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**A NOVEL MODEL OF BRAND EQUITY INCORPORATING  
ELEMENTS OF INNOVATIVENESS AND CREATIVITY TO  
PREDICT PURCHASE INTENTION OF WATER HEATER IN  
THE CHINESE MARKET**



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## Abstrak

Kemajuan pesat teknologi digital, disertai dengan perubahan keutamaan pengguna terhadap produk yang pintar, inovatif, dan berorientasikan kesihatan, telah memberi kesan ketara terhadap tingkaha laku pembelian dalam industri pemanas air. Model ekuiti jenama sedia ada kurang mengintegrasikan dimensi kreatif dan inovasi secara menyeluruh, sekali gus menghadkan keberkesanannya dalam meramalkan niat pembelian pengguna di pasaran China. Kajian ini menangani jurang dalam model ekuiti jenama sedia ada dengan mencadangkan kerangka baharu yang menggabungkan elemen inovasi dan kreativiti. Oleh itu, sebuah model yang mengintegrasikan komponen ekuiti jenama tradisional dengan atribut penjenamaan model telah dicadangkan untuk meramalkan niat pembelian pengguna dengan lebih berkesan. Pendekatan campuran digunakan melalui temu bual pakar separa berstruktur dalam kalangan sepuluh profesional industri, diikuti dengan teknik Delphi melibatkan lapan profesional bagi mengenal pasti dimensi utama ekuiti jenama. Model yang dimuktamadkan kemudian diuji secara empirikal menggunakan Pemodelan Persamaan Struktural (SEM) ke atas sampel terdiri daripada 292 responden dari China bagi memastikan kesahan dan kebolehpercayaan statistik. Hasil kajian menunjukkan bahawa Inovasi Jenama (BI), Reka Bentuk Visual Jenama (BVD), Kualiti yang Dirasai (PQ), dan Nilai yang Dirasai (PV) memberi pengaruh signifikan terhadap niat pembelian pengguna. Model yang dibangunkan menekankan bagaimana inovasi dan reka bentuk visual berperanan sebagai pemacu utama dalam membentuk persepsi pengguna, sekali gus mengukuhkan kepentingan pengintegrasian elemen-elemen ini dalam strategi ekuiti jenama. Model yang dicadangkan menyediakan pendekatan berstruktur dalam meningkatkan persepsi jenama dan mengoptimumkan strategi penjenamaan. Oleh itu, menawarkan pandangan bernilai kepada pengeluar pemanas air dengan menekankan keperluan untuk memberi tumpuan kepada inovasi, daya tarikan visual, dan nilai yang dirasakan agar selaras dengan jangkaan pengguna dalam pasaran yang kompetitif.

**Kata Kunci:** Ekuiti jenama, niat pembelian pengguna, SEM, inovasi, pemanas air

## **Absract**

The exponential advancement of digital technologies, coupled with evolving consumer preferences for intelligent, innovative, and health-oriented products, has significantly influenced purchase behaviors in the water heater industry. Existing brand equity models lack comprehensive integration of creative and innovative dimensions; limiting their effectiveness in predicting consumer purchase intentions in the Chinese market. This study addresses the gap in existing brand equity models by proposing a novel framework that incorporates elements of innovativeness and creativity. Therefore, a model integrating traditional brand equity components with modern branding attributes has been proposed to effectively predicts consumer purchase intentions. A mixed-method approach was employed through semi-structured expert interviews among ten industry professionals, followed by Delphi technique among eight professionals to identify key brand equity dimensions. The finalized model was then empirically tested using Structural Equation Modelling (SEM) with a sample of 292 respondents from China in ensuring statistical validation and reliability. The findings reveal that Brand Innovation (BI), Brand Visual Design (BVD), Perceived Quality (PQ), and Perceived Value (PV) significantly influence consumer purchase intentions. The developed model highlights how innovation and visual design serve as key drivers in shaping consumer perceptions, reinforcing the importance of integrating these elements into brand equity strategies. The proposed model provides a structured approach in enhancing brand perception and optimizing brand strategies. Therefore, offers valuable insights for water heater manufacturers, emphasizing the need to focus on innovation, visual appeal, and perceived value to align with consumer expectations in a competitive market.

**Keywords:** Brand equity, consumer purchase intention, SEM, innovation, water heaters

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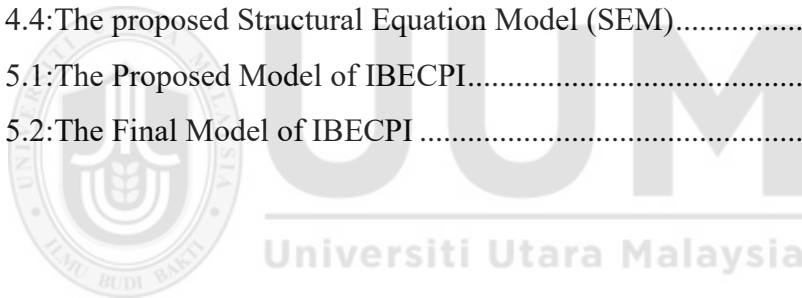


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# **CHAPTER ONE**

## **INTRODUCTION**

This chapter provides an overview of the research focus. The introduction highlights critical areas of importance for the study, including the background, problem statement, research questions, objectives, significance, scope, limitations, and research organization.

### **1.1 Background of Study**

Nowadays, companies across various industries are relentlessly pursuing innovation to ensure tremendous success in the market or maintain a stable market share and revenue (Amu et al., 2024). Traditional business models, such as product quality, performance, and safety, are no longer the sole keys to gaining a competitive edge, thanks to long-term emulation and reduced technological barriers (Buerkle et al., 2023). More creative attributes are being explored to meet consumers' ever-growing demands in incremental and radical innovation (Barbosa, 2024).

For instance, the mobile phone market has transitioned from traditional non-smartphones to smartphones, incorporating technologies like foldable screens, heart rate monitoring, facial recognition, intelligent assistants, and satellite communication (Masal et al., 2023). The automotive industry has introduced features such as ventilated seats, heated seats, alternative energy sources, automated parking, and driver assistance (Su et al., 2024).

The abundance of choices has made consumer product selection a new challenge. In response, familiar brands have become crucial in consumers' product choices, especially when considering innovative products they have not tried before. This

dynamic encourages companies to incorporate innovation attributes into their brand strategies. This implies that businesses should consider which attributes to prioritize in their brand design, especially those that align with universally sought-after attributes by consumers.

Brands are becoming a "gimmick" for consumers to identify products and businesses to make sustainable gains. Overlooking the world, improving economic development promotes the growth of consumers' disposable income and simultaneously reduces the cost of unit products under economies of scale. Consumers have more choices of products and services. Uysal et al. (2016) found that consumers' material environments are constantly enriched to meet their growing multidimensional needs. Nelson et al. (1970) stated that, excluding some areas affected by disasters, consumers' discretionary income is in an ideal state of improvement. It allows consumers to choose products they like rather than just cheap ones.

The increasing cross-border trade has moved goods more frequently and commonly (Brunet-Jailly, 2022). Imported goods are no longer regarded as the pursuit of the high-end crowd. Multinational Corporations (MC) are achieving economies of scale through global expansion plans to reduce production costs, increase brand awareness, and increase sales volume and premium capabilities (Sharma et al., 2023). The choice of commodities is increasing, and how people choose the right products that meet their needs from a wide range of commodities has attracted widespread attention.

Changes in the relationship between supply and demand have stimulated the transformation of the consumer market, and consumer-centric thinking has replaced the previous enterprise-centric concept (Dufek & Schuster, 2011). As the beneficiaries

of the redistribution of rights, consumers determine whether enterprises can survive in the fierce competition environment. Therefore, strategies such as service competition, price wars, and differentiated competition, which may help companies win over consumers and maintain consumer stickiness, are being explored (Nastasoiu & Vandenbosch, 2019).

A research perspective that emerged in the last century and persists to this day focuses on the brand. Simply put, a brand indicates the source of the products and services that consumers encounter. Enterprises attempt to assist consumers in identifying the "origin" of products through the brand concept, establishing a connection between brand equity and consumer decision-making (D et al., 2021). Nowadays, enterprises' branding efforts span various familiar fields, such as the water heater industry.

Water heaters are a product category with high demand, and users pay attention to the brands of water heaters. Moncada (2013) introduced tankless water heaters and summarised the most valuable brands in 2023, including Noritz, Navien, Rinnai, Takagi, and Rheem. Féron (2023) reviews each brand. For example, Noritz brand products have strong heating capacity and are suitable for families with a large population. In terms of installation, they have a long service life, can be connected to WiFi, and are safe (Féron, 2023).

The shortcomings of Noritz include two aspects: almost no products belong to instant electric water heaters, and few purchase channels exist. The advantage of Navien is that it has less researcher energy consumption, can be connected to WiFi, the overall size of the water heater is smaller, and the heating time is shorter. The shortcomings of the product are also evident. The low energy consumption and small size of the water

heater make the water heater unsuitable for large residences. Installing the water heater outdoors requires the purchase of additional ventilation kits, which increases the cost and difficulty of installation (Flores et al., 2024). Simões and Santos (2015) added in the water heater industry report the introduction of significant brand companies in the global market, such as A.O. Smith, Ariston Thermo Spa, Robert Bosch LLC, Rheem Manufacturing Company, Rinnai Corporation, Bradford White Corporation, Noritz Corporation, Whirlpool Corporation, Havells India Ltd, Haier Inc., Lennox International Inc., Ferroli S.P.A., and Bajaj Electricals Ltd.

It is not difficult to find that the water heater field pays attention to brands and has long given different evaluations to brands. This evaluation is manifested in brand image, reputation, quality, and service and is usually completed by consumers, market analysts, media, and industry experts. It helps companies understand the actual situation of their brands in the market and the degree of consumer recognition and can help companies optimize their brand strategies and market competitiveness. A study by Han et al. (2010) in China confirmed the brand's value. Han found that Chinese consumers trust these well-known brands more and are willing to buy their products, even though their prices are 17% higher than the average price of other brands.

Today, the water heater market is larger and more dynamic than before. The demand in the world water heater market is strong, and there is a large room for growth. According to the data provided by “The Business Research Company” (2023), the global water heater market will maintain high-speed growth, with a Compound Annual Growth Rate (CAGR) of 11.7% in 2022-2023. The scale will grow from US\$33.91 billion to US\$37.87 billion. Water heaters are a daily necessity, and people must use them to meet their hot water and heating needs. However, the world population growth

rate is slowing down (0.84% in 2022 compared to 1.05% in 2020) (Henderson et al., 2024). Positive population growth (67 million per year) still drives water heaters to higher market demand. A further reason fueling the worldwide water heater market's expansion could be the elderly population. As of 2019, 1/10 of the world's population is over 65, and this proportion continues to grow and is expected to increase to 1/6 in 2050 (Bottomley & Lewis, 2024).

Some scholars found that older adults with hot springs had low research rates of underlying medical conditions (Takeda et al., 2024). Hot water is helpful for older people and is one of the quality of life they need. With the acceleration of urbanization, the market demand for water heaters also increases. People often take down the traditional cold water structure, replace the hot water system under the pretext of improving the living environment, and incorporate technology into practice to change life. The research results of Haines et al. (2019) indicated that all the interviews researched households have water heater installations. They are eager for a comfortable water heater experience, including a more stable temperature, less waiting time, and higher cost performance.

In some cold regions, the demand for water heaters is even more robust because people need to use hot water for bathing, washing their faces, and washing their hands to keep their bodies comfortable and healthy. With the continuous advancement of technology and the introduction of new products, the water heater market is constantly innovating and upgrading. Electric heaters, solar heaters, geothermal heaters, and gas and propane heaters have become common water heater categories (The Business Research Company, 2023). Nowadays, people try to combine artificial intelligence with water heaters (Ma et al., 2021). Some intelligent water heaters can realise remote control and

automatic management, bringing users a more intelligent and convenient experience, further increasing market demand. In addition, the rise of some emerging markets has also brought opportunities for the growth of the water heater market. As the largest emerging market, China has encountered new problems in producing and using water heaters.

The deeper reason for Chinese people's passion for water heaters is related to traditional Chinese culture. Traditional Chinese culture emphasises happiness and health, focuses on filial piety, and has a strong sense of family; taking the water heater to provide hot water for the whole family is an essential manifestation of caring for the family, as a sign of a healthy lifestyle (Alkhatib et al., 2023). In China you will find a phenomenon, you often hear sick to drink more hot water, bathing to wash "hot water bath", washing things with hot water, hot water filled with every aspect of life, the formation of this reason is in the Chinese culture.

The Emperor's Classic of Internal Medicine says that yin and yang are the way of heaven and earth. And in the yin and yang as the basis of all things. In Chinese medicine theory, water can nourish yin; heat can warm yang. Hot water contains the function of nourishing yin and warming yang (Liu et al., 2021). Therefore, drinking hot water for a long time can keep the human body healthy, thus preventing and controlling all diseases. Another reason is that Chinese people believe that boiling water is healthier water. Boiling water kills the bacteria inside the water, and drinking raw water will make you sick.



In addition, Chinese consumers also prefer quality products that are researched-designed and functional. Water heaters that combine traditional thermal technology with modern design and technology may be more popular with consumers who value traditional culture and modern convenience. In summary, traditional Chinese culture has a significant influence on consumers' enthusiasm for purchasing water heaters. Combining traditional health benefits with contemporary design and technology may attract consumers who value traditional culture and modern convenience. As a brand that wants to shape its advantage, it is important to understand consumers' cultural values and preferences and to meet better their needs and preferences in product design and marketing strategies.

## **1.2 Problem Statement**

### **1.2.1 Theoretical problems of brand equity**

Consumer-centric brand equity is a feedback attribute with dynamic characteristics. It presents unpredictable, varying degrees of changes related to the regional cultural environment over time and requires continuous research to establish the results of different time nodes and cultural backgrounds (Chatzipanagiotou et al., 2019).

Brand equity can be understood as the brand's added value to the product. It guides consumers to quickly lock in organizations highly consistent with their desired products or services and carry out purchase behaviors based on emotional and product needs (Tasci, 2021). As early as the last century, Kevin Lane Keller proposed Customer-Based Brand Equity in 1993, formally establishing the concept of brand equity from the perspective of consumers, covering brand awareness, brand image, brand performance, brand emotion, brand judgment, brand loyalty, and brand community dimensions (Keller et al., 2010). In subsequent brand equity research, the

research field found some unique attributes, such as cultural attributes and time attributes, which have a lasting impact on the accuracy of CBBE. For example, people's reliance on products or brands varies significantly in different countries. Palma et al.(2016) found in a study of 640 Chinese consumers that residents generally prefer products and brands with high-cost performance. In Europe, people are more concerned about products' output quality and environmental attributes and are willing to pay a high price for them (Mooij, 2019). Besides cultural differences, generational divides have a significant impact, even among people of the same culture. In China, during the last century, people generally had an aversion to domestic products and took pride in purchasing imported ones (Hossain & Hebabi, 2024). Nowadays, Chinese residents purchase more domestic devices, especially digital products (He et al., 2022). This study attempts to identify the customer-based brand equity (CBBE) for specific regional cultures at the current time node, such as China, which has the largest population in the world. Industry elements greatly influence the conceptualization process of CBBE. The elements affecting consumer purchase intention vary in different industries. It is necessary to focus on specific industries to establish specific CBBE impact indicators to play a guiding role for enterprises in the industry (Tasci, 2021).

While gaining an in-depth understanding of CBBE, some issues related to the field of inquiry were discovered, such as the existence of significant or slight differences in CBBE results for different industries. The research of Abbass et al. (2024) found that corporate social responsibility significantly impacts the CBBE of luxury hotels. CBBE is divided into brand image, perceived quality, brand awareness, and brand loyalty. South African luxury goods research found that perceived quality, loyalty, and

hedonism drive people to choose brands (Appiah-Nimo et al., 2024). A study on AR brand equity confirmed the positive and significant role of cognitive, emotional, and sensory brand associations in promoting brand equity (Wu et al., 2024). It is generally found that CBBE has an impact on people's brand preference and brand purchase intention (Elfekair et al., 2024). However, in different fields, more efforts have been made on how people define brand attributes and the correlation between consumer-centric brand equity attributes and purchase intention. In this regard, this study focuses on a specific market to reveal the uniqueness of CBBE in this industry, such as the water heater market.

The rapid penetration of digital technology in various fields has weakened the explanatory power of past CBBE research results. How digital technology affects consumer purchasing intention in specific regions, specific time nodes, and specific industries requires more research answers related to digital technology (Wang et al., 2021). Web 3.0, IoT technology, artificial intelligence technology, and Industry 4.0 all advocate the importance of digital technology as the development direction. The use of technologies such as intelligence, visualization, interactivity, and remote control is regarded as a product that meets the requirements of the times and continues to be the direction of innovation and optimization (Chander et al., 2022). However, in different fields, the extent to which digital technology changes or affects the CBBE of enterprises needs to be answered separately. In China, dishwashers, sweeping robots, bright curtains, smart TV, bright lights, smart air conditioners, and other well-known technologies have become popular in more and more young families (Wang et al., 2021). This also includes a common technology application, water heaters. Nowadays, the technologies provided by water heaters point to changing the pH value of water,

condensation heating technology, antibacterial technology, intelligent temperature control technology, IoT monitoring, and identifying users' bathing preferences, such as water flow, water temperature, heating time, etc. (Pravinesh & Kumaresan, 2024). Whether these technologies are liked by consumers and transformed into favor for brands has not been reflected in past studies. This study attempts to clarify the views of Chinese consumers on water heater brand assets in the context of the digital age, that is, what elements affect the changes in modern people's willingness to use water heater brands?

### **1.2.2 Practical problems of Water heater brand equity**

In China, the influence of water heater branding on consumer intention has not yet been established, and less attention has been paid to how this influence affects brand equity. The largest digital retail platform in China is Taobao, which shows the product choices of most consumers (Dai, 2024). In the sales rankings of instant water heaters and frequency conversion water heaters provided by Taobao, brands such as Meiling, Zhigao, Changhong, Odem, Sunrain, Dearmure, AOmiresi, Ao.jpsmis, Smith Lauren, and Sijimuge have become the top ten brands in terms of sales (Liang & Napaporn, 2024). It is inexplicable that these brands do not reach the level of world-famous brands. The existing research on water heaters in China has no results on the brand's influence on consumer product choices. In this regard, this study seeks to identify brand-related elements influencing consumers' choice of water heaters.

Regarding water heater brand selection, the attributes that Chinese consumers are generally concerned about have not yet been proven. The data provided by Taobao shows that Chinese consumers generally pay more attention to products with high-cost performance and low prices, and the sales volume is relatively high (Liang &

Napaporn, 2024). Perceived value positioning may be one factor affecting consumer purchasing intention. For some consumers, water heater price may be the most crucial factor when purchasing a water heater. If water heaters have low research prices but relatively reliable quality in the market, consumers may be more inclined to choose these products and not care much about the brand. Xing et al. (2022) found in a study of 640 Chinese consumers that Chinese consumers have high price sensitivity, and price sensitivity hurts consumer product purchase intention. It means that consumers are eager to choose cheap products and brands with high-cost performance, especially when there is no significant difference in product quality. Studies indicate that quality, convenience, design, advertising, color, uniqueness, price, availability of a product, brand image, style, economic status of customers, value for money, Social influence, and social acceptance have a favorable impact on customer purchase intention (Liu & Zhao, 2024). Therefore, the water heater brand name, logo, brand size, appearance, music in water heater stores, and color matching of water heaters may change consumers' acceptance of water heaters and affect purchasing intention. The appearance design of the water heater may be one of the considerations for consumers when purchasing, and consumers may choose the appearance of the water heater that suits their home style.

For example, Li et al. (2019) stated that size has become a consideration in the design of water heaters. Unfortunately, Kumar et al. (2022) examined the appearance elements of water heaters and did not confirm the influence of aesthetics on water heater selection. Ding et al. (2021) and Billimoria et al. (2021) stated that hot water storage and heating technology have matured. It may cause people to no longer care about the quality of the water heater products but to have the opportunity to consider

other dimensions. Bai et al. (2022) found that when people buy water heaters, they pay attention to their environmental performance and believe in the confirmed official conclusions. Consumers usually evaluate the quality of the water heater, including the quality, performance, and life of the water heater. They will consider elements such as the warranty period and after-sales service of the water heater to judge whether the quality of the water heater is reliable. Consumers may choose according to the functional requirements of the water heater, such as fast heating, energy saving, intelligent control, water saving, and so on. In addition, whether the water heater is smart enough may concern intelligent home pursuers. These elements have not been included in studies of Chinese consumers' choice of water heater brands. Whether or not people are drawn to certain water heater brands because of their reputation for being outstanding in certain respects is yet to be identified. This study aims to identify the dimensions of brand equity that influence consumer purchasing intention.

Research on brand equity in the water heater industry has not received widespread attention from researchers, particularly in terms of influencing consumer purchasing intention. Further supplementation is needed. This study identifies the motivations that identify consumer purchase intentions in the water heater sector. The core elements of brand equity models such as Aaker (1997) and Keller (1993) are analysed in depth while pointing out the limitations of these models in coping with specific areas of branding in the new era. Second, this study further integrates Baalbaki's (2012) new perspective on brand equity, Gunasti et al.'s (2020) theory of information and purchase intention, and Ren et al.'s (2023) latest brand equity model, exploring and emphasising key dimensions such as information-seeking efficiency, brand reliability, commitment to sustainability, social impact, ethical standards, pricing strategy, and visual design



innovation and other key dimensions in brand equity construction. How to effectively compensate for the shortcomings of existing brand equity models in capturing innovation, image design, perceived value, perceived quality, and influence. This study will conduct further interviews to identify key elements influencing consumer purchase intention in the water heater sector.

Positive perceived outcomes influence the growth of corporate performance by enhancing consumer purchasing intention. Brand equity can be classified into two types: Consumer - Based Brand Equity (CBBE) and Financial - Based Brand Equity (FBBE) (Tasci, 2021b). Keller and Brexendorf (2019) consider the impact of CBBE on FBBE a crucial objective for the study of brand equity. For instance, consumers' product choices are typically traceable, and grounded in existing knowledge and experience. This knowledge and familiarity are often brand-related (Tasci, 2021b). Consumers associate brands with product attributes, including but not limited to quality, function, and price. Besides product-related aspects, brand image is another frequently - mentioned dimension (Lee et al., 2014; Zhang, 2015). Brand reputation, design style, and cultural background influence consumers' overall perception of the brand and factor into their product-choice decisions. A well-known example is Nike. Even years later, people still regard "Just do it" as one of the most inspiring slogans, created by Nike (Nayak, 2017). Thus, brand slogans and spokespersons reflect consumers' brand recognition and leave a profound impression. To avoid being seen as profit - driven businesses, enterprises have shifted their focus to demonstrating social responsibility. Some studies have indicated that fulfilling corporate social responsibility can enhance consumers' sense of identification and trust in the company, improve its corporate image, and thereby increase consumers' willingness to purchase

products and services (David et al., 2005). Certainly, it also helps build a favorable brand image and reputation for the enterprise, enhancing brand awareness and consumer loyalty (Islam et al., 2021). People's attention to brands and the details they convey goes even further. Whether consumers are willing to "pay" differently for various brands, especially among water heater brands, is an area that requires more research. This study aims to construct a brand-equity model for water-heater purchasing intention and comprehensively evaluate this model to fill the research gaps in the water-heater domain

## **Research Goals**

Since past studies have not confirmed which brand attributes of Chinese water heater brands impact consumer purchase intention, this has become a long-standing gap in the research field. This study is dedicated to constructing a water heater brand equity impact model to fill the research gap and provide the latest consumer insights in the information technology era. It uses consumer purchase intention as the measure of brand equity.

### **1.4 Research Questions**

In the context of China's water heater market,

RQ1.What are the relevant dimensions that make up brand equity?

RQ2.What is the relationship between brand equity dimensions and consumers' intention to purchase a water heater brand?

RQ3.To what extent does the proposed model accurately explain the relationship between brand equity and intention to purchase?

## **1.5 Research Objective**

RO1.To identify the elements of brand equity that influence consumer purchase intention.

RO2.To develop the model of brand equity in influencing consumer purchase intention.

RO3.To validate the model of brand equity in influencing consumer purchase intention.

## **1.6 Significance of Study**

### **1.6.1 China Water Heater CBBE Field**

This article focuses on identifying brand equity in the water heater field in China, which has the most prosperous manufacturing industry in the world and the second-largest population in the world, especially the elements affecting brand purchase intention. It is an investigation and supplement to the relevant literature in the field of brand assets, the field of brand assets in the Chinese cultural background, the economic depression period, and the information age. In past studies, consumer-centric brand assets were often described. This description gradually extended to different market segments. However, in the Chinese water heater market, what kind of brands consumers choose and what attributes they choose based on the brand have not been revealed, making it a continuous blank in the research field. The focus on the elements affecting the purchase intention of consumers of water heater brands in the Chinese market is a new cultural segmentation and industry segmentation of brand assets, which may help subsequent water heater brand asset researchers provide literature support and expand research ideas.

### **1.6.2 Theoretical Fusion**

The study defines brand equity from the last century to the past five years, distinguishes the differences between consumer and enterprise-centered brand equity,

and uses five significantly different brand equity models. Aaker Brand Equity Model, Keller Model, Baalbaki Brand Equity Model, Information and Consumer Intention Theory, and Ren Brand Equity Model describe the main dimensions of brand equity and explain the relationship between purchase intention and brand equity. In terms of literature review, this study provides a good summary of the literature related to brand equity, helping relevant scholars and researchers to grasp the concept and evolution of brand equity quickly. The researcher provides some small insights into the discussion about the flaws and shortcomings of various famous models to establish a dialectical analysis concept that will help other researchers construct a comprehensive brand equity model through reading.

### **1.6.3 Innovation in Research Methods**

This study contributes a new form of hybrid analysis regarding research methods. First, the study used semi-structured interviews with 10 experts in academic fields, water heater designers, and sales staff to identify the elements consumers are concerned about and affect their purchase intention. Subsequently, eight experts participated in a Delphi study to further reduce the large number of interview results and provide some new elements to establish a more accurate and contemporary view. In the end, the researchers obtained five dimensions that affect consumers' purchase intention, including Brand Innovation (BI), Brand Visual Design (BVD), Perceived Quality (PQ), Perceived Value (PV), and Brand Influence (BINF). To ensure that the above research findings apply to explaining the overall Chinese consumers rather than the subjective bias of experts, the researchers surveyed more than 290 Chinese residents to determine which elements apply to explaining consumers' water heater purchase intention and which are not statistically significant.

#### **1.6.4 Stakeholders**

For water heater companies, it is essential to identify the dimensions of brand equity and assist them in establishing strategic guidelines for brand equity. Enterprises must maintain brand consistency to convey their unique culture and value proposition, including brand identity, voice, and image. In this regard, consumers can quickly identify and remember the brand and combine brand characteristics with personal needs to improve product sales, consumer loyalty, consumer satisfaction, and consumer repurchase intention. Enterprises need to find their brand characteristics, emphasize display in brand attributes building and widely disseminate through digital media, and establish brand characteristics to attract consumers' attention and interest (Choi et al., 2020). Enterprises need to clarify the necessity of providing high-quality products and services. Whether consumers feel the value and strength of the brand and buy products has not yet received attention in the field of water heaters. Whether water heater companies need to actively build a good brand reputation in China to build brand trust and loyalty has not yet been established. The cost of promoting the brand through social media, public relations activities, word-of-mouth marketing, and actively responding to consumer feedback and opinions is huge.

Ultimately, the research on the brand attributes of water heaters will help people find the direction of high-level make the consumer experience better if a brand attribute is invalid for brand equity. Then, enterprises can put all their energy and cost into improving products or services to form a competitive advantage of products instead of wasting on worthless brand attributes.

For consumers, the research on the influence of brand attributes on brand equity shows two possibilities. When the research results point to the influence of brand attributes

on brand equity, the research results will stimulate the water heater market to pay attention to brand attribute construction. Improving the attributes can bring better consumer experience, such as product quality, service quality, and purchase experience, thereby increasing consumer satisfaction and loyalty. Abbas et al. (2021) found that brand image is related to consumer loyalty in studying brand attributes. When consumer expectations are consistent with the brand's performance, consumers are more supportive of the brand. After the company improves its brand image, consumers' trust in their favorite brand will increase, making them more willing to purchase and use its products and services. The brand image helps consumers better understand the value and concept of the brand, thereby generating in-depth communication and interaction between consumers and the brand and improving the frequency and results of interaction between the brand and consumers. When the research results point to the fact that brand image does not affect brand equity, the research results will stimulate a wave of innovation in water heaters. The only means for water heaters to win consumers' favor will be transformed into product attributes rather than inherent brand attributes. Consumers may gain the most significant benefits from the competition of various products. The possible results of product competition point to more product subdivisions, better product attributes, lower research prices, and more innovative products.

For the Chinese government, brand equity research is reflected in free market management. Water heaters are related to the safety of consumers, such as life and property safety. When people do not care about brands, many products may be produced by small companies in the market, or defective products of these research-known companies have their trademarks removed and re-enter the market. In this

regard, the government's management and punishment plan will become the entry point for market environmental protection. In addition to market ecological protection, environmental sustainability is one of the topics that cannot be avoided in human development. The research results may point to the fact that Chinese consumers care about the environmental protection dimension of brand image, which may lead to brands sold in China better complying with the default rules in the market, that is, to increase the utilization rate of resources or replace non-renewable resources with renewable resources. Of course, the findings may also point to the fact that corporate social responsibility, such as donation intention and environmental protection intention, does not contribute to brand equity. This result hinders the harmonious development of China's water heater market. Brands may participate less in social contribution intentions and product optimization regarding environmental protection, raw material selection optimization, and distribution optimization in the supply chain. The moral performance of China's water heater industry will go backward, and the country's legal constraints will become a means to curb the unethical intentions of enterprises.

This study revisits the past Brand Equity, which previously correlated and overlapped the following research areas: brand equity, culture, perception, associations, brand image, brand identity, and brand associations. Further findings from this investigation suggest that these elements may be linked. It is important to note that this study does not refute the overlap in the relationships between their variables. It is thought that addressing the variables' overlapping substance may lessen scholarly disputes. It is undeniable that Keller's Brand Equity Model, Aaker's Brand Identity Model, and Aaker's Brand Equity Model are relatively old research theories. Applying old theories to new research is a continuation of the theoretical time dimension and an extension

of the field of water heaters and is considered a contribution to research. This study adopts quantitative and qualitative research and is dedicated to establishing new brand equity suitable for water heater brand equity.

### **1.7 Scope of the Research**

This study only examined consumers' perceptions of most water heater brands in China, ignoring regions outside China and rare water heaters. This study does not deny that all countries can research water heater brand equity. Businesswire (2022) states that China is the most populous country in the world, China has the most significant export volume in the world, and China is one of the fastest-growing countries in the water heater market. Therefore, studying Chinese water heater brands can help to improve the water heater market by determining the needs of the largest consumer group in the world, reducing unnecessary spending for Chinese water heater brands, achieving a high-level consumer experience better, and revealing the strategic planning of Chinese water heater brands. This study did not examine all types of water heaters and rejected geothermal water heaters. Electric heaters, solar heaters, geothermal heaters, and gas and propane heaters have become standard water heaters worldwide (The Business Research Company, 2023). Geothermal water heaters are rare in the Chinese market.

