

Article

# Factors affecting the brand equity: An empirical study of bubble milk tea in Johor Bahru, Malaysia

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**Abstract:** The bubble milk tea industry in Malaysia which was thought to have slowed down in the recent years since its first appearance in 2010 has made a comeback. At the point of conducting this research, there are almost 100 brands of bubble milk tea in Malaysia and it is not surprising that some of these shops are selling more than a thousand cups a day. However, there has been limited research conducted on factors influencing brand equity on bubble milk tea brands in Johor Bahru. This study is to investigate whether brand loyalty, perceived quality, brand awareness and brand association influence brand equity on bubble milk tea brands in Johor Bahru through distribution of online questionnaires. This study novelty is at the examining the factors influencing brand equity in the context of bubble milk tea in Johor Bahru, Malaysia. Data derived from responses of 400 respondents through sampling were analysed using SPSS v29. Hypotheses testing performed through simple linear regression revealed that brand loyalty, perceived quality, brand awareness and brand association have significant effect on brand equity of bubble milk tea brands in Johor Bahru, Malaysia. It was also demonstrated that perceived quality has the most significance influence on brand equity. Organizations in the bubble milk tea industries are able to benefit from these findings by prioritizing their marketing strategies to gain competitive edge over their competitors. With findings that perceived quality having the most significance influence, marketers with limited resources can narrow down their options and focus on this specific dimension to increase their brand value.

**Keywords:** small enterprise; brand equity; brand loyalty; perceived quality; brand awareness; brand association; bubble milk tea; sustainable growth

## 1. Introduction

Bubble milk tea, a cold tea-based beverage originating from Taiwan, is prepared by vigorously shaking a concoction of tea, milk, and flavorings in a cocktail shaker to create “bubbles.” The beverage is then garnished with pearl jelly, black tapioca balls resembling bubbles (Iswara and Rahadi, 2021). Also known as boba milk tea or pearl milk tea, the drink has gained widespread popularity and is estimated to be worth \$2.29 billion in the market in 2022, with a projected growth to \$4.08 billion by 2030 (Fortune Business Insight, 2022). The unique recipe of bubble tea, consisting of premium milk, sweetened liquid tapioca pearls, creamer, fruit powder, and sweetener, has contributed to its status as a standard beverage.

The appeal of bubble milk tea, especially among young people, is evident in the rapid growth of bubble tea chains, with over 49 brands in Malaysia as of 2019 (Bubbleteamalaysia, 2019). The phenomenon is exemplified in Johor Bahru, a fastest

growing city in Malaysian after Kuala Lumpur, where the bubble milk tea chain has expanded by more than 50 units (Johornow, 2019). However, this market has experienced a high turnover rate due to fierce competition, leading to numerous store openings and closings (Annuar, 2020). The history of bubble milk tea traces back to 1984 when Xiuhui Liu opened Chunshui Tang, a beverage shop, introducing the first bubble milk tea. Using locally made tapioca balls, she added a unique taste to the milk tea, successfully promoting the beverage to customers.

While previous studies on bubble milk tea have explored customer attitudes and purchasing behavior (Abdullah et al., 2023, Ariffin et al., 2021; Wu, 2020), limited research has focused on the variables influencing brand equity for bubble milk tea businesses. In the highly competitive food and beverage industry, particularly in Johor Bahru, retailers need to be aware of the brand equity associated with bubble milk tea. This study aims to investigate four key elements that may enhance the brand equity of bubble milk tea companies.

In 2022, the bubble tea market was estimated at \$2.29 billion, and it is projected to reach \$4.08 billion by 2030, indicating substantial growth from \$2.46 billion. Malaysian bubble milk tea brands fall into two main categories: locally owned independent brands and international franchises. Most, if not all, bubble milk tea businesses in Malaysia are considered small and medium-sized enterprises (SMEs), constituting a significant portion of the Malaysian economy. SMEs make up 97.2% of all business establishments, contributing 38.2% to GDP and employing 7.3 million people (OECD, 2020). However, the contribution of SMEs to GDP decreased to 37.4% in 2021, reflecting the challenges faced by these businesses. To stay competitive and retain customers amid challenges faced by SMEs and the rapid growth of the bubble milk tea market, firms need a competitive edge. The highly competitive landscape, particularly evident in major cities, has led to numerous openings and closings of bubble milk tea stores due to intense competition (Annuar, 2020).

Brand equity and its traits have been conceptualized and investigated since the late 1980s (Shariq, 2018). There have been many studies on brand equity, but few on the bubble milk tea industry, which has grown rapidly over the last 20 to 30 years. Prior studies have used a variety of brand equity characteristics in a range of industries, as outlined in review of literature, with varied degrees of success. The objective of this study is to contribute the knowledge to the previously available on brand equity and to provide new insights on each of the four components of brand equity in the bubble milk tea industry.

Aaker's framework, encompassing brand associations, brand awareness, brand loyalty, and perceived quality, serves as the foundation for this study (Aaker, 1991). According to Aaker (1991), brand equity not only influences customer satisfaction and confidence in purchasing decisions but also aids customers in processing, storing, and retrieving information about products and brands. Recent research has demonstrated that Aaker's dimensions of brand equity, incorporating brand awareness, brand association, brand loyalty, and perceived quality, significantly impact brand equity (Koliby and Rahman, 2018; Shariq, 2018; Sadek and Elwy, 2018). Recognizing the multifaceted nature of brand equity and its importance to customers and businesses, this study employs each of these factors to evaluate their significance in the bubble milk tea market.

This study's results will aid businesses and marketers in the bubble milk industry in better comprehending the elements that influence brand equity. The direction of the marketing strategy to be adopted to raise the value of their brand would be up to the existing bubble milk tea companies or entrepreneurs wishing to enter the bubble milk tea market. The results of the current study, which focuses on bubble milk tea, can be applied to other beverages of a similar size and category.

The independent variables for this study are brand loyalty, perceived quality, brand awareness and brand association which are crucial dimensions that shape brand equity and subsequently impact consumer choices. Understanding the interrelationships between these brand equity dimensions can provide valuable insights for bubble tea businesses to strengthen their brand and increase their market competitiveness. In the context of the bubble milk tea industry in Johor Bahru, Malaysia, it is important to investigate the specific factors that contribute to brand equity and what influence consumer behavior. This study aims to empirically examine the factors affecting brand equity in the bubble milk tea market, which can inform strategic marketing decisions for businesses in this industry. The definition of key terms of this study can be found in Appendix A.

### **Research objectives**

- 1) To determine whether brand loyalty has a significant effect on brand equity on bubble milk tea in Johor Bahru.
- 2) To determine whether perceived quality has a significant effect on brand equity on bubble milk tea in Johor Bahru.
- 3) To determine whether brand awareness has a significant effect on brand equity on bubble milk tea in Johor Bahru.
- 4) To determine whether brand association has a significant effect on brand equity on bubble milk tea in Johor Bahru.

