L2_9	3.40	3.20	3.70	3.93	3.37	4.00	3.90	4.17	3.60	4.00	3.90
	L2_10	3.03	2.77	3.07	3.37	3.03	3.30	3.20	3.90	2.80	3.67	3.67
HEALTH CARE	L3_1	3.23	2.03	3.17	3.23	3.50	2.87	3.73	4.20	3.30	3.33	3.00
	L3_2	4.00	2.20	3.50	3.23	3.93	3.33	3.50	4.57	3.30	3.30	3.43
	L3_3	3.23	1.97	3.03	2.73	3.00	3.17	3.37	4.23	3.10	2.87	3.57
	L3_4	2.90	1.93	2.90	3.03	3.27	2.93	3.07	3.90	2.83	3.03	2.97
	L3_5	3.07	2.30	3.23	3.43	3.20	3.57	3.57	4.33	3.37	2.80	3.33
	L3_6	3.77	2.17	3.67	3.30	3.70	3.87	4.10	4.17	3.40	3.53	3.90
	L3_7	2.50	2.43	2.27	3.67	2.63	3.10	2.93	3.20	2.77	3.07	2.60
	L3_8	3.17	2.33	3.33	3.07	3.93	3.00	3.60	4.03	3.33	3.03	3.40
	L3_9	3.73	1.87	3.13	3.03	3.93	2.77	4.07	3.93	3.47	2.40	3.50
	L3_10	3.00	2.07	2.77	2.40	3.50	2.90	3.03	4.27	2.73	3.17	3.50
MANUFACTURE	L4_1	3.13	3.73	3.27	3.50	3.27	3.77	3.00	4.07	2.93	3.57	3.57
	L4_2	2.70	3.13	2.70	3.67	2.70	3.27	3.00	3.80	2.87	4.03	3.07
	L4_3	2.93	2.70	3.20	3.37	3.20	3.53	3.20	4.30	2.67	3.07	3.70
	L4_4	3.27	2.87	2.97	3.37	2.67	3.30	3.00	4.30	2.83	3.53	3.37
	L4_5	2.97	2.80	3.07	3.00	4.13	3.30	3.07	4.33	2.87	2.77	3.30
	L4_6	3.40	2.77	3.70	3.90	3.47	3.67	3.77	4.07	3.20	3.47	3.47
	L4_7	2.33	2.13	2.37	3.03	2.83	2.83	2.93	3.80	2.37	2.70	2.73
	L4_8	2.73	3.47	2.90	3.63	3.43	3.60	3.03	4.10	2.70	3.80	3.33
	L4_9	2.93	1.83	3.20	3.27	3.87	3.07	3.50	4.00	3.40	2.87	3.37
	L4_10	3.30	2.50	2.90	3.37	3.77	3.67	3.47	4.10	3.47	3.80	3.60
RETAIL	L5_1	3.27	3.70	3.27	3.73	3.73	3.70	3.33	4.13	3.33	3.83	3.90
	L5_2	2.47	2.43	2.27	3.07	3.20	2.97	2.57	3.60	2.57	3.30	2.53
	L5_3	2.77	4.03	2.83	3.37	3.30	3.63	2.90	3.57	2.57	4.20	3.17
	L5_4	2.93	2.10	3.43	2.70	3.90	3.30	3.83	4.30	3.37	2.87	3.80
	L5_5	3.13	3.50	3.10	3.33	3.43	3.50	2.90	3.90	2.93	3.47	3.40
	L5_6	3.37	2.70	3.13	3.60	3.50	3.43	3.30	3.90	2.83	3.77	3.47
	L5_7	2.93	3.07	3.10	3.27	3.57	3.70	3.07	3.73	2.83	3.83	3.43
	L5_8	3.00	2.97	3.27	3.37	3.40	3.63	2.97	3.97	2.77	3.87	3.73
	L5_9	3.03	2.40	2.83	3.30	3.87	2.80	3.53	3.77	3.47	2.47	2.83
	L5_10	2.77	3.77	2.73	3.53	2.93	3.73	2.77	3.97	2.70	3.73	3.63

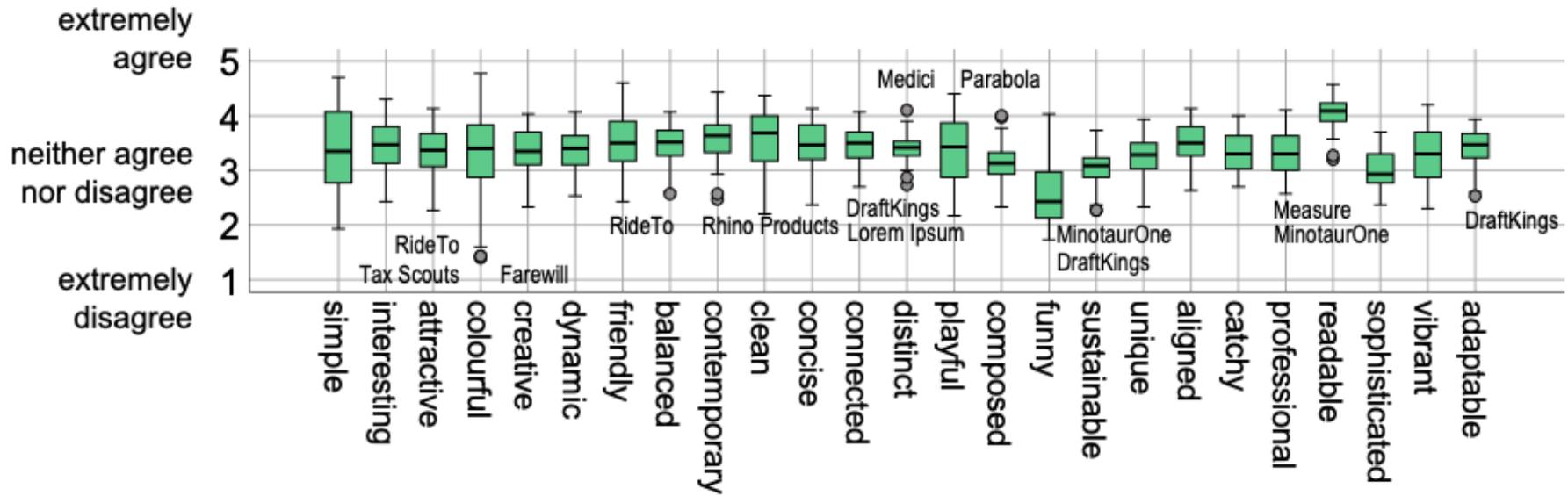


Figure 25 - Statistical data for each of the attributes used in the study.

Table 16 shows the output from SPSS of the factor analysis and reveals that the first 4 factors account for over 80% of the variance in the data. It is evident that attributes such as vibrant are correlated with attributes such as playful and interesting and that sophisticated and professional are also correlated.

Table 16 - SPSS output of the factor analysis (4 factors account - 80% of the variance).

Cronbach's Alpha		Rotated Component Matrix ^a					% of Variance
		Component					
		F1	F2	F3	F4		
F1: 0.93 (12 items)	F1-01 vibrant	0.92	-0.02	-0.04	-0.05	38.16%	
	F1-02 playful	0.90	-0.25	-0.11	0.06		
	F1-03 catchy	0.87	0.26	0.14	-0.04		
	F1-04 friendly	0.83	0.21	-0.23	0.32		
	F1-05 interesting	0.81	0.22	0.39	0.12		
	F1-06 funny	0.81	-0.23	-0.27	0.06		
	F1-07 dynamic	0.79	-0.12	0.36	-0.16		
	F1-08 creative	0.77	0.07	0.51	0.15		
	F1-09 unique	0.76	-0.17	0.49	-0.10		
	F1-10 colourful	0.71	-0.17	-0.16	-0.01		
	F1-11 attractive	0.70	0.50	0.22	0.18		
	F1-12 distinct	0.65	0.28	0.48	0.16		
F2: 0.93 (8 items)	F2_01 simple	-0.20	0.94	0.02	-0.16	29.40%	
	F2_02 clean	-0.10	0.93	0.18	0.04		
	F2_03 concise	-0.22	0.88	0.09	0.09		
	F2_04 adaptable	0.33	0.80	0.13	0.01		
	F2_05 contemporary	0.10	0.79	0.45	0.14		
	F2_06 composed	0.07	0.74	0.33	0.33		
	F2_07 readable	0.00	0.72	-0.22	0.11		
	F2_08 sustainable	0.32	0.70	0.34	0.31		
F3: 0.89 (2 items)	F3_01 sophisticated	0.07	0.42	0.74	0.37	7.32%	
	F3_02 professional	-0.16	0.55	0.62	0.35		
F4: 0.69 (3 items)	F4_01 connected	0.20	-0.08	0.20	0.82	5.33%	
	F4_02 aligned	-0.21	0.49	0.16	0.59		
	F4_03 balanced	0.07	0.56	0.04	0.59		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 17 lists the values of the factors (F1-F4) for each of the logos. As can be seen, the first factor (F1) accounts for 38% of the variance and is represented by attributes such as vibrant, playful and friendly (see Table 16 for full list). Factor 2 (F2) accounts for 29% of the variance and is represented by attributes such as simple, clean and concise (see Table 16 for full list). Factor 3 (F3) accounts for 7% of the variance and is represented by the attributes sophisticated and professional. Factor 3 (F4) accounts for 5% of the variance and is represented by the attributes connected, aligned and balanced.

Table 17 - Factor values (F1 - F4) of the logos industry.

	A VIBRANCE > 0 SIMPLICITY > 0 12 images	B VIBRANCE > 0 SIMPLICITY < 0 10 images	C VIBRANCE < 0 SIMPLICITY > 0 15 images	D VIBRANCE < 0 SIMPLICITY < 0 13 images	
L1_4		L1_3	L1_7	L1_1	Technology Industry
L1_5		L4_1	L1_8	L1_2	Technology Industry
L1_9		L4_2	L2_1	L1_6	Technology Industry
L1_10		L4_8	L2_5	L2_2	Technology Industry
L2_9		L5_3	L2_7	L2_4	Financial Industry
L2_10		L5_5	L2_8	L2_6	Financial Industry
L2_3		L5_6	L3_2	L3_1	Healthcare Industry
L3_6		L5_7	L3_3	L3_4	Healthcare Industry
L4_10		L5_8	L3_5	L3_7	Healthcare Industry
L4_4		L5_10	L3_9	L3_8	Healthcare Industry
L4_6			L3_10	L4_7	Manufacturing Industry
L5_1			L4_3	L5_2	Retail Industry
			L4_5	L5_9	Retail Industry
			L4_9		
			L5_4		

Note that the attribute organic was removed from the analysis before the factor analysis was completed; this was because the factor analysis gave better results without that attribute. In subsequent analyses, these four factors are referred to as vibrance (F1), simplicity (F2), sophistication (F3) and balance (F4). Two of these factors (simplicity and balance) relate to visual form whereas the other two (vibrance and sophistication) relate more to emotional response.

We can think of the four factors (F1 - F4) as forming a 4-D space in which the logos can be placed. However, it is difficult to visualise the 4-D space. Figure 26 shows a plot of F1 (vibrance) against F2 (simplicity) and the positions of the logos in the space are shown. Notice, for example, that there are no financial or healthcare logos in the fourth quadrant (F1 > 0 & F2 < 0 indicating vibrance and not-simple; labelled as quadrant B) and there is only one logo for technology logo in this quadrant. This indicates that the logos for these sectors are more simple and not vibrant. The majority of logos in the fourth quadrant are manufacturing and retail. A further analysis of where the logos are in this 2-D space is shown in Table 17 and it can be seen that the logos are not randomly distributed in the four quadrants. The majority of healthcare logos are in quadrant C (where vibrancy < 0). Most retail logos are in quadrant B and therefore complex and vibrant (vibrancy > 0 and simplicity < 0).