This study used the literature of the past five years as the primary research supplement, and some ancient theoretical literature was used as the basis for constructing the research perspective. The literature review system did not include news, newspapers, blogs, vlogs, and entertainment magazines. The field of research says some news is subjective and politically motivated. For example, some news aims to arouse hatred among ethnic groups by "demonizing" certain countries and regions (Adongo et al., 2018). News, newspapers, blogs, vlogs, and entertainment magazines tend to pursue



hot topics, focusing more on events that can attract public attention and increase click-through rates while ignoring other equally important events that lack topicality. This hotspot-oriented reporting method tends to mislead the public about the importance and development direction of the event. Therefore, evidence that is difficult to be verified and cannot be verified objectively is ignored in this study. The field of research develops relatively fast, and discoveries and progress are likely to affect the conclusions of previous studies. Therefore, some scholars may consult journals within the last five years to obtain the latest research results and conclusions (King & He, 2005). Classical research results and theories may have been formed and are widely recognized in this study. Their literature may be relatively early, and their essential reference value cannot be discarded or ignored.

This study uses primary data without any form of secondary data. Primary data refers to the data obtained by the researcher himself. They are more authentic and accurate and can reflect the actual state of the research object. Primary data is a data collection plan that is participated in and formulated by the study's initiator, ensuring the data's freshness and integrity (Hox & Boeije, 2005). In contrast, data collectors may influence secondary data, subject to data manipulation, distortion, or errors. Secondary data often do not have the possibility of data backtracking, and data users cannot discern the authenticity of the data, thus affecting the quality of research (Hox & Boeije, 2005). In addition, secondary data is usually not the latest data but was collected and stored by others at some point or period. The primary data are customized according to the relevant needs of the water heater research, including semi-structured interviews and quantitative research questionnaires based on the interview results. It allows the respondents to provide more details and background information, which helps the

researcher better understand the water heater respondents' characteristics and brand equity results. In contrast, secondary data may lack the necessary information, limiting the analysis scope.

This study examines various aspects related to the brand, such as Keller's Brand Equity Model, Aaker's Brand Identity model, and Aaker's Brand Equity Model, including but not limited to brand, brand image, brand identity, brand association, brand culture, brand perception, and Brand Equity. This study focuses on various characteristics of the brand, such as brand name, brand logo, brand color scheme, brand voice, brand packaging, brand advertising style, and brand font. Of course, the brand's corporate social responsibility, brand scale, premium ability, and other content are related to CBBE and FBBE. This study did not examine elements other than brands that may affect consumers' choices, such as Douyin's live-streaming marketing methods, language guidance by marketers, and other intentions that may interfere with consumers' independent choices.

This study adopted both quantitative and qualitative research methods rather than choosing a single one. In the qualitative part, semi-structured interviews were employed for data collection, while in the quantitative part, questionnaire surveys were used. The respondent groups for this study were restricted as the research was conducted only in Sichuan Province, China. Sichuan Province is one of the most populous regions in China and has a large elderly population (Jiemian, 2020). Studying Sichuan allows for consideration of diverse regional demands for hot water. This study selected ten experts for semi-structured interviews. Having 10 - 20 respondents is considered a reasonable size for achieving data saturation in qualitative research (Guest et al., 2006). Semi-structured interviews use semi-open questions, enabling

respondents to freely express their views and experiences within certain constraints, without being restricted by specific researchers (Dearnley, 2005). This approach allows the researcher to understand the respondents' thoughts and uncover more details and information. When certain points during the interviews catch the researcher's attention, follow-up questions can be asked based on the respondents' statements (Dearnley, 2005). This way, researchers can better understand the perspectives and experiences of respondents, and this interactivity can foster in-depth dialogue and exchange. The number of respondents in the quantitative study was 384. According to the data provided by Krejcie and Morgan (1970), for a research population of more than 1,000,000, the sample size should be greater than 384. Increasing the number of respondents will further improve the consistency between the researcher-collected data, the respondents' data, and the overall real-world data, reducing the impact of outlier data on the overall data.

Therefore, this study chose 384 as the final sample size. In terms of gender and age, this study did not have too many constraints (those over 18 years old could participate in this study).

## **1.8 Thesis Outline**

### **Chapter One: Introduction**

This chapter presents the background of the research focus. The introduction focuses on specific topics important to the research, including the study's background, problem statement, questions, objectives, significance, scope and limitations, and organization.

## Chapter Two: Literature Review

The second chapter focuses on previous research on brand equity and the existing elements influencing purchase intention. This study first discussed the concept of brand equity and two critical dimensions of brand equity, including CBBE and FBBE. Unfortunately, various elements are involved in the water heater industry, such as product profitability, product premium, market size, and sales, which limits the ability to provide detailed descriptions of different companies due to the limited data available in the market. In this regard, the concept of FBBE is replaced by consumer intention and actual usage intention, which are defined and measured more precisely to enhance clarity. This study explains the critical theoretical framework in CBBE and the measurement dimensions. CBBE dimension focuses on measuring the strength and uniqueness of brand associations in the minds of consumers. It is worth noting that this study provides variable explanations that may influence consumer purchasing intention by integrating multiple theories. This study does not imply that these variables encompass all the possible elements that could have an influence. The second chapter focuses on previous research on brand equity and the existing elements influencing purchase intention.

## Chapter Three: Methodology

The third chapter describes the approach taken to this study and the three research questions. It provides a detailed step-by-step design methodology and defines the suggested strategy for each stage of the research process, starting with developing the research questions. It then identifies the aspects to be considered when building a conceptual model, validates it, and provides recommendations for further study.

#### Chapter Four: Data Analysis and Evaluation

Chapter four utilizes expert interviews and the Delphi method to identify the elements influencing consumers' willingness to buy. A theoretical model was constructed based on these findings and validated through SEM analysis. Before data analysis, research hypotheses were formulated, and rigorous reliability and validity tests were conducted to ensure a solid foundation for the research methodology. The model's fit was assessed, and the effect of the independent variables on the dependent variable was quantified through regression analysis. ANOVA was used to reveal the relationship between the variables. Finally, concise but comprehensive research conclusions are drawn and discussed in depth.

#### Chapter Five: Conclusion

This study begins by writing about the study's findings to analyze the influence mechanism of brand elements on water heater consumers' purchase intention in the creative industry. Secondly, the research contribution of this study is described. However, there are limitations in this study, such as the geographical restriction of the sample, which may affect the generalizability of the results and can be expanded to a broader region in the future. For future research, it is recommended to explore further the differences in consumer behavior across cultures and the dynamics of technological innovations on brand influence mechanisms.

Finally, this chapter summarizes the overall findings of this study and highlights its practical value in guiding water heater companies to improve the consumer experience and branding advantages.

## 1.9 Summary

Table 1.1 shows the summary of this study's research questions and objectives.

Table 1.1

*Research Questions and Research Objectives*

Research Questions	Research Objectives
What are the relevant dimensions that make up the brand equity?	To identify the elements of brand equity that influence consumer purchase intention.
What is the relationship between brand equity dimensions and consumers' intention to purchase a water heater brand?	To develop the model of brand equity in influencing consumer purchase intention.
To what extent does the proposed model accurately explain the relationship between brand equity and intention to purchase?	This study aims to validate the brand equity model in influencing consumer purchase intention.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

The second chapter focuses on previous research on brand equity and the existing elements influencing purchase intention. First, this study discussed the concept of brand equity and two critical dimensions of brand equity, including CBBE and FBBE. Unfortunately, various elements are involved in the water heater industry, such as product profitability, product premium, market size, and sales, which limits the ability to provide detailed descriptions of different companies due to the limited data available in the market. In this regard, the concept of FBBE is replaced by consumer intention and actual usage intention, which are defined and measured more precisely to enhance clarity. This study explains the critical theoretical framework in CBBE and the measurement dimensions. CBBE dimension focuses on measuring the strength and uniqueness of brand associations in the minds of consumers. It is worth noting that this study provides variable explanations that may influence consumer purchasing intention by integrating multiple theories. This study does not imply that these variables encompass all the possible elements that could have an influence.

#### **2.1 Brand Equity**

This section discusses the definition of brand equity and different perspectives on it. A review of previous literature identifies the perspectives of this study.

##### **2.1.1 Definition of Brand Equity**

Brand equity is a multifaceted and intricate concept that has sparked ongoing discussions and explorations across various disciplines, as shown in Table 2.1. Researchers have continuously sought to explain and understand brand equity using different perspectives and approaches (Shankar et al., 2007). In their research,

marketing has not reached a consensus or established a solid theoretical foundation for brand equity (Raggio & Leone, 2007). Consequently, the study of brand equity remains a compelling challenge, particularly when examining its dynamics in diverse market segments (Mizik & Jacobson, 2008). Brand, as one of the vital intangible equity of an organization, always plays a role (Negassa, 2023; Pappu & Quester, 2016). It is regarded as the link between research enterprises and consumers in addition to products, forming the emotional and intentional interactions between research consumers and enterprises (Fatma & Khan, 2023). For over three decades, brand equity has been recognized as a crucial indicator of a business's financial success, prompting significant attention and research (Tasci et al., 2018).

In earlier research, brand equity was often conceptualized as the combination of brand strength and brand value (Srivastava & Shocker, 1991). Brand strength encompasses the associations that consumers form when they encounter or think about a brand. For instance, in the case of Volvo, Chinese consumers associate the brand with a sense of safety. This perception arises from the belief that Volvo vehicles can protect them and their families, thereby reducing the risk of injuries resulting from car accidents (Cai & Cao, 2013).

On the other hand, brand equity refers to the present and future benefits derived from brand strength, representing the conversion of brand strength into economic equity. Chinese consumers are willing to pay a premium for Volvo's safety performance, even if it may not be the most aesthetically pleasing or technologically advanced option (Cai & Cao, 2013). This willingness to invest in Volvo's brand is driven by the perceived value and trust associated with the brand's safety attributes. By understanding and leveraging brand strength and value, companies can cultivate a substantial brand equity



that resonates with consumers, drives loyalty, and ultimately contributes to financial success.

In summary, brand equity is a crucial marketing concept encompassing a brand's value and strength in the market. It empowers researchers and marketers to build successful brands that offer them a competitive edge. With substantial brand equity, opportunities exist for profitable brand extensions, resilience against competitors' promotional activities, and obstacles for rival companies to enter the market (Farquhar,1989). In this study, consumer purchasing intention is regarded as the manifestation of brand equity and the expression of discerning brand equity differentiation, as shown in Table 2.1.



Table 2.1

*Definition of Brand Equity*

Author	Conceptual Brand Equity Definition
	be influenced or even disappear, brand equity is a collection of equity and liabilities connected to a brand, name, or symbol that may increase or decrease the value of the good or service to the business and the consumer.
Baldinger & Robinson (1996)	Brand value is valuable because it has value to consumers, reflecting their preferences, attitudes, and loyalty to a brand according to their needs.
Shocker & Weitz (1988)	Brand value and brand strength are both included in brand equity. Brand strength refers to how customers, channel participants, and the parent firm behave with respect to the brand in order to provide it with a sustainable competitive advantage. The capacity of brand owners to employ brand power via tactical and strategic conduct in order to produce higher performance and lower risk is known as brand equity.
Kim	Brand equity is the distinct set of ideas, emotions, impressions, and connections that a product or service inspires in a consumer and has the power to affect that consumer's behavior.
Berry (2000)	Conceptualizes it as the unique influence of brand awareness and significance in combination with consumer reaction to the brand's marketing.
Yoo et al. (2000)	The difference in consumer choice between a branded and an unbranded product given the same level of product features.
Day & Crask (2000)	Like other similar economic equity, brand value is the present value of future ownership benefits.
Clow & Baack (2005)	A set of characteristics that make a brand unique in the marketplace, allows the company to charge a higher price and retain a greater market share than would be possible with an unbranded product.

continue.....

Author	Conceptual Brand Equity Definition
	Brands' customers, channel members, and parent companies can lead to more significant sales and benefits for their products than would have been the case without the brand name, as well as a more potent, more stable, and more distinctive competitive advantage for the brand.
Farhang et al. (2023)	Product equity is the added value that a brand confers on a product to a company, a distributor, or a consumer.

Researchers have identified two distinct perspectives within brand equity: Consumer-Based Brand Equity and Financial-Based Brand Equity. This differentiation was proposed by (Oliveira et al., 2015), who suggested dividing brand equity into Aaker and Keller's consumer-focused analysis and Simon and Sullivan's corporate viewpoint. This division has contributed to a more standardized understanding of brand strength and value. Further developments in the field have led to the categorizing of brand equity into CBBE and FBBE, as classified by Tasci (2021b). This detailed structure has provided a framework for discussing brand equity in separate forms, and the influence of CBBE on FBBE has become a prominent topic in brand equity research. Initially, the dimensions of FBBE included cash flow, pricing, sales volume, and cost control (Blattberg & Wisniewski, 1989; Farhang et al., 2023; Kamakura & Russell, 1993). Subsequent studies expanded these dimensions to include elements such as the number of consumers, market share, taxes, and job creation (Tasci, 2021). These developments illustrate the evolving nature of brand equity research, where a more nuanced understanding of brand equity has emerged, encompassing both consumer-oriented and enterprise-oriented perspectives.

By considering a brand's perceptions and financial implications, researchers and practitioners gain a more comprehensive understanding of its influence on business outcomes.

The identification of CBBE serves the purpose of assisting enterprises in achieving their goals through an effective branding strategy. Several studies have demonstrated that successful brand management can lead to various outcomes such as premium pricing, increased market share, enhanced cash flow, higher revenue, improved profitability, reduced marketing costs, reduced unit costs due to economies of scale, and increased shareholder value. These achievements are facilitated by elements like consumer growth, consumer awareness, consumer satisfaction, consumer loyalty, and consumer repurchase intention, ultimately contributing to the long-term viability and competitive advantage of the enterprise (Christodoulides & Chernatony, 2010; Keller, 2003; Keller & Brexendorf, 2019). For example, brand equity positively correlates with customer satisfaction (González-Mansilla et al., 2019). Customer satisfaction also affects the improvement and promotion of corporate financial data (González-Mansilla et al., 2019). As a result, the research field continuously seeks to identify critical indicators of brand perception that significantly influence consumers. These indicators include product or service quality, brand image, consumer familiarity, word-of-mouth, brand experience, brand ethics, brand slogans, brand logos, and brand value (Oliveira et al., 2015; Tasci, 2021; Yu & Yuan, 2019). Vohra and Bhardwaj (2019) argue that measuring CBBE is crucial in determining the overall brand FBBE. By understanding and measuring the perceptual aspects of brand equity, businesses can gain insights into the elements that shape consumer perceptions and drive their intention. This knowledge enables enterprises to make informed decisions regarding brand

management strategies, leading to enhanced financial performance and sustainable competitive advantage. Researchers have not discovered a brand equity model influencing consumer usage intention in the creative industry. This implies that companies lack a precise theoretical guideline for improving brand strategies.

### **2.1.2 Consumer - Based Brand Equity**

Brand equity is widely recognized as a valuable equity in the business world. Aaker (1997) introduced a comprehensive framework for brand equity, which consists of five components: perceived quality, brand loyalty, brand associations, brand awareness, and other proprietary brand equity. These components collectively shape consumers' perceptions and attitudes toward a brand.

Keller (1993) proposed another perspective on brand equity, describing it as the result of consumers viewing brands through "colored glasses." This metaphor highlights how consumers' acceptance of a brand's marketing efforts and reactions to different marketing programs influence brand equity. Essentially, it suggests that brands can achieve varying benefits from equivalent marketing investments, and the costs of marketing inputs can differ significantly even with similar incomes.

From a cognitive perspective, Aaker's approach emphasizes consumers' perception of brands, considering elements such as quality and associations. In contrast, Keller emphasizes consumers' emotional connection with brands, reflecting their emotional dependence on the brand (Akanji et al., 2023). These differing viewpoints highlight brand equity's multifaceted nature, encompassing cognitive and emotional dimensions. By understanding brand equity's cognitive and emotional aspects, businesses can strategically manage their brand to evoke positive consumer perceptions and emotional

attachment. This, in turn, can lead to increased customer loyalty, higher brand value, and a competitive advantage in the market.

### **2.1.3 Financial-Based Brand Equity**

Subsequent studies have broadened the understanding of brand equity from a corporate standpoint. Building on the earlier work of Aaker and Keller, Simon and Sullivan (1993) offered a novel perspective on brand equity. They defined brand equity as incremental cash flow, which represents the change in cash flow. Their research involved comparing a product without a brand logo to a product with a brand logo. This incremental cash flow is driven by elements such as consumer brand loyalty, satisfaction, premium pricing, and market share. For example, consumers with high brand loyalty are more likely to repurchase products from a particular brand (Kato, 2023). However, it cannot be overlooked that some consumers with a positive brand attitude may not purchase products from that brand (Coelho et al., 2018). This could be because the brand's pricing is unaffordable for consumers or its products are not frequently - consumed goods.

Essentially, a brand embodies the additional appeal of a product or service beyond its intrinsic attributes, and this is a result of the long-term influence of the brand within a specific market (Simon & Sullivan, 1993). Consequently, companies manage their brands to create added value for their products or services. This corporate perspective highlights the financial influence and tangible benefits that brand management can bring. By cultivating brand loyalty, ensuring customer satisfaction, commanding premium prices, and gaining market share, brands contribute to the overall financial success of a company. Effective brand management, therefore, involves strategic efforts to enhance the brand's value and attractiveness, which leads to increased

profitability and market competitiveness. The brand's value and attractiveness lead to increased profitability and market competitiveness.

## **2.2 Consumer-Based Brand Equity Theories**

This section discusses the brand equity model and influencing elements of Aaker, Keller, and others.

### **2.2.1 Aaker Model**

Aaker (1996) introduced the concept of brand equity, which has profoundly influenced the branding field. According to Aaker's definition, brand equity is the value that a brand accumulates over time through its long-term operations, and it is closely associated with the brand name and brand identity. This implies that the same product or service can receive different levels of attention based on its brand influence. Consumers are generally more inclined to purchase products with a strong brand identity. Therefore, branding is considered as an added value, representing the additional value that a brand provides beyond the functional benefits of a product or service. Aaker identified five key components contributing to brand equity: brand loyalty, awareness, perceived quality, brand associations, and other proprietary brand equity. The detailed model is presented in Figure 2.1.

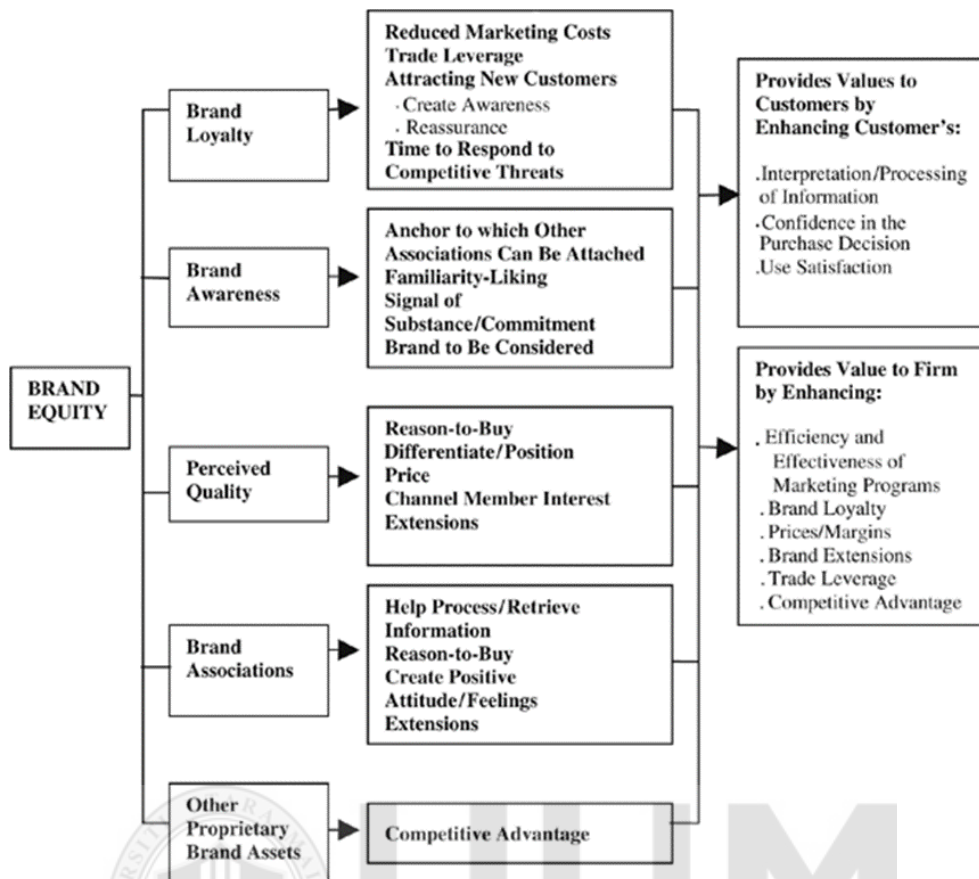


Figure 2.1. Aaker's Brand Equity Model (Aaker(1997))

### 2.2.1.1 Brand Loyalty

Brand loyalty refers to consumers' propensity to purchase and emotional connection with a specific brand. Aaker (1991) defined brand loyalty as consumers' intention to purchase and emotional attachment to a particular brand's product or service. When consumers exhibit loyalty to a brand, they demonstrate repeat purchase intention. This perspective aligns with Oliver's (1999) definition, which describes loyalty as a steadfast commitment to consistently choose a specific brand's product or service, leading to a high likelihood of repeat purchases from the same brand.

It is essential to note that brand loyalty cannot be solely determined based on consumer intention. Some intentions may result from habit or limited choices and may not



accurately reflect true loyalty. Kamakura and Russel (1993) suggested that using occasional purchase tendencies or convenience preferences to evaluate loyalty may be ineffective. Furthermore, for consumers with limited brand options in the market, their repurchase patterns cannot be used to measure brand loyalty.

It is evident that loyalty extends beyond purchase intention and encompasses consumers' attitudes towards brands. Aaker (1991) emphasized that brand loyalty reflects people's affection, admiration, trust, and recognition of a specific brand's products. This study similar observations to those made by Jacoby and Kyner in earlier research. Susriyanti et al. (2023) asserted that long-term commitment to a brand is a manifestation of consumer brand loyalty. Thus, genuine brand loyalty is characterized by a strong attachment to the brand, whereby consumers are reluctant to switch to other brands or abandon the ones they have a passionate affinity for, even in the face of marketing efforts by competitors. Brand loyalty indicates the likelihood of consumers transitioning to other companies as customers, mainly when there are changes in the prices, quality, and features of the brand ( Westhuizen, 2018).

Emotional brand attachment can be defined as a solid emotional bond between researched individuals and a brand. It goes beyond the boundaries of product and customer needs, resonating with consumers spiritually and inspiring them to display commitment and repurchase intention (Atulkar & Kesari, 2017).

Furthermore, Aaker (1991) discovered that brand loyalty can influence consumers' word-of-mouth communication. Devoted fans of a particular brand often become brand ambassadors, promoting the brand through positive recommendations and endorsements. This indicates that brand loyalty fosters a deep connection between

researched consumers and the brand and contributes to the brand's reputation and organic growth through the advocacy and support of loyal customers.

Aaker (1991) believed that enhancing brand loyalty benefits enterprises. It helps reduce marketing costs, increase brand awareness, research entry barriers in different markets, quickly establish trust with new customers, attract new customers, and maintain a competitive edge. Gee et al. (2008) found that customer loyalty leads to lower researcher service costs, higher product prices, positive word-of-mouth, and brand advocates. Vazifehdoost and Negahdari (2018) also established the influence of brand loyalty on repurchase intention. Hwang et al. (2021) discovered a positive correlation between brand loyalty and satisfaction. This conclusion is further supported by the research conducted by Jamshidi and Rousti (2021) in the Malaysian telecommunications industry.

Therefore, when studying and assessing brand loyalty, it is crucial to consider consumers' purchase intentions, emotional connections, and sustained loyalty intentions while disregarding potentially misleading intentional elements. Water heater businesses can develop effective brand management strategies by accurately measuring and understanding consumers' brand loyalty, strengthening the bond between researched consumers and the brand, and ultimately achieving long-term business success.

#### **2.2.1.2 Brand Awareness**

In previous studies, brand awareness has been defined as consumers' knowledge and recognition of a particular brand, including its products or services. It encompasses identifying well-known brand names, logos, and promotional slogans. Research, such

as that by Aaker (1991), provides relevant information about the brand's products, such as their attributes or ethical values. Over time, brand awareness has evolved to represent the position and strength of a brand in consumers' minds (Aaker, 1996).

Brand awareness is commonly categorized into two main components: recall and recognition (Keller & Lehmann, 2006). For instance, the Nike checkmark is easily associated with the brand. Azzari and Pelissari (2021) liken brand awareness to individuals' mental posters. The size and clarity of these mental posters correspond to the level of brand awareness. Furthermore, Da Costa et al. (2017) described brand awareness as remembering specific characteristics of particular brands within a specific industry. For example, Haier is renowned as a brand specializing in electrical appliances, mainly offering high-quality water heaters.

People's consciousness plays a crucial role in shaping their perception of various aspects such as the environment, location, brand, product, and more (Van, 2018). This perception, in turn, influences people's subsequent responses and intentions. Brand awareness refers explicitly to an individual's perception of a brand, encompassing elements like perceived value, product quality, product performance, product specifications, and product types (Barreda et al., 2015).

When consumers perceive a brand as well-known and trustworthy, as studies like those by Gupta et al. (2020) suggest, the brand's psychological position in consumers' minds gradually becomes similar to that of other top-ranked brands globally. As Hwang et al. (2021) noted, for most consumers, brand awareness is a prerequisite for stimulating purchasing behavior and purchase intention. When confronted with unfamiliar products or services, consumers usually have concerns that impede their purchase

desire and weaken their buying intention. Research, such as that by Wang et al. (2023), X. et al. (2010), and Wang (2017), reveals that products with high brand awareness can disrupt consumers' conventional purchasing decision-making processes. These products establish a dedicated psychological support system for consumers, thereby strengthening the driving elements behind consumer intention.

While shopping for new products, consumers tend to pay more attention to the brand itself. New products often struggle to establish perceived usability and applicability in consumers' minds. Therefore, consumers rely on the brand's reputation to evaluate the product, understand its quality, and assess its associated risks (Sasmita & Suki, 2015). Generally, brand awareness increases consumer trust in products, enhances buying intention, and encourages repeat purchases. It also helps foster a higher level of loyalty among consumers (Giovanis & Athanasopoulou, 2018; Sasmita & Suki, 2015).

Brand awareness has been identified as a significant factor influencing customers' purchase intentions, as discovered by (Azzari & Pelissari, 2021). Customers tend to opt for familiar brands when they require a particular product. This preference is particularly prominent in industries like cosmetics, where the efficacy and influence of the product are crucial. Chan et al. (2018) conducted research demonstrating a positive correlation between brand awareness and consumer loyalty in cosmetics. When consumers have prior knowledge or indirect experience with a brand, their likelihood of associating with it increases. Consequently, this brand association compels them to pay closer attention to the specific brand (Chan et al., 2018).

Moreover, numerous studies have established a connection between this research, brand awareness, and perceived value. Consumers exhibit a greater inclination to purchase products from brands they are familiar with, as indicated by Das (2015). This preference stems from the belief that products from these research-known brands carry less risk, and their perceived value is likely to meet the expected standards. In contrast, consumers may perceive a higher level of risk in choosing a brand they are unfamiliar with (Calvo-Porrall & Lévy-Mangin, 2017). As a result, they tend to opt for familiar brands to minimize uncertainty and ensure satisfactory product quality.

### **2.2.1.3 Perceived Quality**

Aaker (1996) eloquently described perceived quality as the captivating perception of a brand or product's excellence. It encompasses the overall quality and subjective evaluation that individuals speculate about. Product quality can be dissected into two distinct dimensions: objective quality and perceived quality (Tsiotsou, 2006). Objective quality refers to the tangible performance of a product in its practical application. Zeithaml (1988) described it as the product's technical superiority and remarkable achievements within a specific field. On the other hand, the perceived quality delves into individuals' subjective judgments (Zeithaml, 1988). Recognizing that perceived quality transcends the boundaries of post-use or pre-use perception alone is crucial. Discrepancies can arise in this study regarding perceived quality and actual quality, signifying that people's conjectures regarding quality may not align with genuine product performance. Ultimately, perceived quality remains profoundly subjective, capturing the essence of consumers' perceptions and evaluations.

The dimension of perceived quality is intricately influenced by the product category it belongs to. Konuk (2019) provides a comprehensive framework, classifying perceived

quality into two primary aspects: intrinsic and extrinsic cues. Intrinsic cues primarily revolve around the inherent attributes of the product, including its physical dimensions. For instance, within the food industry, intrinsic cues shaping perceived quality encompass characteristics such as color, shape, appearance, product structure, and size (Sharma et al., 2023; Tsotsou, 2006; Zeithaml, 1988). On the other hand, extrinsic cues extend beyond the product's physical properties and delve into additional details. These cues include price, location, name, brand reputation, product origin, nutritional content, shelf life, and production date (Teas & Agarwal, 2000). By considering intrinsic and extrinsic cues, consumers form their judgments and perceptions regarding the quality of a product, making it a multifaceted and nuanced concept.

Based on Konuk's (Konuk, 2019) insights, the perceived quality of a water heater can be assessed through both internal and external cues. Internal cues focus on the specific attributes of the water heater itself, including its size, functionality, energy efficiency, conversion rate, intelligence, and safety features. These intrinsic cues give consumers tangible indicators of the water heater's quality.

On the other hand, external cues extend beyond the physical aspects and encompass various elements related to the water heater's context and reputation. External cues may include the brand of the water heater, the manufacturing location, the sales record, the overall reputation of the brand, the return rate of the product, the customer service provided by the water heater company, the price of the water heater, and the availability of sales channels. These extrinsic cues provide consumers with additional information and influence their perception of the water heater's quality.

Considering both the internal and external cues, consumers form a comprehensive assessment of the perceived value of the water heater, enabling them to make informed decisions based on their preferences and expectations.

Perceived quality plays a significant role in the consumer's purchase decision-making process, offering several benefits. Firstly, it helps alleviate consumer concerns and uncertainties, reducing the time required to make purchase decisions. By instilling confidence in the product, perceived value reassures consumers and facilitates their decision-making process (Calvo-Porrall & évy-Mangin,2017). Furthermore, perceived quality forms positive elements supporting purchase decisions and enhances consumers' expectations of product satisfaction.