To address gaps in previous research, this study applies Aaker's brand equity model to analyze brand awareness, brand association, perceived quality, and brand loyalty in the context of bubble milk tea in Johor Bahru. Focusing on popular bubble milk tea shops like Chagee, Tealive, Black Whale, Gong Cha, The Alley, Xing Fu Tang, KOI, and others, the study aims to identify marketing strategies and branding efforts that enhance brand equity and maintain a steady customer base. The investigation specifically targets four key variables contributing to the brand equity of bubble milk tea brands raising the following research questions.

- 1) Does brand loyalty have a significant effect on brand equity on bubble milk tea in Johor Bahru?
- 2) Does perceived quality have a significant effect on brand equity on bubble milk tea in Johor Bahru?
- 3) Does brand awareness have a significant effect on brand equity on bubble milk tea in Johor Bahru?
- 4) Does brand association have a significant effect on brand equity on bubble milk tea in Johor Bahru?

## **2. Review of literature**

Customer-based brand equity, as defined by Keller (2013), represents the distinctive impact of brand knowledge on how customers respond to a company's marketing efforts. Aakar (1992) identifies five interconnected elements—perceived quality, brand awareness, brand connotations, brand loyalty, and other proprietary components—that collectively control brand value and provide a competitive edge. Brand equity, according to Aaker (1997), is the value a company creates from its name and logo. Shimp (2010) notes that brand equity aids in consumer recall and awareness over time, demonstrated by favorable responses to well-known brands (Keller, 1993). It serves as a distinguishing factor in brand excellence and can be enhanced through marketing communications (Ranjbarian et al., 2011).

Understanding key brand equity components, such as name, channel, advertising, spokesperson, and package, and their interactions is crucial for building a robust brand (Aaker, 1991). Brand equity is a result of marketing efforts and is considered one of a company's strategic assets providing a sustained competitive advantage (Kapferer, 2003). Brand development is stressed as a key responsibility for organizations, emphasizing the role of marketing strategy in managing marketing components to create and maintain a strong brand.

Brand equity encompasses intangible assets created through marketing efforts and resides in the minds and hearts of individuals engaged in the market (Ambler, 1997). It is the value a brand generates through its name, connotations, and emotional connection with consumers, benefiting the company in the marketplace. A strong brand serves as a foundation for future products, licensing, and can withstand challenges, corporate support fluctuations, or changes in consumer preferences (Shariq, 2018).

Lassar et al. (1995) define brand equity as consumers' belief that a specific brand's products are generally superior to those of competing brands, emphasizing five facets: consumer impressions, overall brand value tied to the company's name, relevance to competition, and enhancement of financial success. Sumardi's (2018) study reveals a positive impact of brand equity on customers' purchase inclinations, aligning with Aaker's (1991) findings that brand equity, brand loyalty, brand awareness, brand association, and perceived quality positively influence consumers' purchase intentions.

Recent research emphasizes the major impact of brand awareness, brand association, brand loyalty, and perceived quality on brand equity (Ahmad and Sherwani, 2015; Kinyuru et al., 2015; Nguyen and Luu, 2018). This study combines these factors to illustrate the value of brand equity in the bubble milk tea industry, considering the diverse traits that constitute brand equity and their significance to both customers and organizations.

### **2.1. Dimensions of brand equity**

Brand loyalty, as outlined by Aaker (1991), serves as a crucial indicator of a customer's relationship with a company. It gauges the likelihood of a consumer switching brands, particularly when a company alters product specifications or pricing. Brand loyalty often forms the cornerstone of a brand's equity, as consumer

indifference towards the brand, favoring decisions based solely on features, price, and convenience, may result in minimal equity. As brand loyalty strengthens, the customer base becomes less susceptible to competitive activities, and it directly correlates with future sales, making it a key measure of brand equity tied to future earnings.

While user experience is the foundation of brand loyalty, the other three essential components of brand equity are awareness, associations, and perceived quality; which may also play significant roles. Research studies by Lee (2010) and Tong (2009) highlighted that brand loyalty has the most substantial influence on brand equity. In a previous study (Taylor et al., 2004), brand equity and trust were identified as the most significant determinants of both the behavioral and attitudinal aspects of consumer loyalty. Aaker (2008) notes that brand loyalty indicates a consumer's relationship with a brand and predicts potential switches to rivals' brands as an instance of changes in pricing and other features.

Brand loyalty, according to Kalesaran et al. (2019), is an indicator of long-term prosperity for both the company and the brand. Quality strongly influences brand loyalty, as trust in choices is heightened when perceived quality is high (Shalehah et al., 2019). It signifies that brand-loyal customers have greater trust in their choices and are less likely to shift their purchases to other brands, making them less vulnerable to threats from competing products. Therefore, brand loyalty is a critical measure for assessing brand equity in terms of sales potential and serves as a guarantee of the company's future financial success (Aquina and Soliha, 2020).

Javalgi and Moberg (1997) delineate brand loyalty through the perspectives of action, attitude, and choice. The attitude viewpoint considers consumer preferences and dispositions, the behavioral approach examines the volume of purchases for a specific brand, and the choice viewpoint emphasizes the reasons behind purchases. Oliver (1997) defines brand loyalty as the unwavering determination to repeatedly buy a preferred good or service in the future, emphasizing the behavioral component. Ahmad and Sherwani's (2015) study in New Delhi, India, affirmed that brand loyalty had the most significant impact on brand equity, consistent with findings across various industries and products (Alipour et al., 2016; Molinillo et al., 2018; Nawaz et al., 2018; Nguyen and Luu, 2018; Sharma, 2019; Sornsaruht, 2020; Vukasovic, 2016). Hoo et al. (2024) and Ng et al. (2022) had researched this variable on the brand equity of bubble tea and toys market in Malaysia respectively. Gazi et al. (2024) studied that customer profitability is positively connected with customer loyalty.

Perceived quality, as highlighted by Aakar (1991, 1992), is a pivotal component of brand equity. Unlike the objective quality of a product, perceived quality is rooted in the customer's perception of the product's quality. It refers to the customer's subjective assessment of the degree of quality inherent in a product or service features. In the customer's context, "quality" is not a technical term but rather a reflection of their feelings toward the tangible and intangible aspects of what they use. Perceived quality involves the customer's overall perception of a product or service's quality and its superiority over competitors for its intended purpose.

Aaker (1992) emphasizes that perceived quality is a broad and pervasive concept, often built on fundamental product-related attributes such as reliability and performance. The assessment of these underlying attributes sheds light on perceived quality, a global concept with demonstrated correlations to price premiums, pricing

elasticity, brand preference, and even stock returns. Additionally, perceived quality is linked to various significant brand equity factors, including functional benefits attributes, making it a representative element of brand equity.

Aaker (2008) asserts that consumers' perceptions of a product or service's overall excellence influence its ability to serve its intended purpose. The impact of perceived quality on consumers' purchasing decisions and willingness to pay a specific price is well-established (Pather, 2017). Lin et al. (2015) further support the idea that high perceived quality fosters a lasting connection between the brand and the consumer, influencing brand loyalty. In the foodservice industry, where customer impressions of quality are crucial for profitability, perceived quality can give businesses a competitive edge and enhance brand loyalty (Konuk, 2019).