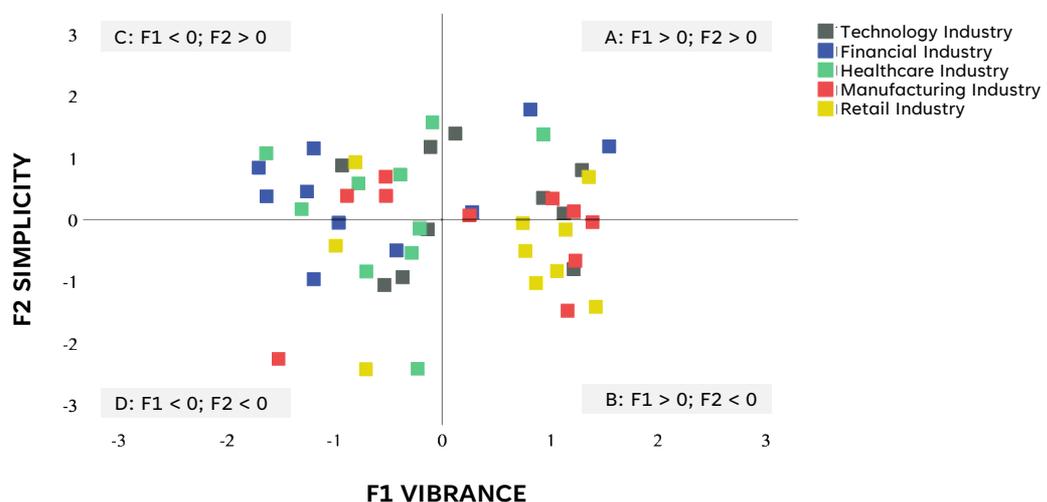


Figure 26 - Plot of F1 (vibrance) against F2 (simplicity).

Figure 27 shows a similar plot to Figure 26 but in this case it shows F3 (sophistication) against F4 (balance) and it is evident that there is some correlation between F3 and F4. This implies that logos that are balanced are also viewed as being sophisticated. This relationship seems to hold for all five sectors and suggests that graphic designers could achieve sophisticated responses to their logos by designing them to be balanced. But what does balanced mean? Note that the label (balance) that was given to the factor F4 is not the same as the attribute (balanced) that was used in the experiment. Other attributes (such as connected and aligned) also contribute towards the F4 factor.

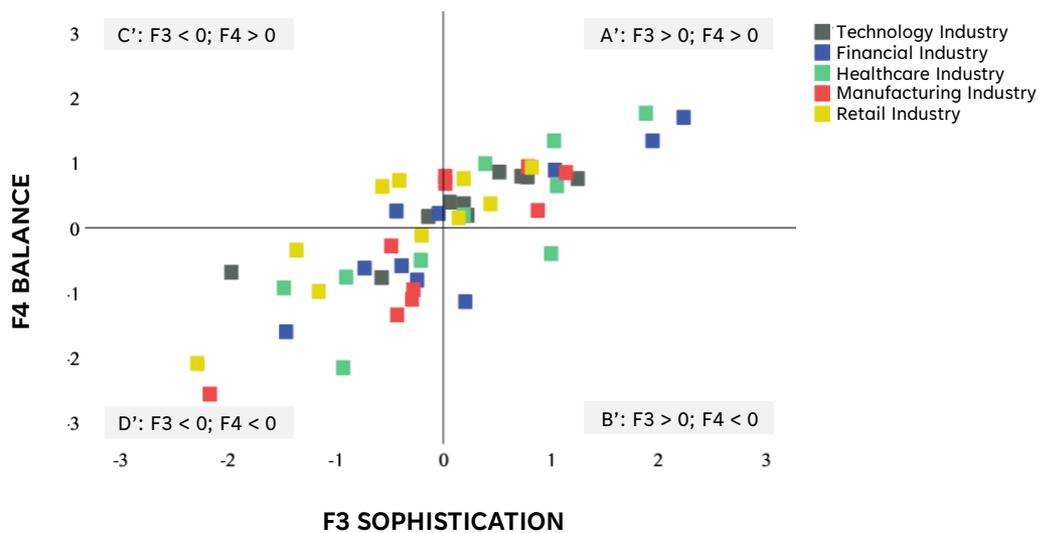


Figure 27 - Plot of F3 (sophistication) against F4 (balance).

Figure 28 shows the three most and the three least balanced logos in the study. Table 18 on the other hand demonstrates the least and the highest balanced logos in this study. However, remember that F3 and F4 represent relatively small amounts of variance in the data.

The three most balanced logos



L4



L3



L1

The three least balanced logos



L1



L4



L3

Figure 28 - The three most & least balanced logos.

Table 18 - The most & the least balanced logos based on their industries.

<i>Logo industry</i>	<i>Least balanced</i>	<i>Most balanced</i>
<i>Technology</i>	<p>MEASURE</p> <p>L2</p>	 <p>L3</p>
<i>Financial</i>	 <p>L4</p>	 <p>L7</p>
<i>Health care</i>	 <p>L5</p>	 <p>L1</p>
<i>Manufacture</i>	 <p>L2</p>	 <p>L1</p>
<i>Retail</i>	 <p>L2</p>	 <p>L5</p>

Table 19 shows the quadrant analysis of the F3 - F4 plot. This emphasises the finding that two quadrants are almost empty and that logos that are balanced tends to be sophisticated.

Table 19 - The quadrant analysis of the F3 - F4 plot of the logos industry.

	A'	B'	C'	D'	
	SOPHISTICATION > 0 BALANCE > 0 25 images	SOPHISTICATION > 0 BALANCE < 0 2 images	SOPHISTICATION < 0 BALANCE > 0 4 images	SOPHISTICATION < 0 BALANCE < 0 19 images	
L1_4		L2_2	L1_3	L1_1	Technology Industry
L1_5		L3_5	L2_7	L1_2	Technology Industry
L1_6			L5_5	L2_4	Financial Industry
L1_7			L5_7	L2_5	Financial Industry
L1_8				L2_6	Financial Industry
L1_9				L2_10	Financial Industry
L1_10				L3_3	Healthcare Industry
L2_1				L3_4	Healthcare Industry
L2_3				L3_7	Healthcare Industry
L2_8				L3_10	Healthcare Industry
L2_9				L4_2	Manufacturing Industry
L3_1				L4_3	Manufacturing Industry
L3_2				L4_4	Manufacturing Industry
L3_6				L4_7	Manufacturing Industry
L3_8				L4_8	Manufacturing Industry
L3_9				L5_2	Retail Industry
L4_1				L5_3	Retail Industry
L4_5				L5_8	Retail Industry
L4_6				L5_10	Retail Industry
L4_9					
L4_10					
L5_1					
L5_4					
L5_6					
L5_9					

4.3 Discussions

This chapter included two studies (Study III & IV) to identify the key attributes in logo aesthetics. Specifically, the visual attributes of logos that are important to people were determined. The first study was a pilot study in which 22 participants were asked to rate 50 logos in terms of 10 different attributes. In each case, participants were presented with the logo and gave their response via a 5-point scale. We can think of this experiment as producing a 10-D aesthetic space in which each logo can be placed based on mean participant response. However, the purpose of the study was to try to generate a low-dimensional aesthetic space which could be useful as a way to describe the visual aesthetics of each logo. The dimensionality reduction was achieved using principal components analysis (PCA) which was implemented in the statistics package SPSS. PCA has commonly been used for such dimensionality reduction in other studies though not particularly in the context of logos. For example, in one study PCA was used to analyse participant responses to retail spaces to generate a 4-D space. Dimensionality reduction using PCA is only possible if some of the responses to attributes are correlated. We can therefore think of dimensionality reduction as removing redundancy in the data. In the pilot study several of the attributes were found to be strongly correlated and in many cases these correlations were statistically significant.

For example, response to the attribute memorable were correlated with responses to the attribute familiar. There was evidence that it would be possible to represent the data in a low-dimensional space. However, the analysis was not completed because the pilot study had some limitations and was only used to test whether this approach would be likely to be successful.

Specifically, the limitations were around the number of original attributes and the number of participants. In studies of this type it is important to begin with a wide range of attributes to ensure that all attributes that could be important

are included. Other studies have typically used between 25 - 45 attributes. The use of only 10 attributes (in the case of the pilot study) is certainly too few. It doesn't matter if some of the attributes are somewhat similar and correlated since correlation between the attributes is in fact essential. In addition, we have to consider how these attributes will be chosen. In the pilot study the attributes were hand-picked by the researcher. Other ways of selecting the attributes would be, for example, to ask participants to write text describing each logo and then perform a frequency analysis of the text from a large group of participants in order to see which words are important (of course, words such as 'the' and 'and' would be ignored). Another way to select the words would be to analyse text from social media that referred to the logo or brands. In the main, a set of 26 attributes were selected based on word-frequency analysis of text where participants had been asked to describe the logo in Chapter 3. The main study also increased the number of participants from 22 in the pilot study to 30 in the main study. A third problem with the pilot study is that the logos selected for the study were selected somewhat randomly and also represented some well-known brands (such as Apple). This presents a potential difficulty because when we asked a participant to say whether the logo is, for example, friendly we cannot be certain that they would not be influenced by their knowledge and opinion of the brand that the logo represents. An analysis similar to the one in this chapter about brands would be interesting, but the focus of this thesis is on the visual aesthetics of logos. Therefore, in the main study, logos were selected from start-up companies that would be unknown to the participants and this removes the potential of any confusion around whether it is the logo or the brand that is being evaluated. In addition, the 50 logos in the main study were selected to represent equal several different commercial sectors. In the main experiment it was also found that many of the attributes were strongly correlated.

One attribute, organic, was removed but the remaining 25-D data were reduced to a 4-D space that represented 66.3% of the variance. These four factors were vibrancy (F1), simplicity (F2), sophistication (F3), and balance (F4). Factors F2 (simplicity) and F4 (balance) are about visual design and form. Factors F1 (vibrancy) and F3 (sophistication) are more emotional terms.

Note, however, that the most important factor (representing the greatest share of the variance was F1 (vibrancy). The variance accounted for by factors F1 to F4 was 38.2%, 29.4%, 7.3% and 5.3% respectively. The low-dimensional space developed in this Chapter could be used to generate insights about how logos are evaluated. For example, in the main study, logos from the retail sector predominantly positioned in one part of the space; specifically they tended to have high vibrancy and low simplicity. None of the healthcare logos were found in this part of the space (rather, they tended to have low vibrancy). One contribution of the thesis is therefore the suggestion that a low-dimensional space such as the one in this study could be formed and could be used as an efficient way to analyse the visual aesthetics of logos. This space could enable important insights to be identified; for example, in this study it appears that the factor **balance** is correlated with the factor **sophistication** and this may be useful advice to logo designers.

With experiments of this nature it is always challenging to obtain responses from large numbers of participants. Only 30 participants took part in the main study but it is important to note that the experiment is quite long and tedious for the participants because each of 50 logos has to be assessed against 26 attributes. It is also important to note that both studies were carried out in the laboratory; laboratory studies may arguably produce more accurate data than online studies but often involve fewer participants. We also note that in some previous related studies the number of participants was comparable to the number used in the main study. This work suggests that a low-dimensional aesthetic space is possible for logos even if further studies might be needed to validate this with a wider range of logos including those from other commercial sectors and including participants from a wider range of cultures.