Another advantage of perceived quality is its influence on competitive pricing strategies. For instance, the iPhone 14 Pro Max, despite its high price of \$1,099 compared to its production cost of \$501, enjoys substantial demand due to consumers' belief in Apple's unmatched product quality. Vazifehdoost and Negahdari (2018) describe perceived quality as enabling companies to command higher prices without suffering a competitive disadvantage in the market. It creates a perception of superior quality that justifies the premium pricing and helps sustain the brand's competitive position.

Furthermore, perceived quality contributes to the enhancement of brand value. It stimulates positive associations with the brand and plays a vital role in building and maintaining brand value (Wang, 2017). It is essential to note that past research has consistently found perceived quality to be a direct driver of purchase intentions (Petrick, 2004). When a brand has high perceived quality, the production and sales of

other product categories are no longer a concern. Consumers will transfer their trust from one product to another of the same brand. This aids the brand's market expansion, including product line and market penetration. Overall, perceived quality is crucial in consumers' decision-making process. It instills confidence, justifies premium pricing, and contributes to creating and maintaining brand value. Although it may not be the sole determinant of purchase intentions, it significantly influences consumer perceptions and preferences.

#### **2.2.1.4 Brand Associations**

Brand associations encompass various elements associated with a brand, extending beyond elements like price, value for money, functionality, and fashion. They encompass all the memories and perceptions of a specific brand (Guerriero, 2021). These brand-related memories form a "memory palace," triggering people's brand perceptions and often leading them to think of the brand or a specific product within that brand when related to a particular field. This continuous association strengthens the brand's value over time (Keller, n.d.).

As the intensity of brand associations increases, consumers become more deeply engaged in the multidimensional experience offered by the brand. To understand brand associations better, researchers have categorized them into three dimensions: brand personality, perceived value, and organizational associations (Buil et al., 2013). These dimensions provide a framework for identifying and analyzing the various facets of brand associations. Brand personality refers to the human-like characteristics associated with a brand, such as being trustworthy, innovative, or sophisticated. Perceived value encompasses the benefits and value consumers perceive when using or purchasing a brand's products or services. Organizational associations relate to the



brand's affiliations with specific organizations, such as partnerships or sponsorships, that shape consumers' brand perceptions.

Buil et al. (2008) defined perceived quality as the consumers' perception of a product's cost-efficiency. It reflects the idea that consumers may evaluate a product purchase as worthwhile or a loss. Aaker (1996) stated that perceived quality represents the position of a brand's product in the market and serves as a sign and indicator of brand success. For instance, people may be willing to spend hundreds of thousands of dollars to purchase a Nautilus timepiece because they believe it is worth the investment.

Gaining authentic reviews about products from trusted sources can further enhance people's perceived value, influencing their product choices and purchase intentions (Dwivedi et al., 2019). When a brand offers high perceived quality, companies can justify higher prices for their high-end product lines, convincing consumers that it offers something beyond the product itself.

Brand personality refers to how a brand is perceived in terms of its distinctiveness, differentiation from other brands, and alignment with consumers' personalities (Buil et al., 2013). Unlike other dimensions, brand personality is unique and exhibits significant individual variations (Aaker, 1996). It influences the consumer-brand relationship by shaping needs beyond functional requirements, such as emotional needs.

Brand personality is an emotional bridge that strengthens the connection between consumers and brands (Chakraborty, 2019). It influences consumer demand and purchase intentions through resonance with consumers and amplifying their personalities (Buil et al., 2013). A brand can foster a sense of affinity and emotional attachment by possessing a strong brand personality that aligns with consumers' values.

Organizational associations represent a significant aspect of brand perception, capturing consumers' perceptions of the values and impressions of a brand manufacturer's actions and long-term intentions (Buil et al., 2008). When a brand possesses attributes that align with its product features, it embodies not only the product or service but also the culture and aspirations of the organization behind it. This unique combination of elements enables brands to establish a shared understanding with consumers and facilitates their acceptance of the company and its associated brands. Brands can convey a sense of authenticity and build trust with consumers. When consumers perceive a strong alignment between a brand and its organizational values, they are likelier to establish a connection and develop a positive attitude toward the brand. This alignment also helps companies differentiate themselves from competitors by showcasing their distinctive organizational culture, values, and mission.

Organizational associations contribute to brand loyalty and advocacy, as consumers tend to support and prefer brands that reflect their values and beliefs. Brand personality shapes consumer perceptions, attitudes, and intentions toward a brand. It allows brands to establish a unique identity, differentiate themselves from competitors, and create a distinctive brand image in the minds of consumers. High perceived value will enable companies to create a perception of added value, distinguishing their brand from

competitors and attracting consumers willing to pay a premium for the perceived benefits and advantages associated with the brand. By examining and managing these dimensions of brand associations, companies can shape and strengthen their brand image, influence consumer perceptions, and ultimately enhance their brand's value and competitiveness in the market.

#### **2.2.1.5 Other Proprietary Brand Equity**

Additional properties of the proprietary brand. Additional brand equity includes unique technology associated with the brand, including patents that add value to the product. Trademarks, channel partnerships, and patents are all included. These resources are more easily overlooked, but they have the potential to help rivals organise to take the company's primary customers—market share and loyalty. The need for additional legal protection for these kinds of equity gives the brand global distinctiveness and legal stability.

#### **2.2.1.6 Aaker Model and Chinese Consumers' Intention for Water Heater Brands**

Water heaters are not consumables that are replaced frequently. Their long-term use characteristics may lead consumers to have less knowledge of related brands, prompting them to focus on brands with which they have experience and build a high degree of brand loyalty (Dobrev & Kwarikunda, 2024). However, when the brands they used in the past have frequent quality problems or poor after-sales service experience, they may develop a negative brand perception rather than just a product perception, prompting them to avoid these brand options when choosing water heaters. Some young and older consumers may be keen on products full of technology or beneficial to health (Eisma et al., 2004). When choosing water heaters, they pay more

attention to the brand attributes they can associate with them, such as innovation, technology, environmental protection, safety, or health. Categorising water heaters as a creative industry emphasises their technological innovation and incorporates a response to social trends such as health and environmental protection. Brands must convey brand value and product characteristics through creative marketing to resonate with consumers and satisfy their pursuit of a high quality of life. Such brand positioning helps to enhance brand image and market competitiveness.

### **2.2.2 Keller Model**

Keller (1993) introduced the conceptual model of CBBE. He defined brand equity as "the differential effect of brand knowledge on consumer response to the brand's marketing" (Keller, n.d., p. 8). The key concepts included in the definition are the "differential effect," "brand knowledge," and "consumer response to marketing." Keller further divided brand knowledge into brand awareness and brand image and developed individual elements within an associative network model constructed in a memory model. The detailed model is presented in Figure 2.2.

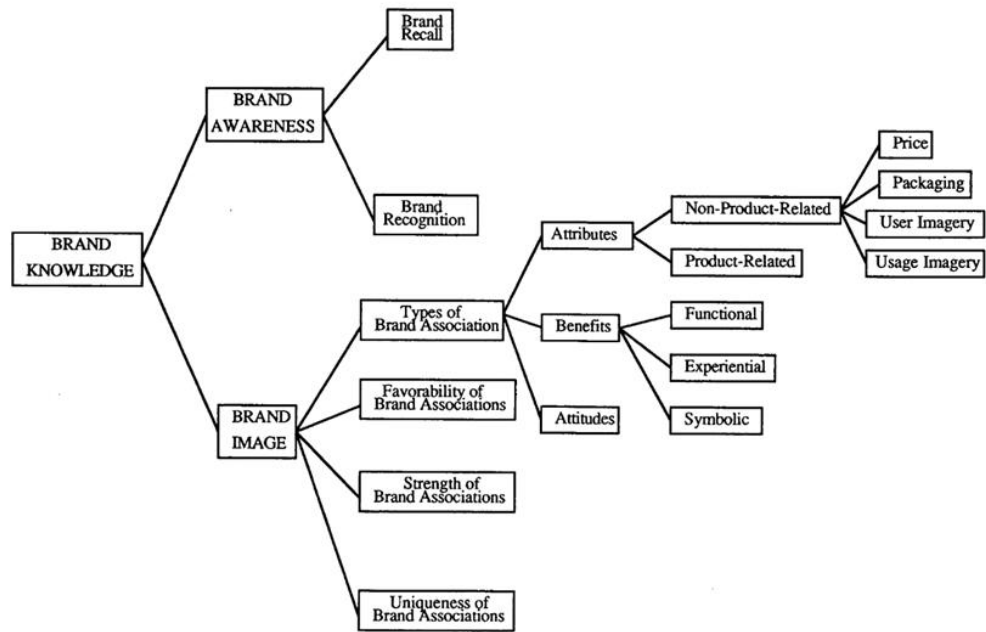


Figure 2.2. Keller's Brand Equity Model (Keller (1993))

### 2.2.2.1 Brand Awareness

Brand awareness, as defined by Aljumah et al. (2023), is the ability of consumers to recognize a brand under different conditions. It includes two key elements: brand recognition and brand recall. Brand recognition is when consumers can correctly identify a brand based on brand cues, as they have been exposed to it before. On the other hand, brand recall is when consumers can retrieve the brand from a given product category. Increasing brand awareness has several benefits. It enhances consumers' perception of a brand, making them more likely to buy familiar brands than unfamiliar ones. Keller argues that brand awareness can be measured regarding a brand's breadth and depth. Brand depth refers to the extent to which consumers can reproduce the brand in their minds. The breadth of the brand is the element or scenario that consumers associate with the brand when they purchase or use it.

#### **2.2.2.2 Brand Image**

Brand image is defined here as perceptions about a brand as reflected by the brand associations held in consumer memory (Keller,1993). Brand image dimensions are divided into brand association types: Type, Favorability, Strength, and Uniqueness. Brand association types have three levels: attributes, benefits, and attitudes.

##### **i. Types of brand associations**

Types of brand associations: There are three levels of brand association types: attributes, benefits, and attitudes.

##### **a. Attribute association**

This association that serves as the primary differentiator for a good or service may be divided into traits connected to the good or service. Product-related qualities are the significant functionalities that a customer can receive from a product or service. On the other hand, non-product-related attributes encompass external representations associated with the product or service, such as price information, packaging or product appearance, user image, and usage image (Keller, 1993).

Among these attributes, price is of particular importance to consumers as they are often more sensitive to the price and value of a brand. Consumers can use price to differentiate products from different levels and categories (Blattberg & Wisniewski, 1989).

##### **b. Benefit associations**

Benefit associations in this context refer to the value consumers perceive they can obtain from a brand. When consumers believe they can receive more valuable benefits

from a product or service, they are often willing to pay a brand premium. For instance, Rinnai water heaters are a globally recognized brand that is associated with safety, quality, and excellent service. Consumers are willing to pay a higher price for this brand due to its perceived benefits.

Benefit connections fall into three categories: symbolic, experiential, or utilitarian. A good or service's observable and valuable advantages, such as efficiency or convenience, are functional benefits. Customers' pleasure or happiness from utilizing a brand on an emotional or sensory level are known as experiential advantages. Symbolic benefits, on the other hand, are the intangible meanings and associations that a brand carries, such as social status or self-expression. Functional benefits: mainly related to the function and quality of the product to solve and avoid problems. Experiential benefits: The experience that the consumer has during the process of consumption or enjoyment of the service is pleasurable and stimulating. Symbolic benefits: additional benefits that consumers receive beyond the value of the product or service, which are external advantages, such as giving a sense of superiority, uniqueness, and fashion, and can reflect the consumer's self-personality.

### **c. Attitudinal association**

The consumer's general sentiment and assessment of the good or service (e.g., brand preference) can be obtained from the attitudinal association. Perceptual value research has shown that brand attitudes can be linked to opinions regarding the product's features and functional and experiential advantages (Lillrank et al., 2018). According to Mohammed and Akef (2023), beliefs regarding non-product-related attributes and symbolic benefits can also be linked to brand attitudes. This aligns with the functional theory of attitudes (Choi et al., 2020), which holds that attitudes can have a "value-

expressive" function by enabling people to express their self-concepts. Furthermore, studies have demonstrated that less deliberate decision-making—based, for instance, on rudimentary heuristics and decision rules—can also contribute to the formation of attitudes (Regan & DeWitt, 2014). Customers may utilize signals or "extrinsic cues" to gauge the quality of a product or service if they are not motivated or equipped to assess it (Chang & Wildt, 1996).

Thus, functional, experiential, or symbolic benefits, general brand attitudes, and features related to or unrelated to products are examples of the various brand associations that create a brand image. These linkages can differ depending on their strength, distinctiveness, and favorability.

## **ii. Favorability of brand association**

Associations differ depending on how a brand is regarded. Favorable brand associations form when customers think a brand has features and benefits that satisfy their wants and aspirations, promoting a good overall brand attitude, which is a sign of a successful marketing effort (Keller, 1993). According to research by Regan and Witt (2014), attribute importance is theoretically and experimentally related to the "evaluative judgment" component of expectancy-value models of attitude. It is difficult to positively influence an attribute if customers do not consider its association with their expectations and wants; therefore, identifying qualities that fulfill consumers' psychological expectations is critical. The efficiency and speed of the service, for example, are variables that customers can easily relate to. However, not all of these elements will influence their purchasing decisions. Depending on the situation,



these elements will also have varied results (Um et al., 2023). For instance, the speed and efficiency of service matter more to a consumer with limited time than to a customer with plentiful leisure.

### **iii. Strength of brand associations**

The strength of a brand association is how the message enters the consumer's mind and can be stored, and strength refers to the quantity and quality of the associations that are evoked. For instance, the levels- or depth-of-processing method contends that the stronger the connections formed in memory due to encoding, the more attention is paid to the information's meaning( Lee et al., 2023). Therefore, when consumers can actively think about the message and meaning of a product or service, the association will be more profound.

### **iv. Uniqueness of brand associations**

A brand that is considered distinctive has a distinct edge that makes it stand out from competitors. A "Unique Selling Proposition" (USP) that provides customers with a strong incentive to select that particular brand is essential for effective brand positioning (Guliyev, 2023; Zheng & Zhang, 2023). These might concern the product's brand image, quality, usefulness, and services. For instance, when you consider Haier, you consider quality; when you consider Volvo, you consider auto safety; and when you consider Seabed, you consider its exceptional service.

The Keller Model is a brand equity model based on consumer perceptions, which Keller proposed in 1993. It provides a detailed analysis of the elements involved and is a relatively new research-developed model. It is a critical brand equity model and is essential for companies to build brand-consumer relationships.

### **2.2.2.3 Keller Model and Chinese Consumers' Intention for Water Heater Brands**

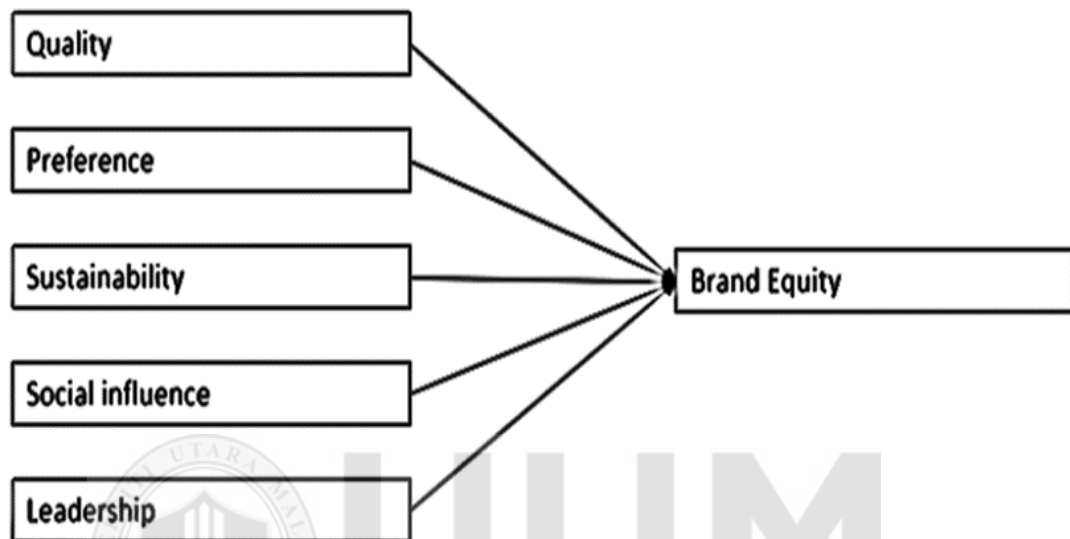
Water heater companies may establish consumers' awareness of brands they have not used yet through the Internet and offline advertising (Truong, 2024). They can help consumers establish an intense memory of the brand through unique and recurring brand logos, background music, brand store decoration, unique product styles, colors, and brand slogans, which are easy to recall and associate with specific events (Simonson & Schmitt, 1997). For example, people who do not dare to do some dangerous actions are likely to think of Nike's slogan "Just do it". This slogan is less relevant to the product so the association can be unrelated to the product's performance. This association can be negative or positive, or it can be damaging but produce positive results. Some rose shapes of Gree Air Conditioners in China are advertised as rural old-time style, which is not trendy at all, but that is what the founder of Gree loves. Frequent ridicule is also a means to increase popularity and help consumers establish associations (Lestari et al., 2024).

In summary, water heater enterprises should skillfully use advertising strategies combined with online and offline resources to create a unique brand image, stimulate consumer association and recognition, and stand out in fierce market competition. Water heater brands are entering the creative industries not only to enhance their marketing effect but also to deepen the cultural connotation and value of the brand.

### **2.2.3 Baalbaki Model**

Baalbaki (2012) proposed a framework for brand equity from a consumer perspective in his doctoral thesis Figure 2.3. The scale has five dimensions: quality, social influence, preference, sustainability, and leadership. Baalbaki (2012) stated that this robust scale improves the understanding of consumer-centric brand equity

measurement in academia and assists companies in formulating effective brand strategies. Aaker's research (1991) has already addressed the quality factor. Brand preference is similar to consumer brand loyalty, indicating that consumers tend to align their product choices with brands they love.



*Figure 2.3. Baalbaki's Brand Equity Model (Baalbaki (2012))*

#### **2.2.3.1 Social Influence**

Baalbaki (2012) identified social influence as one of the elements not previously included in the scope of brand equity. According to Baalbaki (2012), social influence is the process and outcome of people adopting specific intentions that are accepted by others. He referred to Soutar's (2001) definition and measurement dimensions of social influence, which include the degree to which individuals using a specific brand product are socially accepted, the perceived social acceptance among users of a specific brand product, the extent to which users of a specific brand product leave a positive impression on others, and the degree to which others notice users of a specific brand. Baalbaki (2012) also cited a case provided by Thompson and Arsenal (2004), which suggests that people who consume at Starbucks often achieve a better social status

among peers, colleagues, and friends. It is worth noting that the meaning of social influence expressed in other theoretical frameworks may differ. For example, in the Unified Theory of Acceptance and Use of Technology (UTAUT), social influence refers to the influence of family, friends, and significant others on respondents while establishing technology use intention (Dwivedi et al., 2019). This influence pertains to intentional intentions or intention changes resulting from being persuaded by others. Additionally, in the Technology Acceptance Model (TAM 2), the image factor refers to the influence of product use on personal image. Therefore, in this study, social influence and image will appear as two separate dimensions. Social influence will be defined as the degree to which others influence individuals. Meanwhile, the image will replace the aspect of social influence proposed by Baalbaki (2012) to express the enhancement of personal image and acceptance through product use.

### **2.2.3.2 Ethical Quality**

#### **a. Sustainability**

Baalbaki (2012) described sustainability as a new demand from consumers following the rise of their moral and environmental awareness. Some scholars stated that consumers' environmental consciousness prompts them to consider more environmentally related intentions and thoughts (Kikuchi-Uehara et al., 2016; Valenzuela-Fernández et al., 2022; Zsóka et al., 2013). This suggests consumers may choose eco-friendly brands to demonstrate their environmental awareness and intentions. Several aspects are associated with sustainability, including whether a brand achieves environmental safety, fulfills environmental responsibilities, adheres to sustainability principles, and aligns with the advocacy of a healthy brand. Baalbaki (2012) stated that when consumers perceive a brand as aligned with sustainability

advocacy, they tend to believe that the brand's product quality is higher and exhibit higher levels of loyalty. Sarkis (2020) pointed out that the emergence of the COVID-19 pandemic further helped people develop environmental awareness, clarified the proposition that the ecological environment determines human destiny, and created an urgent need for green supply chains. Chambers et al. (2021) proposed six joint perspectives on sustainability to enhance the efficiency of improving harmony between researchers, humans, and nature. For water heater brands, it is essential whether they can produce products with low resource consumption. Replacing fossil energy with non-fossil energy is another way to promote sustainability. Furthermore, attention should be given to whether water heater brands comply with sustainability standards regarding transportation, operational processes, and end-of-life disposal.

#### **b. Charitable deeds**

Corporate Social Responsibility (CSR) serves as a vital tool for addressing the diverse needs of stakeholders and managing conflicts of interest. From a marketing perspective, corporate responsibility plays a vital role in building lasting good relationships between researched brands and consumers and also positively influences consumer buying intention, thus increasing sales for the company (Fatma & Khan, 2023). Researchers such as Lindgreen and Swaen (2010) have emphasized that CSR involves incorporating consumer needs, potential consumer needs, and the needs of specific groups into corporate strategies and goals. The development and implementation of CSR are driven by social expectations and ethical requirements from stakeholders, as highlighted by Whetten et al. (2002). Business organizations face the ethical complexity of stakeholders with varying roles and perspectives, necessitating the integration of reasonable decisions to establish lasting and mutually beneficial

relationships (Haque, 2023; Maak, 2007). Haque (2023) has argued that the outcomes of CSR efforts influence the target group and the benefactor. Supporting this perspective, research by Sen et al. (2006) confirms that CSR attracts investors, enhances customer satisfaction and loyalty, and serves as a driving factor for job seekers in choosing organizations. Weber (2008) proposed that the business benefits of CSR can be classified into five aspects: positive corporate image and reputation, employee incentives, hiring and retention, cost savings, sales growth and market share expansion, and reduced social resistance and government differential treatment risks. Freeman and Dmytriiev (2017) underscore the alignment of this research stakeholder theory and CSR, emphasizing integrating social interests into business operations to reduce stakeholder conflicts and meet the diverse needs of multiple stakeholders. In line with this, organizations must establish strong relationships between researcher consumers, stakeholders (upstream and downstream in the supply chain), and the company by actively considering CSR initiatives. Maximizing corporate profits is undoubtedly a fundamental objective for businesses, but it is insufficient for long-term sustainable success. This necessitates considering CSR, as Boundless (2021) emphasized. To address concerns regarding the costs and benefits of CSR, one can look at examples such as Wal-Mart, which successfully reduced costs through measures like minimizing toy packaging, resulting in substantial material savings, oil conservation, tree preservation, and reduced container usage (Wal-Mart, 2006). Challenging the misconception that CSR negatively influences shareholder returns, Freeman and Dmytriiev (2017) argue that the benefits derived from CSR outweigh researching the associated costs. Moreover, CSR expenditures should not be viewed as mere expenses, as companies often receive corresponding tax reductions and exemptions, as noted by (Zampone et al., 2023). In summary, embracing CSR avoids

higher costs and can lead to cost savings. From an ethical perspective, CSR helps foster a consensus among consumers, stakeholders, and the company, promoting non-commercial relationships and strengthening overall societal influence. In the water heater industry, the brand's corporate social responsibility performance can enhance its appeal by establishing resonance with consumers or mitigating the perception of exploitative practices. When resonating with consumers, the brand's demonstration of corporate social responsibility creates a connection that aligns their values with the brand. For instance, engaging in environmentally friendly initiatives, community projects, or charitable endeavors helps consumers perceive the brand as socially responsible, thereby increasing its attractiveness. The brand's corporate social responsibility performance can help alleviate concerns about profit-driven motives and reduce the negative perception associated with exploitative intention. When consumers witness the brand's commitment to social and environmental responsibilities, they are more likely to trust and remain loyal to the brand, believing that it genuinely contributes to society.

The brand can enhance its appeal in the water heater industry by actively showcasing corporate social responsibility, establishing resonance with consumers, and alleviating concerns regarding exploitative practices.

### **c. Cultural respect**

China is a nation that values culture highly, and disregarding Chinese culture would negatively affect a company. As such, water heater brands should be more cognizant of cultural nuances. Nippon Paint, a Japanese brand, once denigrated the Chinese totem animal "Dragon" in their "Dragon" commercial. This damaged Chinese national sentiments, led to discontent among Chinese customers, and damaged the brand's

reputation among consumers. An advertisement Paint named "Dragon" appeared on the opening page of the World Advertising magazine in September 2004, as shown in Figure 2.4. It featured a coiled dragon on each of the two pillars of a Chinese pavilion, with the left pillar's color being dull and the dragon clinging to it and the color of the right pillar bright and bright, but the dragon fell to the ground. The creative idea combines the traditional Chinese elements of ancient "pavilion" and "dragon" and wants to use witty advertising forms to show the brightness of Lippon Paint. However, they overlooked an important point, "dragon," as a Chinese totem. "As the totem of China, Chinese people are the heirs of the "dragon." This research will not accept the negative image of the "dragon" slipping; if the dragon can rise in the air on the pillar of Lipont paint, colorful will be a different ending. When employing the incorrect approach, the business hurts the national feelings of the consumer and, eventually, the brand. This is because the enterprise is shaped like this brand's visual image. Cultural respect is the extent to which international brands and businesses wisely consider local customers' feelings about customs, symbols, and cultural heritage while making business decisions (Guo et al., 2019). This respect represents the external group's assessment or tacit acceptance of the local culture (Guo et al., 2019). Respect from an external group can enhance the internal group's tolerance towards the external group ( Mooij, 2019). Cultural respect does not mean people completely accept brand intentions that contradict their consumer culture; rather, it means mutual adaptation (Verkuyten & Yogeeswaran, 2017). The distinction of this research on the external and internal groups applies to global/foreign brands encountering local consumers and local brands in the market, even though social tolerance is primarily studied in the context of interactions with majority and minority groups in diverse societies (Gineikiene et al., 2016). According to Li et al. (2015), culturally sensitive advertising



messaging can create a view of international businesses as "polite visitation" when they join the neighborhood, positively influencing consumer attitudes and intentions.



Figure 2.4. Lippon Paint "The Dragon"

#### d. Brand Welcome

According to Baalbaki (2012), the consumer perspective of brand equity encompasses a factor related to the brand's survival capability. The longer a brand has existed, the less research the concerns people have about the brand. In this research, if there is a risk of the brand exiting the market shortly, consumers may perceive a higher level of risk as the brand's after-sales support may not be guaranteed. Therefore, consumers choose brands that are likely to exist in the long term rather than those with survival risks (Baalbaki, 2012). While several studies suggest that increasing brand awareness can improve a company's sales and eventually increase market share (Surianto et al., 2020), less research indicates whether a company's sales and market share can drive

sustained growth in consumer purchase intentions and intentions. The phenomenon of herd intention should be taken into account. Cooper (2013) describes a social intention similar to the "Effect of Sheep Flock," where the judgments of experts or early participants can influence others to make the same decisions, even if the experts' information is not entirely accurate. Additionally, a study conducted by Indian University found that the number of these researchers by candidates in the 2010 and 2012 U.S. House of Representatives elections was correlated with the election results, regardless of whether this research contained positive or scandalous news (Indian University, 2013). The Information Cascade theory introduces a similar phenomenon, where people tend to follow the choices of others when they cannot differentiate between good and wrong products (Hirshleifer & Hong Teoh, 2003). This suggests that the better the sales of a specific brand's water heater products, the more likely it becomes a target for other consumers. Therefore, when considering water heater brands, elements such as the brand's economic status, future growth prospects, market share, and popular products will likely influence consumers' choices and judgments.

#### **2.2.3.3 Baalbaki Model and Chinese Consumers' Intention for Water Heater Brands**

When Chinese residents buy water heaters, quality becomes an important consideration, including safety performance, durability, and heat conversion efficiency. Haier's 1985 appliance smashing incident demonstrated the company's strict quality control and responsible attitude towards consumers. Zhang Ruimin smashed 76 poor-quality refrigerators and refused to allow them to enter the market, a move that won

long-term positive feedback from the community about Haier's excellent quality. This move created a strong social influence that prompted consumers to be more willing to choose Haier's home appliances, including air conditioners.

With consumers' concern for sustainable development and the rise of cost-saving lifestyles, the shift from fixed-frequency to inverter air conditioners and the trend from ignoring energy consumption to favoring five-star energy-saving brands reflect the importance consumers place on the energy-efficiency and environmentally friendly features of home appliances. This change is not only reflected in the field of air conditioning but also applies to the water heater market.

Classifying water heaters as a creative industry emphasizes their design, technology, and intelligence innovation and incorporates ethical quality and social responsibility considerations. Brands must focus on environmental protection and energy efficiency throughout the product lifecycle while enhancing brand influence through creative marketing and digitalization to establish an emotional connection with consumers. Such a water heater brand can satisfy consumers' pursuit of a high quality of life and lead the industry in a greener and more sustainable direction.

#### **2.2.4 Comyns Model**

1970, Nelson conducted a significant study on information and consumer intention, delving into how consumers gather and utilize information during decision-making. His research identified the importance of consumers actively seeking relevant information about products or services before purchasing. Over time, numerous researchers have built upon this foundation, enriching the variables associated with consumer information-seeking intention. Brand credibility, experience, and search are

the three aspects of brand services that make up Krishnan and Hartline's (2001) concept of brand equity. They tried to determine the significance of these elements in the television, film, beauty salon, and pest control industries. According to the research findings, consumers value brand search services more than brand experience and credibility. According to Google Scholar, this framework's first version refers to Nelson's (1970) commodities taxonomy, which has more than 10,000 citations. Comyns et al. (2013) highlighted the importance of "Search," "Experience," and "Credence" in information, especially when it comes to people's assessments of it Figure 2.5. According to Gunasti et al. (2020), "Search," "Experience," and "Credence" affect customers' opinions of brands in general and, consequently, have an effect on their decisions to buy.