Lee et al. (2019) investigated the intention of college students to purchase skin care products in relation to various brand equity sub-dimensions. The study found that customers' purchase intentions are significantly influenced by brand awareness, perceived quality, brand association, and brand loyalty, with perceived quality emerging as the most crucial element. The authors recommend that businesses design strategies emphasizing essential perceived quality features to gain a competitive advantage over rivals. Hoo et al. (2024) and Ng et al. (2022) investigated this variable's impact on the brand equity of the bubble tea and toys markets in Malaysia, respectively. Tang et al. (2024) studied the factors that influence quality work-life balance among female managers in Chinese higher education institution.

Brand awareness, the third crucial component of brand equity, refers to the brand's presence in the consumer's mind (Aakar, 1991; Keller, 1993). Keller (2013) identifies brand recognition and brand recall as the cornerstones of brand awareness. Brand loyalty, as described by Aakar (1991), represents the attachment a customer has to a brand. Brand awareness involves the potential customer's ability to recognize or recall a brand belonging to a specific product category. Aaker (1991) introduces three distinct degrees along the brand awareness continuum, emphasizing the role of context and achieved awareness level in brand equity. Measuring brand awareness involves customers' recognition of the brand in various contexts, with brand name awareness focusing on the ease of brand recall. Brand awareness encompasses both brand recall and brand recognition. Brand recognition is the consumer's ability to confirm prior exposure to a brand when presented as a signal. A brand is recognizable when accurately associated with a previous encounter. The context in which consumers make decisions, whether inside or outside the store, determines the relative value of brand recall and recognition.

Aaker (2008) asserts that brand equity is contingent on the extent of consumer brand awareness, emphasizing its significance in establishing trust, corporate stability, and quality assurance. Consumer ability to remember brand details from prior interactions is directly influenced by brand awareness (Chinomona and Maziriri, 2017). Brand awareness, influencing a consumer's understanding and purchase decisions, is considered essential in the contemporary market (Pather, 2017). A well-known brand is associated with reliability, corporate stability, and quality, influencing consumer purchasing decisions (Aaker, 2008). Brand awareness, a critical sub-dimension of consumer-based brand equity, has been consistently demonstrated across various industries (Pather, 2017). Interactions between brand awareness and other

brand equity sub-dimensions have also been observed in numerous studies. Ng et al. (2022) and Hoo et al. (2024) conducted study on the variable of brand equity in the bubble tea and toys market in Malaysia, respectively.

Brand association, a key element of brand equity (Aaker, 1991; Keller, 1993), involves providing consumers with reasons to choose one brand over another. Aakar (1991) emphasizes that brand associations may arise from various sources, often influenced by organizational ties and brand personality, critical for building brand equity. Described as any memory-based connection to a brand, brand associations hold power and gain strength through repeated exposures supported by a network of additional links. These associations result from consumer perceptions shaped by marketers, firsthand product knowledge, or inferences based on prior associations. Aaker (1991) identifies several associations, including attributes, intangibles, customer benefits, usage, users, well-known individuals, lifestyles, product classes, competitors, and geographic affiliations. A brand strategist's goal is to establish a unique set of brand connections forming the foundation for brand associations (Aaker, 1996). A brand's identity, comprising tangible and intangible characteristics, can impact brand associations and, consequently, brand equity (Yasin, 2007).

Aaker (2008) defines brand association as anything linked to a brand's memory, serving as the foundation for core principles. These associations may leverage network assistance and professional knowledge in representing the brand relationship. Essentially, a brand is a collection of associations created to convey a specific message, and occasionally, a brand's core value lies in these associations or its community significance. Brand association, as characterized by Aaker (2008), extends to anything connected to a brand's memory and can directly influence brand equity in various industries (Ahmad and Sherwani, 2015; Lakshmi and Kavida, 2016; Nguyen and Luu, 2018; Vukasovic, 2016), while also raising customer satisfaction and fostering brand loyalty (Ahn et al., 2015; Bhaya, 2017; Tokmak, 2016; Susanty and Kenny, 2015). According to Hoo et al. (2024) and Ng et al. (2022), this variable was investigated in relation to the brand equity of the bubble tea market and the toys market in Malaysia, respectively.

Despite a shortage of research on bubble milk tea brand equity, prior studies delved into related products like tea beverages, milk tea, made-to-order drinks, and beverages. Ling and Ng (2020) discovered that price consciousness and brand image significantly impact consumer purchase intentions of bubble milk tea in Klang Valley, Malaysia. Shukri et al. (2021) noted high student attitudes towards bubble tea consumption, emphasizing the need for education programs on healthy diets due to potential health risks. Boey et al. (2019) identified positive correlations between sugar consumption, caffeine consumption, social media influence, and Boba Tea consumption in Malaysia. Balasubramanian et al. (2018) explored the bubble drink industry, revealing a positive relationship among affective emotions, interactional fairness, perceived value, and customer satisfaction, with implications for long-term sustainability. Ooi et al. (2021) studied determinants of customer satisfaction among youths consuming bubble tea (Tealive) in Selangor, Malaysia, finding significant relationships with brand awareness, brand association, perceived quality, and brand loyalty.

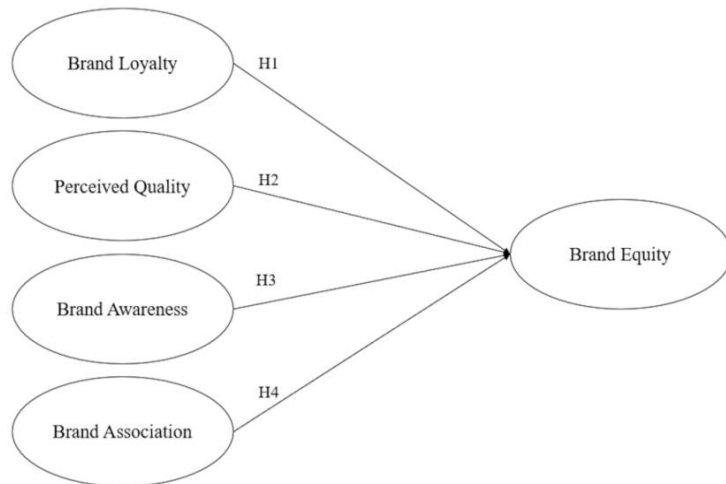
Given the limited literature on brand equity factors for bubble milk tea in Johor

Bahru, this study aims to investigate the relationship between independent variables (brand loyalty, perceived quality, brand awareness, and brand association) and brand equity in Johor Bahru's bubble milk tea brands. There is considerable literature discussing the value and management of brands in a marketing context. However, research on brands within the Johor Bahru bubble tea business, especially regarding brand equity, is insufficiently explored. Examining these characteristics and their impact can not only inform the development of more effective brand strategies but also contribute to a deeper understanding of brand equity for academics and marketers.