5. Examination of Effects of Colour & Logo Typo on Logo Preference: Study V, Study VI & Study VII.

5.1 Introduction

In an effort to determine which feature is more important in cross-cultural logo design research, this chapter research expands on the previous one (chapter 4) and focuses on a more in-depth evaluation of a wider range of form and colour preferences among more diverse number of participants. Due to the frequency with which these two traits were identified when analysing the design of logos in prior work, this section focuses on them to solicit more feedback. The significance of this chapter derives from the number of participants and cultural contributions made while analysing a logo design based on its design characteristics as opposed to the brand to which it is affiliated. Determining if colour and shape have a major effect on logo appraisal is the primary objective of this chapter's research. For example, do viewers prefer logos that are achromatic (black, white, and shades of grey), chromatic, or colourful (Multicolours)? This chapter additionally assesses the shape of logo design (Icon, Typo, and both Icon & Typo). Separated into three independent studies, the first investigates well-known corporations on a global scale, the second explores logos for start-up brands, and the third contrasts well-known and start-up logos in relation to a particular design aspect.

As seen in Table 20, this chapter examines the effects of colour and form on logo preference, dividing into three parts. In Study V, 20 participants evaluated 101 logos of both well-known and start-up companies in a single sitting; in Study VI, 301 participants were shown with 50 well-known logos; and in Study VII, 436 individuals were presented with 51 start-up logos. In studies VI and VIII, participants were asked to rank their preferences for logos given in a random order, one at a time. The total number of evaluations was 37,286 (50 logos × 301 participants + 51 logos × 436 participants).

Table 20 – The methods used in each of 3 studies with a total of 758 Participants.

<i>Study</i>	<i>Number of participants</i>	<i>Method</i>	<i>Logos type</i>	<i>Number of logos assessed</i>	<i>Geographics</i>
<i>Study V</i>	20	Classification of random collection of logos	Both (Well-known + Start-up logos)	101	UK (including other nationalities residing in the UK)
<i>Study VI</i>	301	Slider bar (0-100)	Well-known logos	50	UK + Global (later)
<i>Study VII</i>	437	Likert scale	Start-up logos	51	China + South Korea + Saudi Arabia + UK

Regarding the measures and scaling technique; in Study V, participants were asked to classify a random collection of logos from start-up companies and well-known brands (Icon, or Typo and Icon & Typo). In Study VI, participants utilised a basic slider bar labelled "like" on one end and "dislike" on the other, whereas in Study VI, they selected one of five Likert scale options (strongly like, like, neutral, dislike, or strongly dislike). In Study VI, the position of the slider bar was translated for analysis into a number between 0 and 100, but in Study VII, the participant's selection was assigned a number between 1 and 5. In both situations, the larger the number, the greater the participant's liking for the logo. In Study VI, logos were chosen from well-known companies whose logos and companies were likely recognised to the majority of participants, whereas in Study VII, logos were chosen from start-up companies whose logos were likely unfamiliar to any participant. Logos were categorised into one of three categories: achromatic (consisting of solely black, white, and/or grey), chromatic (having a single chromatic hue but often also including black or white), and multicolour (containing two or more chromatic colours). In terms of form, they were evenly divided (Icon, Typo, and Icon & Typo).

In terms of participant recruitment, Study VI was created and delivered in the United Kingdom as a single survey, with the majority of participants located in the United Kingdom, but later expanded to include participants from around the world. In contrast, for Study VII, four separate studies were undertaken in the United Kingdom, South Korea, China, and Saudi Arabia based on their native languages.

5.2 Study Design

5.2.1 Study V: Classification Assessment of Logo Type – 101 Logos

5.2.1.1 Participants and Sampling Method

Study V is of the utmost relevance since it integrates the results of both start-up logos and established brands into a single study. This study aims to acquire an understanding of what goes through the mind of the viewer when analysing the shape of logo designs of a start-up with no prior knowledge and well-known logos that they may be familiar with. To comprehend the rationale behind their preference and why they categorised the logo form as they did. To recruit participants, Microsoft Teams was used to contact them, and reservations were made for everyone who expressed interest in participating in the study. In this study, both designers and non-designers participated from the School of Design at University of Leeds. Despite time constraints and the desire to focus on a specific aspect of the form, twenty participants were recruited in two days for logo design study III.

Even though the study was conducted in English and that the 20 participants were all residents of the United Kingdom. There were 7 English native speakers, 11 other languages, 6 of which spoke Arabic as their primary language, and 7 other participants who spoke a variety of languages including Korean, Mandarin, and Spanish. The ratio of female participants to male participants was 17 to 3. Although age was not a factor in this study, the age range of the participants was between 23 and 60. Regarding design backgrounds and professions, the study includes responses from both designers and non-designers, with 15 designers outnumbering 5 non-designers.

Table 21 shows the diverse backgrounds of the participants. The idea is to have a designer and a non-designer perspectives on how they perceived the logo form similar or different when categorising the logo design based on form. The participation of people from various cultural backgrounds was also important in drawing attention to what a culture might think about when evaluating a logo design form.

5.2.1.2 The Selection of Logo Images

The inclusion of well-known brands identical to those used in past research is crucial in order to create a sphere for comparing replies to previous responses, given that the logos used in the previous study in this chapter (Study V) and chapter 4 (Study III) are same. While both well-known and start-up (less-known) logos have a significant amount of money spent (millions of Dollars in some cases like Pepsi) in developing them, the familiarity of well-known logos may make them more enticing to participants; therefore, it is vital to compare the evaluation forms of both well-known and start-up (less-known) logos. While well-known logos may have an instantly recognisable component to them, the drawback is that because participants are familiar with it, they may categorise them quickly without paying great attention to the categorisation of the logo's form design. This is why the study is primarily attempting to focus on solely the form of the logo in terms of familiarity or whether or not the logo is of a well-known company.

Form and colour are crucial in evaluating a logo design, regardless of its country of origin or business history. Having said that, the study focused on the shape element and did not equally categorise the logos shown based on their colours because that was not the centre of focus at this stage. The logos, were a mix of Achromatic (25 logos), Chromatic (46), and Multi Coloured (30). A total of 101 logos were reviewed based on their form, which was divided into three categories to evaluate the shape of the logo, logo based on its appearance as an icon, typo alone and icon & typo combined.

Table 21 - Description of sample (Participants).

<i>Study</i>	<i>Participants ID</i>	<i>Educational & Professional backgrounds</i>	<i>Country</i>	<i>Gender</i>
<i>Logo Form</i>	P1	Colour Scientist	China	Female
	P2	Typography	Saudi Arabia	Female
	P3	Medical label design	UK	Female
	P4	Interior Architect & Colour	South Korean	Female
	P5	Chemistry	UK	Male
	P6	Graphic Design	Saudi Arabia	Male
	P7	Information Design	China	Male
	P8	Colour science and textile	China	Female
	P9	Fine Arts	Egypt	Female
	P10	Colour Science	China	Female
	P11	Textile Engineer	USA	Female
	P12	Dyer	UK	Female
	P13	Textile science	UK	Female
	P14	Sustainable Fashion	UK	Female
	P15	Graphic Design	Saudi Arabia	Female
	P16	Graphic Design	Jordan	Female
	P17	Graphic Design	China	Female
	P18	Fashion design	Saudi Arabia	Female
	P19	Textile Design	UK	Female
	P20	Fashion and textile design	Mexico	Female

5.2.2 Study VI: Well-known Brand Logo Preference - 50 Logos

5.2.2.1 Participants and Sampling Method

To elicit as much participation as possible, the study of the well-known Logos consisted of an introduction followed by the logo rating. The participants were not required to answer any age or gender-related questions typically asked in surveys, as doing so would have halted the participation process and wasn't the primary objective. However, it was important that the study be as quick and efficient as possible, as the only objective was to determine whether the participants agreed or disagreed with certain global brand logos through liking or disliking the logo shown. It began as a single survey in the United Kingdom, with the bulk of participants based in the UK, but was later expanded to include individuals from all over the world.

5.2.2.2 The Selection of Logo Images

The use of the same well-known brand logos from the pilot study (Study III) in chapter 4 was ideal for the selection of logos for this study, as we have data to compare it with, and we can examine design elements, such as colour and shape. However, this may also lead participants' replies of why they liked or disliked the brand to be identical. 9 logos were achromatic, 17 logos were chromatic, and 24 logos were multi-coloured.

5.2.3 Study VII: Start-up Brand Logo Preference - 51 Logos

5.2.3.1 Participants & Sampling Method

While Study VI exhibited a significant amount of participation, Study VII used a different, more thoughtful approach, as just four countries were chosen to participate in the study. This study recruited its subjects in an unconventional manner. This time, the study focused on the native languages and nationalities of the participants in order to limit down the list of countries to which the survey would be distributed. As native speakers were the primary method for understanding the particular answers when commenting on the shown logos, only they could comprehend the exact responses. Therefore, the same survey had to be translated and delivered in each country in accordance with the language spoken most frequently. These were English in the United Kingdom, Arabic in Saudi Arabia, Mandarin in China, and Korean in South Korea. Evaluations were collected and analysed from a total of 436 participants, with 103 from China, 106 from Korea, 118 from the United Kingdom, and 109 from Saudi Arabia.

5.2.3.2 The Selection of Logo Images

The advantage of implementing start-up logos in the study, is that there is no brand association; nonetheless, it was necessary to have an equal number of logos in order for the study to yield more accurate results. The focus of this classification, as illustrated in Figure 29 was on the colour aspect of the design. There were 17 achromatic, chromatic, and multicoloured logos for each colour classification.

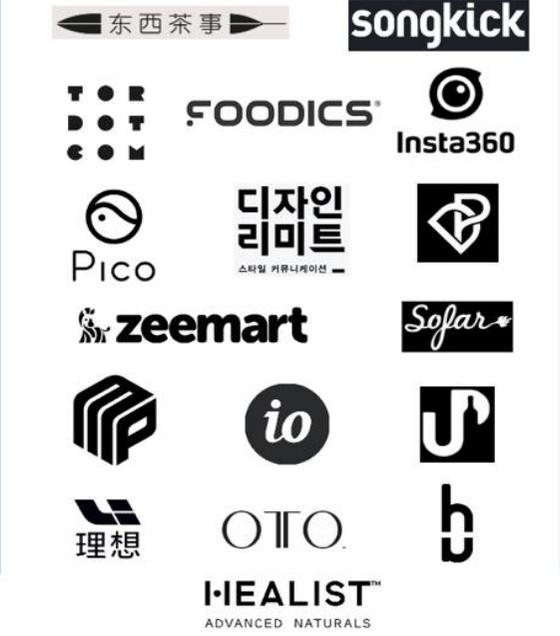
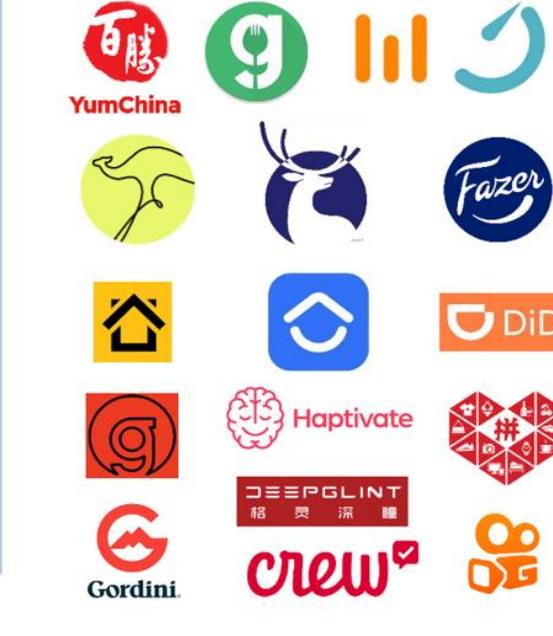
	Multicolour	Achromatic	Chromatic
<p>Description of Colour</p>	<p>Using multi-coloured palettes enables a brand to distance itself from these distinct connotations and become more accessible and inclusive. That is why compared to one or two colour logos, multi-coloured logos are more likely to be seen. They are also tend to be unique, contemporary, and current.</p> 	<p>All hues of black, white, and grey are known as achromatic colours because they contain all visible light wavelengths. They are also colours without saturation or vibrancy, as well as colours without a dominant hue. For example: Grey, black, and white.</p> 	<p>Chromatic colour schemes encompass all colours except black, white, and their mixture, grey. One light wavelength dominates their colours. Examples of pure colours can be blue, green, yellow, and red.</p> 
<p>Note</p>	<p>All logo images were chosen based on the presence of colour and the combination of an icon and a typeface style. The selection was based on a selection of global start-up logos</p>		

Figure 29 - The colour criteria for start-up logo selection.