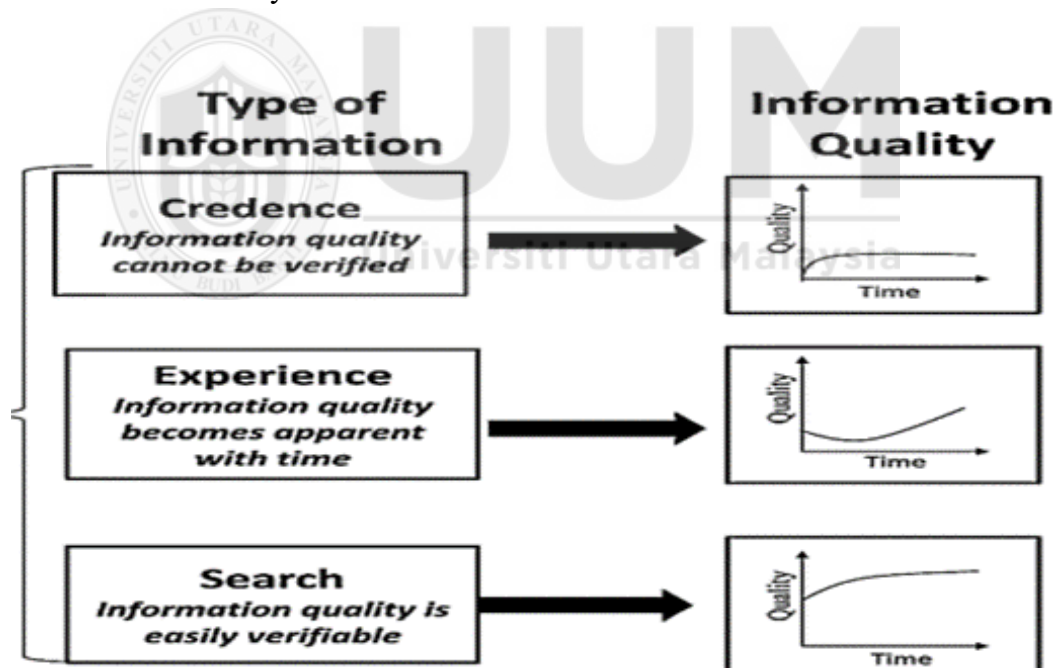


Figure 2.5. Brand Equity Model by Comyns (Comyns et al. (2013))

#### 2.2.4.1 Brand Search

##### a. Product information and brand information

Brand search refers to the ease and comprehensiveness with which consumers or

potential consumers can identify a product or service through online or offline channels. Guseman (1981) states that search services help consumers better understand the attributes of a product, allowing for comprehensive perception and comparison and reducing consumer purchasing risks. Murray and Schlacter (1990) argue that the overall price of many goods and related services is often unclear to consumers before purchase, and it tends to increase as consumer service demands grow. Brand search services encompass various descriptions of product information, reputation, pricing, service options, and service offerings (Krishnan & Hartline, 2001). It can also include demonstration videos or advertisements about product usage to enhance consumer awareness and satisfy their curiosity and information needs. Search services imply that people can minimize unknown risks by allowing them to thoroughly examine product details, brand details, and service details (Girard & Dion, 2010). In other words, it signifies that people can anticipate the outcomes of product usage before making a purchase or using the product (Park et al., 2021).

Brand search is a blessing for individuals who prefer uncertainty avoidance as it helps reinforce their beliefs and provides them with the necessary information to make informed decisions. By conducting a brand search, these individuals can gather comprehensive information about products, services, and brands, which reduces their perceived uncertainty and enhances their confidence in their choices. Levitt (1981) suggests that transforming intangible equity into tangible equity is a reasonable approach to improving service quality. Companies can employ content marketing and search engine optimization to increase the availability of referenceable data in people's product choices and reduce their concerns about product selection. According to Onkvisit and Shaw (1989), businesses may want to consider associating the brand

name with the service, which might lead to customers developing the inertia of believing that the brand's features, costs, and other pertinent information are readily available. The results suggest that brands of water heaters with high information openness and a wealth of data resources can be more well-liked. As time passes, many businesses understand the advantages of search engine optimization and use it to make their products more visible to customers (Lewandowski & Schultheiß, 2023).

#### **b. Word-of-mouth and E-WOM**

Interpersonal communication and consumer intention are significantly influenced by word-of-mouth communication, including online forms like the Internet and electronic word-of-mouth. American communication scientists Katz and Lazarsfeld (1955) highlighted the influence of word-of-mouth on customer intention and realized how important it was for marketing in the 1950s (Haugtvedt et al., 2005). New kinds of word-of-mouth communication have appeared with the introduction of the Internet. Internet users can now voice their thoughts, discuss their experiences, and exchange ideas on their utilized goods and services. In 2000, Stauss conducted the first study on online word-of-mouth and discussed the business opportunities and challenges of more excellent customer communication over the Internet. Hennig-Thurau et al. (2004) noted that consumers may peruse and obtain product information from other consumers over the Internet. Additionally, it enables users to exchange insights, ideas, and expertise on specific subjects, resulting in electronic word-of-mouth. In reality, several novel marketing ideas have surfaced, such as "viral marketing" or "buzz marketing," which use online resources to spread content quickly. Utilizing people's everyday interactions and discussions is essential for viral or buzz marketing to be successful (Earl, 2006). In summary, "Word of mouth," "Internet word of mouth,"

"electronic word of mouth," and "online word of mouth" are terms used interchangeably to describe individuals who rely on online platforms for non-commercial communication to discuss businesses, products, or services. Internet word-of-mouth refers to any comments made by consumers, whether favorable or unfavorable, that are shared with a large audience over the Internet (Hennig et al., 2004). Word-of-mouth communication, which involves non-commercial individuals discussing a product without personal gain, has risen due to increased consumer feedback following product consumption. This exchange of information among consumers has contributed to the growth of word-of-mouth. Word-of-mouth has gained particular importance in the water heater industry due to its influence on customer purchasing intention. The quality of water heater products significantly influences customer decisions, and word-of-mouth can effectively alleviate customer skepticism by building trust. Positive product experiences and feedback contribute to customer satisfaction (Stauss, 2000), ultimately influencing consumer purchasing decisions. Some researchers believe that online word-of-mouth evaluations (positive, neutral, negative) are becoming increasingly important for people's purchasing decisions and evaluating representative customer satisfaction (Chevalier & Mayzlin, 2006; Chintagunta et al., 2010). Favorable evaluations positively affect consumer preferences, while negative evaluations reduce consumer preferences (Tardin & Pelissari, 2021).

#### **2.2.4.2 Price Quality**

##### **a. Credence**

Kerschbamer et al. (2019) describe credence goods as goods with an uncertain relationship between this research price and quality. For example, when people cannot

estimate the value of a product or service, it is difficult to determine whether the price they pay for that product or service is above or below the market average. When a water heater model includes a pH adjustment option and claims to improve skin quality, the pricing by the merchant may not be directly related to the product's cost or the prices of similar-level water heaters in the market, and it may indicate a higher price. Girard and Dion (2010) refer to credence services as emotionally charged services with a high level of risk, requiring complex expert knowledge for evaluation. Indeed, this perspective differs from the concept of brand trust. Consumers and businesses may have different focal points regarding product information, leading to variations in value assessment (Kerschbamer et al., 2019). Therefore, when consumers choose a water heater product, they may consider whether the water heater brand has brand credence. For example, Xiaomi's water heaters are generally priced at around 2,000 RMB and have a good reputation and quality performance. When Xiaomi introduces a water heater with a price exceeding 10,000 RMB, it may pique the curiosity of potential buyers.

In recent years, reports of lousy brand credence intention in Ctrip's apps have not been uncommon. For example, in 2018, Ms. Hu, a longtime Ctrip user, took Ctrip to court because she found that the hotel room price she ordered through the Ctrip app was more than double the listed price. Ultimately, Ctrip lost the lawsuit as the court asked Ctrip to pay Ms. Hu three times the hotel reservation fee as compensation while refunding Ms. Hu's hotel reservation fee ( Li et al., 2019). In addition, according to Ding (2022), Ctrip's typical wrong brand credence intention pattern is as follows: To attract more new registered users, Ctrip offers a more significant price concession for its new users in the early stage. In this research, once customers develop consumption



habits and do not change the platform quickly, Ctrip generates extensive data operations and creates a customer rank. The higher the customer's rank (which means that the customer has used the Ctrip platform for a long time, and the frequency of use is higher), the higher the prices of air tickets, train tickets, and hotel rooms they get. From this, it is evident that in recent years, relying on this research's complete resources and a strong market position, bad brand credence intention has almost become a routine operation of Ctrip that, while infringing on the rights and interests of consumers, also brought certain obstacles to Ctrip's operation and development, as with the continuous exposure of Ctrip's such wrong brand credence intentions, its credibility in the minds of Chinese consumers has been dramatically reduced. For instance, regarding the case of Ms Hu above, the research data based on Li et al. (2019) shows that about 46% of consumers are angry about Ctrip's bad brand credence intention towards Ms Hu, more than 14% of consumers are sad, and small amounts of consumers feel fear and disgust. In the end, this negative sentiment towards the brand can transform into an intention of refusal to use, which means that while such an intention may bring about temporary gains for the company, it ultimately diminishes its long-term sustainability and profitability.

#### **b. Price and Cost-effective**

One of the things that affects consumers' intentions to buy is price. Price has a significant influence on consumer purchasing decisions, as emphasized by Šmaižienė and Vaitkienė's (2014) investigation of significant elements in consumer purchasing intention. In general, the cost of hygiene goods produced in economically developed nations is often more significant than that of items produced in underdeveloped nations (Šmaižienė & Vaitkienė, 2014). Reasonable promotional activities and pricing

strategies are advantageous in attracting consumers and generating higher purchasing intentions and intentions (Šmaižienė & Vaitkienė, 2014). According to Kotler and Armstrong (2008), price is the amount consumers voluntarily sacrifice. Therefore, this research's prices may align better with the psychological expectations of the majority of consumers, except for those seeking luxury experiences. Yusup and Sutopo (2011) found that product pricing is an expression of competitive advantage, but it is not limited to this researcher's prices; price can also convey information about product quality. Higher prices often represent higher value or superior product quality (Yusup & Sutopo, 2011). This implies that some brands aim to position their products as high-end by increasing their prices, which helps consumers form a positive perception of the product. In this study, the higher price may hinder the purchasing intention of some consumers who find a product beyond their budget. Therefore, the price can influence consumers' willingness to purchase water heater brands and their purchasing intention.

Market Efficiency refers to the expression of product market prices about the relevant attributes of the products (Beaver, 1981). In commodity trading, Market Efficiency implies that a product should be priced according to its market environment, without malicious price hikes or reductions. For example, without price wars, similar delivery services from different companies would have similar prices. In other words, with the emergence of e-commerce, the prices of products in physical stores will gradually align with those in online stores and excessively high prices will be defeated by price transparency.

The study by Zhou et al. (2002) quickly gained attention, confirming the researcher's Market Efficiency and Price-Quality schema in China. The study suggested that there may be a discrepancy between this research product prices and their actual value when

purchasing water heaters in China. In this research, Zhou et al. (2002) research also indicated that risk-averse consumers tend to infer product quality based on price when lacking information, which was already affirmed by Dodds et al. (1991) and Zeithaml (1988) in previous decades.

Further research has shown that consumers prefer products with a better price-performance ratio, stimulating their desire and intention to purchase. In conclusion, Chinese consumers may be tempted to purchase water heaters at low prices or be influenced by the price-quality schema, believing that the water heaters have superior performance.

#### **2.2.4.3 Comyns Model and Chinese Consumers' Intention for Water Heater Brands**

In the digital age, Chinese residents shopping for water heaters are heavily influenced by information from search engines and e-commerce platforms (Guan & Lin, 2024). Consumers often ignore brands with incomplete information and a lack of key parameters, while brands with transparent information and comprehensive displays are more likely to gain attention. Frequent exposure on social media, search engines, and e-commerce platforms, multi-faceted images, rich reviews, and mainly positive word-of-mouth have become important elements for consumers' preference for the surveyed products. In consumer downgrading, high-end, high-priced water heater brands must attract consumers through differentiated product features and effective marketing strategies, such as innovative design, environmental protection and energy saving, and smart connectivity. Brand reputation and pricing strategy are equally critical. False markups and frequent price reductions can damage brand image and trigger mistrust. Categorizing water heaters as a creative industry emphasizes the importance of

innovation and digital marketing. Brands must focus on product design, user experience, and intelligent innovation and use big data and artificial intelligence to optimize production and improve performance (X. Li et al., 2024). At the same time, creative marketing enhances interaction with consumers to meet the pursuit of a better life. In short, to stand out in the competition, water heater brands must focus on information transparency, provide differentiated products, maintain brand reputation, implement a stable price strategy, and integrate into the creative industry to explore innovation and digital marketing paths. This helps enhance brand awareness and loyalty, better meet consumer demand, and win market recognition.

### 2.2.5 Ren Model

Ren et al. (2023) surveyed the coffee market and established a novel brand equity model (Figure 2.6) that encompasses Interaction Quality, Physical Quality, and Result Quality. Their research demonstrates that customers are highly sensitive to the service quality of coffee brands, and this service quality directly influences brand equity.

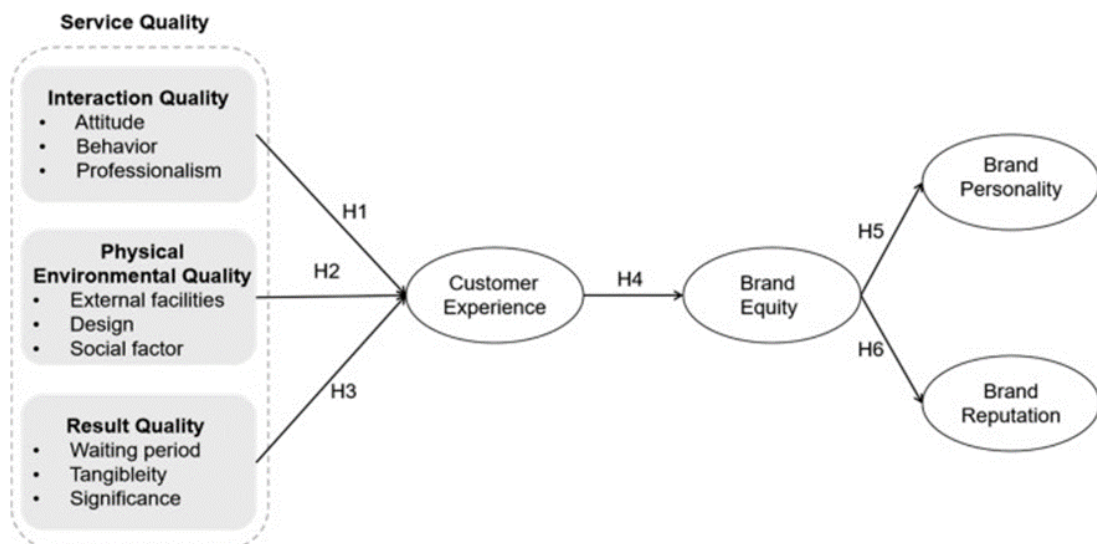


Figure 2.6. Ren's Brand Equity Model (Ren et al. (2023))

### 2.3.5.1 Services Quality

The quality of brand services refers to consumers' overall perception of a specific brand's services, which includes value judgments and opinions (Parasuraman et al., 1985). Brand services are significant events that consumers and businesses prioritize about service-related elements. For instance, Service quality is vital in the Indonesian aviation industry, directly affecting consumers' purchasing intention. Kim et al.(2016) state that service quality influences customer satisfaction and purchasing intention, affecting a company's profitability. According to Islam et al. (2019), improvements in service quality motivate patrons to participate more actively in organizational activities, especially quality-conscious and detail-oriented female consumers. According to a study of purchasers and sellers, the service experience is a pleasurable exchange of visible and unseen elements. Holbrook and Hirschman (1982) suggest that consuming is a process of pursuing pleasure. It can satisfy consumers' physiological and safety needs (Holbrook & Hirschman, 1982). This face-to-face or online service experience is a distinctive emotional and social experience created by businesses for consumers, providing them with higher value and making it difficult for competitors to imitate. Different service experiences can shape different brand positions. Darbi and Karni (1973) argue that companies establish different management focuses based on the types of services offered and then conduct targeted management after positioning is achieved. Zampone et al. (2023) categorize service experiences into entertainment experiences, educational experiences, escapist experiences, and aesthetic experiences based on the degree of consumer involvement and relevance to the environment. Scott (2006) classifies experiences into sensory experiences, emotional experiences, cognitive experiences, intentional experiences, and relational experiences based on the content of experiences provided by businesses and their influence on consumers.

Therefore, direct or indirect interactions between research customers and businesses reveal the underlying logic of services (Grönroos & Voima, 2013). Various forms of interaction shape consumers' overall perception and experience of services (Lemon & Verhoef, 2016). In summary, service providers should comprehensively assess their existing service strategies and make further modifications and designs based on past operational experiences and the results of best practices. During this process, service providers should incorporate the consumer perspective to address service strategies iteratively (Lillrank et al., 2018). In the era of intense competition in the experience economy, companies' services must be personalized, differentiated, and branded to satisfy and deeply touch consumers, creating unforgettable experiences that influence consumer purchasing intention. In this study, services are attempted to be comprehensively described as a collection of several dimensions.

#### **i. Artificial intelligence in service**

With the continuous integration of digital technologies in marketing, many companies are adopting Artificial Intelligence (AI) as a form of service innovation. Nowadays, robots can serve as sales assistants, providing detailed explanations of product features and appearances for specific products. Additionally, robots can act as guides, helping consumers quickly locate the products they want to observe. A survey on robot services found that out of 235 respondents, 63 followed research on the recommendations given by the robot to make their purchases (Kanda et al., 2009). Furthermore, AI is increasingly present in e-commerce as a substitute for human service personnel, ensuring 24-hour responsiveness to consumers' common queries (Bawack et al., 2022). As an upgraded and cost-saving form of responsive service, AI is becoming a trend and a growing practice. Existing research has already demonstrated its effectiveness

from both the consumer and organizational perspectives (Campbell et al., 2020). This implies that consumers may choose products based on the varying levels of AI implementation among different companies. When they desire robot services, they may opt for water heater brands that offer such services. They may choose brands that still employ service personnel when they prefer more mature human services.

## **ii. Professionalism**

Today, consumers have higher expectations from organizations, such as professionalism. People's intents depend more on expertise than on general operations and explanations, as defined by expert professionalism (Brint, 1994), organizational professionalism (Evetts, 2011), and hybrid professionalism (Faulconbridge & Muzio, 2008). Expertise enables individuals to determine whether their actions are most appropriate. Professionalism helps salespersons gain consumer trust (Korczynski & Ott, 2004) and influences consumers' perception of salespersons' abilities and their knowledge about the products they are promoting. For example, when customers confidently express diverse preferences or attitudes, they may require new service models or values. These service models must win their approval rather than be full of flaws (Noordegraaf, 2016). Therefore, when consumers choose a water heater, employees of the company need to possess basic professional knowledge, including the types of water heaters, the working principles of different water heaters, variations in energy consumption among different water heaters, differences in heating efficiency, as this research as the usage costs and precautions associated with different water heaters. It is reasonable to believe that when a water heater brand effectively demonstrates its professionalism, it will earn the recognition and higher purchase intention of consumers who seek expertise.

### **2.2.5.1 Interaction Quality**

#### **i. Attitude**

One factor influencing people's purchasing intention is the service attitude. (Grönroos & Voima, 2013) Found that service attitude manifests in two forms: the comprehensiveness of services provided by employees and the emotional expression of employees during service delivery. As a result, a crucial element in salespeople's success is their ability to communicate emotions richly, a component of emotional intelligence. According to research by Papoutsis et al. (2019), emotional intelligence is the capacity to recognize and comprehend the needs of others, control one's own emotions, and influence the emotions of others. This research finding reflects the demand for high emotional intelligence employees in businesses and the inherent perception of consumers towards brands.

For example, Hai Di Lao, a leading player in the Chinese catering industry, has gained high recognition from Chinese and international consumers for its service attitude (Wong, 2018). Hai Di Lao has achieved a competitive advantage through differentiation, where consumers visit for the food and the service experience. Research from as early as the last century, such as Geller (1985), has identified the significant influence of service attitude on consumer satisfaction. Consumers expect appropriate returns when they invest their resources, whether in the product itself or services related to the product purchase. Jo (2017) found that consumers are more likely to repeat purchases as service quality improves. Consumers are influenced by their past service experiences and make judgments based on their experiences and memories when making subsequent purchase decisions, selecting brands and products they perceive as excellent. Furthermore, when consumers perceive a brand's service as



positive, their willingness to purchase increases (Kim et al., 2016). This suggests that consumers can use their assessment of past service attitudes of water heater brands as a basis for future purchasing decisions.

## **ii. Intention**

One of the manifestations of service quality is the interaction between a brand's employees and consumers. There is often a difference in consumers' perception regarding standing communication versus sitting communication with employees. Palachuk (2016) suggests that an effective communication process begins by sitting down and allowing the consumer to relax and listen to what you have to say. Another interaction aspect is whether the business provides personalized product recommendations and customized consumer services. For instance, people often feel that salespeople use scripted phrases and push popular or profitable products rather than considering consumers' multi-dimensional needs and thinking carefully (Watts et al., 2007). Therefore, consumers of water heaters may prefer to visit businesses that genuinely consider their needs, where employees help them make informed decisions based on their actual requirements.

## **iii. Responsibility**

Some studies indicate that people desire to encounter responsible companies, which alleviates their concerns about product installation and post-sales issues (Mohamed & Akef, 2023). In other words, consumers do not want to struggle with explaining quality issues that are not caused by mishandling, and they expect companies to fulfill their initial promises. This sense of responsibility also extends to the consistency of this research, the brand's praise of product attributes, and the actual product attributes. Misleading advertising by service personnel often deceives consumers (Wijaya et al.,

2022). Therefore, when choosing a water heater, consumers may prefer to visit companies that demonstrate a strong sense of responsibility, as these companies reduce the risk of receiving counterfeit products or encountering post-sales problems.

#### **iv. Responding Speed**

Response speed is a key dimension that reflects service quality, especially among consumers who are unwilling to wait. As consumer demands for products become more urgent, companies with slow response speeds may experience lost sales and negative word-of-mouth due to consumers' unwillingness to wait (Wirtz & Mattila, 2004). Response speed encompasses various aspects. In addition to the traditional responsiveness in handling inquiries, there are emerging forms of response speed, including but not limited to response speed in product delivery, installation, site responsiveness, and post-sales service. For instance, Abou-Shouk and Khalifa (2017) found that site response speed influences people's judgments of a brand. Slow response speed can lead to decreased trust and subsequently reduced purchase intention and intention to recommend. Akram et al. (2023) suggest that consumers generally desire to receive their products as quickly as possible, especially after completing payment. Peng and Lu (2017) found in their research on delivery services that consumers pay attention to when the delivery will be made, when it will arrive, and how long the installation will take. In studies on post-sales service, researchers have found that people often associate a company's trustworthiness with its response speed. Customers will have more faith in a company's capacity to resolve problems if it responds quickly. As a result, customers may consider various brands' reaction times when purchasing a water heater.

Establishing and maintaining long-term relationships is important, as this research on consumers and businesses influences consumers' willingness to choose. Previous research has shown that consumers choose companies with which they are familiar. Long-term stable relationships between research businesses and consumers contribute to improving consumers' impressions and associative abilities toward the company (Jiang et al., 2018). For instance, when selecting a brand, people often consider brands they prefer and with whom they frequently interact (Anghelcev, 2015).

For consumers who have already purchased, follow-up phone calls or email communications from the company are standard practices to foster brand relationships. Some studies suggest that consumer follow-up can enhance willingness to use the brand.

#### **v. Artificial Intelligence in service**

With the continuous integration of digital technologies in marketing, many companies are adopting Artificial Intelligence (AI) as a form of service innovation. Nowadays, robots can serve as sales assistants, providing detailed explanations of product features and appearances for specific products. Additionally, robots can act as guides, helping consumers quickly locate the products they want to observe. A survey on robot services found that out of 235 respondents, 63 followed research on the recommendations given by the robot to make their purchases (Kanda et al., 2009). Furthermore, AI is increasingly present in e-commerce as a substitute for human service personnel, ensuring 24-hour responsiveness to consumers' common queries (Bawack et al., 2022). As an upgraded and cost-saving form of responsive service, AI is becoming a trend and a growing practice. Existing research has already demonstrated its effectiveness from both the consumer and organizational perspectives (Campbell et al., 2020). This

implies that consumers may choose products based on the varying levels of AI implementation among different companies. When they desire robot services, they may opt for water heater brands that offer such services. They may choose brands that still employ service personnel when they prefer more mature human services.

#### **2.2.5.2 Physical Quality (Brand et al., and Brand music)**

In addition to personalized product design and product quality (product effectiveness), elements influencing consumer decision-making include store design and regular product design. Improvements in water heater technology have become a shared desire from businesses and consumers as the water heater sector continues to integrate new technologies. Podorson (2016) suggests that Grid-Interactive Water Heating (GIWH) is a convenient form of water heater that helps reduce energy consumption, installation time, and costs, though this type of research has operational difficulties.

Improvements in water heater fuels provide people with more options and flexibility, allowing them to choose the appropriate water heater based on their region's energy supply conditions. Zong et al. (2019) proposed improvement plans for water heaters to create more environmentally friendly water heaters. As the number of green consumers increases, purchasing green products has become a trend. Green products also align with the global demand for sustainable development. Therefore, the design of green water heaters has been proposed. Sripriya et al. (2022) state that people are shifting from traditional to smart water heaters. The emergence of smart homes has made people aware of the convenience brought by smart water heaters, which are developed with digital technology.

Businesses need to pay attention to the coordination among multiple aspects of this research, such as the researcher's expertise, sample size, water temperature settings, water heater categories, and consumer needs (Iyanuoluwa et al., n.d.).

Klink (2003) described brand name as the most important marketing decision a firm makes when launching a new product or forming a new company. Two qualities should be included in a brand name: first, it should be naturally easy to encode, remember, and recover from memory; second, it should reinforce or improve the intended strategic positioning or image of the product. A brand logo is a way for a company to help consumers recognize it from other companies; they can be images, emblems, symbols, abstract patterns, or unique word combinations (Bhardwaj, 2019). Van Grinsven and Das (2016) said, "Key distinguishing elements utilized on company buildings, stationery, and product packaging are brand logos." According to Schechter (1993), a brand's logo visualizes the firm or brand and is an essential tool for communicating corporate identity in quickly evolving marketplaces. Elements that influence consumers also include the color selection of a brand. Ghaderi et al. (2015) found that the influence of colors on intentional intentions is moderated by the cognitive responses they evoke. This means the choice of the brand logo and store decor colors determines the image a company wants to convey, influencing consumer choices. For example, a decoration style with pink as the primary color is often associated with cuteness and appeals more to young women. As expressed by Kauppinen-Räsänen (2014), color can attract specific consumer groups and is one of the elements that the physical design of a business needs to consider. In addition to color, consumers also consider music in their purchasing intention. Beverland et al. (2006) state that new users without brand experience primarily identify brand style

based on the external environment provided by the brand, such as brand music. For consumers, brand music reflects brand status, image, and quality and signals whether a relationship is established (Beverland et al., 2006).

As early as the last century, researchers have studied the physical elements influencing consumer intention, especially interior decoration. Walsh (1995) discovered that stores can serve as a form of marketing, creating a unique appeal and clear consumer impressions through long-term operation

### **2.2.5.3 Brand Experience**

Brand experience refers to the service encounters between research consumers and a brand, which are the perceived outcomes of the interaction between both parties (Jiang et al., 2018). Brand experience can be divided into the experience of past product usage from the brand and the experiential usage of in-store display areas. In the research field, brand experience is more commonly measured based on long-term customer perceptions of the brand. For instance, the brand experience was described by Prentice et al. (2019) as the customer's prior encounters with the business rather than just their recall of specific service dedication. Brand experience influences consumers' judgments of the brand, its products, and their purchasing intention. When consumers make purchases, they often rely on their limited cognition and engage in simplified processing of information (Tversky & Kahneman, 2023). This leads them to have a greater tendency to choose brands they are familiar with. Therefore, water heater brands that have provided positive brand experiences to consumers in the past may stand out in consumers' brand choices. Many brands establish free experiential areas for their products or services to enhance consumers' perceptions of product usage. These experiential usage encounters can help consumers establish preliminary

perceptions of the products, clarifying whether they meet their needs (Smith & Keller, 2021). Smith and Keller (2021) found that this experiential encounter with a new product is polarizing. When consumers have a positive attitude toward the brand, they appreciate the similarities between researching the new product and the brand, stimulating their willingness to purchase. In this study, consumer have a negative attitude toward the brand, the similarities between the new product and the brand decrease their liking for it. This suggests that the brand may influence people's choice of water heaters. The brand experience involves a higher level of uncertainty. Prentice et al. (2019) found that people cannot accurately predict the specific form and quality of a service provided by a brand until they encounter it. For example, a water heater company can have a robot as the host for product introductions, but it is not easily predictable. Misopoulos et al. (2014) describe three types of brand experiences, including pre-purchase experiences, experiences during the buying process, and experiences related to after-sales support. The after-sales experience often leads to a delay in the resolution of service outcomes. Before a product malfunctions, it is not easy for people to anticipate how the company will handle product replacements (Park et al., 2021).

#### **2.2.5.4 Ren Model and Chinese Consumers' Intention for Water Heater Brands**

Water heater into the creative industry perspective, this study needs to comprehensively examine the multi-dimensional elements that affect consumer purchasing decisions, in which the quality is no longer a single perspective but a comprehensive consideration covering the whole chain of pre-sale, sale, and after-sale. Starting from product quality, consumers are not only concerned about the thermal efficiency of the water heater, the appearance of oxidation resistance, impact resistance

service life, and other complex indicators but also pay increasing attention to the details of the water heater's noise control and safety performance. Which are directly related to the user's daily experience and satisfaction. Further, the quality of service becomes a key part of the decision to buy. The professionalism, attitude, and type of pre-sales service affect consumers' first impression and trust in the brand (Dobrev & Kwarikunda, 2024), while the timeliness, attitude, and professionalism of after-sales service are directly related to whether consumers can get quick and effective solutions when they encounter problems, which in turn affects their loyalty to the brand (Sann et al., 2024). In this comprehensive consideration framework, water heater brands need to be led by creativity, not only in product design and technological innovation to seek breakthroughs but also in the service experience to create differentiated advantages and form an all-around innovation system from product to service. Through accurate insight into consumer demand and providing personalized, high-quality pre-sales and after-sales service, water heater brands can stand out in the highly competitive market to win the favor and trust of consumers.

#### **2.2.6 Brand Equity Model Discussion**

This section discussed the advantages and disadvantages of several brand equity models, as shown in Table 2.2. Aaker's (1996) model simplifies the research idea of the brand equity model, but it also has its shortcomings; it does not analyze the relationship between various elements and their respective research; less consideration is given to the elements affecting the brand due to the efforts put in by the enterprise; Keller's (1993) model analyses the brand equity model based on the perspective of the consumer, which is an excellent guide to the enterprise, and it is a more reasonable brand equity model, but also has its shortcomings, the model composition is too



complex, the composition of more elements, it is difficult to assess, covering a wide range, and lack of relevance; Comyns et al. (2013) reasonably demonstrates the importance of branding in information dissemination and aligns with the dimensions of digital marketing.

It conveys that businesses need to focus on the multidimensional information of their brand and products to prove their reliability and transparency. Whether experience and credibility can serve as forms of information is ambiguous. Experience appears more like a subjective outcome of intention, while Credence is often challenging to verify. Ren et al. (2023) emphasize the quality dimensions of brand representation, incorporating consumer-centric supply-demand relationships without being limited to specific categories such as color, appearance, or services. This framework does not examine the application of digital technology innovation in water heaters.