This study applies the consumer-based brand equity measure, which is based on Aaker's (1991) methodology and includes four primary factors: brand loyalty, perceived quality, brand awareness, and brand association. These brand equity dimensions are well known and have been used in numerous studies across a range of industries and conceptual frameworks (Ahmad and Sherwani, 2015; Lakshmi and Kavida, 2016; Nguyen and Luu, 2018; Vukasovic, 2016). These four criteria are demonstrated to be significant influences on brand equity in the cited existing literature. The brand equity of bubble milk tea in Johor Bahru is the dependent variable (DV) for this study's framework, while brand loyalty, perceived quality, brand awareness, and brand association make up the independent variables (IV).

## 2.2. Proposed research framework

The goal of this study is to find out dependent variable which is brand equity and independent variables such as brand loyalty, perceived quality, brand awareness and brand association on bubble milk tea brands. **Figure 1** represents the construct of hypotheses and instrument of data collection.



**Figure 1.** Conceptual framework.

## 2.3. Hypotheses

Based on the proposed research framework and literature reviewed above, the study postulated following hypothesis:

H1: Brand loyalty has a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

H2: Perceived quality has a significant effect on brand equity on bubble milk tea



brands in Johor Bahru.

H3: Brand awareness has a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

H4: Brand association has a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

### **3. Research methodology & pilot study**

The main strategy the researcher used to bring together various study components in a methodical and logical way to properly address the research questions is known as the research design (Bougie and Sekaran, 2019). Additionally, conducting quantitative research survey takes less time, cost effective, and yields results quickly (Rahman, 2017).

The research population was chosen from a Malaysian community who are at least 18 years old were considered. This study will focus on factors affecting brand equity on bubble milk tea brands in Johor Bahru. The unit of analysis for this study is adult consumers of bubble milk tea who are 18 years of age and older (Bougie and Sekaran, 2019). According to Saunders et al. (2016), there are no control, manipulation, interference, or simulation samples during data collection.

According to Krejcie and Morgan (1970), with a population of about one million people in Johor Bahru, the sample size should be at least 384 (World Population Review, 2023), refer to the Appendix B. Due to the fact that data will only be gathered once, this study is cross-sectional (Saunders et al., 2016). In this study, researcher used non-probability sampling because they are often readily and easily available such as easy approachability, time availability, or the willingness to participate are included in this study given least time consuming and the cost effective in data collection compared to others (Taherdoost, 2016).

The researcher used self-administered online questionnaires in this study to collect data as it allows the quick and efficient collection of the necessary data. The surveys are prepared online using “Google Form” and sent to possible responders via emails, Facebook, and WhatsApp. 450 sets of questionnaires are distributed to prospective respondents, taking into consideration the attrition rate for no reply or an incomplete reply, based on the minimum sample size of 384 mentioned above and an assumption of an 85% response rate. Family members, co-workers, friends, and their wider circle of contacts in Johor Bahru are among the respondents. Social Science Statistics Package (SPSS), was used for managing and evaluating data gathered from the questionnaires (Hinton et al., 2014).

Questionnaire is developed based on the extensive literature review adopted in the questionnaire by tailored made to the objectives and need of the study. Appendix C list out the variable adopted to develop the items of questionnaire. There are twenty questions adapted to measure the variables in the study.

#### **3.1. Pilot study results**

For the pilot study, 40 sets of respondents’ questionnaires were collected. To measure the sampling’s consistency, repeatability, and reliability tests are carried out (Saunders et al., 2016). Utilising ‘Cronbach Alpha’ for internal consistency, a pilot

and preliminary sample is undertaken for reliability test. The general rule of thumb is Cronbach Alpha  $> 0.6$  for the pilot reliability test, and Cronbach Alpha  $> 0.7$  for the preliminary reliability is said to be a statistical norm. This study covers eight demographic variables such as gender, ethnicity, age, level of education, income, occupation, frequency of purchases, and favorite brand of bubble milk tea. The results of a demographic analysis might offer broad details about the study's population and distribution. Additionally, it offers profiles of the respondents so that it can be assessed whether the sample size is adequate for the study (Bougie and Sekaran, 2019).

In order to assess the viability of the study and the questionnaire, a pilot test factor analysis is conducted. The number of variables is examined using factor analysis to evaluate whether it is necessary to do so (Bougie and Sekaran, 2019; Schindler, 2018). The Kaiser-Meyer-Olkin (KMO) and Bartlett's tests of sphericity, factor loading, and eigenvalues are examples of factor analysis used in the current work. According to general guidelines, questionnaires are given out to 10% of the sample size for the pilot study, KMO  $> 0.6$ , factor loading  $> 0.6$  for each question, and eigenvalues  $> 1 = 4$  (since there are 4 independent variables in this study).

To ascertain whether there is a meaningful link between two quantitative variables, simple linear regression is used (Bougie and Sekaran, 2019). For each independent variable which is brand loyalty, perceived quality, brand awareness, and brand association and the dependent variable brand equity, simple linear regression is used in this study. According to the generally accepted rule, if  $p < 0.05$ , a significant relationship exists and the hypothesis is accepted, whereas  $p > 0.05$ , a non-significant relationship does not exist and the hypothesis is rejected.

Investigation of the factors that affect brand equity in Johor Bahru bubble milk tea brands is done using multiple regression analysis. Determine the percentage of the dependent variable's variance that can be predicted from the independent variables, to be more precise. The better the model matches the data, the greater the coefficient of determination ( $R^2$ ). According to Bougie and Sekaran (2019),  $R^2 > 0.4$  indicates that a conceptual framework fits and can predict 40% of the variation.

The pilot study's initial results showed that, except from two questions, all tests complied with the rule of thumb's factor loading threshold of  $>0.6$ . After these questions were eliminated, factor analysis and reliability test were run. The sections below provide more information on the findings.

### **3.2. Factor analysis**

The tests used to determine whether the data sample is adequate for factor analysis are the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of Sphericity. A rejection of the null hypothesis that the correlation matrix is an identity matrix is made by the questionnaire's KMO value of 0.670, which is higher than the default value of 0.6 and the Barlett's test of sphericity significance  $<0.05$ . These two outcomes show that the data sampling was sufficient for factor analysis (**Table 1**).

**Table 1.** KMO and Bartlett’s test (pilot).

<b>KMO and Bartlett’s test</b>		
Kaiser-Meyer-Olkin measure of sampling adequacy		0.670
Bartlett’s test of sphericity	Approx. chi-square	542.819
	df	190
	Sig.	< 0.001

Source: Thien, 2023.

Factor loading of each factor as shown in **Table 2** is > 0.6 which denotes that each factor has adequate weight in relation to the variables.