5.3 Results

5.3.1 Assessments of Logo Type Classification

Table 22 shows the results for the well-known logos and these show that in general there is broad agreement as to whether a logo is Icon, Typo or Icon & Typo. The level of agreement is 91% (Icon), 80% (Typo) and 90% (Icon & Typo). However, there are some logos where agreement is less good. For example, Logo L20 has only a 65% agreement with 13 people rating it as Icon, 3 as Typo and 4 as Icon & Typo. For the analysis of logo type it is important to use logos where the type identification is universally accepted (or, at least, very broadly accepted). An arbitrary threshold of 70% was used; that is, logos with an agreement of less than 70% were excluded from the analysis. This means that 8 logos were included for Icon; for Typo and Icon & Typo there were more than 8 logos that met the acceptability threshold – however, since we aim for a balanced design, 8 logos were selected from each type. For Icon and Icon & Typo the most agreed logos were included (see Table 22); however, where two or more logos had the same agreement and only some could be accepted, a random selection was made (L13, L17, L28, L29, L35, L43, L48 and L09 all have 95% agreement but only L13 and L17 were included to ensure a balanced design). Figure 30-Figure 32 show the 8 logos that were selected for the type-analysis later in Study VI.

The same process was used for the start-up logos and the results can be seen in Table 23 and Figure 33-Figure 35. However, for the start-up logos 11 logos for every type met the 70% agreement threshold and therefore 11 logos were selected for each type in the subsequent type-analysis in Study VII.

Table 22 - The results of the evaluation of logo type classification for 50 well-known brand logos by 'Icon', 'Typo', and 'Icon & Typo': Agreement percent and ranks.

Well-known Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L01	20	0	0	100%	1
L06	20	0	0	100%	2
L08	20	0	0	100%	3
L11	20	0	0	100%	4
L26	19	1	0	95%	5
L47	19	0	1	95%	6
L46	18	2	0	90%	7
L12	14	5	1	70%	8
L20	13	3	4	65%	9
Average of agreement percent for 'Icon' logos (n = 9)				91%	
Well-known Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L19	0	20	0	100%	1
L49	0	20	0	100%	2
L36	1	19	0	95%	3
L37	0	19	1	95%	4
L38	0	19	1	95%	5
L39	0	19	1	95%	6
L41	3	17	0	85%	7
L14	1	17	2	85%	8
L25	1	16	3	80%	9
L50	1	16	3	80%	10
L23	0	15	5	75%	11
L18	0	14	6	70%	12
L16	1	12	7	60%	13
L22	1	12	7	60%	14
L27	1	12	7	60%	15
L21	1	10	9	50%	16
Average of agreement percent for 'Typo' logos (n = 16)				80%	
Well-known Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L07	0	0	20	100%	1
L10	0	0	20	100%	2
L15	0	0	20	100%	3
L30	0	0	20	100%	4
L34	0	0	20	100%	5
L44	0	0	20	100%	6
L13	0	1	19	95%	7
L17	0	1	19	95%	8
L28	0	1	19	95%	9
L29	0	1	19	95%	10
L35	0	1	19	95%	11
L43	0	1	19	95%	12
L48	0	1	19	95%	13
L09	1	0	19	95%	14
L04	0	2	18	90%	15
L40	0	2	18	90%	16
L24	1	1	18	90%	17
L32	1	1	18	90%	18
L45	1	1	18	90%	19
L02	2	0	18	90%	20
L33	2	0	18	90%	21
L05	2	0	18	90%	22
L03	0	4	16	80%	23
L31	1	3	16	80%	24
L42	0	6	14	70%	25
Average of agreement percent for 'Icon + Typo' logos (n = 25)				92%	

Icon Logos

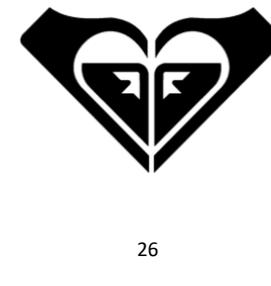
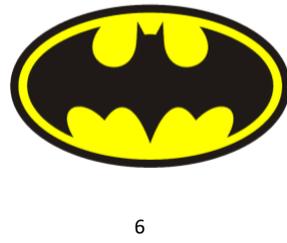


Figure 30 - Results of Logo list by Icon Categorisation.

Typo Logos

The logo for ExxonMobil, featuring the word "Exxon" in red and "Mobil" in black, with a red chevron symbol integrated into the "x" of "Exxon".

19

The logo for Goldman Sachs, consisting of the words "Goldman" and "Sachs" stacked vertically in a black, serif typeface.

49

The logo for Procter & Gamble (P&G), featuring the letters "P&G" in a large, blue, italicized serif font.

36

The logo for Sony, with the word "SONY" in a bold, black, sans-serif font, and the tagline "make.believe" in a smaller, lowercase, black, sans-serif font below it.

37

The logo for Hitachi, with the word "HITACHI" in a bold, black, sans-serif font, and the tagline "Inspire the Next" in a smaller, black, sans-serif font below it.

38

The logo for Siemens, consisting of the word "SIEMENS" in a bold, teal, sans-serif font.

39

The logo for 3M, consisting of the numbers "3" and "M" in a bold, red, sans-serif font.

41

The logo for IBM, consisting of the letters "IBM" in a blue, sans-serif font, where each letter is formed by eight horizontal stripes.

14

Figure 31 - Results of Logo list by Typo Categorisation.

Icon & Typo Logos



44



17



15



10



30



34



7



13

Figure 32 - Results of Logo list by Icon & Typo Categorisation.

Table 23 - The results of the evaluation of logo type classification for 51 start-up brand logos by 'Icon', 'Typo', and 'Icon & Typo': Agreement percent and ranks.

Start-up Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L06	20	0	0	100%	1
L47	20	0	0	100%	2
L48	20	0	0	100%	3
L49	20	0	0	100%	4
L05	19	1	0	95%	5
L35	19	1	0	95%	6
L37	19	1	0	95%	7
L45	19	0	1	95%	8
L15	18	0	2	90%	9
L46	17	0	3	85%	10
L26	16	2	2	80%	11
L19	13	4	3	65%	12
L50	13	0	7	65%	13
L22	12	8	0	60%	14
L28	12	4	4	60%	15
L36	11	2	7	55%	16
L43	11	6	3	55%	17
L14	9	5	6	45%	18
Average of agreement percent for 'Icon' logos (n = 18)				80%	
Start-up Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L21	0	20	0	100%	1
L23	0	20	0	100%	2
L27	0	20	0	100%	3
L20	0	19	1	95%	4
L32	0	19	1	95%	5
L09	2	18	0	90%	6
L31	0	17	3	85%	7
L08	1	16	3	80%	8
L39	0	16	4	80%	9
L33	3	15	2	75%	10
L30	4	14	2	70%	11
L38	0	13	7	65%	12
L04	7	11	2	55%	13
L18	1	10	9	50%	14
Average of agreement percent for 'Typo' logos (n = 14)				81%	
Start-up Brand Logos	Icon	Typo	Icon + Typo	Agreement Percent	Ranks
L02	0	0	20	100%	1
L03	0	0	20	100%	2
L12	0	0	20	100%	3
L13	0	0	20	100%	4
L16	0	0	20	100%	5
L24	0	0	20	100%	6
L42	0	0	20	100%	7
L44	0	0	20	100%	8
L29	0	1	19	95%	9
L40	0	1	19	95%	10
L51	0	1	19	95%	11
L01	1	0	19	95%	12
L34	2	0	18	90%	13
L10	0	3	17	85%	14
L17	0	3	17	85%	15
L07	1	3	16	80%	16
L25	0	6	14	70%	17
L41	1	9	10	50%	18
L11	7	5	8	40%	19
Average of agreement percent for 'Icon + Typo' logos (n = 19)				88%	



L6



L47



L48



L49



L5



L35



L37



L15



L45



L46



L26

Figure 33 - Icon Logos

FOODICS®

L21

HEALIST™
ADVANCED NATURALS

L23

OTO

L27

디자인
리미트
스타일 커뮤니케이션

L20

songkick

L32

MDX

L9

Sofar

L31

locomizer

L8

DEEPLINT
格 灵 深 瞳

L39

T O R
D O T
C O M

L33

io

L30

Figure 34 - Typo Logos.



L2



L3



L12



L13



L16



L24



L42



L44



L29



L40



L51

Figure 35 - Icon & Typo Logos.

5.3.2 Study VI: Well-known Brand Logo Preference

Table 24 shows the mean preference data (and other related statistics) for the well-known logos as evaluated by 301 participants. From this table it can be seen that the most preferred logo was Twitter (mean preference = 81.46) followed by Apple (80.05). The least preferred logo was University of Leeds (39.22) followed by London Symphony Orchestra (40.68). Note that preference scores are generally quite high for these well-known logos; for example, only 20% of the logos had a preference score of less than 50 (on a scale of 0-100).

Table 25 lists the 8 logos that were considered for each logo type for the logo-type analysis.

Table 24 - The mean preference data for well-known logos evaluation (301 participants).