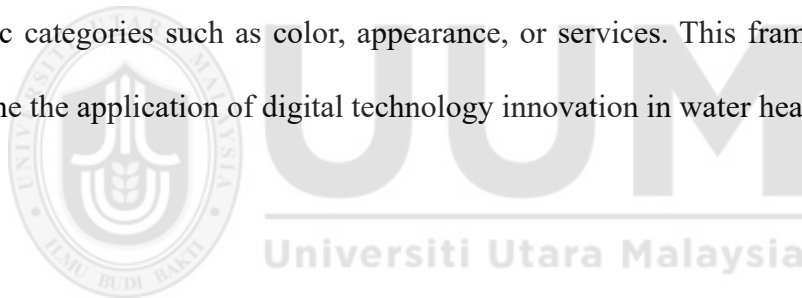


Table 2.2

*Brand Equity Model Discussion*

Scholars	Dimensions	Models	Dimensions name	Advantage	Disadvantages
Keller (1993)	2	Keller Model	(1) Brand Awareness (2) Brand Image (Attributes, Interests, Attitudes)	Consumer Perspective - Pyramid Model in Logical Sequence for Brand Equity Formation.	Structural complexity - inflexibility in operation - specialization, industry-specific - lack of exploration of the relationship and this research of dimensions.
Aaker (1996)	5	Aaker Model	(1) Brand Loyalty (2) Brand Awareness (3) Perceived value (4) Brand Lenovo (5) Other Proprietary Equity	Five-dimensional conceptual model - Simple structure - Comprehensive coverage - Improve brand equity investment efficiency.	There is an overly flat structure and no transparent relationships, and these research findings bet this researched component: Insufficient consideration of how the brand is affected by corporate efforts.
Baalbaki (2012)	5	Baalbak Brand Equity Model	(1) Quality (2) Preference (3) Sustainability (4) Social Influence (5) Leadership	Identify the differentiated performance of individual brand equity from the consumer's point of view, as opposed to previous descriptions of brand equity.	The scope of the investigation is too limited.

Continue.....

Scholars	Dimensions	Models	Dimensions name	Advantage	Disadvantages
Comyns Et Al. (2013)	3	Type of Information	(1) Credence: Information Quality Cannot Be Verified (2) Experience: Information Quality Becomes Apparent With Time (3) Search: Information Quality Is Easily Verifiable	This framework reasonably demonstrates the importance of branding in information dissemination and aligns with the dimensions of digital marketing. It conveys that businesses need to focus on the multidimensional information of their brand and products to prove their reliability and transparency.	Whether experience and credibility can serve as forms of information is ambiguous. Experience appears more like a subjective outcome of intention, while Credence is often challenging to verify.
Ren Et Al. (2023)	3	Brand Equity Model	(1) Interaction Quality: Attitude、Intention、Professionalism (2) Physical environmental Quality: External Facilities、Design、Social Elements (3) Result in Quality: Waiting Period、Tangibility、Significance	Ren et al. (2023) emphasize the quality dimensions of brand representation, incorporating consumer-centric supply-demand relationships without being limited to specific categories such as color, appearance, or services.	This framework does not examine the application of digital technology innovation in water heaters.

### 2.3 Brand Equity and Purchase Intention

Brand equity affects the growth of consumer purchasing intention by influencing consumer brand preferences (Elfekair et al., 2024). According to research, brand equity significantly influences the service industry, the emerging media industry, the luxury industry, and so on. Some researchers have found that experiential brand equity has an influence and that the perception of quality and experiential service influences consumer satisfaction and has a positive influence on consumer purchase decisions, especially in service sectors such as airlines, private clinics (Cambra-Fierro et al., 2021; Pina & Dias, 2021; Wahyuni & Praninta, n.d.). The emergence of online purchasing has led to the growing importance of recommendations, electronic personal ratings, and interactivity in shaping customer preferences (Shuyi et al., 2022; Tardin & Pelissari, 2021). Fashion and uniqueness play a significant role in luxury brands because customers seek companies that satisfy their wants and insist on fashion and uniqueness (Shuyi et al., 2022).

There are two categories of consumer purchasing: purchase intention and buy intention. Purchase intention is a customer's psychological state before purchasing, expressing their desire (Bai et al., 2022). Strong consumer purchase intentions suggest predictability of future purchase intention. As early as the last century, attention has been given to consumer purchase intentions. For example, Ajzen (1985) states that purchase intention is a form of self-planning that involves considerations of both internal elements (personal feelings, product knowledge) and external elements (cost, market environment). Businesses typically divide consumer purchase intentions into current products and future products. For existing products, purchase intention predicts short-term future demand (Azzari & Pelissari, 2021). For new products about to enter

the market, purchase intention helps managers decide which geographic markets and customer segments to target, reducing potential sales risks and crises for the new product (Konuk, 2018). Academic researchers have also widely used purchase intention as a proxy for studying purchase intention (Thuy et al., 2022). Previous research indicates that consumer purchase intention is often influenced by brand image, reputation, subjective norms, and costs (Xing et al., 2022). Kumar et al.(2019) state that consumer preferences are the main elements influencing sales. For example, environmentally conscious consumers may prefer brands that align with their environmental values when making product choices (Konuk, 2018).

Their study of water heaters revealed that product appearance, price, user experience, technology, and government subsidies affect consumer purchase intention (Kumar et al., 2022). The influencing elements of purchase Intention include aspects of brand interaction quality, such as attitude, intention, professionalism, responsibility, response speed, consultation response services, and intelligent after-sales response services. Additionally, elements related to price and quality, such as price, value for money, and brand credibility, are considered. Ethical quality, including sustainability, charitable intention, and cultural respect, are also examined. Furthermore, physical quality, such as product efficacy, product design, store design, product green, and product quality, are considered. Lastly, elements related to brand search, such as product information, brand information, word-of-mouth, electronic word-of-mouth, and evaluations, are considered. These eighteen elements have a significant influence on consumers' willingness to purchase.

Table 2.3

*Factor Summary*

No	Elements	Description	Reference
1	Credibility	Halton (2021) describes credence goods as goods for which the relationship between bet this research price and quality is uncertain.	Krishnan & Hartline (2001). Halton (2021), Girard & Dion (2010), (JD.com, 2023), (Li &He, 2019), Ding (2022), Li & He(2019)
2	Sustainability	Baalbaki (2012) described sustainability as a new demand from consumers following the rise of their moral and environmental awareness.	Sheth et al. (2011), Baalbaki(2012) .Ishaq, M.I., & Di Maria, E. (2020). Sarkis (2020), Chambers et al. (2021)
3	Word-of-mouth and E-WOM	Word-of-mouth communication, including its online variations, such as internet word-of-mouth and electronic word-of-mouth, plays a critical role in interpersonal communication and consumer intention.	Shuyi, J., Mamun, A.A., & Naznen, F. (2022), Katz & Lazarsfeld (1955),Stauss, 2000, Chevalier & Mayzlin, 2006, Chintagunta et al., 2010, Tardin & Pelissari, 2021, p. 409.
4	Attitude	Service attitudes influence people's purchasing intentions. Consumers can use their assessment of past service attitudes of water heater brands as a basis for future purchasing decisions.	Lele & Sheth (1993). Papoutsis et al. (2019), Wong, 2018, Geller (1985), Jo (2017), Kim & Ji, 2016.

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No	Elements	Description	Reference
5	Intention	One manifestation of service quality is the interaction between this research's employees and consumers. There is often a difference in consumers' perceptions of standing communication versus sitting communication with employees. Palachuk (2016) suggests that an effective communication process begins by sitting down and allowing the consumer to relax and listen to what you have to say.	Palachuk (2016), (Kim, 2022)
6	Responding Speed	Response speed is a critical dimension that reflects service quality, especially among consumers who are unwilling to wait. As consumer demands for products become more urgent, companies with slow response speeds may experience lost sales and negative word-of-mouth due to consumers' unwillingness to wait (Wirtz & Mattila, 2004).	Wirtz & Mattila, (2004). Abou-Shouk and Khalifa (2017). Boice (2021), Peng and Lu (2017), Garry, 2022, Anghelcev, 2015,
7	Artificial intelligence in service	With the continuous integration of digital technologies in marketing, many companies are adopting Artificial Intelligence (AI) as a form of service innovation.	Kanda et al., 2009; Bawack et al., 2022; de Bellis & Venkataramani Johar, 2020; Campbell et al., 2020.

continue.....

No	Elements	Description	Reference
8	Professionalism	Expertise enables individuals to determine whether their actions are appropriate. Professionalism helps salespersons gain consumer trust (Korczynski & Ott, 2004) and influences consumers' perceptions of salespersons' abilities and knowledge about the products they promote.	Brint, 1994, Evetts, 2011, Faulconbridge & Muzio, 2008, Korczynski & Ott, 2004, Noordegraaf, 2016
9	Price and cost-effective	Consumers prefer products with a better price-performance ratio, stimulating their desire and intention to purchase.	Šmaižienė & Vaitkienė (2014), Kotler & Armstrong (2016), Y usup (2011), Usup, 2011, Beaver, 1981, Zhou et al. (2002), Zhou et al.'s (2002), Dodds et al. (1991), Dodds et al. (1991) and Zeithaml (1988).
10	Green Product	Zong et al. (2019) proposed improvement plans for water heaters to create more environmentally friendly water heaters. As the number of green consumers increases, purchasing green products has become a trend.	Zong et al. (2019), Khairunnas et al. (2018).
11	Brand logo	A brand logo is a form in which a business helps people distinguish itself from other brands, usually in graphics, emblems, symbols, abstract patterns, or different combinations of words (Fyffe, 1969).	(Fyffe, 1969), V an Grinsven & Das (2016), Schechter (1993),



continue.....

No	Elements	Description	Reference
12	color	Influencing consumers also includes a brand's colour selection. Ghaderi et al. (2015) found that the influence of colours on intentional intentions is moderated by the cognitive responses they evoke.	Ghaderi et al. (2015), Kauppinen-Räsänen (2014), Beverland et al. (2006).
13	Brand music	Brand music reflects brand status, image, and quality and signals whether a relationship is established (Beverland et al., 2006).	Beverland et al., 2006,
14	Cultural respect	From an individual's cultural sensitivity perspective, culturally polite advertising messages can evoke a "polite visitation" perception by foreign brands entering the local community, leading to positive consumer attitudes and intentions (Li et al., 2015).	Li et al., 2021, Allen-Ebrahimian, 2021; Harb, 2022; Yan & Hyman (2020); Heilmann (2016), Guo et al., 2019; Simon & and Schaefer, 2018; Verkuyten & Yogeeswaran, 2017, Gineikiene, Schlegelmilch & and Ruzeviciute, 2016, Li et al., 2015
15	Brand Welcome	when considering water heater brands, elements such as the brand's economic status, future growth prospects, market share, and popular products are likely to influence consumers' choices and judgments.	Baalbaki (2012), Soriano et al., 2020 , Cooper (2013), Hirshleifer & Hong Teoh, 2003.
16	Charitable deeds	Corporate social responsibility (CSR) is a vital tool for addressing the diverse needs of stakeholders and managing conflicts of interest.	Wang et al., 2021, p. 1, Lindgreen & Swaen (2010), Whetten et al. (2002), Maak, 2007, Bhattacharya & Sen (2004), Kotler and Keller (2008), Sen et al. (2006), This researchber (2008) , Freeman and Dmytriiev (2017), Boundless (2021), Wal-Mart, 2006, Freeman & Dmytriiev (2017), Sprinkle et al. (2010).

Continue.....

No	Elements	Description	Reference
17	Responsibility	Some studies indicate that people desire to encounter responsible companies, which alleviates their concerns about product installation and post-sales issues (Mohammed,2019).	Mohammed, 2019, Wijaya et al., 2022.

## 2.4 Summary

This chapter delves into the definition and key influencing elements of brand equity, laying a robust foundation for subsequent research on brand equity within the creative industry. The chapter begins by outlining the core concept of brand equity related to consumer preferences and value creation, drawing upon established frameworks such as CBBE. However, the chapter acknowledges a crucial gap in existing research: the lack of attention to market segmentation, particularly within the creative industry. This is further substantiated by a literature review, highlighting the tendency for discussions on brand equity dimensions to remain overly general. The chapter draws upon insights from Ren et al.'s model. It emphasizes the need to consider specific industry contexts when studying brand equity, given the variations in importance and dimensions across different fields. To address this gap, the chapter analyses key brand equity models, including the Aaker Brand Equity Model and Keller's Brand Equity Model, while acknowledging their limitations in capturing specific aspects like innovation, communication, environmental protection, and ethical considerations. To expand upon these frameworks, the chapter integrates insights from Baalbaki's Brand Equity Model, Gunasti et al.'s Information and Consumer Intention Theory (2020), and Ren et al.'s Brand Equity Model (2023), examining critical dimensions such as information search, reliability, sustainability, social influence, ethics, pricing, and visual design.

While the chapter presents a comprehensive theoretical framework, the authors recognize the importance of further validation through expert interviews. This step is crucial to ensure a complete understanding of the influencing dimensions of brand equity, specifically within the context of the creative industry.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

The research method aligns with the research objectives, providing a scientific and logical approach to attaining the research objectives. The following restates the research objectives and briefly overviews the research methods for different research objectives:

**RO1. To identify the elements of brand equity that influence consumer purchase intention.**

Research objective one is identifying elements affecting water heater brand equity. Semi-structured interviews with industry practitioners, experts, and designers are used to understand elements that may affect consumer purchase intention comprehensively.

**RO2. To develop the model of brand equity in influencing consumer purchase intention.**

Research objective two is constructing a water heater brand equity model. The Delphi method for industry experts is used to delete and supplement the influencing elements obtained from the semi-structured interviews to construct a more credible model result.

**RO3. To validate the model of brand equity in influencing consumer purchase intention.**

Research objective 3 is to test the water heater brand equity model. The SEM structural equation model is used to make the specific model obtained by the Delphi method into a questionnaire and distribute it to Chinese consumers to identify which specific elements significantly affect their purchase intention.

### **3.1 Research Methodology**

This study adopts a mixed analysis format committed to obtaining insights on specific issues appropriately, covering multiple research philosophies or a combination of research philosophies. The first was to identify research gaps, which was further demonstrated through LR by finding that existing theories, such as Aaker, Keller et al., were too broad and not entirely suitable for the water heater market. Research objective one identifies the key elements that make consumers willing to buy through expert interviews and the Delphi method. Research objective two is constructing a model on the identified key elements and formulating research hypotheses. Research objective three is to validate the model according to the model, which is validated and evaluated through SEM modelling, and each step is explained in detail. Figure 3.1 shows the research methodology step by step as follows:



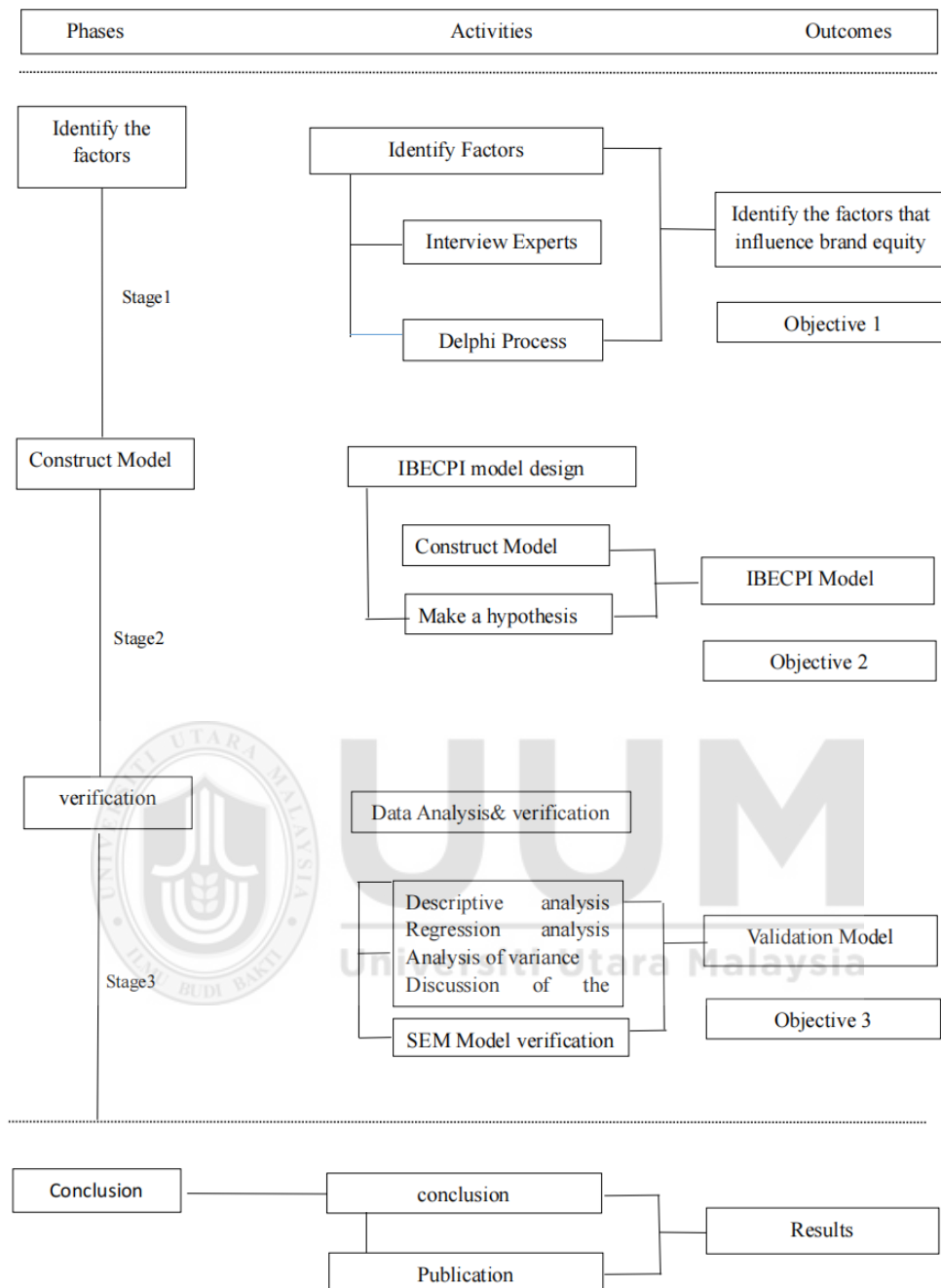


Figure 3.1. Research Methodology

### 3.1.1 Semi-structured Interviews for Interpretivism Research

Semi-structured interviews with practitioners are based on interpretivism (Zahle, 2021). Interpretivism allows researchers to participate as bystanders, and participants provide insights on the elements affecting consumers' purchase intentions of water

heater brands through self-narration and question-and-answer forms. This minimizes the interference of researchers' subjective thinking, helps to identify some known or undiscovered elements, and eliminates the limitations of existing theories and researchers' thinking (Zahle, 2021).

Based on this concept, interpretivism may help researchers discover many variables related to brand equity, expand researchers' understanding of brand equity in Chinese water heaters, and solve the problem that limited theories cannot fully describe brand equity. In addition, interpretive research provides additional explanations on why specific variables affect water heater brand equity, filling the gap that conventional quantitative research only focuses on correlations and cannot correctly explain why certain variables affect Chinese consumers' water heater brand equity.

The additional contribution of semi-structured interviews with experts points to the integration of the background of the digital age, the background of the economic crisis, and the background of Chinese culture. The complex influence of these backgrounds is difficult to fully describe with limited theories, which quickly leads to researchers being unable to accurately speculate on the elements that affect consumers' willingness to buy. Interpretivism invites professional practitioners to answer these difficult questions and complete the complex connection between background and elements.

### **3.1.2 Delphi Research for Positivism and Interpretivism**

The Delphi method for experts combines positivism and interpretivism (Guraya et al., 2023). This method allows experts to screen those variables they think are correct from the given variables and obtain other experts' recognition and consensus results through note descriptions (Guraya et al., 2023). When the given variables are insufficient or

inaccurate, the Delphi method calls on experts to provide new variables. It is a highly flexible research method suitable for those fields where consensus results have not yet been formed as a basis for creating new theories (Boucaud & Sossah, 2022).

Therefore, the Delphi method used in this study can further screen the brand elements that practitioners believe may affect the purchase intention of Chinese residents. By providing the basis for screening by different experts, the variables that reach a consensus among the experts will be effectively reduced. Those fuzzy variables and secondary variables that may or may not significantly impact Chinese residents' purchases were removed during the screening process, and the variables that experts believed were the most important were retained or added. This process ensures that the variables that appear in the model design are carefully considered and not added haphazardly.

### **3.1.3 SEM Structural Equation Model for Positivism**

The SEM structural equation model for consumers in the Chinese water heater market is a quantitative research method based on positivism (Hair et al., 2021). The quantitative research method obtains the key logical characteristics of the target group by distributing many questionnaires, which is suitable for summarising the universal characteristics of the elements affecting the purchase intention of water heater consumers in China. Quantitative research is data-based, which reduces the interference of exceptional target individuals on the conclusions and makes the research results conform to the social status quo and laws (Kotronoulas et al., 2023).

The SEM structural equation model helps to identify causal paths, the relationship between latent variables and observed variables, and can infer which elements affect



the purchase intention of Chinese residents of water heaters, and can quantify the extent to which the model as a whole affects the purchase intention and the influence of different elements. The SEM structural equation model can help researchers evaluate the fit between the model and the data, providing potential opportunities for improvement. The data can help researchers optimize the theoretical model. Therefore, quantitative research on data models is necessary.

### **3.2 Semi-structured interviews**

The semi-structured interview method was chosen for this study because of its flexibility and in-depth nature, which allows the interviews to be conducted by a preset framework but also to be flexibly adapted according to the feedback from the interviewees to dig deeper into the information (Ruslin et al., 2022). At the same time, the method is highly targeted, allowing the questions to be customized according to the study's purpose and the interviewees' characteristics, which improves the validity of the information (Roulston & Choi, 2018). In addition, the semi-structured interview facilitates data comparison and analysis, and its preset framework ensures data comparability (Qu & Dumay, 2011). The method has a wide range of applicability and is suitable for multi-disciplinary research. Most importantly, it creates an environment of trust and comfort and promotes respondents' authentic expression (Roulston & Choi, 2018).

#### **3.2.1 Target Location**

The target location for this study is Sichuan Province. Sichuan province is one of the most populous regions in China and has a large elderly population (Jiemian, 2020). As a water heater research territory, Sichuan has the following characteristics. First, Sichuan has a large population and is one of China's most populous provinces. It has a

large population base and a relatively high demand for water heaters. Second, the Sichuan climate with hot and rainy summers and relatively cold winters. This makes people have a greater demand for warm, hot water, and water heaters play an important role in providing a warm life. Third, With the social economy's development and medical care improvement, the proportion of the aging population in Sichuan Province is gradually increasing. The demand for warm, hot water is more prominent among the elderly. It is essential to study and optimize the function and applicability of water heaters to meet the needs of the elderly. Fourth, Sichuan Province has a diverse geographic environment, including plateaus, basins, and mountainous areas, with different climates and water use in different regions. Therefore, when researching, water heaters should consider adapting to the needs and characteristics of different geographic environments.

### **3.2.2 Target Population**

This study aims to identify the elements influencing consumers to generate purchasing intention based on consumer perspectives, how to broaden brand appeal, and how to build a brand equity model in the field of water heaters in creative industries. In qualitative research, interviews are also widely recognized as an effective tool to explore personal experiences and deep-rooted intentional motivations. Interviews are semi-structured one-on-one exchanges through which more external representations affecting consumers' purchasing intentions are discovered, so the interviews are free chatting and discussing without advanced research hypotheses. The sampling of this study used judgmental sampling and snowball sampling techniques. Judgmental sampling allows researchers to identify participants based on their expertise or experience in a particular location, which can significantly save time and cost

(Bhardwaj, 2019). Snowball sampling refers to researchers identifying initial participants and then utilizing those participants to refer additional participants (Goodman, 1961). Snowball sampling usually helps researchers select participants who are more willing to participate, contributes to the integrity of the data, and obtains the participants' experience (Johnson, 2005). Ten industry domain experts were recruited for interviews in this study: three women and seven men. As shown in Table 3.1, this study is on two experts in the field of creative industries, two experts in the field of product design, two experts in the field of brand equity, and four salespeople in the water heater industry (two managers and two good salespeople). The first four experts contacted in this study were selected through judgmental sampling, with more than 5 years of practice and a relevant professional background. Then, the snowball sampling technique was used to ask them to help recommend experts with relevant industry backgrounds and a long time in the field; this kind of acquaintance recommended people with higher participation and cooperation, which helps to get more saturated data.

Table 3.1

*Interview Researcher*

<b>Interview researcher</b>	<b>Age</b>	<b>title</b>	<b>Working experience(years)</b>	<b>research area</b>
<b>LQ1</b>	43	Professor (Master)	21	creative industry
<b>JXF2</b>	53	Professor (Master)	30	creative industry

continue.....

<b>Interview researcher</b>	<b>Age</b>	<b>title</b>	<b>Working experience(years)</b>	<b>research area</b>
<b>CRX3</b>	40	Professor (PhD)	15	Product design
<b>ZBS4</b>	39	design director (Phd)	9	Product design
<b>ZYB5</b>	34	Professor (PhD)	5	Brands equity
<b>NW6</b>	35	Professor (PhD)	11	Brands equity
<b>WX7</b>	36	Sales director (Master)	16	Water heater marketing
<b>WRJ8</b>	42	Excellent salesman (High School)	12	Water heater marketing
<b>HYY9</b>	35	Sales Director (PhD)	12	Water heater marketing
<b>ZQ10</b>	46	Salesman (PhD)	10	Water heater marketing

### 3.2.3 Sampling Size

This study selected a sample size of 10 participants. Hagaman and Wutich (2017) suggest that similar to quantitative research, qualitative research also faces the issue of data saturation. As Francis et al. (2010) described, data saturation is the foundation for conducting data analysis and is an essential aspect that cannot be overlooked in scientific research. Hagaman and Wutich (2017) argue that in the context of this study, data saturation in qualitative research is not solely determined by the number of participants. Instead, it depends more on the breadth and depth of the participants' responses in qualitative research. Namey et al. (2016) suggest that qualitative studies

with more than six participants will likely help researchers achieve data saturation. In this study, a sample size of 10 participants was chosen.

#### **3.2.4 Sampling Techniques**

Sampling methods can be categorized into probability sampling and non - probability sampling. In the qualitative research phase, this study employed non - probability sampling techniques. Probability sampling means that each participant has an equal chance of being selected (Schreuder et al., 2001). Non - probability sampling typically ignores the issue of probability in participant selection (Acharya et al., 2013). In the non - probability sampling process, this study utilized judgment sampling and snowball sampling techniques. Judgment sampling enables researchers to identify participants based on their expertise or experience in specific areas, which significantly saves time and costs (Bhardwaj, 2019). Snowball sampling refers to researchers first identifying initial participants and then having those participants refer to additional ones (Goodman, 1961). Snowball sampling often helps researchers select more willing participants, contributing to data completeness and obtaining participants' genuine experiences (Johnson, 2005). Kim (2003) suggested that attitudes determine the authenticity, richness, and quality of individuals' responses.

#### **3.2.5 Data collection methods**

This study employs cross-sectional data collection instead of longitudinal data. Cross-sectional data allows researchers to complete the data collection process in a single short-term data collection phase without requiring subsequent data collection rounds (Lee, 1994). Compared to longitudinal data, cross-sectional data collection requires less time and aligns with a research perspective that does not focus on changes over time.

### 3.2.6 Interview Procedure

This study utilizes a semi-structured interview approach to obtain saturated data results. In semi-structured interviews, researchers need to adhere to legal and ethical principles to avoid causing psychological harm or negative emotions to the interviewees. The questions in a semi-structured interview are usually more open-ended compared to simple yes - or - no questions (Dearnley, 2005). Interviewees are encouraged to answer questions based on their situations and have the right to withhold their opinions or choose not to answer specific questions. The content of a semi-structured interview typically progresses gradually, with the interests of both parties deepening during the conversation. In a semi-structured interview, the quality of the content is more important than the quantity of questions (Hagaman & Wutich, 2017). It is not a one-way communication; the researchers and interviewees have an equal relationship and aim to establish a friendly atmosphere within a short time. Therefore, researchers are required to ask appropriate questions during the interviews (Gibbs et al., 2007). This requires the interviewees in this study to possess a high level of knowledge, rigorous logical thinking, and the ability to integrate knowledge effectively.

The semi-structured interviews in this study were conducted via Lark. Online platforms can reduce costs and overcome time and location constraints (Marshall et al., 2013). Online platforms can serve as an equitable interviewing medium. The psychological distance might encourage participation, and there is less likelihood of single-party domination (Prior & Lachover, 2023). Synchronous tools like instant chats also promote spontaneous responses (Diaz et al., 2024). When conducting interviews online, scheduling an opportune time can be challenging (Bolin et al., 2023). Thus, the researcher made prior appointments with the participants, confirming the

time with each respondent to ensure the smooth progress of the process. The interviews lasted 300 minutes (yielding 100,000 Chinese - transcribed words). Since some tacit knowledge was difficult to articulate explicitly (Shi, 2023), participants in this study given more encouragement and time to think and express it. As a result, the interviews resembled a free-flowing discussion rather than a rigid research-organized one (Féron, 2023). The researcher directly conducted the interviews. Three interviews were in-person, and two were online due to geographical reasons. The interviews took place from September 2023 to December 2023. Additionally, it should be recognized that there may have been some shortcomings in these interviews. The interviews needed to remain objective. The researcher recorded the entire interview, respecting the objectivity of the process. The interviews in this study were semi-structured, with specific questions set for discussion in three areas: pre-sales, on-sales, and post-sales. The participants were encouraged to express their true intentions based on events or stories that interested them, without having to pause and explain specific statements or steps. The researcher's notes were also used as data in the analysis to ensure the consistency and credibility of the results and to enrich the data content. An interview was conducted with ten respondents to confirm the suitability and comprehensibility of the questions and to anticipate technical issues, as cautioned by Lippman et al. (2014). In each session, the researcher referred to an interview protocol that served as "a procedural guide." It prompted the interviewing researcher about what to say before the interview and, in the end, reminded the interviewing researcher to obtain consent and about the main aim of the research (Sharp, 2024). The interview protocol provided a script guided by the research aim and questions. However, unexpected adaptations

during an interview should be made when such deviations can offer unexpected insights into the research (Otto et al., 2024). Table 3.2 shows the semi-structured interview questions.