**Table 2.** Factor loading (pilot study).

<b>Variable</b>	<b>Item</b>	<b>Factor loading</b>
Brand equity	If there is another brand as good as the brand I preferred, I still prefer to purchase this brand.	0.638
	Even if another brand has the same features as the brand I preferred, I would prefer to buy this brand instead.	0.655
	Even if another brand has the same price as my brand, I would still buy my preferred brand	0.680
Brand loyalty	In future, I will be still purchasing my preferred brands, even there is a variety of brand for me to choose.	0.614
	Even other brands doing promotion, I would still prefer this brand.	0.647
	I would recommend others to purchase this brand I preferred.	0.716
	I consider myself loyal to my preferred brand.	0.701
Perceived quality	The price of my preferred bubble milk tea brands is reasonable.	0.691
	Purchase my preferred bubble milk tea brand was a really good decision.	0.844
	This brand which I preferred offers beverages of consistent quality.	0.678
Brand awareness	I am very familiar with the brand of my preferred bubble milk tea.	0.692
	Whenever I want to drink bubble milk tea, this brand always first come in my mind.	0.675
	I can recognize this brand among other competing brands.	0.661
	I can quickly recall the symbol, logo, or slogan of this brand.	0.661
Brand association	I trust this bubble milk tea brand which I preferred.	0.676
	Some characteristics of this brand come to my mind very quickly.	0.702
	My preferred bubble milk tea brand has unique association.	0.637
	My preferred bubble milk tea brand has high credibility.	0.663

Source: Thien, 2023.

**Table 3.** Eigenvalues analysis (pilot).

<b>Component</b>	<b>Initial eigenvalues</b>		
	<b>Total</b>	<b>% of variance</b>	<b>Cumulative %</b>
1	8.184	45.464	45.464
2	1.632	9.064	54.528
3	1.517	8.427	62.955
4	1.336	7.421	70.377
5	0.992	5.514	75.890

Source: Thien, 2023.

The top five eigenvalues were selected to represent five variables (4 independent

variables and 1 dependent variable as per the theoretical framework in section 2.2. which accounts for 75.89% of the variability in the original variables. However, the 5th component of the eigenvalues was less than 1 which is 0.99 (**Table 3**).

### 3.3. Reliability analysis

Reliability test for all five variables showed each variable had a Cronbach Alpha of more than 0.7 which indicates the sample reproducibility and consistency; hence the variables in the study are reliable (**Table 4**).

**Table 4.** Reliability test (pilot).

Variable	No. of item	Cronbach's Alpha if item deleted
Brand equity	3	0.917
Brand loyalty	4	0.919
Perceived quality	3	0.916
Brand awareness	4	0.917
Brand association	4	0.917

Source: Thien, 2023.

## 4. Results and discussion

The study was conducted to determine if there is any relationship between brand loyalty, perceived quality, brand awareness and brand association with brand equity of bubble milk tea brands. The researcher developed five hypotheses to answer the four research objectives in this study. In this section, the research findings, the results of the hypotheses testing are discussed in detail below:

### 4.1. Descriptive analysis

Descriptive analysis of all the 400 respondents of this study is presented in **Table 5** below which includes gender, ethnicity, age, education level, income per month, occupation, frequency of bubble milk tea purchase and preferred brand. There were much more female respondents, 51.5% versus male respondents 48.5%. Most of the respondents were between the ages of 26–30 years old attributing to 44% of all respondents. Majority of the respondents were Chinese accounting for 67.5% of respondents, followed by Malay (16%), Indian (15.5%) and others (1%). In term of education level, more than 60% of the respondents have a degree or higher education. Respondents earning between RM 5001 to RM 7000 was the highest frequency with 35.5%, followed by RM 3001–RM 5000 (30.8%), RM 7001–RM 9000 (19.8%), RM 3000 or less (14% each), (RM is the currency of Malaysia, 1 USD equals to around 4.6 RM.) Mostly of the respondents are working in the private sector (63%). 43% of the respondents purchased bubble milk tea 1 to 3 times per month, which was the highest frequency among other purchase frequency brackets. In terms of preferred brand, the top 3 brands of bubble milk tea which are mostly preferred Chagee (19%) and followed by Tealive (18.8%) and Black Whale (14.8%).

**Table 5.** Demographic profiles of respondent.

<b>Demographics characteristics</b>			
<b>Demographic</b>		<b>Frequency (n = 400)</b>	<b>Percentage (%)</b>
Gender	Male	194	48.5
	Female	206	51.5
Age	18–25 years old	85	21.3
	26–30 years old	176	44.0
	31–35 years old	100	25.0
	36–40 years old	39	9.8
Ethnicity	Malay	64	16.0
	Chinese	270	67.5
	Indian	62	15.5
	Others	4	1.0
Education level	SPM or below	16	4.0
	Diploma	88	22.0
	Degree	253	63.2
	Master	41	10.3
	PHD	2	0.5
Income per month	RM 3000 or less	56	14.0
	RM 3001–RM 5000	123	30.8
	RM 5001–RM 7000	142	35.5
	RM 7001–RM 9000	79	19.8
Occupation	Student	29	7.2
	Self-employed	38	9.5
	Government sector	57	14.2
	Private sector	252	63.0
	Professional	19	4.8
	Others	5	1.3
How often purchase bubble milk tea	4 or more times per month	70	17.5
	1–3 times per month	173	43.3
	Once every 2 months	91	22.8
	Once every 3 months	38	9.5
	Once every 4–6 months	27	6.8
Preferred brand of bubble milk tea	Chagee	76	19.0
	Tealive	75	18.8
	Black Whale	59	14.8
	Gong Cha	53	13.3
	The Alley	58	14.5
	Xing Fu Tang	30	7.5

Source: Thien, 2023.

#### **4.2. Factor analysis**

Factor analysis and reliability analysis was performed for the full data set

collected from a total of 400 respondents. The Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of sphericity are tests done to determine the adequacy of the data sample for factor analysis. The KMO value of the questionnaire is 0.891 which is much higher than the rule of thumb set at 0.6 and the Barlett’s test of Sphericity significance level of  $< 0.05$  indicating the variables are related (rejecting the null hypothesis that the correlation matrix is an identity matrix). Both these results demonstrate that the data sampling is adequate for factor analysis (**Table 6**).

**Table 6.** Kaiser-Meyer-Olkin (KMO) and Bartlett’s test.

<b>KMO and Bartlett’s test</b>		
Kaiser-Meyer-Olkin measure of sampling adequacy		0.891
	Approx. chi-square	1752.941
Bartlett’s test of sphericity	df	153
	Sig.	$< 0.001$

Source: Thien, 2023.

Factor loading of each factor as shown in **Table 7** is  $>0.6$  which denotes that each factor has adequate weight in relation to the variables.

**Table 7.** Factor loading.

<b>Variable</b>	<b>Item</b>	<b>Factor loading</b>
Brand equity	If there is another brand as good as the brand I preferred, I still prefer to purchase this brand.	0.889
	Even if another brand has the same features as the brand I preferred, I would prefer to buy this brand instead.	0.662
	Even if another brand has the same price as my brand, I would still buy my preferred brand.	0.650
Brand loyalty	In future, I will be still purchasing my preferred brands, even there is a variety of brand for me to choose.	0.667
	Even other brands doing promotion, I would still prefer this brand.	0.808
	I would recommend others to purchase this brand I preferred.	0.605
	I consider myself loyal to my preferred brand.	0.650
Perceived quality	The price of my preferred bubble milk tea brands is reasonable.	0.656
	Purchase my preferred bubble milk tea brand was a really good decision.	0.870
	This brand which I preferred offers beverages of consistent quality.	0.626
Brand awareness	I am very familiar with the brand of my preferred bubble milk tea.	0.693
	Whenever I want to drink bubble milk tea, this brand always first come in my mind.	0.707
	I can recognize this brand among other competing brands.	0.649
	I can quickly recall the symbol, logo, or slogan of this brand.	0.728
Brand association	I trust this bubble milk tea brand which I preferred.	0.693
	Some characteristics of this brand come to my mind very quickly.	0.747
	My preferred bubble milk tea brand has unique association.	0.717
	My preferred bubble milk tea brand has high credibility.	0.661

Source: Thien, 2023.