		M	SD	N
L1	Apple	80.05	25.49	301
L2	BP	51.37	32.81	301
L3	Amazon	72.93	27.20	301
L4	University of Leeds	39.22	29.19	301
L5	Goodwill	45.29	30.26	301
L6	Batman	71.45	29.54	301
L7	Target	76.74	24.22	301
L8	Shell	68.75	28.08	301
L9	PetroChina	48.02	28.75	301
L10	Microsoft	69.17	26.33	301
L11	Twitter	81.46	19.15	301
L12	Mcdonald's	79.99	23.08	301
L13	Walmart	61.30	28.25	301
L14	IBM	58.22	29.48	301
L15	Toyota	64.59	29.18	301
L16	Samsung	56.97	29.82	301
L17	Honda	61.74	28.57	301
L18	Tesco	49.25	28.89	301
L19	Exxon Mobile	48.90	27.50	301
L20	VW	77.82	21.21	301
L21	Ford	63.21	27.80	301
L22	HP	63.83	26.51	301
L23	Colgate	51.84	28.82	301
L24	Mazda	56.17	27.47	301
L25	Subway	67.57	25.20	301
L26	Roxy	48.21	30.11	301
L27	Verizon	44.49	27.01	301
L28	Firefox	65.81	26.31	301
L29	Motorola	55.03	27.76	301
L30	Lacoste	71.30	23.60	301
L31	National Geographic	70.58	25.55	301
L32	Nissan	52.64	28.57	301
L33	BMW	70.81	26.43	301
L34	Nestle	68.41	28.06	301
L35	Boeing	51.35	29.28	301
L36	PnG	54.30	28.25	301
L37	Sony	57.79	27.78	301
L38	Hitachi	40.90	27.39	301
L39	Siemens	51.27	28.53	301
L40	Hyundai	52.55	27.94	301
L41	3M	56.16	27.72	301
L42	Museum of London	60.73	30.12	301
L43	Rolex	75.93	24.13	301
L44	Bentley	74.76	25.48	301
L45	Yamaha	50.52	28.99	301
L46	London Symphony Orchestra	40.68	30.60	301
L47	Pepsi	69.47	26.67	301
L48	Unilever	74.10	25.58	301
L49	Goldman Sachs	45.40	28.42	301
L50	BBC	62.00	27.74	301

5.3.2.1 Effect of Logo Type on Logo Preference

Table 25 - 8 logos that were considered for each logo type for the logo-type analysis.

Logo Type Classification	Logos
<i>Icon (8)</i>	L01, L06, L08, L11, L12, L26, L46, L47
<i>Typo (8)</i>	L14, L19, L36, L37, L38, L39, L41, L49
<i>Icon & Typo (8)</i>	L07, L10, L13, L15, L17, L30, L34, L44

A one-way repeated measures ANOVA was performed to compare the effect of logo type on preference for well-known logos, 'Icon', 'Typo', and 'Icon & Typo'. There was a statistically significant difference in the mean preference between at least two groups, $F(1.806, 541.907) = 212.481, p < 0.001$. Figure 36 compares the mean preferences between the logo type classes.

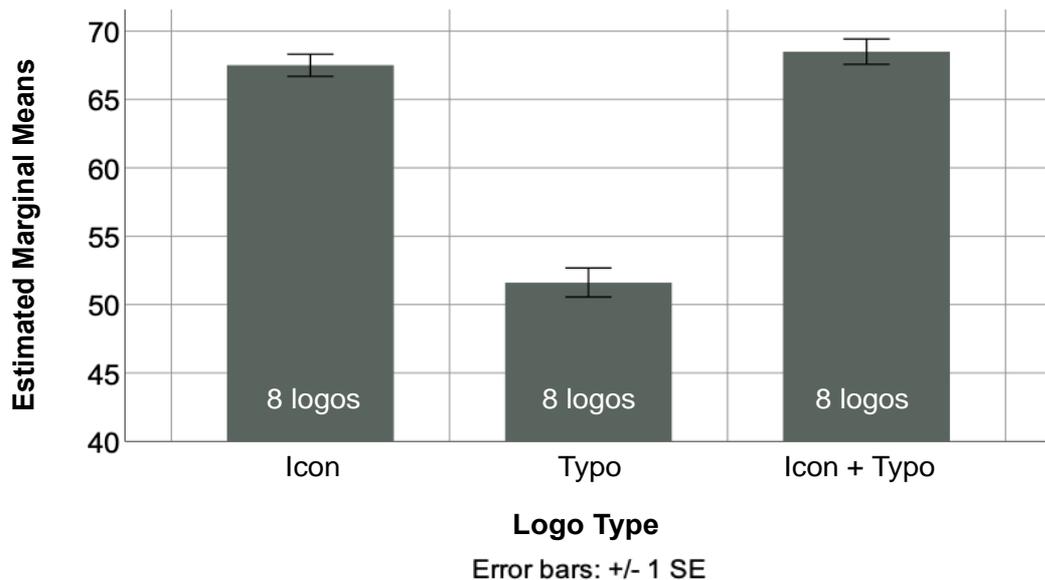


Figure 36 - The mean preferences between the logo type classes.

Three paired t-tests were then performed to determine more specific differences. A first paired samples t-test indicated that there was a significant difference between the preference of 'Icon' group ($M = 67.51$, $SD = 14.06$) and the preference of 'Typo' group ($M = 51.62$, $SD = 18.36$); $t(300) = 15.095$, $p < 0.001$. A second paired samples t-test indicated that there was a significant difference between the preference of 'Typo' group ($M = 51.62$, $SD = 18.36$) and the preference of 'Icon and Typo' group ($M = 68.50$, $SD = 16.07$); $t(300) = -19.028$, $p < 0.001$. However, a third paired samples t-test indicated that there was no significant difference between the preference of 'Icon' group ($M = 67.51$, $SD = 14.06$) and the preference of 'Icon & Typo' group ($M = 68.50$, $SD = 16.07$); $t(300) = -1.245$, $p = 0.214$.

5.3.2.2 Effect of Colour Class on Logo Preference

Table 26 shows the category of colour types for the well-known logos. Unlike logo type, colour type is easier (and more objective) to determine. Nevertheless, Table 26 reveals that there is a lack of balance in the experimental design; there are 8 achromatic logos, 29 chromatic logos and 13 multicolour logos. To address this issue – and to enable a balanced-design analysis – the 8 achromatic logos were used but selected on 8 chromatic and 8 multicolour logos was made. This random selection (details of which are shown in Table 26) was repeated three times and the analysis can be seen in Figure 37. Of course, there are more than 3 ways of selecting 8 samples from 13 (or 29). The fact that the results from the three random selected (see Figure 37) differ somewhat might indicate that 8 samples is relatively few. Nevertheless, there is some indication that multicolour logos have the highest preference and that perhaps achromatic logos have the lowest preference.

Table 26 - Distribution of colour types for the well-known logos.

<i>Colour Classification</i>		<i>Logos</i>
Achromatic (8)		L01, L04, L26, L32, L37, L44, L49, L50
Chromatic (29)		L05, L06, L07, L11, L12, L14, L15, L16, L17, L19, L20, L21, L22, L23, L24, L27, L29, L31, L33, L34, L36, L38, L39, L40, L41, L45, L46, L48
(8)	Random selection I	L16, L22, L23, L31, L34, L35, L45, L48
(8)	Random selection II	L7, L15, L17, L21, L27, L34, L36, L48
(8)	Random selection III	L15, L16, L22, L27, L35, L40, L45, L46
Multicolour (13)		L02, L03, L08, L09, L10, L13, L18, L25, L28, L30, L42, L43, L47
(8)	Random selection I	L02, L03, L13, L18, L42, L43, L47
(8)	Random selection II	L02, L03, L08, L09, L10, L25, L42, L43
(8)	Random selection III	L03, L08, L09, L10, L13, L25, L42, L43

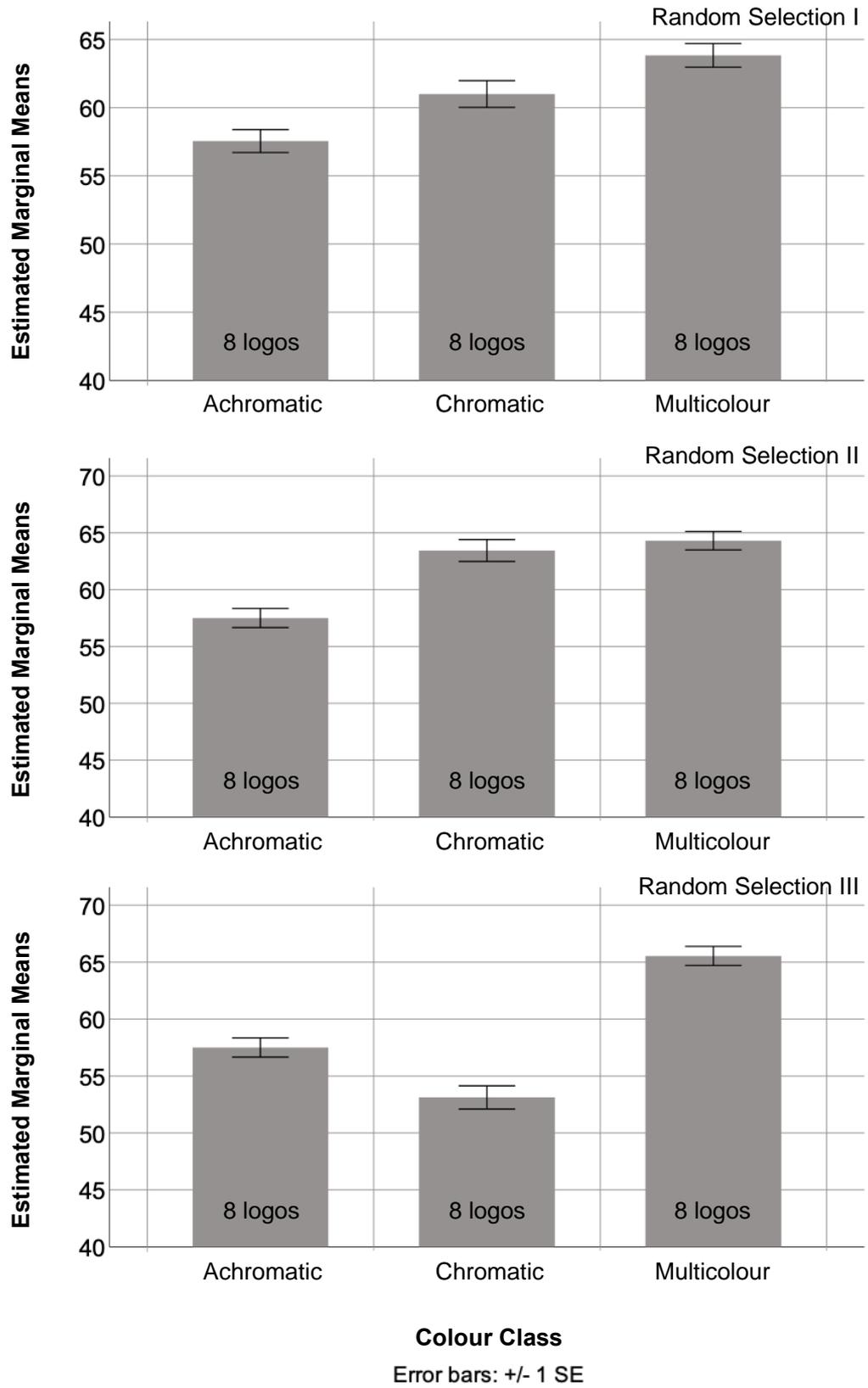


Figure 37 - Three random selection and the three time analysis.

5.3.3 Study VII: Start-up Brand Logo Preference

Study VII addresses several of the limitations of Study VI. The choice of logos was more balanced (with 17 for each of the three colour types) and the logos were also selected from companies that were not known to the participants so that only the visual appearance of the logos would be considered. Also, note (from Study V) that there was more agreement about logo type (with 11 logos from each category meeting the 70% threshold).

Table 27 shows the mean preference scores for the logos (note that a different method was used to rate the logos compared with Study VI; this means that although preferences in Study VI were in the range 0-100, in Study VII the range is 1-5). From Table 27 it can be seen that the most preferred logo was L47 (mean preference = 3.75) followed by L41 (3.51). The least preferred logos were L25 (2.42) and by L2 (2.42). Note that preference scores were generally lower than for the well-known logos; 43% of the logos had a preference score of less than 3 (on a scale of 1-5) whereas only 20% of the well-known logos (Study VI) had a score of less than 50 (on a scale of 0-100). It may be that this demonstrates an effect of brand awareness for the well-known logos although it may also be an effect of the multi-cultural nature of Study VII (logos were selected globally and participants were also drawn from four geographical regions, though may represent more than four cultures).