Table 3.2  
*Interview Questions*

order	No.	Questions
pre-sales	1	Do you think consumers do search research before purchasing a water heater?
	2	Do you think digital marketing is essential for consumers to get information? What advantages does it have over traditional promotional mediums, and do you think this trend is inevitable?
	3	To what extent do you think brands influence consumer decisions? In other words, when purchasing a water heater, do you consider a water heater company's corporate reputation, continuity, and professionalism?
	4	What do you think a brand represents to consumers? Does brand awareness influence consumer purchasing decisions?
	5	What do you think are the key elements that drive consumers to buy water heaters? (sales, reputation, value for money, quality, color, size, and style.)
	6	What do you think are the elements that might create a point of memory for consumers?
	7	Do you think there is an inevitable link between this study on traditional Chinese culture and consumers' enthusiasm for water heaters?
	8	Do you think product innovation is more valuable in the water heater sector? In a market that is so homogenized, what can be done to broaden brand appeal?
on sale	9	Do you think the salesperson's image, quality, and customer interaction are key elements driving consumer buying intention?
		Do you think the store experience is a factor that influences consumer buying intention?
after-sales service	10	Do you think that after-sales service is a factor that influences consumers to produce purchasing intention? (Speed, convenience, service attitude, of after-sales service)



### 3.2.7 Descriptive Statistical Analysis

This study selected two Brand Equity experts, two Creative Industry Experts, four salespeople, and two designers. The advantage of judgmental sampling is that it allows for the completion of rare studies, including but not limited to interview groups in specific occupations, interview groups of a specific age, or interview groups with specific intentional patterns (Galesic et al., 2018). For example, people are less likely to meet brand marketing experts on the street or in schools. Therefore, the difficulty of completing data collection is infinitely magnified. In this regard, the researchers conducted interview invitations with 20 professors from 10 universities in China and obtained permission from 4 professors from 6 universities. In this study, researchers conducted in-depth communications with brand marketing experts from several Chinese universities. To supplement experience in the production field and market experience, the researchers inspected four marketing specialists and two product designers to ensure data saturation, improve the data perspective, and reduce the negative influence of respondent category deficiencies on the research results. As shown in table 3.3.

Table 3.3

#### *Descriptive Analysis*

Profile Elements	Particulars	f	%
Identity	Brand Equity Expert	2	20.00
	Creative Industry	2	20.00
	Salesperson	4	40.00
	Designer	2	20.00
Gender	Male	7	70.00
	Female	3	30.00
Participate voluntarily	Yes	10	100.00

Continue.....

Profile Elements	Particulars	f	%
Work experience in related fields	Five years below	0	0.00
	5 – 10 years	2	20.00
	11 years and above	8	80.00
Education level	High school and below	1	10.00
	Undergraduate and master	3	30.00
	PhD	6	60.00

The result of the interview will be discussed in chapter four.

### 3.3 Delphi Research

Ch'ng (2010) pioneered the pathway, unveiling the reliability and potential of the Delphi Technique in research design. The journey, as mapped by Fong et al. (2011), unfolds in three stages: design, validation, and development. In the design phase, the embryonic drafts of standards took shape atop a landscape of extensive literature exploration (C.-C. Hsu & Sandford, 2007), fortified further by Kerlinger (1973), who affirmed, "...the employment of a modified Delphi procedure is fitting if fundamental information regarding the target issue is at hand." Thus, the study embarked on an odyssey, meticulously surveying many brand equity-related literature. Furthermore, feedback from diverse cohorts, including university experts, water heater marketers, and product designers, converged harmoniously to sculpt the foundation of the draft standards.

Through a rigorous literature review process and scholarly presentations, the foundational blueprint for water heater brand equity standards emerged, marking the inauguration of formal roundtable deliberations. Esteemed participants included Chinese brand research experts, consumer intention scholars, product design virtuosos,

and distinguished academics converging to engage in scholarly discourse. These open dialogues strengthened and authenticated the initial framework, laying the groundwork for the inception of the inaugural Delphi survey. Employing a meticulously crafted snowball sampling technique, members of the Delphi expert panel were carefully chosen. The range of the number of participants in the Delphi method is not fixed, and the researcher should be flexible in adapting it to the specific situation (Amidon, 1977). Delphi studies emphasize sample size and the homogeneity of expertise and interests among selected members (Linstone & Turoff, 1975).

Following the assembly of the Delphi expert panel, the members participated in the first-round questionnaire surveys of this study. Recognizing the significant limitations of a single-round questionnaire in effectively reducing variables or achieving consensus among experts, this study adopted an iterative approach to seek outcomes driven by consensus. Kennedy (2004) encapsulates the Delphi technique as a mechanism for "...facilitating the anonymous exchange of opinions and knowledge among experts regarding intricate issues while gauging alignment with others' assessments and allowing for opinion adjustment based on group findings". Von der Gracht (2012) further elucidates that the Delphi technique comprises "a multi-stage survey process, providing feedback on group opinions after each round of inquiry. Through iterative cycles, the technique aims to narrow the response scope, ultimately reaching a consensus. Once consensus is achieved, the outcomes can inform expert opinions and recommendations for decision-making, forecasting, or proposal implementation." The intrinsic value of consensus among experts highlights why the Delphi technique is research-suited for delineating influence standards for water heater brand equity.

The culmination of this process yields brand equity standards that are pertinent, thorough, and robustly agreed upon by a cohort of experts sharing similar interests and professional expertise within the domain of water heater brands.

### **3.3.1 Four Basic Features**

Although the Delphi technique and its applications have many variations, there are four basic features (Alcacer Sanchez et al., 2023):

#### **Anonymity**

During the Delphi method's iterations, the facilitator collects and compiles individual responses, ensuring the respondents' anonymity. Dalkey also mentioned the advantages of anonymity, stating that it "...reduces the influence of dominant individuals, which is often a problem when using group-based processes to collect and synthesize information" (Hsu & Sandford, 2007).

#### **Iteration**

A vital characteristic of the Delphi method is the conduction of multiple rounds of surveys. This method aims to converge the opinions of the expert panel by having panel members review and compare their responses with the summarised group responses. Iteration ends when consistency and stability of responses are achieved in a particular research round.

#### **Controlled Feedback**

The facilitator controls the feedback from each round, which is then presented to the respondents in the next round. This allows for reconsidering responses that did not reach consensus in the next iteration of the Delphi process. It focuses on refining the study to achieve the desired outcomes of the research question.

### **Statistical Group Response**

Group responses strongly influence the formation of consensus. Thus, feedback allows respondents to review their choices in the next round using the median and majority group responses from the previous round. Any deviations from the majority response require comments from the respondents. According to Von der Gracht (2012), the Delphi method measures "the existence and strength of consensus, but also the convergence of opinions."

### **3.3.2 Technique Process**

Ensure academic rigor while making the content more engaging. Unlike traditional Delphi methods, the modified Delphi method primarily differs in its initial stages. According to Custer et al. (1999), although the modified Delphi technique follows a procedure similar to the full Delphi, the main modifications involve commencing the process with a carefully curated set of items from various sources, such as relevant competency profiles, literature reviews, and interviews with subject matter experts. These modifications aim to enhance the initial round response rate and establish the research on previously conducted studies (Custer et al., 1999).

The Delphi process progresses through several survey cycles until a consensus is reached. The consistency and stability of responses mark the completion of the iterative process. According to Hsu and Sandford (2007), in most cases, three iterations are usually sufficient to gather the necessary information and achieve consensus. As outlined by Hsu and Sandford (2007), the sub-processes of each round of the improved Delphi technique are as follows:

### **Round 1 Sub-process**

Traditionally, the Delphi method begins with an open-ended questionnaire to solicit specific information. Responses are then organized into a questionnaire for the second round. In this study, using the improved Delphi technique, the above process is replaced by structured questionnaires derived from an extensive literature review. Variables are obtained from semi-structured interviews with several experts. At the end of Round 1, responses are summarised, and statistical measures such as median, first quartile, third quartile, and interquartile range are calculated for significant categories, indicators, and items to prepare for the second round questionnaire.

### **Round 2 Sub-process**

Each expert receives a second survey questionnaire summarising the ratings and comments from the first round. Experts modify their judgments based on the group response, providing comments if their ratings exceed the majority range. After Round 2, statistical measures are recalculated, and unstable categories, indicators, or items form the basis for the following questionnaire.

### **Round 3 Sub-process**

Each expert receives a third survey questionnaire summarising the ratings and comments from the second round. Experts modify their judgments based on the group's response, providing comments if their ratings exceed the majority range. After Round 3, stability and consistent responses, but in this study, Rounds 2 and 3 typically prevail, thus concluding the iteration.

### 3.3.3 Target Population

According to some scholars, members of a Delphi group should meet the following four criteria (Graham et al., 2003): Firstly, they must possess rich knowledge and experience in the research problem, which will contribute to providing in-depth insights and valuable opinions. Secondly, they must be committed to participating in the Delphi process and willing to invest time and effort. Thirdly, they need to have sufficient leisure time to engage in the research process of the Delphi technique, ensuring full involvement and participation in discussions. Finally, they must possess practical communication skills to clearly express their thoughts and viewpoints and understand those of other members. Another interesting point in selecting a Delphi expert group is sampling from different levels of the organizational hierarchy (Devaney & Henchion, 2018). This includes top management decision-makers who will utilize the results of the Delphi study, professional staff, and their support teams, as well as respondents of the Delphi questionnaire seeking judgment.

To ensure that the results of the study reflect the full range of views at all levels and are reflected in the conclusions, the selection of the Delphi Panel of Experts members needs to be guided by clear directions and principles. The above views and recommendations provide helpful guidance on the composition of a Delphi panel. On this basis, the Delphi study should cover people with different backgrounds and areas of specialization, such as university experts, water heater marketing experts, and product designers, to ensure the breadth and depth of the research perspectives.

To enhance the validity and reliability of the study results, selecting an appropriate sample size and developing criteria for the composition of the Delphi expert group is crucial. According to the literature review results, the sample size of Delphi studies

usually varies depending on elements such as the purpose of the study, procedural rigor, flexibility, and requirements for expert quality. Some scholars suggest that the number of Delphi expert panel members is generally between 10 and 20, but this is not a fixed criterion (Birko et al., 2015). This study selected 10 participants to form the Delphi expert panel. To ensure academic rigor and enhance the study's attractiveness, we used a snowball sampling method. This method is based on good sample size selection criteria, whereby experts who meet the study requirements are selected from a known pool of potential respondents by gradually expanding the sample. The 10 potential respondents were carefully selected to ensure they possessed a wealth of specialized knowledge and practical experience that could provide valuable insights and recommendations for the Delphi study. Such a sample selection strategy helps to enhance the reliability and validity of the study and provides strong support for the conclusions. Table 3.4

Table 3.4  
*Expert Selection Criteria*

<b>Educational Background</b>	<b>work experience</b>	<b>Work domain</b>
Master and PhD	5+	creative industry
Master and PhD	5+	Product design
Master and PhD	5+	Brands equity
Bachelor's degree or above	10+	Water heater marketing

The result of the Delphi will be discussed in chapter four.



### **3.3.4 Research Hypotheses**

This study aims to develop a brand equity model influencing consumer purchasing intention in the water heater sector. The conceptual model is proposed based on previous research and interviews, which includes several core dimensions: brand innovation, brand visual design, perceived value, perceived quality, and brand influence. The hypotheses of this study are as follows:

H1. Brand innovation has a positive influence on consumer purchase intention.

H2. Brand visual design has a positive influence on consumer purchase intention.

H3. Perceived value has a positive influence on consumer purchase intention.

H4. Perceived quality has a positive influence on consumer purchase intention.

H5. Brand influence has a positive influence on consumer purchase intention.

### **3.4 SEM structural equation model**

Following the qualitative research phase, this study identified several brand-related attributes that may influence consumers' purchase intentions. To further clarify the influence of these elements on consumer intentions and intentions and establish the degree of influence of different elements, a conceptual framework for quantitative research was designed based on the findings from the qualitative research. After deriving research hypotheses, the researchers need to design a self-administered questionnaire, determine a new sampling size, adopt new data collection methods, and specify the forms of statistical analysis.

### **3.4.1 Self-Administered Questionnaire**

A self-administered questionnaire is a simple form that allows consumers to independently complete the questionnaire without the presence of researchers (f& Dillman, 1995). The self-administered questionnaire eliminates the influence of researchers and ensures the consistency of respondents' thoughts in the questionnaire responses. Researchers may have unintentionally influenced respondents' thinking through explanations or subjective guidance, leading to biased questionnaire results. It is important to note that this study has not yet designed the self-administered questionnaire. Therefore, the qualitative research has not been conducted, and the findings from the qualitative research will serve as a prerequisite for the self-administered questionnaire.

### **3.4.2 Sampling Size**

According to Krejcie and Morgan (1970), in quantitative research, as the population size increases, the rate at which the sample size increases diminishes, over a million people, eventually reaching a relatively constant value of slightly more than 380 cases. According to the latest population data, as of 2021, the population of Sichuan Province is approximately 83.675 million. Since the proportion of the adult population is typically around 62% of the total population, this puts the total number of adults in Sichuan at about 52 million. This is just an estimate, and the actual numbers may vary. Therefore, based on the population of Sichuan Province exceeding one million, a sample size of 384 has been determined for the study, as shown in Table 3.5.

Table 3.5

*Determining Sample Size from a Given Population*

N	S	N	S	N	S	N	S	N	S	N	S
10	10	85	70	260	155	550	226	1300	297	4500	354
15	14	90	73	270	159	600	234	1400	302	5000	357
20	19	95	76	280	162	650	242	1500	306	6000	361
25	24	100	80	290	165	700	248	1600	310	7000	364
30	28	110	86	300	169	750	254	1700	313	8000	367
35	32	120	92	320	175	800	260	1800	317	9000	368
40	36	130	97	340	181	850	265	1900	320	10000	370
45	40	140	103	360	186	900	269	2000	322	15000	375
50	44	150	108	380	191	950	274	2200	327	20000	377
55	48	160	113	400	196	1000	278	2400	331	30000	379
60	52	170	118	420	201	1100	285	2600	335	40000	380
65	56	180	123	440	205	1200	291	2800	338	50000	381
70	59	190	127	460	210	3000	341	3500	346	75000	382
75	63	200	132	480	214	3500	346	4000	351	100000	384
80	66	210	136	500	217	4000	351	4500	354	1000000	384

Note — N is population size. S is the sample size.

Source: Krejcie & Morgan, 1970

### 3.4.3 Data Collection Methods

A combination of electronic and paper-based questionnaires was employed for the quantitative research phase. Respondents could either fill out the questionnaire using their mobile phones by scanning the QR code provided by the researchers in the shopping mall or use the paper-based questionnaire. Additionally, the researchers

contacted an e-commerce platform and requested their assistance. When consumers sought advice on water heaters, the platform's personnel attempted to deliver the research questionnaire. After obtaining consent from the consumers, the questionnaire link was provided.

### 3.4.4 Measure the Scale

After comprehensive consideration of suggestions and feedback from multiple experts, this study further revised and refined the scale, ultimately forming a preliminary research scale that comprises five dimensions and 16 items. To enhance the readability and convenience of the research, this study decided to use Items to refer to these specific items and consistently apply these items in the text (see Table 3.6 for details). This approach aims to ensure clarity and accuracy in the research process, laying a solid foundation for subsequent analysis and discussion.

Table 3.6  
*Water Heater Brand Purchase Intention Scale*

Dimensionality	Item	Description
Brand innovation	A1	Compared to brands with this study of innovation, I prefer brands in the water heater industry that innovate significantly each time.
	A2	Compared to brands with this research innovation frequency, I prefer brands in the water heater industry that frequently update their products or services.
	A3	Compared to brands with false innovation, I prefer water heater brands that innovate based on key consumer demand.

Continue.....

Dimensionality	Item	Description
Brand visual design	B1	I prefer brands of water heaters whose products appear unique and personalized compared to brands with conventional appearance designs.
	B2	Compared to brands with outdated appearance designs, I prefer brands of water heaters whose products appear more stylish.
Perceived value	C1	I prefer water heater brands that offer reasonable pricing and excellent quality to brands that offer little value for money.
	C2	Compared to expensive brands, I prefer brands of inexpensive water heaters that are suitable for most households.
perceived quality	D1	Compared to traditional functional water heater brands, I prefer water heaters with self-cleaning functionality.
	D2	I prefer brands of water heaters with self-diagnosis functions compared to traditional brands that require manual diagnosis and maintenance.
	D3	I prefer water heaters with human-machine interaction capabilities to water heater brands without digital technology.
	D4	Compared to water heater brands with poor after-sales service quality, I prefer water heater brands with prompt response and a willingness to take responsibility for after-sales service.

Continue.....

Dimensionality	Item	Description
Brand influence	E1	Compared to brands with poor online reputations, I prefer water heater brands highly praised by people on the internet.
	E2	Compared to lesser-known brands, I prefer water heater brands that most people widely recognize.
	E3	Compared to brands with poor reputations and ethical performance, I prefer brands that frequently engage in charitable activities and uphold employee rights.
Purchase intention	F1	Next time I buy a water heater, I will prioritize brands that perform this research in the above dimensions.
	F2	When I need to replace or purchase a water heater, I choose the above-mentioned brands that perform this research.

#### 3.4.5 Data Analysis and Interpretation

This study will use SPSS and AMOS to analyze the data. Analysis of validity and reliability: This is a crucial stage in guaranteeing the validity and reliability of research results. Validity analysis may determine if the measurement tool can properly and fully reflect the idea or phenomena being evaluated. In contrast, reliability analysis can evaluate the measurement tool's consistency across time and in various situations.

Descriptive Statistics: Data are summarized and described using descriptive statistics. Descriptive statistics encompasses calculating measures of central tendency (such as the mean and median), measures of dispersion (such as the standard deviation and range), and distribution characteristics (such as frequency distribution and percentages).

Regression Analysis: Regression analysis establishes and explains the causal link between these study variables. It can offer a quantitative explanation of the connection and its predictive power and assist in determining the influence of one or more independent elements on a dependent variable.

### **3.4.6 SEM Model Verification**

#### **3.4.6.1 SEM Concept**

When dealing with extensive multivariate data analysis, SEM modeling is a statistical technique that is particularly useful when there may be causal links between variables. It allows the researcher to investigate the link between seen variables and latent variables (variables that are not immediately observable) at the same time by combining component analysis with path analysis (Bajjou & Chafi, 2023).

#### **Type of variable**

SEM usually consists of observed and latent variables, as shown in Figure 3.2. Observed variables can be examined directly with surveys and interviews And are shown as rectangles. Latent variables are not directly observable; they are sometimes referred to as structural variables and symbolized by ovals. Typically, these variables represent intangible ideas like loyalty and consumer happiness (Keesling, 1972).

As a result, in addition to analyzing the direct effect—the direct influence of one variable on another—it can also disclose the indirect effect—the indirect influence of one variable on another through the use of a mediating variable—and the total effect—the sum of the direct and indirect effects (Alcacer Sanchez et al., 2023; Muthén, 2011).

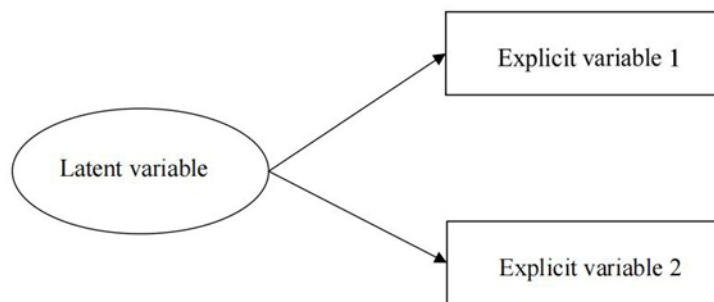


Figure 3.2. The Relationship between Latent Variables and Explicit Variables

### Application Focus of this Study

This study mainly focuses on applying the SEM model to analyze the direct effect of a particular variable on another variable, as shown in Figure 3.3. By constructing a reasonable model and setting precise equations and indicators, we aim to deeply analyze the internal mechanism and degree of influence of this direct effect. This process helps us grasp the causal relationship between variables more accurately and provides a solid theoretical basis for subsequent strategy formulation and intervention.

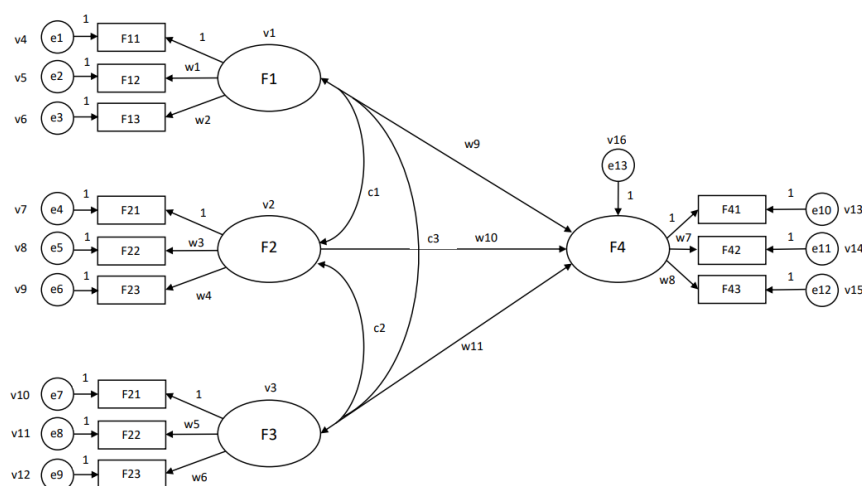


Figure 3.3. SEM Model Sample



### 3.4.6.2 The Process of Structural Equation Modeling

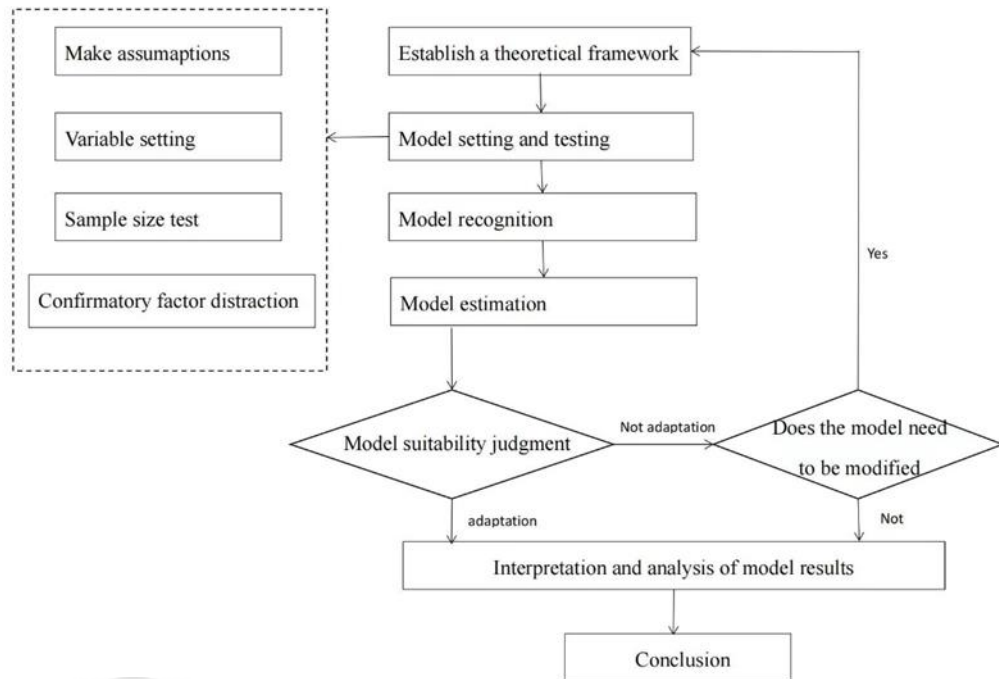


Figure 3.4. Structural Equation Modeling Analysis Process

This study presents the steps for constructing a structural equation model (Ringle et al., 2015 ), as shown in Figure 3.4, on a theoretical basis; specific explanations are as follows:

**Establishment of theoretical framework:** First, based on our research aims and findings from other studies, this study proposes several research hypotheses and develops a matching theoretical framework around them.

**Variable setting:** Once the theoretical framework and hypotheses have been defined, the investigation moves onto the variable setup phase. To do this, the study's potential moderating or mediating variables, dependent variables, independent variables, and their predicted connections between them must all be identified.

**Model setting and testing:** The research then completed the first model setting, which included choosing suitable statistical models (regression analysis, analysis of variance) and initial parameter values. To ensure that the chosen model could accurately describe and understand the data, model fit testing was done.

**Sample size testing:** Sample size testing was done before the model analysis to ensure the data were large enough to enable the statistical analysis that followed and lessen the bias resulting from a small sample size.

**Model identification and adaptability judgment:** The investigation validates the model employed in the earlier phases. Based on the actual circumstances, the model may need to be modified during the model identification process to better fit the features of the data. Furthermore, assessing the model's adaptability is necessary to ascertain whether it can function as anticipated in the study setting.

**Estimation of Confirmatory Interference:** After evaluating and confirming the models' suitability, the study considers any confirmatory interference that might influence the model estimation. It addresses these elements using the proper techniques (factor analysis, multiple covariance testing), ensuring the precision and dependability of the model estimation.

**Model estimation and result analysis:** Following the aforementioned procedures, the study estimated the model and used statistical techniques, including regression analysis and analysis of variance, to examine how the independent variables affected the

Dependent variable and the connection between the variables. A thorough interpretation and analysis of the model findings showed the intrinsic association between the variables and the validation of the study hypotheses.

**Conclusion:** Finally, based on the results of model estimation and analysis of results, the study concludes and discusses the contributions, limitations, and directions for future research.

### 3.5 Ethics Review

This study must adhere to Chinese culture's ethical standards and legal restrictions. At the same time, the research conducted for the qualitative and quantitative questionnaires adheres to the requirements of the UUM Ethical Review Board. The ethical conduct of the study includes the following aspects:

- i. Before formal interviews and questionnaire administration, the researchers provide relevant descriptions to the participants regarding the purpose of the interviews and questionnaires.
- ii. Participants voluntarily agree to participate in the interviews and complete the questionnaires rather than being coerced or forced.
- iii. this study cannot substantially reward participants due to financial constraints. However, the research findings can be shared with participants as a collaborative outcome.
- iv. Participant responses are anonymous. Participants interested in the research findings can provide their email addresses to receive the results.

v. Participants have the right to request the removal of all interview content and questionnaires related to them at any time.

vi. The questionnaires and interview content are solely used for this study and will be destroyed after the research is completed.

### **3.6 Conclusion**

The conclusion mainly discusses the research objectives achievement, contribution, limitation, future research, and conclusion.

### **3.7 Summary**

This chapter used a mixed qualitative and quantitative research methodology with detailed steps for each stage of the three research objectives. The first was to identify research gaps, which was further demonstrated through LR by finding that existing theories, such as Aaker, Keller et al., were too broad and not entirely suitable for the water heater market. Research objective one identifies the key elements that make consumers willing to buy through expert interviews and the Delphi method. Research objective two is constructing a model on the identified key elements and formulating research hypotheses. Research objective three is to validate the model according to the model, which is validated and evaluated through SEM modeling, and each step is explained in detail. Finally, it is summarized and published.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND EVALUATION**

In Chapter Four, this study delves into the results derived from interviews and the Delphi method, identifying key elements and constructing a hypothetical model based on these findings. Subsequently, the study rigorously validates the hypothetical model using Structural Equation Modeling (SEM). A meticulously designed questionnaire was employed to ensure a comprehensive and accurate reflection of the study variables. Following this, a systematic data analysis process was adhered to, encompassing several crucial steps: first, rigorous tests were conducted to ascertain the reliability and validity of the data; second, a model fit analysis was performed to evaluate the degree of alignment between the hypothetical model and the actual data; in addition, statistical analyses, regression analyses, and analyses of variance were utilized further to explore the relationships among the variables and their significance. Ultimately, based on the results of these analyses, the study concludes and engages in an in-depth discussion around these conclusions.

#### **4.1 Result of Interview**

##### **4.1.1 Result of Word Frequency**

The study utilized NVIVO for data analysis. Word frequency queries revealed numerous consensual findings among the interview researchers, as shown in Figure 4.1 and Table 4.1.



Continue.....

Key Dimensions	Count	This Study Percentage	Brief Definition
Innovation	92	0.69	Consumers are eager for novel products, and innovative brands tend to win their favor
Digital	86	0.64	As one of the solutions for the development of the times, consumers continue to seek improvement in digital technology.
Searching	59	0.44	Searched broadly refers to how consumers obtain information, including the Internet, friends, and even their brains.
Design	56	0.42	Design points to service design, product design, environmental design, transportation design, clothing design, and brand design.
Price	52	0.39	Price has many aspects, such as Price, value for money, credence, and premium.

### Perspective of Information

Brand: Channels for Information Acquisition, Difficulty of Information Acquisition, Types of Information, Credibility of Information, Quality of Information, Quantity of Information, Consensus on Information, and Brand Awareness.

**LQ1:** Consumers must have access to comprehensive information when choosing a brand and its products, such as on platforms like Xiao Hong Shu (Little Red Book). Product review researchers share their usage experiences there, serving as consumers and advocates for the brand. This dual identity bridges the gap with consumers, fostering trust and influencing their purchasing decisions.

**JXF2:** Brand promotion has a positive influence on consumer intention. For example, visual marketing, including various promotional methods, intuitively presents the product's attributes. Before purchasing a water heater, many people would conduct searches and research, especially in today's era of widespread smartphone usage and internet development; this tendency is even higher due to its convenience. People can quickly look up product performance. As for where to search, some may turn to platforms like Xiao Hong Shu, while others may check out popular recommendations on TikTok or explore options on e-commerce platforms like JD, Taobao, or even official research sites to learn about the brand.

**CRXP3:** Nowadays, consumers can engage in reviews and share their usage experiences. Products from different brands can be compared, saving time and effort. Additionally, consumers can reference evaluation data provided by industry experts. Such information helps brands establish effective word-of-mouth and online reputation. Most people conduct investigations and brand searches, including product performance, lifespan, warranty period, key functional advantages, water output speed, hot and cold alternating speed, energy efficiency, pressure retention, dimensions, colors, and shapes.

The richness of information dissemination channels and the reliability of information sources aid consumers in brand selection. Traditional advertising methods often rely on slogans and catchphrases for promotion, lacking objectivity, accuracy, and reliability. Brands adept in digital marketing lead consumers to various product reviews, enabling them to make informed comparisons. Ultimately, this influences consumer decisions. Brand awareness is crucial. If customers are familiar with my product positioning, I can use the brand to create a premium for my product, especially



for new items. I do not need to prove how good my product is again; they can reasonably speculate based on past information.

**ZYB6:** Information is not as simple as this study imagines; it often manifests across multiple dimensions, and people pay attention to information details. My customers frequently inquire about specific dimensions, materials, return rates, and specific benefits of the products. This information, accumulated over the long term, forms perceptions of different brands. They believe in brand equity that consistently outperforms others. Of course, store marketers are not their primary source of information; some salespeople may fabricate information to maximize profits. News surrounding brands tends to be more effective, especially regarding innovation, stock growth, and philanthropy. Consumers are more likely to establish a relationship with a brand the more they perceive it positively through various channels unless they cannot afford it.

**WRJ8:** Indeed, the world is complex. Wars in this study brands occur in the marketplace and various channels of information acquisition. For instance, you may observe a phenomenon where other consumers disparage a brand you like. These consumers may have experienced the rare event of purchasing defective goods or be loyal supporters of other brands or individuals bribed by other brands to diminish competitors' reputations and reduce the likelihood of consumers purchasing from other brands. Naturally, this occurs frequently and successfully influences consumers. Consequently, consumers are more inclined towards brands with less controversy, especially when choosing long-term or high-value products for several years or decades.

**ZQ10:** In today's digital age, consumers can access this study information online and are more knowledgeable and discerning than ever before. They might research online, learn about different types of water heaters, read reviews and ratings, compare prices and features, and seek advice from online forums and social media before purchasing.