The top five eigenvalues were selected to represent five variables (four independent variables and one dependent variable as per the theoretical framework, which accounts for 55.7% of the variability in the original variables as reflected in **Table 8**).

**Table 8.** Eigenvalues.

Total variance explained			
Component	Initial Eigenvalues		
	Total	% of variance	Cumulative %
1	5.245	29.139	29.139
2	1.534	8.520	37.659
3	1.152	6.402	44.061
4	1.095	6.086	50.147
5	1.001	5.560	55.707

Source: Thien, 2023.

### 4.3. Reliability analysis

Reliability test for all five variables showed each variable had a Cronbach Alpha of more than 0.7 which indicates the sample reproducibility and consistency. Hence, the variables in the study are reliable as shown in **Table 9**.

**Table 9.** Reliability test.

Variable	No. of item	Cronbach's Alpha if item deleted
Brand equity	3	0.847
Brand loyalty	4	0.840
Perceived quality	3	0.846
Brand awareness	4	0.838
Brand association	4	0.830

Source: Thien, 2023.

### 4.4. Hypotheses testing

#### 4.4.1. Simple linear regression

Referring to **Table 10**, all hypotheses is accepted as each independent variable has a high  $F$ -value with  $p < 0.05$ . From the  $R^2$ , brand loyalty accounts for the highest variance in brand equity followed by brand association, brand awareness and perceived quality.

**Table 10.** Simple linear regression.

Hypothesis	$R^2$	ANOVA (Regression)		Results
		$F$	Sig.	
Brand loyalty have a significant effect on brand equity on bubble milk tea brands in Johor Bahru	0.503	434.2	0.00	Accept hypothesis
Perceived quality has a significant effect on brand equity on bubble milk tea brands in Johor Bahru	0.635	713.8	0.00	Accept hypothesis
Brand awareness have a significant influence on brand equity on bubble milk tea in Johor Bahru	0.479	383.4	0.00	Accept hypothesis
Brand association have a significant influence on brand equity on bubble milk tea in Johor Bahru	0.385	253	0.00	Accept hypothesis

Source: Thien, 2023.

#### 4.4.2. Multiple regressions

Referring to the model summary and ANOVA table (**Tables 11 and 12**);  $R^2 =$

0.27; taken as a set, brand loyalty, perceived quality, brand awareness and brand association are able to predict 27% of the variance in brand equity. The overall regression model was significant with  $p < 0.05$ . Variance inflation factor (VIF) is a measure of the amount of multicollinearity in a set of multiple regression variables. A VIF values greater than 10 indicate high correlation of predictors. There is no VIF values more than 10 thus, no multicollinearity exist and data analysis can proceed.

**Table 11.** Model summary<sup>b</sup>.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.818 <sup>a</sup>	0.669	0.666	0.64651

a. Predictors: (Constant), Brand\_loyalty, Brand\_association, Perceived\_quality, Brand\_awareness.

b. Dependent Variable: Brand\_equity.

Source: Thien, 2023.

**Table 12.** ANOVA<sup>a</sup>.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	14.745	4	3.686	36.065	< 0.001 <sup>b</sup>
	Residual	40.374	395	0.102		
	Total	55.120	399			

a. Dependent Variable: Brand\_equity.

b. Predictors: (Constant), Brand\_association, Perceived\_quality, Brand\_awareness.

Source: Thien, 2023.

Brand loyalty, perceived quality, brand awareness and brand association accounts for significant unique variance on brand equity with  $p < 0.05$ . Based on the **Table 13**, the multiple regression equation is:

$$\text{Brand equity} = 1.841 + 0.330 + 0.131 + 0.138$$

**Table 13.** Coefficients<sup>a</sup>.

Model	Unstandardized coefficients		Standardized coefficients		t	Sig.
	B	Std. error	Beta			
(Constant)	1.841	0.236	-		9.468	< 0.001
Brand_loyalty	0.330	0.052	0.351		6.925	< 0.001
1 Perceived_quality	0.131	0.058	0.121		2.276	0.023
Brand_awareness	0.138	0.063	0.148		2.185	0.029
Brand_association	0.224	0.063	0.242		3.572	< 0.001

a. Dependent variable: Brand\_equity.

Source: Thien, 2023.

H1: Brand loyalty has a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

Hypothesis 1 focuses on whether brand loyalty of consumers has a significant effect on brand equity of bubble milk tea brands in Johor Bahru. Referring to **Table 10**, hypothesis 1 is supported as  $p$ -value is less than 0.05 with  $F$  value of 434. Coefficient determination ( $R^2$ ) of 0.50, indicates brand loyalty have predictive value, explaining 50% of brand equity variance of bubble milk tea brands. From the multiple regression analysis results shown in **Tables 12** and **13**, brand loyalty account for



significant unique variance on brand equity with  $p$ -value of  $<0.05$ . Based on the final regression equation, every unit increase in brand loyalty increases brand equity by 0.330. The result is in line with a finding from Aquina and Soliha (2020), whereby brand loyalty has significant effect on brand equity.

Most of the respondents in this study were stay loyal to particular brand which they like even the other have promotion at the same time and promote its product to others. Their results supported Francioni et al.'s (2022) study, which discovered that brand loyalty had the impact on brand equity even though all variables had a significant impact. Numerous research across a variety of industries and goods show that brand loyalty has a major impact on brand equity (Molinillo et al., 2018; Nawaz et al., 2018; Nguyen and Luu, 2018; Park and Young, 2022; Sharma, 2019; Sornsaruht, 2020).

H2: Perceived quality has a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

Hypothesis 2 focuses on whether perceived quality of consumers has a significant effect on brand equity of bubble milk tea brands in Johor Bahru. Referring to **Table 10**, hypothesis 2 is supported as  $p$ -value is less than 0.05 with a high  $F$  value of 714. Coefficient determination ( $R^2$ ) of 0.635 indicates perceived quality explains 64% of brand equity variance of bubble milk tea brands.

From the multiple regression analysis results shown in **Tables 12** and **13**, perceived quality account for significant unique variance on brand equity with  $p$ -value of  $< 0.05$ . Based on the final regression equation, every unit increase in brand loyalty increases brand equity by 0.131. The result is in line with a finding from Konuk (2019) whereby perceived quality has significant effect brand equity on bubble milk tea. Meanwhile, most of the respondent in this study which preferred a quality as well as well-known brand of bubble milk tea is their priority to choose to consume and purchase. Therefore, perceived quality in this study carried a highest which is the most essential for respondents to choose a bubble milk tea brand to consume in Johor Bahru.