Table 28 provides more details about the mean preference scores for the four different geographic groups. A red box is used to indicate a mean preference greater than 3 and a white box to indicate a preference of 3 or less. This allows the patterns to be more easily seen and there is some obvious agreement between the four groups (for example, all four groups like logo L12 where as L2 and L16 are more universally disliked (preferences < 3)).

Table 29 shows the most and least liked logos for each of the four regions. It is interesting to note that least liked logos tend to include text (and text that is in a language different to that of the group). For example, the least liked logo for the SA group was L2 (which includes Chinese characters). The least preferred logo for the Chinese group was L14 (which includes Arabic language). The most liked logos tend to be logos that are simple icons or pictograms.

Table 27 - The mean preference scores for the logos.

		Mean	SD	N
L1	BrandWatch	3.38	0.90	436
L2	Burning Rock DX	2.42	0.94	436
L3	Ception	3.44	0.89	436
L4	Ebury	2.88	1.06	436
L5	Falconwiz	3.11	1.06	436
L6	Fazer Yosa	2.81	1.10	436
L7	Geek+	3.28	1.02	436
L8	Locomizer	2.72	1.05	436
L9	MBX	3.12	1.12	436
L10	Meem Bank	3.31	1.17	436
L11	Orangeri	3.16	1.18	436
L12	Pixelpin	3.32	1.02	436
L13	Servio	3.28	0.92	436
L14	Sihaitech	2.87	1.26	436
L15	Vivivik	2.81	1.03	436
L16	WPF	2.71	1.07	436
L17	Zidsa	2.75	1.05	436
L18	Any-Tea	2.99	1.17	436
L19	Bottleapp	3.38	1.05	436
L20	Designlimit	2.54	1.01	436
L21	Foodics	2.78	1.00	436
L22	Healing-brush	3.01	1.02	436
L23	Healist	3.14	0.95	436
L24	Insta360	2.96	0.97	436
L25	Lixiang	2.42	0.93	436
L26	Master-Plan	3.11	1.02	436
L27	Oto_logo	3.06	1.06	436
L28	Perfect diary	3.23	1.02	436
L29	Pico	3.24	0.98	436
L30	SnXBm	2.91	0.96	436
L31	sofar	3.19	1.13	436
L32	SONGKICK	2.73	0.89	436
L33	Tordotcom	3.27	1.11	436
L34	Zeemart	3.41	0.99	436
L35	GetMuv	2.97	1.11	436
L36	geidia	2.74	1.03	436
L37	B8ak	3.07	1.00	436
L38	CREWAPP	3.19	0.98	436
L39	deepglint	2.75	1.01	436
L40	Didi-Chuxing	3.03	0.97	436
L41	Fazer	3.51	0.91	436
L42	Gordini	3.22	0.92	436
L43	Green Spork	3.18	0.99	436
L44	Haptivate	3.41	1.04	436
L45	Ke	3.15	0.95	436
L46	Kuaishou	3.19	1.01	436
L47	Luckin Coffee	3.76	0.97	436
L48	moozicore	3.00	1.07	436
L49	noonacademy	2.94	1.07	436
L50	pinduoduo	2.58	1.14	436
L51	YUMC	2.61	1.09	436

Table 28 - Details about the mean preference scores for the four different geographic groups. (n = 436).

		CHINA n = 103	KOREA n = 106	SA n = 109	UK n = 118	
L1	BrandWatch	3.30	3.44	3.24	3.53	Liked
L2	Burning Rock DX	2.66	2.26	2.38	2.40	Disliked
L3	Ception	3.64	3.20	3.50	3.44	Liked
L4	Ebury	2.65	2.92	2.93	3.00	Disliked
L5	Falconwiz	3.06	3.02	3.07	3.27	Liked
L6	Fazer Yosa	3.02	2.98	2.54	2.72	X
L7	Geek+	3.30	3.00	3.31	3.50	X
L8	Locomizer	2.35	2.47	2.94	3.06	X
L9	MBX	2.82	3.04	3.39	3.22	X
L10	Meem Bank	3.01	2.68	3.72	3.78	X
L11	Orangeri	3.13	2.82	3.35	3.31	X
L12	Pixelpin	3.07	3.43	3.30	3.44	Liked
L13	Servio	3.20	3.20	3.43	3.28	Liked
L14	Sihaitech	2.12	2.29	3.34	3.60	X
L15	Vivivik	2.44	3.01	2.78	3.00	X
L16	WPF	2.58	2.49	2.73	3.00	X
L17	Zidsa	2.32	2.35	3.11	3.15	X
L18	Any-Tea	3.22	2.91	2.92	2.92	X
L19	Bottleapp	3.24	3.36	3.39	3.51	Liked
L20	Designlimit	2.64	2.65	2.51	2.39	Disliked
L21	Foodics	2.74	2.93	2.76	2.71	Disliked
L22	Healing-brush	2.73	3.17	3.06	3.07	X
L23	Healist	2.94	3.33	3.14	3.14	X
L24	Insta360	2.98	3.01	2.95	2.91	X
L25	Lixiang	2.43	2.46	2.38	2.41	Disliked
L26	Master-Plan	3.10	3.47	2.81	3.06	X
L27	Oto_logo	2.66	2.80	3.22	3.51	X
L28	Perfect diary	3.09	3.14	3.18	3.48	Liked
L29	Pico	3.18	3.25	3.13	3.38	Liked
L30	SnXBm	2.83	2.97	2.89	2.92	Disliked
L31	sofar	2.32	3.34	3.40	3.63	X
L32	SONGKICK	2.62	2.72	2.76	2.82	Disliked
L33	Tordotcom	2.96	3.32	3.38	3.39	X
L34	Zeemart	3.26	3.39	3.41	3.57	Liked
L35	GetMuv	3.04	2.67	2.99	3.17	X
L36	geidia	2.68	2.58	2.71	2.97	Disliked
L37	B8ak	2.79	3.02	3.07	3.36	X
L38	CREWAPP	2.83	3.01	3.29	3.58	X
L39	deepglint	2.95	2.44	2.75	2.85	Disliked
L40	Didi-Chuxing	3.16	2.87	2.95	3.14	X
L41	Fazer	3.51	3.50	3.36	3.65	Liked
L42	Gordini	3.12	3.15	3.20	3.38	Liked
L43	Green Spork	2.98	2.88	3.26	3.56	X
L44	Haptivate	2.93	3.24	3.69	3.71	X
L45	Ke	3.16	3.07	3.08	3.30	Liked
L46	Kuaishou	3.11	3.10	3.19	3.34	Liked
L47	Luckin Coffee	4.00	3.45	3.63	3.93	Liked
L48	moozicore	2.88	2.77	3.08	3.21	X
L49	noonacademy	2.86	2.74	2.94	3.19	X
L50	pinduoduo	2.41	2.16	2.79	2.91	Disliked
L51	YUMC	2.46	2.61	2.53	2.81	Disliked

Table 29 - The most and least liked logos for each of the four regions.

<i>Location</i>	<i>Least Liked logo</i>	<i>Most liked logo</i>
<i>China</i>	 L14	 L47
<i>South Korea</i>	 L50	 L41
<i>Saudi Arabia</i>	 L2	 L10
<i>United Kingdom</i>	 L20	 L47

5.3.3.1 Effects of Interaction between Logo Type & Location

There was a significant main effect of logo type on logo preference, $F(2, 864) = 25.602, p < 0.001$. The logo preference was significantly higher on 'Icon' ($M = 3.08, SD = 0.59$) and 'Icon and Typo' ($M = 3.06, SD = 0.57$) than 'Typo' group ($M = 2.93, SD = 0.60$) (see Figure 38). There was also a significant main effect of location on logo preference, $F(3, 432) = 4.482, p = .004$. Post hoc test indicates that the logo preference was significantly higher on UK ($M = 3.15, SD = 0.48$) and SA ($M = 3.04, SD = 0.58$) than China ($M = 2.92, SD = 0.52$) and Korea ($M = 2.97, SD = 0.45$) (see Figure 39).

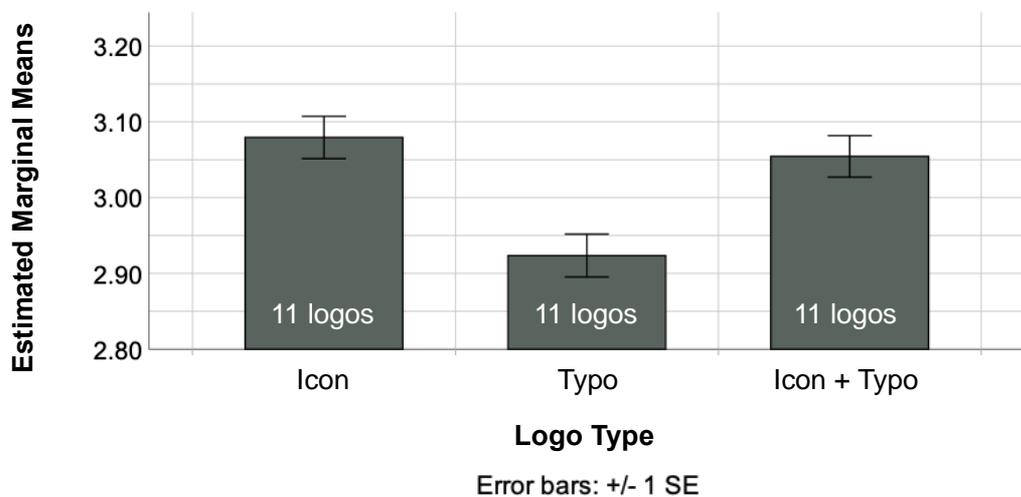


Figure 38 - The main effect of form classes on logo preference.

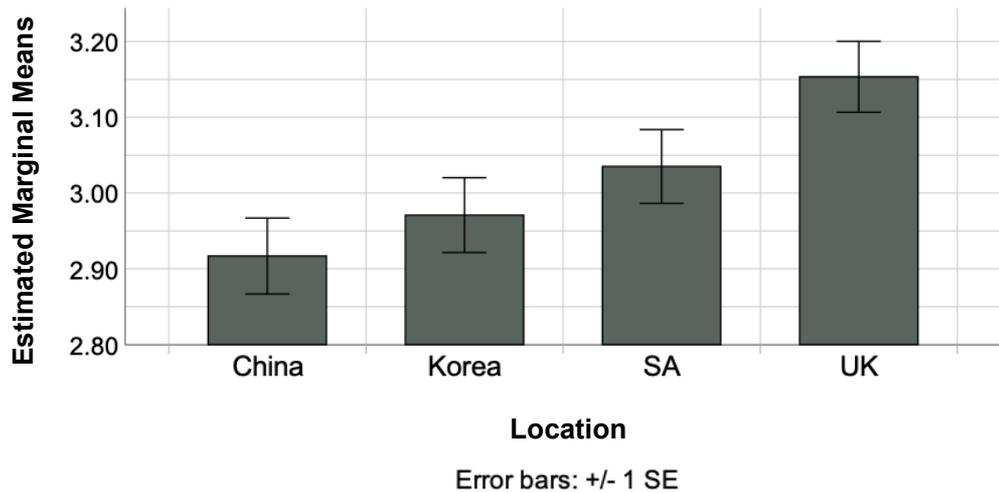


Figure 39 - The main effect of location on logo form preference.