### **Experiential Perspective**

Brand: In-store experience, Face-to-Face Service Experience, Online Shopping Experience, After-Sales Service Experience, Pre-Sales Service Experience, Logistics Experience, Installation Experience, Product Experience (resulting in attitude evaluation, intentional evaluation, professionalism evaluation, comprehensive service evaluation, effectiveness evaluation, response speed evaluation, and service mode evaluation).

**JXF2:** The in-store experience is a crucial factor influencing consumer purchases. People often feel more assured and secure with offline stores as they can get results and feedback after usage. This study cannot judge whether a product is good quickly; it is a long-term process, just like water heaters. Therefore, lifetime or 20-year warranties reduce consumers' risks and concerns.

**CRX3:** Service personnel, to some extent, represent the brand, so the quality of staff, service attitude, effectiveness of communication, and professionalism are all critical. This is important; high-quality after-sales service greatly influences consumer decisions, including timeliness, speed, attitude, and convenience.

**ZYB5:** Product experience is crucial as it allows us to interact with the product directly rather than relying on speculation. Therefore, brands that provide product experience showrooms are more likely to capture consumer demand psychologically.

**WX7:** Nowadays, most consumers have a certain level of understanding of individual water heater brands. This suggests that their past brand interactions will influence their thoughts and decisions. For example, suppose they have experienced a brand refusing after-sales service or reneging on promises to install products. In that case, they may deliberately ignore products from that brand or spread negative opinions when purchasing water heaters again.

**WRJ8:** Experience may be one of the most valued elements for consumers when choosing a product. In the digital age, viral marketing has significantly reduced the credibility of various types of information this study encounters. Therefore, our past brand experiences are becoming one of the few highly accurate channels for evaluating brand performance.

**ZQ10:** After-sales service indeed plays a role in influencing consumer purchasing intention. Consumers are increasingly concerned about the overall product experience, including the speed, convenience, and attitude of after-sales service. I believe that store experience is a factor influencing consumer purchasing intention. For example, store environment, including layout, cleanliness...

### **Perceptual Perspective**

Brand: Perception of Product Vulnerability, Perception of Service Response Speed, Perception of Product Safety, Perception of Product Cost, Perception of Service

Coverage, Perception of Service Duration, Perception of Service Details, Perception of Service Attitude, Perception of Personalized Service, Perception of Innovation.

**LQ1:** I believe consumers crave brands with high perceived value. For instance, Haier has gained consumer trust through its quality and service. Initially, Haier became memorable when its founder, Zhang Ruimin, smashed 76 substandard refrigerators by hand, gaining nationwide fame and consumer trust. This ensures consumers do not worry about quality issues when purchasing water heaters.

**JXF2:** The quality of water heaters primarily lies in their safety. They are a particular product, and the cost of trial and error is too high for everyone. Once there is a problem, it could cost lives. Therefore, people are cautious when choosing water heaters.

**ZBS4:** I think that, in the mindset of ordinary people in China, there may be a concept that larger stores may cheat customers. I have unique needs, so even in product selection, including water heaters, I want them to be different and tailored to my needs. This means that just because they are a huge brand and have enough users, that does not mean they can ignore me.

**ZYB5:** Most people are unfamiliar with water heater brands; they rely more on perception or guesswork than experience. Take the Chinese brand Xiaomi as an example: some consumers believe its prices are always affordable, leading them to assume that Xiaomi products have low research production costs, ignoring the truthfulness of this speculation. Therefore, perception is an important dimension that can lead consumers to misconceptions about brand attributes. This perception may include functionality, cost, personalization, responsiveness, and quality. For instance,

many Chinese consumers believe that the quality of domestic cars is questionable, as they often need to shuttle this study work and repair shops, even though they have never bought a Chinese car.

**WX7:** People often choose brands based on experiences they have not truly established and firmly believe they are right. People may not have much energy to discern things, products, and individuals daily. They might deduce a person's personality, interests, or even work status based on their first impression of them. Buying a water heater is no different. They may judge a brand's performance, such as meticulous and personalized, without truly engaging with a specific brand. Consumers should readily accept a brand that can evoke positive perceptions.

### **Visual Perspective**

Brand: Brand logo, store design, online store design, product design, uniforms, transportation (shape, color, size, font, pattern, style, spatial perception, personalization, fun)

**LQ1:** With the maturity of water heater technology, consumers are increasingly concerned about the product's image, packaging, logo, color, appearance, and size. A good image can pique consumer interest, and high-quality external image and packaging can enhance consumer favorability, leading to deeper understanding, brand trust, and eventual purchase intention.

**CRX3:** For example, the logos of brands like Haier and AO Smith are highly recognizable and visually appealing, and this study.

**ZBS4:** The design style and recognizability of storefronts influence people's choices. People may be driven by curiosity to choose those stores that look particularly distinctive.

**ZYB5:** Not all water heater brands have online stores; most showcase their products through e-commerce platforms, often neglecting online store design. One of the intentional outcomes of the information age is the increasing tendency to acquire products or make reservations through online channels rather than physical stores. Thus, whether a brand has its store has become crucial for people to establish differentiated perceptions. Simple operation interfaces and intuitive product displays indicate consumers' ideal visual experiences. Of course, while browsing these research sites, you may resonate with some aspects of the site. For example, you might appreciate how McDonald's has adopted a Chinese-style image with its golden arches.

**WX7:** You may have noticed the motorbikes used by Mei Tuan delivery and the attire of the delivery personnel. For brands, showcasing their unique physical image to potential consumers and those who might influence potential consumers is essential. When you see their presence repeatedly every day, it is not surprising that the idea of purchasing products from this brand naturally comes to mind when making relevant purchases. Transportation and employee attire are moving advertisements etched in people's memories. Additionally, uniform attire represents a craftsmanship spirit, evoking associations with unified execution standards, product quality, and service consistency.

**ZQ10:** I understand the influence of visual impressions on consumer decision-making. Besides the most commonly known brand logos, many other things about a brand must

be acknowledged. For example, some stores in prime commercial locations with luxurious decorations subconsciously lead people to believe that the products from these stores are expensive and the brand is high-end. On the other hand, stores in regular malls indicate brands and products with relatively low research prices that ordinary consumers can afford. This means that the luxurious presentation of ordinary brands in stores will always leave a lasting impression, satisfying consumers' vanity and leading them to believe that the brand is dedicated to service and cost investment.

### **Functional Perspective**

Brand: Health, water flow rate, thermal efficiency, PH value adjustment, human-machine interaction, AI, remote control, scheduling, timing, energy saving, this study failure protection, whole house hot water circulation.

**LQ1:** Many elements drive consumer purchase intention, but quality and functionality are the most important. Core considerations include this study: noise, water output speed, zero cold water, pressure retention, energy efficiency, trade-in offers, and high sensitivity.

**JXF2:** At a deeper level, the use of hot water in China has cultural roots. Traditional Chinese medicine emphasizes the balance of yin and yang. Chinese demand for hot water stems from deeply rooted beliefs that hot water is beneficial for the body and helps maintain health.

**ZBS4:** I believe that boiled water is cleaner, and over time, this study gradually trusts that this technology may have a therapeutic effect on the body, making us feel more comfortable with hot water.

**ZYB5:** One significant change observed in water heater brands that I strongly endorse is their integration with AI. Nowadays, some water heaters have WiFi functionality, allowing them to self-upgrade via the Internet, continuously providing more considerate services to meet consumers' increasingly multidimensional needs. The emergence of AI and human-machine interaction technology frees people's hands and enhances the smart home system. Of course, conservative consumers may opt for traditional brands and products, while those who seek innovation, novel experiences, and digitalization tend to favor tech brands.

**WX7:** Modern water heaters now offer PH value adjustment functionality, providing a more customized hot water supply, which is an excellent choice for consumers pursuing the ultimate experience. Furthermore, the development direction of water heaters is extending into the technological field. Remote control, scheduling, and timing switch technologies are all transformations in water heaters, greatly facilitating people's lives. These seem more like product details rather than brand equity. In this study, when multiple products under a brand offer the same features, they become part of people's perception of the brand.

**HYY9:** According to Hofstede, Chinese people have a long-term view. This means they are concerned about the long-term benefits and harms of products. Therefore, people choose water heater brands that focus on health, ensuring that, at the very least, these brands will not worsen their bodies after bathing.

### **Price perspective**

**LQ1:** It is important to note that consumers are highly price-sensitive, and their purchasing decisions are constrained by their economic capabilities. Consumers will



choose products from brands with higher recognition at the same price point. In this study, if prices differ, more people will focus on the value for money.

**JXF2:** It is not that people will buy products solely based on their research prices; there is a balance. Too low prices raise suspicions about whether the product quality meets the guaranteed standards. Besides considering value for money, Chinese consumers have a saying: "You get what you pay for."

**ZYB5:** Unlike other markets, the relationship between this study price and value in China is not absolute. The brand's reputation in pricing becomes a rational way for people to obtain products equivalent to the price. Compared to brands that rely on gimmicks, people are more inclined to establish purchase intentions or intentions with brands that consistently deliver quality at a fair price.

**NW6:** Price is a complex variable, with significant differences in purchasing intention among consumers with different purchasing in this study. For affluent individuals, the product price not only represents the quality of the product but also suggests additional benefits to the purchaser, such as displaying consumption ability and taste and pursuing ultimate personalization. The main reason for the price increase of Chinese Maotai liquor is to meet the market demand for high-priced alcohol. This study illustrates that brand premium may be a social demand.

**WX7:** Among the water heater brands I manage, my customers prefer brands with a good reputation, high quality, and low prices. High value for money and low prices greatly appeal to the average Chinese consumer. People often seek a delicate balance

between research saving and spending to achieve both. High value for money and low prices are not the same.

The former represents products or brands that may not be cheap but are more substantial in materials and artistry. The latter points to consumers who focus on essential bathing functions and aim to purchase products at the most affordable price possible.

### **Ethical perspective**

Brand: Environmental protection, charity, commitment, fairness, respect, forgiveness, excellence, career development

**CRX3:** The definition of corporate ethical intention in research is often incomplete. Consumers may see various news stories surrounding businesses, especially regarding how companies treat their employees. Sensitive issues regarding employees include low wages, frequent overtime, lack of respect, overly harsh punishment clauses, and lack of training. Employees are a part of society, and companies' bureaucratic intentions often lead to negative emotions and unhealthy lifestyles for them. For example, in 2010, over 10 employees of Foxconn committed suicide due to high pressure and lack of human rights.

**ZYB5:** Nowadays, there are many foreign brands of water heaters in China, and how these brands express goodwill is particularly important to the Chinese. In the past, some brands looked down on Chinese people, using insulting intentions or symbols with derogatory implications of Chinese culture, which is unacceptable, as this study is participating in negative evaluations of China. For example, Dolce & Gabbana's

advertisement featuring models bizarrely using chopsticks was seen as derogatory to Chinese culture. Morality is about a brand's respect for the host country and its consistent commitment to quality for consumers.

**WX7:** Many corporate intentions can express a company's ethical performance, especially regarding sustainability and charitable activities. This includes carbon emissions during transportation, pollution in production, using raw materials, and whether the company recycles water heaters and carries out pollution-free treatment. Companies also engage in activities that are helpful to society or specific groups, such as sponsoring education, poverty alleviation, or becoming elderly-friendly brands.

**JFX2:** Brands influence consumer decisions. Consumers pay attention to a company's social influence, such as its environmental performance, patriotic stance, long-term development strength, and professional conduct. These elements can help consumers establish more motivation to purchase specific brands.

**HYY9:** A good corporate reputation is crucial for a brand. It reflects the company's values, ethical standards, and business practices. Suppose a water heater company has a strong reputation. In that case, consumers may be more likely to trust the brand and its products because they know the company has a track record of providing high-quality products and services.

**ZQ10:** Corporate reputation is crucial because it reflects the company's values and ethical standards. If a company has a good reputation, it prioritizes quality, customer

service, and overall excellence. Consumers are more likely to trust a company with a good reputation because they know they may get what they pay for and receive satisfactory customer service when needed.

### **Innovation perspective**

**ZYB5:** Innovation is brand equity that is not easily quantifiable. Consumers often perceive innovation through innovative services. For example, a water heater company may offer factory tours, courses on water heater heating principles, or even allow consumers to participate in developing water heater designs. Consumers intensely experience this type of innovation through service innovation.

**NW6:** Consumers often ask me which brands have a strong sense of technology as they seek products at the forefront. Having sold Apple products, I gained a better understanding of the brand's influence in terms of innovation. People perceive many of Apple's technologies as cutting-edge, so they consistently buy Apple products and purchase new ones whenever Apple releases them. When they perceive the level of innovation to be low, they complain and feel disappointed. An interesting phenomenon is that the update frequency of digital products often follows a yearly cycle.

**WRJ8:** Besides traditional buying and selling models, people frequently encounter marketing methods such as leasing or free models. For instance, a water heater company may visit your home monthly to inspect the status of the water heater, clean dirt from the water heater, and eliminate safety hazards while charging a service fee. Of course, they may offer the product for free and provide a new one for you every year.

**JXF2:** This study shows that innovation has always been admired and is essential in the water heater industry. Innovation does not just refer to changes in appearance but also to technological advancements, including AI. It can make services faster, operations more convenient, and products better express brand culture.

**ZBS4:** Brand Innovation (BI) is necessary and should focus on meeting the needs of different age groups and satisfying evolving consumer demands. Innovations that are more humane, personalized, and cater to an aging population should help attract consumers and influence their purchasing decisions.

**NW6:** Home products, including water heaters, focus on intelligent improvements, such as human-computer interaction technology, machine autonomy, and consumer preference recognition. This innovation is easy to expand to meet new consumer demands and satisfy consumers keen on technological advancements.

### **Social perspective**

Brand: image, social influence, subjective norms, imitation, herding effect, patriotism

**LQ1:** People often exhibit imitative intentions and a herd mentality when choosing products. Popular brands in China may lead those unfamiliar with them to purchase their products. Others' choices give them more trust in a specific brand, even though this trust may be blind and unfounded.

**ZBS4:** There are many reasons influencing people's brand choices. Taking this study in present-day China as an example, consumers' use of various products from the brand is closely tied to the brand's image of China and the manifestation of personal

patriotism. With the emergence of real-time streaming media platforms like TikTok, triggers for people to make purchases are expanding, such as commemorating deceased philanthropists or business giants and promoting positive cultural and spiritual values. Some of these elements are ethical and result from people being influenced by society.

**HY9:** People are often influenced by others when making decisions. For example, the preferences of consumers' family members for colors, brands, features, and shapes may be more critical than their preferences. After neighbors or friends recommend specific brands, people often pay more attention to their performance.

#### **4.2 The Delphi Results**

While maintaining academic rigor, the content was made more engaging. In April 2024, an online roundtable discussion was held with ten members participating, selected using the Snowball sampling method. The expert panel consisted of university experts, water heater marketers, and product designers. The meeting began with an introduction to the objectives and relevant background information for the research project members. The main topic of discussion was the dimensions and criteria of water heater brand equity. This study will be followed by a detailed presentation to the members of the members of the brand equity dimensions obtained through a literature review and semi-structured interviews. The meeting organization in this format aimed to ensure members could comprehensively understand and review their assigned variables. This strategy ensured better quality of comments and feedback output. Subsequently, these findings were utilized to develop a comprehensive questionnaire for the first round of the Delphi method, integrating with the initial stages of draft formulation using qualitative methods. The next stage employed a more rigorous scientific approach,

validating the draft through review and rating cycles until consensus was achieved in this study cycle. This consistency of response ensured the reliability of the results, and the consensus reached was deemed trustworthy and dependable.

#### **4.2.1 The First Round**

The first round of Delphi iteration began in April 2024, with each member of the Delphi expert group contacted via email and invited to participate. As Appendix B shows, invitation letters and appointment letters were sent to each member electronically. Only eight of the selected ten expert members responded and participated in the process.

To ensure a good response from the selected expert panel, members could either respond to the questionnaire online via a link provided in this study or choose to use the survey attached to the invitation email and respond via email. In this scenario, most experts responded to this study, and due to the automated compilation of inputs, data collection was conducted automatically. The Delphi expert panel had one day to respond to the survey, and except for a few individuals, most panel members (8 individuals) responded. This study calculated the data from the first-round questionnaire based on the median and the first quartile, as shown in Table 4.2.

Innovation Amplitude: Eight experts considered this factor to be very important. Innovation amplitude may refer to the breadth or depth of the degree of innovation in a product or service. The scale and influence of the innovation. This suggests that experts generally recognize the breadth and depth of innovation as a key consideration when evaluating new products or services.

Innovation Frequency: Again, eight experts considered this factor important. Innovation Frequency refers to the frequency or speed at which innovation occurs. This suggests that experts believe that continued innovation is essential to maintaining the competitiveness of a product or service.

Price: Seven experts considered price to be an important factor. Price is one of the key elements influencing consumers' purchasing decisions, and therefore, formulating price strategies is particularly important in product development and market positioning.

Cost-effectiveness: Seven experts also emphasized the importance of cost-effectiveness. Cost-effectiveness analysis helps companies assess the economy. Rationality of investment projects and ensure that resources are utilized efficiently. Considering cost-effectiveness in the product development process helps ensure the project's sustainability and profitability.

Electronic Word-of-Mouth (EWOM): Eight experts identified EWOM as an important factor. With the popularization of the Internet, electronic word-of-mouth (online reviews, social media sharing .) increasingly influences consumers' purchasing decisions. Therefore, companies need to pay attention to managing and maintaining electronic word-of-mouth when promoting their products.

Human-Computer Interaction (HCI): Seven experts recognized HCI as a key factor. HCI concerns the interaction and experience between a person and a computer or smart device. In the digital era, good HCI design can improve user experience and enhance product attractiveness and competitiveness.



After the first round of expert review, the additional variables provide a more comprehensive view of the product strategy, reinforcing the following key elements, as shown in Table 4.3

Functional optimization: The new self-cleaning and self-diagnostic functions are placed in an important position, aiming to enhance the user experience by improving the product's autonomous maintenance capability and ensuring user convenience and safety while using it.

Innovation-Oriented: The effectiveness of innovation is emphasised. Innovation needs to be closely focused on consumer needs to ensure that each innovation can effectively solve user pain points and enhance product value, thus winning market recognition.

Personalization and fashion: Recognizing the indispensability of personalization and fashion elements in modern products, they are not only the key to product differentiation but also a powerful means of attracting and retaining consumers, which can significantly enhance the market attractiveness of products.

Brand justice: Including a brand justice image in consideration of this factor is related to corporate social responsibility and consumer trust and is an important non-technical factor in shaping the competitiveness of products in the market. Demonstrating a company's fairness, integrity, and positive social contribution can enhance its brand image and win broader consumer support. Additionally, this study utilized these insights to construct the second-round questionnaire.

Table 4.2

*First-Round Result*

Elements	Number of Experts
Innovation amplitude	8
Innovation frequency	8
Price	7
Cost-effectiveness	7
Electronic word-of-mouth	8
Human-computer interaction	7

Table 4.3

*New Variables*

z	Explain
Self-cleaning function	As one of the products that bring people a body cleaning experience, water heaters should pay more attention to cleaning than other products, primarily if the company does not provide cleaning services.
Self-diagnosis function	Automobile-based products perform a form of performance to help users identify current or upcoming product failures and avoid the adverse consequences of more significant failures.
Personalize	Personalization generally refers to brand products that stand out from the crowd and can fully reflect a consumer's unique aesthetic or value proposition.
Fashion	The main characteristics of society's modernization transformation point to changes in people's aesthetic demands. One common aesthetic consensus is directed towards fashion and a sense of trendiness.

Continue.....

Z	Explain
Brand justice image	Brand justice points to social justice, reflecting a company's overall contributions to its employees and society, such as poverty alleviation, supporting education, and treating employees in this study procedural, and communicative justice indicate a fair corporate management model.

In the open-ended questionnaire, **CRX3** described innovation effectiveness as follows:

"This study believes innovation is crucial, especially for brands that rely on digital technology excellence to attract consumers and gain a competitive market advantage. Unfortunately, this study has observed a common phenomenon where some consumers reject innovation. They feel accustomed to previous products, and innovations often raise prices without significantly enhancing their utility for specific purposes. Therefore, this study should incorporate innovation effectiveness into our research scope rather than focusing solely on innovation."

In the open-ended questionnaire, **ZYB5** described personalization: "I read the previous interview content, and it mentioned personalization, which I believe is a crucial dimension. Once people have satisfied their basic material needs, their pursuit of products tends to reflect their emotional expression. People often purchase products or brands to showcase their unique and distinctive tastes. Subjective norms, social influence, and image have been identified in past research as elements influencing people's choices in digital technology. These elements point to conformity and the personalization formed by a brand's unique stance. For example, Apple consistently adheres to its unique IOS system and Mac rather than opting for Android or Windows."

In the open-ended questionnaire, **NW6** described fashion: “Not all brands approach design similarly; product design revolves around specific elements, such as fashion. For young people, choices in home decor products are often made with more caution than choices in clothing.

While an undesired service can be discontinued, an unwanted water heater typically must continue to be used and is not easily replaced. Consequently, fashion brands aligning with society's aesthetic style are usually more popular and favored.”

In the open-ended questionnaire, **WX7** described the Self-cleaning function as follows: “The dimensions of brand equity that this study previously used across various industries should not continue to be repeatedly mentioned as a focal point of research. Although this study believes some of them still hold considerable value, it must be acknowledged that many MNCs and even SMEs have already achieved basic operations. This explanation assigns more value to exploring innovative dimensions. Within the framework of perceived value or innovation, self-cleaning functionality might be an untapped "trick" applicable to the water heater industry, which could help companies that desire regular maintenance without providing free maintenance services to meet consumer needs. People often have higher expectations for cleanliness in food and products that come into direct contact with the skin.”

In the open-ended questionnaire, **WRJ8** described Self-diagnosis functionality as follows: “ Self-diagnosis functionality is crucial for ensuring personal safety. Safety concerns regarding water heaters have always been a significant issue for people. Within brand associations, consumers may perceive water heaters with malfunction self-recognition as safe, intelligent, technological, or easy to maintain. This can

effectively address people's concerns, especially regarding safety during usage. Therefore, companies should emulate related technologies from the automotive industry to achieve self-diagnosis and alert consumers.” In the open-ended questionnaire, **HY9** described the Brand justice image as follows: “Reasonable promotion mechanism, reasonable salary structure, fair and just image of the enterprise all influence the consumer's willingness to buy, the example of Wahaha, the enterprise's care for the staff, persistent sense of responsibility to the community for Wahaha to win the attention of the consumer and maintenance, Huawei's high compensation so that everyone has higher expectations of it, these are the image of the brand's charity.”

#### **4.2.2 The Second Round**

Enhancing academic content to make it more captivating. The questionnaire for the second round of surveys conducted in April 2024 was prepared in Microsoft Word. This study indicated median calculations for each significant category, indicator, and item, along with the majority range, alongside the individual responses of each member of the Delphi expert group. The survey questionnaire included opinions from the first round, as this study has proposed new capability indicators and items for members to respond to Appendix C.

After the questionnaire was prepared and validated, the second round of Delphi iterations began with invitations sent to the members. Members of this study were given one day to respond, and seven returned the questionnaire. This study tried to capture the remaining members' attention as a follow-up to those who did not respond despite email reminders and subsequent appeals. They agreed to retain the results of the first round and did not respond to the new capability indicators and items proposed

in the first round. Therefore, this study calculated and prepared new items for the seven members who responded in the second round for use in the third round. The data collected from the second round questionnaire was used to calculate the median and the first quartile using Microsoft Excel. Additionally, In the second round of the Delphi method, experts expressed a high level of concern and recognition for several product-related elements, as shown in Table 4.4

Innovation effectiveness: Seven experts emphasized the importance of innovation effectiveness. This indicates that experts generally agreed that in product development, innovations must not only be novel but also effectively meet consumer needs and expectations to truly enhance a product's market competitiveness.

Self-cleaning function: Again, seven experts noted the importance of self-cleaning function. This reflects that as consumers improve their quality of life, the self-cleaning ability of a product has become an important purchasing consideration, especially in home appliances and other products that require regular maintenance.

Self-diagnosis function: Six experts expressed concern about self-diagnosis function. This suggests that in complex equipment or technology products, the self-diagnosis function can help users identify problems and take measures promptly, thus improving the product's reliability and the user's experience.

After-sales experience: Seven experts viewed after-sales experience as an important factor. This emphasizes the importance of quality after-sales service in maintaining brand image and enhancing customer satisfaction and loyalty in modern market competition.

Brand awareness: Seven experts also emphasized the role of brand awareness. Brand awareness is an important part of brand equity, which helps consumers choose and trust a brand among many products.

Fashion: Six experts expressed concern about products' fashionability. This reflects modern consumers' pursuit of product design and aesthetic value, as well as the role of fashion elements in enhancing product appeal and market competitiveness.

Personalize: Seven experts emphasized the importance of personalization. With the increasing diversification of consumer demands, product personalization, and differentiated design have become important means of meeting consumers' unique needs and enhancing the added value of products.

Brand justice image: Seven experts also focused on brand justice image as a factor. This indicates that enterprises should not only pay attention to the quality and function of products but also actively fulfill their social responsibility and maintain their brand image to win consumers' trust and respect.

In summary, the conclusions of the second round of the Delphi method emphasize the importance of several product-related elements, including innovation effectiveness, self-cleaning and self-diagnostic features, after-sales service experience, brand awareness, fashion sense, personalization, and brand justice image. These elements constitute key elements of product market competitiveness and provide valuable references for companies' product development and marketing strategies.

Table 4.4

*Second Round Result*

Elements	Number of Experts
Innovation effectiveness	7
Self-cleaning function	7
Self-diagnosis function	6
After-sales experience	7
Brand awareness	7
Fashion	6
Personalize	7
Brand justice image	7

**4.2.3 The Third Round**

After the second round, the researchers immediately initiated the third round of questionnaires. The seven experts in the second round were involved in this phase. In the third round, the elements of this study were recognized by the experts, and the lack of consensus conclusions that the experts identified led to the end of the iterative study.

After identifying 14 elements, the iterative process was stopped and categorized accordingly. To ensure the accuracy of the classification, the researchers invited the seven experts from the third round to participate. One person performed the classification, and the remaining experts provided feedback. In the first round of feedback, everyone agreed with the classification method. The final classification is as follows: Table 4.5



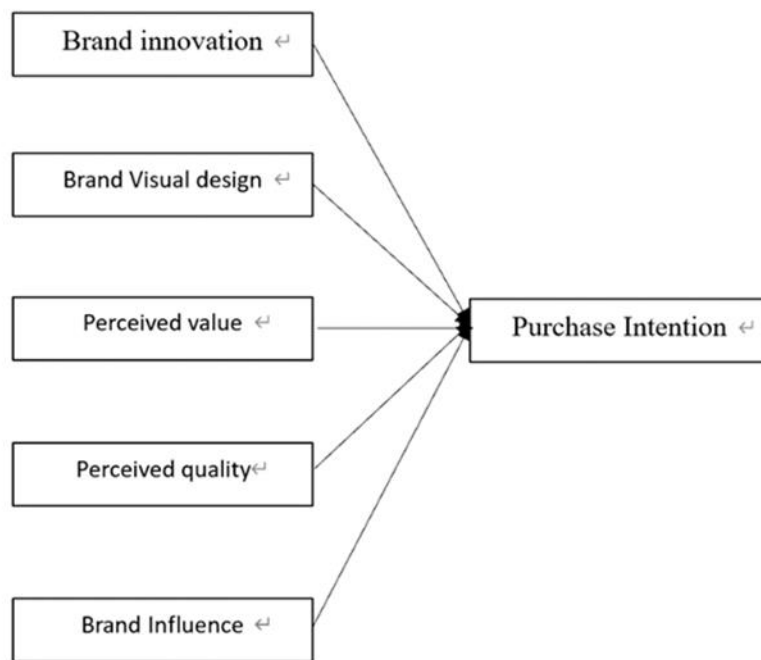
Table 4.5

*Purchase Intention Dimensions and Key Elements*

Dimensions	Elements
BI	<ul style="list-style-type: none"> <li>● Innovation amplitude</li> <li>● Innovation frequency</li> <li>● Innovation effectiveness</li> </ul>
BVD	<ul style="list-style-type: none"> <li>● Personalize</li> <li>● Fashion</li> </ul>
PV	<ul style="list-style-type: none"> <li>● Cost-effectiveness</li> <li>● Price</li> </ul>
PQ	<ul style="list-style-type: none"> <li>● Self-cleaning function</li> <li>● Self-diagnosis function</li> <li>● Human-computer interaction</li> <li>● After-sales experience</li> </ul>
BING	<ul style="list-style-type: none"> <li>● Electronic word-of-mouth</li> <li>● Brand awareness</li> <li>● Brand justice image</li> </ul>

**4.3 Conceptual Model**

After deeply analyzing the results of expert interviews and the Delphi method, this study first pinpointed the elements closely linked to brand equity and significantly influencing consumers' purchasing intentions. Then, based on these elements, a research model and questionnaire were developed. This study integrated the Aaker Brand Equity Model, Keller Brand Equity Theory, Ren Brand Equity Model, and Baalbaki's brand equity perspective during this process. This study also incorporated the information-processing and consumer intention theories and added semi-structured interviews and expert reviews for comprehensive and in-depth research. Ultimately, this study constructed a clear-cut conceptual framework. It details how brand equity affects consumers' purchasing intentions in the creative industry, as presented in Figure 4.2.



*Figure 4.2. The Proposed Model of IBECPI*

#### **4.3 Design of the Questionnaire**

Based on the conceptual model and research hypotheses established earlier and considering the convenience and broad reach of data collection, this study adopts a self-administered questionnaire format. The detailed questionnaire is in Appendix D.

There are two sections to the questionnaire: A control questionnaire comprising basic information on the respondents, including gender, age, occupation, income, education level, and marital status, makes up the first section of the study. The primary questionnaire, the second section, focuses on several important elements, including perceived value, perceived quality, brand influence, brand innovation, and brand visual image, that affect consumers' intentions to purchase water heaters.

The measurement of all questionnaire items utilizes the Likert scale structure, where consumers' evaluations are categorized into different levels and assigned corresponding scores. This allows for the assessment of consumers' perceptions across these dimensions. In this scale, "1" indicates strongly disagree, "2" indicates disagree, "3" indicates neutral, "4" indicates agree, and "5" indicates strongly agree.

#### **4.3.1 Reliability and Validity Analysis**

The study starts by examining the questionnaire's validity, reliability, and scale title to assist the research's analysis of the data technique.

##### **Reliability Analysis**

When measured again, the degree of consistency a scale generates is referred to as reliability. Reliability assessment involves calculating the correlation between scores acquired from various scale administrations (Lechien et al., 2024). A strong correlation indicates good dependability as the scale yields reliable findings every time. The replica, internal consistency, and repeated test techniques are used to assess dependability.

This study employed the internal consistency approach to assess the scales' reliability. In actuality, Cronbach's coefficient, commonly called the  $\alpha$ -coefficient (coefficient alpha), is most frequently used to assess the internal consistency dependability of measuring tools like attitude scales.