According to Cynta and Berlianto (2023) and Park and Young's (2022) study, customers' purchase intentions are significantly influenced by brand awareness, perceived quality, brand association, and brand loyalty, with perceived quality being the most important element. In order to get a competitive advantage over their rivals, the researchers came to the conclusion that businesses should design strategies to establish essential perceived quality features to consumers and the industry.

H3: Brand awareness have a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

Hypothesis 3 focuses on whether brand awareness of consumers has a significant effect on brand equity of bubble milk tea brands in Johor Bahru. Referring to **Table 10**, hypothesis 3 is supported as  $p$ -value is less than 0.05 with a high  $F$  value of 383. Coefficient determination ( $R^2$ ) of 0.479 indicates perceived quality explains 48% of brand equity variance of bubble milk tea brands.

From the multiple regression analysis results shown in **Tables 12** and **13**, brand awareness account for significant unique variance on brand equity with  $p$ -value of  $< 0.05$ . Based on the final regression equation, every unit increase in brand loyalty increases brand equity by 0.138. The result is in line with a finding from Chinomona and Maziriri (2018) whereby brand awareness has significant effect brand equity on

bubble milk tea. He responds in this study, they were more preferred a brand which is familiar to everyone as well as able to quickly recall the symbol, logo or slogan immediately when they are looking for it to consume regardless of where they are. According to Ibama et al. (2022), one of the aspects that affect a consumer's level of brand understanding is brand awareness. Consumers often use an investigative technique to inform their purchasing decisions, according to Pather (2017). Brand awareness is now essential because consumers only opt to purchase things they have heard of.

H4: Brand association have a significant effect on brand equity on bubble milk tea brands in Johor Bahru.

Hypothesis 4 focuses on whether brand association of consumers have a significant effect on brand equity of bubble milk tea brands in Johor Bahru. Referring to **Table 10**, hypothesis 4 is supported as  $p$ -value is less than 0.05 with a high  $F$  value of 253. Coefficient determination ( $R^2$ ) of 0.385 indicates perceived quality explains 39% of brand equity variance of bubble milk tea brands.

From the multiple regression analysis results shown in **Tables 12** and **13**, brand association account for significant unique variance on brand equity with  $p$ -value of <0.05. Based on the final regression equation, every unit increase in brand loyalty increases brand equity by 0.224. The result is in line with a finding from Nguyen and Luu (2018) whereby brand association has a significant effect brand equity on bubble milk tea.

The respondents in this study they were more preferred a brand of bubble milk tea when it first come to mind as well as it has a unique association for them otherwise, they will not simply choose to consume a brand that is not trusted. On occasion, a brand's fundamental value might be discovered in the associations that the brand represents or in what the brand means to the community. It has been shown in other studies Ibama et al. (2022) and Francioni et al. (2022) that brand association raises customer satisfaction. High customer satisfaction increases brand loyalty among consumers, which in turn increases positive brand equity (Susanty and Kenny, 2015). In addition to its indirect influence on brand equity, brand association has been found to have a direct effect on it in a number of industries (Molinillo et al., 2018; Nawaz et al., 2018; Nguyen and Luu, 2018; Park and Young, 2022; Sharma, 2019; Sornsaruht, 2020).

Thus, all the 4 hypotheses of the study were supported demonstrating that brand loyalty, perceived quality, brand awareness and brand association has a significant impact on brand equity on bubble milk tea brands in Johor Bahru. The findings from the current study confirms the results from previous studies on brand equity dimensions demonstrating that brand loyalty, perceived quality, brand association and brand awareness significantly impacts brand equity (Molinillo et al., 2018; Nawaz et al., 2018; Nguyen and Luu, 2018; Sharma, 2019; Park and Young, 2022; Sornsaruht, 2020). Among the 4 dimensions, perceived quality is the most significant variable that influence brand equity on bubble milk tea brands in Johor Bahru; followed by brand loyalty, brand awareness and brand association.

## **5. Implication, conclusion & future research**

### **5.1. Implications**

Theoretical implication:

While numerous studies have examined brand equity and its various aspects, there is a scarcity of research that applies this concept to the bubble milk tea business. This research has contributed to the previous studies on the four dimensions of brand equity, brand equity itself, and the bubble milk tea business, by providing more depth and breadth of knowledge. This study investigates the factors that influence the brand equity of a bubble milk tea brand in Johor Bahru, Malaysia. It is based on previous research conducted by Ng et al. (2020).

The findings of this study have the potential to expedite future research on brand equity and the bubble milk tea business. Future researchers can utilise these findings to conduct further studies on the impact of different brand equity aspects, as well as apply the brand equity dimensions used in this study to other industry contexts.

Practical implication:

There is a scarcity of study regarding the marketing aspects of bubble milk tea in Malaysia, particularly in relation to brand equity. Brand equity can be defined in multiple ways, making it difficult for bubble milk tea makers to determine which factors will enhance consumers' impression of their brand's value. This study provides companies and strategic marketers in the bubble milk tea industry with valuable insights into the significance of brand equity and its different elements. The findings of the current study indicate that brand loyalty, perceived quality, brand awareness, and brand association are all important factors in increasing the value of the bubble milk tea brand's brand equity.

Companies that market bubble milk tea should prioritise their efforts and allocate resources towards cultivating robust consumer brand loyalty. Developing brand loyalty is crucial for sustaining a steady income and promoting repeat purchases in the fiercely competitive and rapidly changing bubble milk tea business. Many successful businesses have adopted loyalty programmes, such as loyalty cards or applications, which allow customers to accumulate points or stamps in exchange for free products or services after reaching a specific number of purchases. This practice is prevalent in various industries, including the grocery and food and beverage sectors. This method, being one of the most common loyalty programme strategies, motivates customers to continue making purchases from the same firm.

Other methods that bubble milk tea enterprises should consider include maintaining a high level of perceived quality and fostering brand affinity among consumers. Advertising can be used to enhance brand loyalty and brand equity by enabling consumers to differentiate the quality of a product and easily recognise the brand.

### **5.2. Conclusion**

There is scanty research on the marketing side of bubble milk tea in Malaysia, especially when it comes to brand equity. There are various ways to define brand equity, thus bubble milk tea producers could not know which elements would improve

consumers' perceptions of their brand value. This study offers organisations and strategic marketers in the bubble milk tea sector information on the value of brand equity and its various components. According to the current study's findings, brand loyalty, perceived quality, brand awareness, and brand association all play significant roles in raising the value of the bubble milk tea brand's brand equity.

Although there have been many studies on brand equity and its dimensions, there are very few studies applying it to the bubble milk tea industry. The results from this research have added depth and breadth to the existing studies available on the four dimensions of brand equity, brand equity itself and bubble milk tea industry. Thus, this study factor affecting the brand equity of bubble milk tea brand in Johor Bahru, Malaysia was referring previous research by Ng (2020).