Figure 40 shows the marginal mean preferences for the four regional groups for each of the three logo types. Generally, UK preferences are higher than for the other three groups (this is particularly the case for logo type where the preferences for the other three groups are similar to each other and lower than for the UK group). The Chinese group show a particularly low preference for the typo logo type.

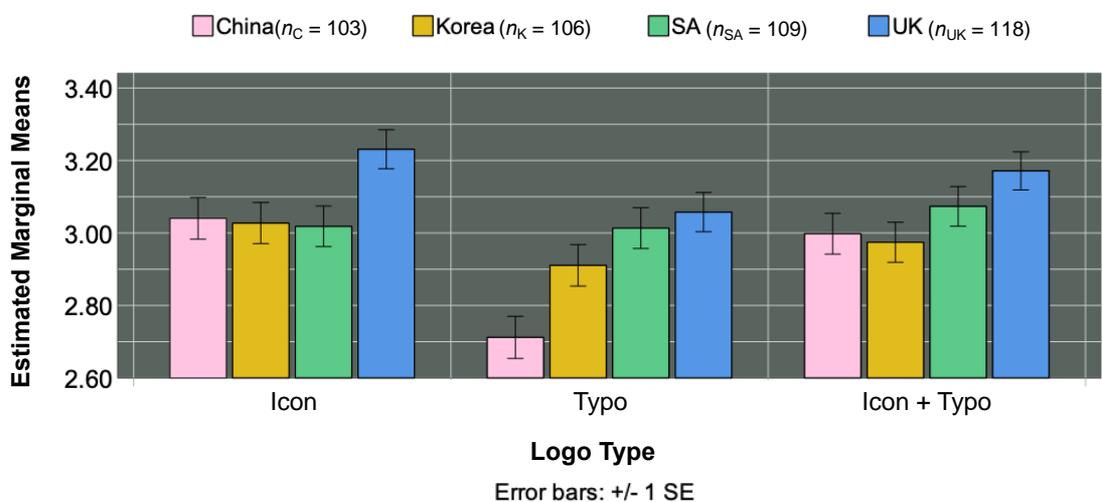


Figure 40 - Marginal mean preferences (four regional groups for each of the three logo types).

5.3.3.2 Effects of Interaction between Colour Class & Location

There was a significant main effect of colour classes on logo preference, $F(1.935, 835.852) = 3.382, p = .036, \eta = .008$. The logo preference was significantly higher on 'Chromatic' class ($M = 3.08, SD = 0.59$) than 'Achromatic' group ($M = 3.02, SD = 0.61$) and 'Multicolour' group ($M = 3.02, SD = 0.50$) (see Figure 41). There was also a significant main effect of location on logo preference, $F(3, 432) = 8.523, p < .001, \eta = .056$. Post hoc test indicates that The logo preference was significantly higher on UK ($M = 3.21, SD = 0.44$) than China ($M = 2.91, SD = 0.51$) and Korea ($M = 2.94, SD = 0.44$) (see Figure 42).

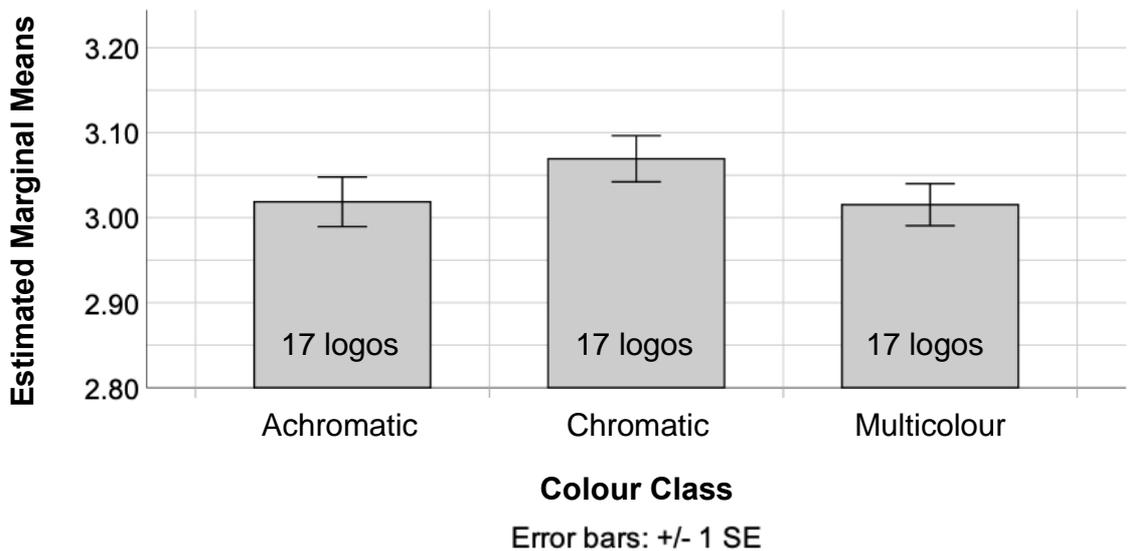


Figure 41 – The main effect of colour classes on logo preference.

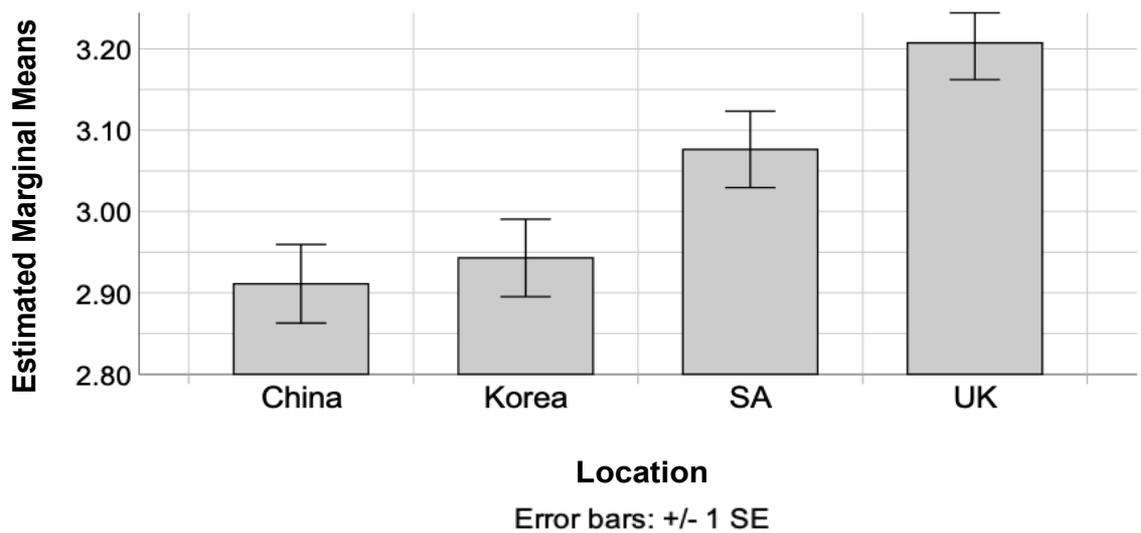


Figure 42 – The main effect of location on logo preference.

The interaction between colour classes and location was also significant, $F(5.805, 835.852) = 8.095, p < .001, \eta = .053$. To examine where the significant difference occurred in the 12 pairwise comparisons (3 colour classes \times 4 locations), the post hoc test using Bonferroni adjustment was conducted. The chromatic group showed higher sum of preference scores compared with the achromatic group and the multicolour group, respectively (Achromatic 51.38 vs Chromatic 52.30 and Multicolour 51.39 vs Chromatic 52.30).

Figure 43 shows the marginal mean preferences for the four groups broken down in terms of logo colour. Preferences for UK participants again tend to be higher than for the other three groups. The Korean group show highest preference for the achromatic logos and the SA group show highest preference for the multicolour group. But for UK and Chinese people the highest preference is for the chromatic logo style. For multicolour logos preferences are quite high for SA and UK but quite low for Chinese and Korea.

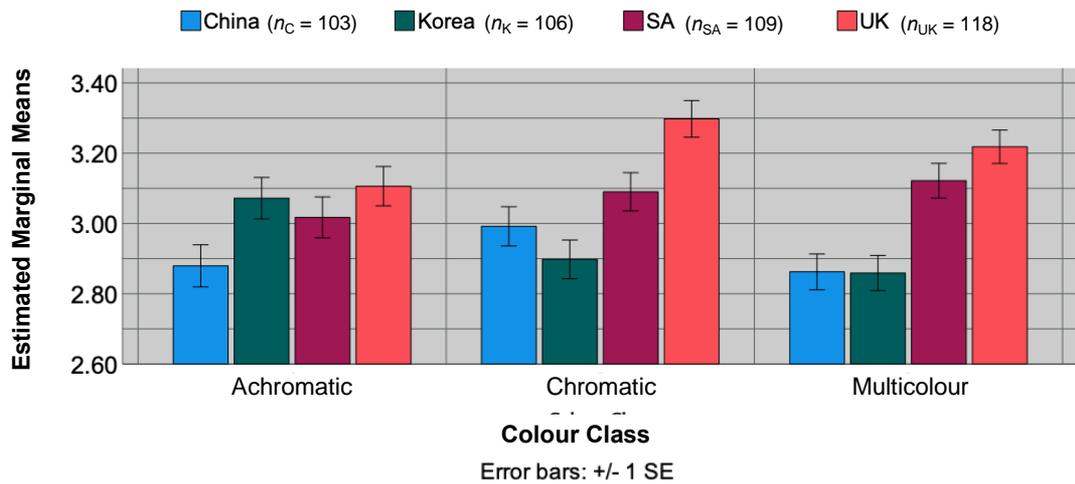


Figure 43 - The marginal mean preferences for the four groups broken down in terms of logo colour category.

5.4 General Discussions

Three studies are described in this chapter. The two main studies (Study VI and Study VII) asked 301 and 436 participants respectively to rate the preference of logos. In Study VI well-known logos were used. Several problems were identified with Study VI. For example, the issue of brand awareness (which was also mentioned in a previous chapter) could not be ignored. It was for this reason that Study VII effectively repeated Study VI using logos from start-up companies to eliminate the possibility of brand awareness. Both Study VI and Study VII explored the effect of colour and form on logo preference. For colour, three categories of colour were examined (achromatic, chromatic and multicolour) whereas for form there were also three categories (Icon, Typo or Icon & Typo). The classification of a logo into one of the three form categories may be somewhat subjective. It was for this reason that Study V was carried out. Study V asked 20 participants to classify each of the logos used in Study VI and Study VII as being Icon, Typo or Icon & Typo.

There was general consensus as to the logo type for most logos but for some logos there was disagreement between participants' category choices. Only those logos that where there was 70% (or greater) agreement on the logo type were used in the subsequent analyses of form and preference.

In Study VI it was found that the preference for Typo logos was less than for Icon or Icon & Typo logos (Figure 38). The same finding was observed with Study VII with again preference being lower for Typo logos than for Icon or Icon & Typo logos (Figure 40). As a result, there appears to be substantial evidence from two studies (with a combined number of 737 participants) that including an icon with a logo (or even having a logo comprised of only an icon or image) leads to higher consumer preference.