Companies that sell bubble milk tea should focus their efforts and resources on fostering strong consumer brand loyalty. Establishing brand loyalty will maintain consistent revenue and encourage recurrent purchases in the highly competitive and high turnover market of bubble milk tea. Successful businesses have implemented loyalty programmes, such as a loyalty card or application, where customers can collect points or stamps to redeem free products or services after making a certain amount of purchases, as seen in many different industries, such as the grocery and other food and beverage industry. Customers are encouraged to keep making purchases from the same company product, which has been one of the most popular loyalty programme strategies.

Maintaining a high level of perceived quality and brand affinity among consumers are other strategies that bubble milk tea businesses should think about. According to a study by Kusuma et al. (2015), brand association and perceived quality have a beneficial impact on brand loyalty of a bubble milk tea brand in addition to having a direct impact on brand equity. To ensure that consumers can distinguish the quality and positively identify the brand with the product, which increases brand loyalty and subsequently brand equity, this can be accomplished through advertising.

The result from this study is able to accelerate subsequent studies on brand equity and bubble milk tea industry. Future researchers can apply these findings to future studies to further understand the impact of each or other brand equity dimensions as well as application of the brand equity dimensions utilized in this study to other industry context.

All four hypotheses are supported by the study, but there are some limitations. For this investigation, a non-probability sample strategy was used due to time restraints and convenience sampling. The demographic data (**Table 5**) demonstrates the disadvantage of utilizing convenience sampling whereby there were a very high proportion of female respondents (52%) and Chinese ethnicity (68%) which does not reflect the true statistics of the population in Johor Bahru.

Another major limitation or more of a shortcoming of this study was the eigenvalues results in data analysis section. In the pilot study (**Table 3**), only 4 components had an eigenvalue of more than 1. The researcher decided to proceed with the full data sampling as all other factor analysis and reliability test met the rule of thumb. The researcher proceeded with the inferential analysis with 5 components (4 independent variables and 1 dependent variable) as all other factor analysis and reliability analysis of the full data set met the rule to of thumb. A possible reason for

such an occurrence could be that majority of respondents felt that many of the questions reflected the same independent variable or component.

### **5.3. Future research directions**

From the multiple regression model on the current study, the independent variables collectively were able to predict up to 67% ( $R^2 = 0.67$ ) of variance in brand equity. Future research could investigate the remaining gap that could explain variance in brand equity. This could include having questions which are open-ended to gather a more qualitative data in terms of perspective and answers not already in the current study. Researchers could also explore other dimensions in the framework that could explain variance in brand such as image, personality, attitude, trust, satisfaction, esteem, attachment (Shariq, 2018). Additionally, expanding the research framework to investigate whether brand equity translates to consumer purchase intention would be useful, both for the academia and industry.

Although it has been demonstrated in the current study that perceived quality has the most significant impact on brand equity, studies have shown that the four dimensions could be influence by other constructs of brand equity in this study (Nawaz et al., 2018; Sinha et al., 2018; Sozer and Civelek, 2018). Furthermore, future studies could investigate the inter-relationship between these constructs that affects perceived quality to augment the understanding on factors that affect perceived quality.

Finally, the researcher advises incorporating a bigger population for future research on the same factors in the bubble milk tea sector. The convenience sample method was used to perform this investigation, as mentioned in the restrictions. Future researchers might investigate probability sampling techniques on a wider scale to obtain a better representation of the community being studied, for as by conducting a national study to understand the opinions of Malaysian consumers of bubble milk tea.

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## Appendix A

**Table A1.** Definition of key terms.

Key terms	Definitions
Brand equity	Brand loyalty, brand associations, brand awareness, and perceived quality are the four types of brand assets that make up this idea, according to Aaker (1991). Aaker further defined brand equity as obligations related to a brand's name and symbol. The four main facets of brand equity—brand awareness, perceived quality, brand associations, and brand loyalty—have been the subject of several academic studies.
Brand loyalty	Different levels of brand awareness were described by Aaker in 1991. These stages start with brand awareness and move up to brand dominance, which happens when a certain brand becomes the only one that consumers can remember. On the other hand, brand awareness was described by Keller (2003) as a component that incorporates both brand recall and recognition.
Perceived quality	According to Hoeffler and Keller (2003), strong brands produce preferable evaluations of features, higher perceived quality, and naturally high total preference. Perceived quality is a forerunner to brand loyalty as well (Keller, 2003).
Brand awareness	Brand loyalty is the outcome of consumers creating and establishing positive opinions of a product or service. Aaker (1991) asserts that brand loyalty is a method for determining a consumer's reliance on or allegiance to a particular brand. Additionally, it shows how willing consumers are to continue supporting a particular brand.
Brand association	According to Aaker (1991), brand association can be thought of as "a set of brand associations, usually in some meaningful way." This might refer to any preserved memory connecting to a certain brand and brand image. To help a customer evaluate the brand while buying products from his or her chosen brand, brand association and brand equity can be used as a measure of quality and promise (Yoo et al., 2000).
Bubble milk tea	According to Ethnic Seattle (2015), bubble milk tea, also referred to as Boba Milk Tea or Pearl Milk Tea, is a Taiwanese beverage. In 1984, Xiuhui Liu opened a beverage shop called Chunshui Tang, where Bubble Milk Tea first appeared. She used tiny, locally made tapioca balls to taste the milk tea and promoted them to clients.

## Appendix B

**Table B1.** Table for determining sample size.

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: *N* is Population Size; *S* is sample size.

Source: Krejcie and Morgan, 1970.

## Appendix C

**Table C1.** Questionnaire constructs.

Variable	Item	Adopted & adapted
Brand equity	If there is another brand as good as the brand I preferred, I still prefer to purchase this brand.	(Nguyen and Luu, 2018)
	Even if another brand has the same features as the brand I preferred, I would prefer to buy this brand instead.	
	Even if another brand has the same price as my brand, I would still buy my preferred brand	
	Even if another brand is similar to my brand, it still seems smarter to purchase my brand.	
Brand loyalty	In future, I will be still purchasing my preferred brands, even there is a variety of brand for me to choose.	(Nguyen and Luu, 2018; Santos et al., 2022; Stukalina and Pavlyuk, 2021)
	Even other brands doing promotion, I would still prefer this brand.	
	I would recommend others to purchase this brand I preferred.	
Perceived quality	I consider myself loyal to my preferred brand.	(Nguyen and Luu, 2018)
	This brand I preferred is a well-known brand.	
	The price of my preferred bubble milk tea brands is reasonable.	
Brand awareness	Purchase my preferred bubble milk tea brand was a really good decision.	(Nguyen and Luu, 2018)
	This brand which I preferred offers beverages of consistent quality.	
	I am very familiar with the brand of my preferred bubble milk tea.	
Brand association	Whenever I want to drink bubble milk tea, this brand always first come in my mind.	(Nguyen and Luu, 2018; Santos et al., 2022)
	I can recognize this brand among other competing brands.	
	I can quickly recall the symbol, logo, or slogan of this brand.	
Brand association	I trust this bubble milk tea brand which I preferred.	(Balderaz and Campos, 2020; Nguyen and Luu, 2018)
	Some characteristics of this brand come to my mind very quickly.	
	My preferred bubble milk tea brand has unique association.	
	My preferred bubble milk tea brand has high credibility.	