It was more difficult to draw robust conclusions about the effect of colour on logo preference from Study VI. This is because the design problems in the experiment led to their only being 8 logos for each of the three colour classes (given that a balanced design was needed). It was clear that different selections of 8 logos for the chromatic and multicolour logos would lead to different conclusions. Study VII was a more balanced design and the results showed that the highest preference was for chromatic logos (Figure 43) with lower preference for both achromatic and multicolour logos. This can be summed with the finding: colour in a logo improves consumer preference but for multicolour logos there is perhaps too much colour.

Finally, Study VII allowed an analysis of geographical region to be undertaken since the experiment was conducted in four different regions. Note that although most of the participants in the China, South Korea and Saudi Arabia regions were likely natives of those regions this was not the case with the UK region where the participants were more multi-cultural. Several interesting findings were observed. For example, it was noted that UK participants generally scored higher preferences than participants in the other three regions. Although generally, for preference chromatic logos elicited the

highest scores, for Korean participants achromatic > chromatic > multicolour. That region has an effect on logo preferences has implications for this study and for future studies. Although Study VII found that typo logos are less preferred than logos containing a logo and that coloured logos are more preferred than achromatic or multicolour logos, it cannot be ruled out that different findings may have been observed had, for example, the participants been drawn from other regions such as Japan, USA, Australia or mainland Europe.

6. Discussions & Conclusion

This thesis is primarily concerned with the visual aesthetics of logos and the relationship between aesthetic attributes (e.g. aspects of colour and form) and consumer preference for the logos. There is an overarching question which is: what makes a logo successful? In postulating this question it is assumed that higher consumer preferences for a logo will be a major contributing factor as to whether a logo is successful or not. Of course, other factors may also contribute towards the success of a logo and one of these factors may be the complex relationship between the logo and the brand that it represents. In this thesis experiments have been carried out with two types of logos: those of well-known companies and those of start-up companies. Because of the complexity of the relationship between the visual representation of a brand (e.g. the logo) and the brand it represents (and, indeed, the company) the experiments with well-known logos are difficult to analyse; the strongest conclusions and insights come from the experiments with start-up logos where there was some confidence that the participants were only evaluating the visual aspects of the logo when making any ratings. It should also be pointed out that the general approach in this thesis is for data-driven or consumer-led research. The two last studies in the thesis used 301 and 436 participants respectively and between them used over 100 logos. This contrasts rather sharply with some related work in the field that is more theory or expert-driven (Pittard *et al.* 2007); such papers tend to be light on data but heavy on theory.

The thesis is presented as three experimental chapters which describe a total of seven studies. The work in the first chapter (Study I and Study II) is quite exploratory. For example, focus groups and interviews are used to extract information about what consumers think about logos and what aspects of a logo they notice or are important to them. Personal preference was one of the issues that was explored but familiarity and memorability were also discussed. Study II also described an analysis (using thematic analysis and word frequency) of text that consumers used to describe logos and this was used to make some of the decisions in the subsequent chapters

The second experimental chapter included Study III and Study IV. Study III was a pilot experiment for Study IV. In Study IV 50 logos were selected from start-up companies that would be unknown to the participants and this removes the potential of any confusion around whether it is the logo or the brand that is being evaluated. A total of 30 participants rated each of the 50 logos according to 26 attributes. One attribute, organic, was removed but the remaining 25-D data were reduced to a 4-D space that represented 66.3% of the variance. These four factors were vibrancy (F1), simplicity (F2), sophistication (F3), and balance (F4). Factors F2 (simplicity) and F4 (balance) are about visual design and form. Factors F1 (vibrancy) and F3 (sophistication) are more emotional terms. Note, however, that the most important factor (representing the greatest share of the variance was F1 (vibrancy). The variance accounted for by factors F1 to F4 was 38.2%, 29.4%, 7.3% and 5.3% respectively. The low-dimensional aesthetic space developed in this Study IV could be used to generate insights about how logos are evaluated. For example, in the main study, logos from the retail sector predominantly positioned in one part of the space; specifically they tended to have high vibrancy and low simplicity. None of the healthcare logos were found in this part of the space (rather, they tended to have low vibrancy). One contribution of the thesis is the concept that a low-dimensional space such as the one in this study could be formed and could be used as an efficient way to analyse the visual aesthetics of logos. This space could enable important insights to be identified; for example, in this study it appears that the factor balance is correlated with the factor sophistication and this may be useful advice to logo designers.

The final chapter includes three studies. Study V was concerned with the form classification of logos and was conducted in order to inform the analysis of Study VI and Study VII. Both Study VI and Study VII explored the effect of colour and form on logo preference. For colour, three categories of colour were examined (Achromatic, Chromatic and Multi-colour) whereas for form there were also three categories (Icon, Typo or Icon & Typo).

In Study VI it was found that the preference for Typo logos was less than for Icon or Icon & Typo logos. The same finding was observed with Study VII with again preference being lower for Typo logos than for Icon or Icon & Typo logos. Therefore there seems strong evidence from two studies (with a combined number of 737 participants) that including an icon with a logo (or even having a logo comprised of only an icon or image). It was more difficult to draw robust conclusions about the effect of colour on logo preference from Study VI. This is because the design problems in the experiment led to their only being 8 logos for each of the three colour classes (given that a balanced design was needed). Study VII was a more balanced design and the results showed that the highest preference was for chromatic logos with lower preference for both achromatic and multicolour logos. This can be summed with the finding: colour in a logo improves consumer preference but for multicolour logos there is perhaps too much colour. Finally, Study VII allowed an analysis of geographical region to be undertaken since the experiment was conducted in four different regions. It was found that UK participants generally scored higher preferences than participants in the other three regions. And although generally, for preference chromatic logos elicited the highest scores, for Korean participants achromatic > chromatic > multicolour. That region has an effect on logo preferences has implications for this study and for future studies. Although Study VII found that typo logos are less preferred than logos containing a logo and that coloured logos are more preferred than achromatic or multicolour logos, it cannot be ruled out that different findings may have been observed had, for example, the participants been drawn from other regions such as Japan, USA, Australia or mainland Europe.

This thesis makes several contributions. Firstly, the methodological data-driven approach to this topic is somewhat novel and could inspire other researchers to adopt similar methods for logo research or other closely related work. Secondly, the production of a low-dimensional aesthetic space can be used to develop insights into logos and as a framework for studying consumer responses (e.g. preferences) to logos. Thirdly, a large study (Study VII) was carried out on logo preferences and this revealed several new insights about the role of colour and form on logo preference.

On the other hand, the thesis has several limitations. The final three studies focussed on preference but it is clear that other aspects of a logo may be important for the success of a logo (e.g. memorability). In addition, the classification of colour (as achromatic, chromatic and multicolour) and form (as Icon, Typo, and Icon & Typo) is somewhat arbitrary and other classifications could be employed to similar effect. There are also connections between the work in the second experimental chapter and the third experimental chapter that have not been made but could be valuable. For example, it would be possible to consider the consumer preferences (Study VII) of the logos in the aesthetic space (Study V). It may be, for example, that parts of the aesthetic space correspond to logos with high consumer preference and this could, in principle, be used to develop tools for logo designers or develop a method for automatic generation of successful logos using, for example, AI technology. In addition, it would be interesting to explore potential methods for taking an unknown logo (that is, a logo for which consumer preferences are unknown) and automatically placing it in the aesthetic space. This sort of computational approach is outside of the scope of this thesis but could, nevertheless, improve the impact of the aesthetic space in the field of logo design.

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Appendix B: Ethical Reviews

The Secretariat
University of Leeds
Leeds, LS2 9JT Tel: 0113 343 4873
Email: ResearchEthics@leeds.ac.uk



UNIVERSITY OF LEEDS

Ahmed K Nassereldin
School of Design
University of Leeds
Leeds, LS2 9JT

**Arts, Humanities and Cultures Faculty Research Ethics Committee
University of Leeds**

11 June 2019

Dear Ahmed

Title of study: The Role of Aesthetics in Logo Design
Ethics reference: LTDESN-101

I am pleased to inform you that the above application for proportionate (light touch) ethical review has been reviewed by a representative of the Arts, Humanities and Cultures Faculty Research Ethics Committee and I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
LTDESN-101 LightTouchEthicsForm (1).doc	1	19/05/2019

Please notify the committee if you intend to make any amendments to the original research as submitted at date of this approval, including changes to recruitment methodology. All changes must receive ethical approval prior to implementation. The amendment form is available at <http://ris.leeds.ac.uk/EthicsAmendment>.

Please note: You are expected to keep a record of all your approved documentation, as well as other documents relating to the study. You will be given a two week notice period if your project is to be audited, there is a checklist listing examples of documents to be kept which is available at <http://ris.leeds.ac.uk/EthicsAudits>.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie
Senior Research Ethics Administrator, the Secretariat
On behalf of Prof Robert Jones, Chair, [AHC FREC](#)
CC: Professor Stephen Westland

The Secretariat
University of Leeds
Leeds, LS2 9JT Tel: 0113 343 4873
Email: ResearchEthics@leeds.ac.uk



UNIVERSITY OF LEEDS

Ahmed Nassereldin
School of Design
University of Leeds
Leeds, LS2 9JT

**Arts, Humanities and Cultures Faculty Research Ethics Committee
University of Leeds**

29 October 2019

Dear Ahmed,

Title of study: The Emotional Response to Logo Design
Ethics reference: LTDESN-115

I am pleased to inform you that the above application for proportionate (light touch) ethical review has been reviewed by a representative of the Arts, Humanities and Cultures Faculty Research Ethics Committee and I can confirm a favourable ethical opinion as of the date of this letter. The following documentation was considered:

Document	Version	Date
LTDESN-115 Ethics Review - Ahmed Nassereldin - Focus Group.docx	1	17/10/2019

Please notify the committee if you intend to make any amendments to the original research as submitted at date of this approval, including changes to recruitment methodology. All changes must receive ethical approval prior to implementation. The amendment form is available at <http://ris.leeds.ac.uk/EthicsAmendment>.

Please note: You are expected to keep a record of all your approved documentation, as well as other documents relating to the study. You will be given a two week notice period if your project is to be audited, there is a checklist listing examples of documents to be kept which is available at <http://ris.leeds.ac.uk/EthicsAudits>.

We welcome feedback on your experience of the ethical review process and suggestions for improvement. Please email any comments to ResearchEthics@leeds.ac.uk.

Yours sincerely

Jennifer Blaikie
Senior Research Ethics Administrator, the Secretariat
On behalf of Prof Robert Jones, Chair, [AHC FREC](#)
CC: Professor Stephen Westland

Appendix C: Survey Introduction Samples

استبيان عن تصميم الشعار

هل يعجبكم تصميم الشعار التالي؟

نشكركم لمشاركتكم في هذا الاستبيان حول تصميم الشعارات هناك 51 شعاراً معروضاً ومطلوب منكم الإجابة على سؤال واحد فقط إذا كان يعجبكم الشعار أم لا

يستغرق الإستبيان أقل من 5 دقائق.

بالرجاء التفكير في الشعار من منظور التصميم

لأي اقتراحات أو تعليق يرجى إرسال بريد إلكتروني
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شكراً لكم

OK

The Logo Form categorisation

As a study participant you are asked to classify a number of logos according to three different typefaces: "Icon", "Type", and "Icon & Type". The example of the logo classification is shown below:

Example of:

Icon



Type



Icon & Type



[Phase 2] There are 50 logos. Select the logo to be placed in the next slide category



Appendix D: Survey Layout and Scaling



* 5.

- I strongly like this logo
- I like this logo
- Neutral
- I dislike this logo
- I strongly dislike this logo

* 1.



Do you like this logo?

Dislike Like

Appendix E: Participants Taking Part in Surveys in Lab and Office Settings