Nunnally (1978) recommended that a coefficient of less than 0.35 be rejected as poor reliability, a value between 0.35 and 0.7 be accepted, and a coefficient of more than 0.7 be deemed excellent dependability.

A total of 50 questionnaires were distributed for the pre-test of this study; 49 of them were recovered, and 42 were valid. The effective recovery rate was 84%; according to the reliability analysis results, the  $\alpha$ -values for brand innovation, brand visual design, perceived value, perceived quality, brand influence, and purchase intention are, respectively, 0.856, 0.845, 0.853, 0.928, 0.894, and 0.890. These values are all greater than the standardized design's 0.7, demonstrating the internal consistency of the six scales and the overall reliability of the scale, which is indicated in Table 4.6

Table 4.6

*Reliability Analysis of Scale Items*

Dimension	subject	$\alpha$ Coefficient
Brand Innovation	BI1 BI2 BI3	0.856
Brand Visual Design	BVD1 BVD2	0.845
Perceived Value	PV1 PV2	0.853
Perceived Quality	PQ1 PQ2 PQ3 PQ4	0.928
Brand Influence	BINF1 BINF2	0.894
Purchase Intention	PINTENTION	0.890

### Validity Analysis

The degree to which variations in scale observations accurately represent variations in the measured brand equity of various objects is known as validity. Construct validity, validity scale validity, and content validity are the different types of validity. The scale items in this study were gathered through expert evaluation and interviews, which satisfies the criteria for content validity.

Testing if the scale can accurately measure the variables to be measured is the primary function of construct validity. Convergent validity in construct validity is examined in this work. The KMO (Kaiser-Meyer-Olkin) and Bartlett's Test are two techniques used to evaluate construct validity, as may be discovered using principal component analysis and the orthogonal rotation with great variance approach. The variables show a significant association and are appropriate for factor analysis when the KMO value becomes close to 1.0 (Shrestha, 2021). As can be seen in Table 4.7, the study's result of 0.948 indicates strong construct validity among the variables.

Table 4.7

*KMO and Bartlett's Test*

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		<b>.948</b>
Bartlett's Test of Sphericity	Approx. Chi-Square	4544.000
	df	120
	Sig.	.000

## 4.4 Statistical Analysis

### 4.4.1 Data Screening

During the two-month questionnaire distribution process (September-October), this study managed to collect 404 valid questionnaires, a number that not only exceeds the sample size criterion of 384 as suggested by Krejcie and Morgan (1970) but also provides a more solid foundation for the reliability of the study. However, it is crucial to ensure the quality of the data before proceeding with the SEM analysis. This study recognized that the collected questionnaire data must be carefully processed during the preliminary stages of statistical analysis to minimize the influence of outliers, extremes, and blank responses on the overall dataset (Byrnes, 2015). Therefore, our priority was

to identify and remove missing values, anomalous data points, and outliers that, if left untreated, could distort the analysis results and affect the accuracy and validity of the model. The final removal of extremes, outliers, and blank questionnaires and the elimination of 112 invalid questionnaires yielded 292 valid questionnaires, or 72.3% of the total questionnaires, which were considered reasonable (Ejaz et al., n.d.).

#### **4.4.1.1 Completeness**

The study screened data for completeness and planned to remove incomplete data from the dataset to ensure equal sample sizes for each variable's analysis. Following the principle of mandatory completion during questionnaire collection, all data in this study were complete, and there were no incomplete questionnaires.

#### **4.4.1.2 Z-Scores**

This section discusses Z-scores, as shown in Figure 4.3 and Table 4.8. The study analyzed Z-scores for all variables to ensure the data's absence of extreme values and outliers. Z-scores indicate the distance of each data point from the mean, but not in absolute terms. Therefore, Z-scores can be positive or negative. Z-scores typically adhere to a  $\pm 2.5$  standard in studies with smaller datasets, where values within this range are considered ideal (Sharma et al., 2015). Values exceeding this range are often classified as extreme or outliers and removed from the analysis. Below are some computed Z-score results.

	ZBI1	ZBI2	ZBI3	ZBVD1	ZBVD2	ZBP1
1	.02224	-.07816	-.25246	.02343	-.85606	-1.26789
2	.83384	-.07816	.62514	.02343	.87383	-.34922
3	.02224	-.95593	-.25246	-.83188	-.85606	.56945
4	.83384	-.07816	.62514	-.83188	.87383	.56945
5	.83384	.79961	-.25246	.02343	.87383	.56945
6	.02224	-.07816	-1.13006	.02343	-.85606	-.34922
7	.83384	.79961	.62514	.87875	.87383	.56945
8	-.78937	-.95593	-1.13006	-.83188	-.85606	-1.26789
9	.83384	.79961	.62514	.87875	.87383	.56945

Figure 4.3. Analyzed Z-Scores

Table 4.8

Analyzed Z-Scores

Z-scores	N
Outside the range ( $\pm 2.5$ )	0
Within the range ( $\pm 2.5$ )	292

#### 4.4.2 Normality Test

Table 4.9 will discuss the skewness and kurtosis tests. Before SEM, the Skewness and Kurtosis Test was used to verify its normality (Bai & Ng, 2005). Typically, data that conform to natural laws exhibit skewness and kurtosis values below 1.96 (Huh, 2015). Data exceeding this value necessitate reevaluating the questionnaire tools and data collection process, followed by secondary data collection. In this study, all variables exhibit SK values that meet the standard.

Table 4.9

*Skewness and Kurtosis Test*

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BI1	292	3.97	-.958	.143	-.128	.284
BI2	292	4.09	-1.173	.143	.568	.284
BI3	292	4.29	-1.593	.143	1.588	.284
BVD1	292	3.97	-.921	.143	-.054	.284
BVD2	292	3.99	-.987	.143	.218	.284
PV1	292	4.38	-1.782	.143	1.306	.284
PV2	292	4.34	-1.668	.143	1.796	.284
PQ1	292	4.45	-1.896	.143	1.500	.284
PQ2	292	4.41	-1.822	.143	1.898	.284
PQ3	292	4.24	-1.360	.143	1.266	.284
PQ4	292	4.47	-1.157	.143	1.823	.284
INF1	292	4.40	-1.852	.143	1.003	.284
BINF2	292	4.42	-1.823	.143	1.080	.284
BINF3	292	4.35	-1.706	.143	1.460	.284
BINTENTION1	292	4.15	-1.161	.143	.627	.284
BINTENTION2	292	4.08	-1.170	.143	.428	.284
Valid N (listwise)	292					



## 4.5 Demographic Profile

### 4.5.1 Gender

This section discusses the distribution of respondents' gender, as shown in Table 4.10, and the proportion of men and women in the sample. The total sample size is 292, of which the female sample is 212, 72.6% of the total sample, and the male sample is 80, 27.4%. The result shows that the majority of respondents in this study are female, indicating that women likely exhibit a higher preference and sensitivity towards shopping than men. Their heightened enthusiasm in researching water heaters suggests a proactive approach. Some reports indicate that Chinese women have a significantly higher shopping frequency and average expenditure than men (Singh & Biswas, 2024).

Table 4.10

*Gender Distribution Of Respondents*

	Gender	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	female	212	72.6	72.6	72.6
	male	80	27.4	27.4	100.0
	Total	292	100.0	100.0	

### 4.5.2 Age

This section discusses the distribution of respondents' age, as shown in Table 4.11. The majority are 36-50, and the largest age group in the sample is 36-50 years old, representing 39% of the respondents. Significant 20-35 age group: The second largest group is 20-35, making up 31.2% of the sample. Smaller groups: The remaining age groups are more minor: 51 and above (26%) and below 20 (3.8%). Overall, this data suggests the sample is predominantly made up of middle-aged individuals with a significant number of young adults. The sample has fewer older individuals and very

few respondents below 20. Less than 20% of the study's participants were under 20, with more participation in other age categories. The research participation of younger individuals may indicate that they have yet to acquire their own homes, leading to their reluctance to join the study. Additionally, the overall educational level in China has been steadily increasing, and individuals under 20 may still be students. The average graduation age for Chinese university students is around 22 years old.

Table 4.11

*Age Distribution Of Respondents*

	Age	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	20-35	91	31.2	31.2	31.2
	36-50	114	39.0	39.0	70.2
	51 above	76	26.0	26.0	96.2
	Below 20	11	3.8	3.8	100.0
	Total	292	100.0	100.0	

### 4.5.3 Income

This section discusses the distribution of respondents' income, as shown in Table 4.12. Most (38.4%) of respondents earn between 3000 and 5000 (currency unit not specified). The second most common income range is 5000-10000, representing 31.5% of the sample. A significant portion (21.2%) of respondents earn between 1000 and 3000. Only 8.9% of respondents earn 10000 or above. China ranks 72 globally regarding overall income, with a per capita GDP of \$12,598 (Escap, 2019). It is important to note that China is not classified as a high-income country, and the proportion of high-income individuals is relatively low. As a result, incomes tend to

be concentrated in the range of 3000 RMB to 10,000 RMB for most of the population.

Table 4.12

*Income Status of Respondents*

	Income	Frequency	Per cent	Valid Percent	Cumulative Percent
	1000-3000	62	21.2	21.2	21.2
	10000above	26	8.9	8.9	30.1
Valid	3000-5000	112	38.4	38.4	68.5
	5000-10000	92	31.5	31.5	100.0
	Total	292	100.0	100.0	

#### 4.5.4 Educational

This section examines the respondents' educational attainment, as presented in Table 4.13. The data reveals a clear trend: most of the sample (66.4%) holds an undergraduate degree, making it the most common educational level. High school graduates constitute the second largest group (20.2%). The sample demonstrates a limited presence of individuals with lower levels of education. Only a tiny percentage possesses primary education (3.8%) or junior high school (3.4%). Similarly, a relatively small proportion (6.2%) holds a Master's degree or higher. These findings are consistent with the broader context of education in China, where education is widely recognized as a crucial pathway to economic and social advancement. This emphasis on education is reflected in the high proportion of individuals pursuing undergraduate degrees and the relatively low numbers with primary or junior high

school education. This aligns with research highlighting the importance of education in China (Xia, 2020) and the government's encouragement of adult education participation.

Table 4.13

*Educational Attainment of Respondents*

					Cumulative
	Education	Frequency	Per cent	Valid Percent	Percent
Valid	Junior high school	10	3.4	3.4	3.4
	Primary school	11	3.8	3.8	7.2
	Undergraduate	194	66.4	66.4	73.6
	High school	59	20.2	20.2	93.8
	Master and above	18	6.2	6.2	100.0
Total		292	100.0	100.0	

#### 4.5.5 Living Conditions

Table 4.14 provides insights into the living arrangements of the respondents, revealing a diverse range of household structures. The most prevalent living arrangement is with a companion (57.2%), encompassing spouses, partners, or significant others. This suggests a strong emphasis on relationships within the sample. Living alone is the second most common arrangement (12%), while living with children occupies third place (18.8%). This indicates the sample's diverse representation of family structures and life stages. It is important to note the context of China's rapidly growing urban population, which is the second largest in the world. This urban expansion has led to high demand for housing, pushing rental and purchase prices beyond the affordability

of many (Du et al., 2024). Consequently, shared living arrangements are commonplace, reflecting the economic realities of urban life in China. Furthermore, the global integration trend has spurred migration of young individuals to cities, further intensifying pressure on urban infrastructure and contributing to the prevalence of shared living arrangements.

Table 4.14

*Living Conditions of Interview Researchers*

	Living status	Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	alone	35	12.0	12.0	12.0
	with child	55	18.8	18.8	30.8
	with companion	167	57.2	57.2	88.0
	with elder	35	12.0	12.0	100.0
	Total	292	100.0	100.0	

#### 4.6 Descriptive Statistics

This section discusses whether the ideas in this study can be of interest, as shown in Table 4.15. Overall, the perspectives proposed in this study have garnered significant attention, with mean values exceeding 3.4. These elements are all capable of piquing people's interest and influencing brand preferences positively. These findings align with past research. For instance, individuals tend to favor products imbued with a sense of technology, perceiving innovation as offering unprecedented experiences (Baheel, 2024). Consumers also gravitate towards highly personalized brands and brand

advertisements, believing that brands can express their tastes to some extent and showcase their characteristics (Dube, 2020). In China, people often prioritize price more than in other countries, especially compared to developed nations.

Research has indicated, for instance, that Chinese customers buy reasonably priced or high-value items, which fuels intense rivalry in the market and continuous price wars inside China (Xiao, 2023). Recent research indicates that, compared to pre-sale services, people place greater importance on the quality of post-sale services (Sellitto, 2021). Typically, post-sale services determine the cost and timeliness of reintegrating devices into operation for consumers. China is a country that places great emphasis on corporate social responsibility. Numerous reports have revealed that Chinese consumers boycott companies displaying derogatory attitudes towards China. Conversely, brands that infringe upon employee rights or enforce excessive overtime are often perceived as lacking justice.

Table 4.15

*Descriptive Statistics*

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
BI1	292	1	5	3.97	1.232
BI2	292	1	5	4.09	1.139
BI3	292	1	5	4.29	1.139
BVD2	292	1	5	3.99	1.156
PV1	292	1	5	4.38	1.089
PV2	292	1	5	4.34	1.087

Continue.....

	N	Minimum	Maximum	Mean	Std. Deviation
PQ1	292	1	5	4.45	.992
PQ2	292	1	5	4.41	1.053
PQ3	292	1	5	4.24	1.047
PQ4	292	1	5	4.47	1.043
BINF1	292	1	5	4.40	1.008
BINF2	292	1	5	4.42	1.014
BINF3	292	1	5	4.35	1.022
PINTENTION1	292	1	5	4.15	1.080
PINTENTION2	292	1	5	4.08	1.190
Valid N (listwise)	292				

#### 4.7 SEM Model Construction

This study consists of 16 elements and five main dimensions, which are BI, BVD, PV, PQ, and BINF, for the construction of the SEM of this study, with the five principal dimensions as the latent variables and the 16 elements as the observational variables, and the initial composition of the SEM is shown in Figure 4.4.

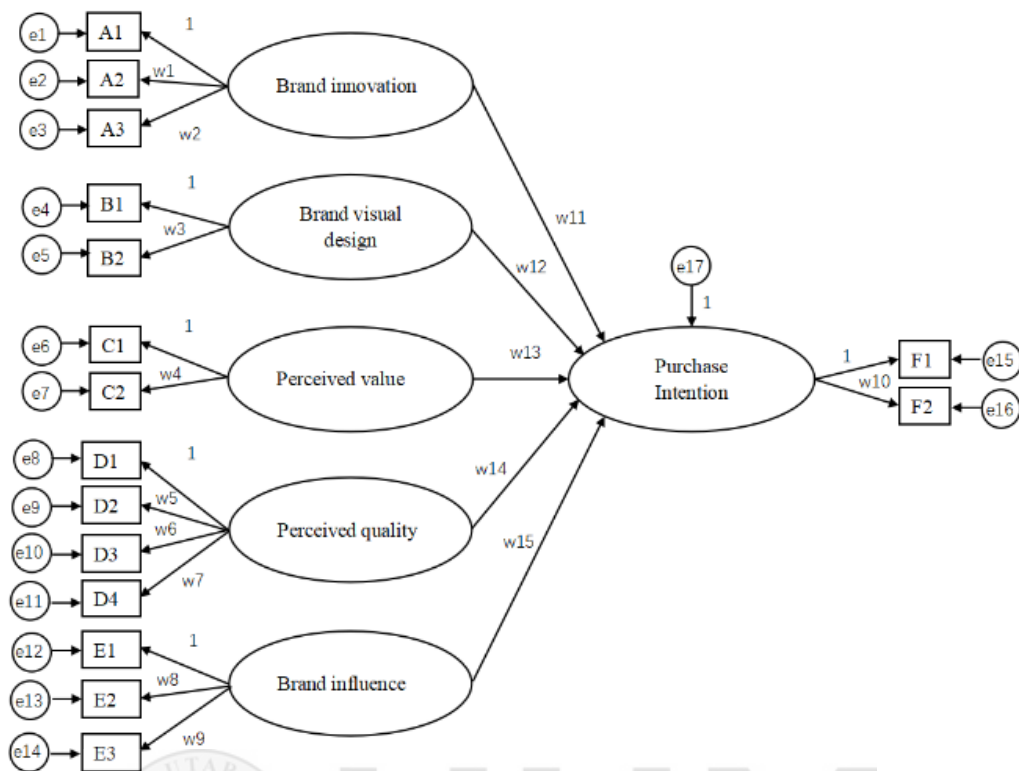


Figure 4.4. The proposed Structural Equation Model (SEM)

## 4.8 Model Evaluation

### 4.8.1 Hypothesis Testing

With a better model fit, this study's hypotheses were analyzed by regression analysis using AMOS 24.0 software, and the results obtained are shown in Table 4.16.

### 4.8.2 Model Fit Test

$\chi^2$

This data tests the difference between the model and the data. The smaller the value, the smaller the difference between the data and the model. 355.124 belongs to the medium category.



**df**

Degrees of Freedom are used to explain the complexity of the model, and 89 indicates that the model complexity is relatively moderate.

**P**

P points to the verification of the validity of the  $\chi^2$  calculation rule, and a value higher than 0.05 indicates that the significance of the model is better.

 **$\chi^2/\text{df}$** 

$\chi^2/\text{df}$  means how well the data fits, indicating that relatively simple models usually fit well, so values less than 3 are considered ideal.

**GFI**

The goodness of Fit Index is a direct measurement index of model fit, usually above 0.9, which is optimal.

**RMSEA, RMR**

RMSEA and RMR represent the model error's root mean square and the residual's root mean square.

**Other measurements**

Other elements such as TLI, AGFI, and IFI. Predict the data after the model is adjusted. The differences between this study, the model, and the data are relatively small, as shown in Table 4.16. For instance,  $\chi^2/\text{df} < 3$  indicates that the model fits the data of this study (Dastgeer et al., 2012; Nock et al., 2009; Weigl et al., 2010). Additionally, the GFI is always smaller than 1 and is generally considered a good model fit when it is more significant than 0.9; this study GFI value above 0.9 signifies a good model fit (Namey et al., 2016). Generally, RMR is less than 0.05, indicating a good model fit,

and the closer it is to 0, the better it is (Byrne et al., 2005; Fairroosa et al., 2021; Nachmani et al., 2021). In this study, the RMR value is 0.053, which is close to the cutoff criterion, suggesting a fair fit; Yu (2002) said that an RMR value in the range of 0.05 to 0.08 is indicative of a fair fit, and values less than 0.05 are indicative of close fit. A CFI value greater than 0.90 is generally considered to indicate a good fit for the model, and a value greater than 0.95 indicates an excellent fit (Rigdon, 1996; Sahoo, 2019). This study's CFI, NFI, NNFI, TLI, and IFI values exceed 0.9, indicating a good model fit. AGFI values should measure 0.85 or above to indicate model fit (Taylor et al., 2003). This study's AGFI value is 0.810, indicating a slightly higher researcher model fit. Moreover, PGFI, PNFI, and PCFI values exceeding 0.5 indicate good model parsimony. SRMR of less than 0.08 is usually considered to indicate a good fit of the model to the data, and less than 0.05 indicates an excellent fit (H.-Y. Hsu et al., 2015). This study's SRMR value is 0.044, indicating an excellent model fit. Nevertheless, some data suggest that the research model still has flaws. For example, RMSEA measures the degree of error approximation in the model. It is generally accepted that an RMSEA value less than 0.1 indicates a good model fit to the data, and less than 0.05 indicates excellent (Kang et al., 2019). This study's RMSEA value is slightly higher than 0.10, indicating poor model fit, with the 90% confidence interval of RMSEA exceeding the ideal range.

Therefore, many fitting indicators validate the SEM model, but the actual study will find that it is difficult for all indicators to meet the standard, so most of the indicators meet the standard, and the model is established.

Table 4.16

*Model Fit Test Results*

<b>Fitness Index</b>	<b>Standard of Judgment</b>	<b>Actual Value</b>	<b>Fitting Result</b>
$\chi^2/df$	< 3	2.990	standards-compliant
GFI	>0.9	0.976	standards-compliant
RMR	<0.05	0.053	Non-compliance
CFI	>0.9	0.941	standards-compliant
NFI	>0.9	0.924	standards-compliant
NNFI	>0.9	0.921	standards-compliant
TAG	>0.9	0.921	standards-compliant
IFI	>0.9	0.942	standards-compliant
AGFI	>0.85	0.810	Non-compliance
PGFI	>0.5	0.573	standards-compliant
PNFI	>0.5	0.685	standards-compliant
PCFI	>0.5	0.698	standards-compliant
SRMR	<0.08	0.044	standards-compliant
RMSEA	<0.1	0.090-0.112	Non-compliance

**4.8.3 Model Regression Analysis**

This study uses SEM to analyze the effects of BI, BVD, PV, PQ, and BINF on PI. This section discusses the influence and measurement relationships of the latent variables, as shown in Table 4.19. As a good fit, indicating that the model can explain the data well (Barrett, 2007). This study applies multiple regression analysis to analyze further the quantitative relationship between the variables (Mao et al., 2009). The results of multiple regression analysis show that BI, BVD, PV, and PQ positively influence purchase intention ( $p = 0.000 < 0.05$ ). This indicates that when BI, BVD, PV, and PQ are higher, there is a Stronger willingness to buy. Meanwhile, the standardised regression coefficients are all positive, further supporting the positive influence relationship of these variables on PI. The regression analysis results show that

hypotheses H1, H2, H3, and H4 are valid. However, the effect of brand influence on purchase intention ( $p = 0.823 > 0.05$ ) indicates that the research results are inaccurate and the probability of being established is low. Therefore, hypothesis H5 does not hold. In addition, the "Model Regression" in Table 4.12 illustrates all the measured relationships. A "-" in the table means that the item is used as a reference item and, therefore, will not be output. Since the first term of the measurement relationship is the reference term, no information, such as p-value, is presented. To further validate the quality of the measurement relationship, this study refers to the standardized loading factor. A standardized loading factor greater than 0.6 indicates a good measurement relationship (Shrestha, 2021). Table 4.17 shows that the standardized loading coefficients for all observed variables are more significant than 0.6, which meets the criteria.

Table 4.17  
*Model Regression*

<b>X</b>	<b>→</b>	<b>Y</b>	<b>B</b>	<b>SE</b>	<b>z</b>	<b>p</b>	<b>St- β</b>
Brand Innovation	→	purchasing intention	0.316	0.033	9.576	0	0.313
Brand Visual Design	→	purchasing intention	0.412	0.047	8.766	0	0.410
Perceived Value	→	purchasing intention	0.333	0.039	8.538	0	0.330

continue.....

<b>X</b>	<b>→</b>	<b>Y</b>	<b>B</b>	<b>SE</b>	<b>z</b>	<b>p</b>	<b>St- β</b>
Perceived Quality	→	purchasing intention	0.284	0.028	10.143	0	0.277
Brand Influence	→	purchasing intention	-16.537	122.123	-0.135	0.823	-14.675
Brand Innovation	→	BI3	0.891	0.056	16.015	0	0.802
Brand Innovation	→	BI2	0.905	0.055	16.403	0	0.815
Brand Innovation	→	BI1	1	-	-	-	0.833
Brand Visual Design	→	BVD2	0.964	0.057	16.902	0	0.844
Brand Visual Design	→	BVD1	1	-	-	-	0.866
Perceived Value	→	PV2	0.917	0.049	18.866	0	0.826
Perceived Value	→	PV1	1	-	-	-	0.899
Perceived Quality	→	PQ4	1.138	0.048	23.525	0	0.93
Perceived Quality	→	PQ3	0.988	0.056	17.73	0	0.804
Perceived Quality	→	PQ2	1.102	0.051	21.499	0	0.891
Perceived Quality	→	PQ1	1	-	-	-	0.861
Brand Influence	→	BINF1	1	-	-	-	0.876
Brand Influence	→	BINF3	0.931	0.051	18.135	0	0.805
Brand Influence	→	BINF2	1.027	0.046	22.38	0	0.895
Purchase Intention	→	PINTENTION1	1.043	0.052		0	0.873
Purchase Intention	→	PINTENTION1	1	-	-	-	0.923

### **Brand Innovation → Purchasing Intention**

The findings suggest a statistically significant positive relationship between BI and PI ( $p = 0.000 < 0.05$ ), aligning with the study by Kennedy-Shaffer (2019), who established the significance of p-values below 0.05. This significance is further reinforced by a small standard error ( $SE = 0.033$ ), indicating high precision in the calculated effect. The robust influence of brand innovation is evident in the significant regression coefficient ( $Z = 9.576 > 1.96$ ), surpassing the critical value for significance (Borg, 2024). Additionally, the standardized beta coefficient ( $\beta = 0.313$ ) reveals that 31.3% of the variation in purchasing intention can be attributed to brand innovation, holding other elements constant (THU, 2019). These results support the research hypothesis H1, confirming the positive influence of brand innovation on purchasing intention.

### **Brand Visual Design → Purchasing Intention**

This study found that BVD has a positive influence on PI ( $P=0.000<0.05$ ), the accuracy of the calculation results is high, more minor standard error ( $SE\ 0.047$ ), and the regression coefficient is significant ( $Z=8.766>1.96$ ) (Borg, 2024).  $\beta$  and Standardized  $\beta$  are 0.412 and 0.410, respectively; the research results indicate that Brand visual design positively influences purchasing intention (THU, 2019). Therefore, research hypothesis H2 is valid. Furthermore, ignoring the influence of other elements, 41.0% of the change in BVD will be converted into the PI of the water heater brand.

### **Perceived Value → Purchasing Intention**

This study found that PV has a positive influence on PI ( $P=0.000<0.05$ ), the accuracy of the calculation results is high, more minor standard error ( $SE\ 0.039$ ), and the regression coefficient is significant ( $Z=8.538>1.96$ ) (Borg, 2024).  $\beta$  and Standardized

$\beta$  are 0.333 and 0.330, respectively; the research results indicate that Perceived value positively influences purchasing intention (THU, 2019). Therefore, research hypothesis H3 is valid. Furthermore, ignoring the influence of other elements, 33.0% of the change in PV will be converted into the PI of the water heater brand.

#### **Perceived Quality → Purchasing Intention**

This study found that PQ has a positive influence on PI ( $P=0.000<0.05$ ), the accuracy of the calculation results is high, a minor standard error (SE 0.028), and the regression coefficient is significant ( $Z=10.143>1.96$ ) (Borg, 2024).  $\beta$  and Standardized  $\beta$  are 0.284 and 0.277, respectively; the research results indicate that Perceived quality positively influences purchasing intention (THU, 2019). Therefore, research hypothesis H4 is true. Furthermore, ignoring the influence of other elements, 31.3% of the change in PQ will be converted into the PI of the water heater brand.

#### **Brand Influence → Purchasing Intention**

This study found that BINF ( $P=0.823>0.05$ ) indicates that the research results are inaccurate and the probability of being established is low. Therefore, in the case of no statistical significance, the conclusion of the degree of influence obtained by the study does not need to be described.

This revised study delves deeper into the intricate elements shaping consumer purchase intentions within the water heater industry in Sichuan Province, identifying five pivotal dimensions that influence consumer behavior. Notably, BI, BVD, PV, and PQ are all significant drivers of PI, thereby validating research hypotheses H1, H2, H3, and H4, as shown in Table 4.18. Further, it underscores the interrelationships among these dimensions. Upon closer examination of the quantitative relationships (Beta coefficients), it becomes evident that BVD emerges as the foremost predictor of PI,

with a Beta value of 0.412, highlighting its crucial role in attracting and influencing consumer choices. This is closely followed by PV (Beta = 0.333), emphasizing the importance of cost-benefit analysis in consumer decision-making. With a Beta value of 0.316, BI slightly edges out perceived quality (Beta = 0.284), underscoring the appeal of novelty and creativity in branding strategies. Moreover, the study delves into the intricate correlations between individual variables. BI positively influences innovation amplitude, frequency, and effectiveness ( $p < 0.005$ ), indicating that consumers perceive innovative brands as more dynamic and forward-thinking. Similarly, BVD fosters a sense of personalization and fashionability ( $P=0.000 < 0.005$ ), emphasizing the aesthetic appeal and customization potential of water heater designs. PV is intricately linked to cost-effectiveness and price sensitivity ( $P=0.000 < 0.005$ ), revealing that consumers weigh the financial implications of their purchases heavily. Additionally, PQ positively influences various functional aspects such as self-cleaning, self-diagnosis, human-computer interaction, and after-sales experience ( $P=0.000 < 0.005$ ), suggesting that high-quality products offer added convenience and reassurance to consumers, the test results are as follows as shown in Table 4.19.

This revised study presents a more coherent and logical narrative, elucidating the intricate interplay between brand equity, consumer perceptions, and purchase intentions in the Sichuan water heater market.



Table 4.18

*Structural Equation Modeling Results*

Hypothetical	Influence Relations	P	Result
H1	BI→PI	0.000	true
H2	BVD→PI	0.000	true
H3	PV→PI	0.000	true
H4	PQ→PI	0.000	true
H5	BINF→PI	0.823	null

Table 4.19

*Effects of Observed Variables on Latent Variables*

Hypothetical	Influence Relations	P	Result
BI	BI→BI1	0.000	true
BI	BI→BI2	0.000	true
BI	BI→BI3	0.000	true
BVD	BVD→BVD1	0.000	true
BVD	BVD→BVD2	0.000	true
PV	PV→PV1	0.000	true
PV	PV→PV2	0.000	true
PQ	PQ→PQ1	0.000	true
PQ	PQ→PQ2	0.000	true
PQ	PQ→PQ3	0.000	true
PQ	PQ→PQ4	0.000	true
BINF	BINF→BINF1	0.000	true
BINF	BINF→BINF2	0.000	true
BINF	BINF→BINF3	0.000	true
PI	PI→PI1	0.000	true
PI	PI→PI2	0.000	true

#### 4.8.4 Covariance Analysis

This section discusses the influence relationships between the independent variables, as shown in Table 4.20. The researchers obtained additional findings in this study, namely the influence relationship between the independent variables. This study had a correlation for all independent variables (all Coef >.6, Sig.000). The correlation and regression relationship between independent variables means that they are interdependent to a certain extent. This indicates that in brand building, companies should focus on comprehensive elements that affect brand equity rather than just focusing on those aspects with more substantial influence. For example, when companies invest more in brand innovation, consumers' opinions on brand perceived value and perceived quality are more likely to increase. This finding is an additional finding. The high correlation and mutual explanatory power of different independent variables should be related to their properties; each variable reflects brand equity from a different perspective, and people's understanding of brand equity is often complex and comprehensive.

Table 4.20

*Covariance Table*

<b>X</b>	<b>Y</b>	<b>Coef.</b>	<b>Std. Error</b>	<b>z</b>	<b>p</b>	<b>Std. Estimate</b>
Brand visual design	Brand innovation	0.918	0.097	9.435	0	0.886
Perceived value	Brand innovation	0.782	0.087	8.978	0	0.781

continue.....

<b>X</b>	<b>Y</b>	<b>Coef.</b>	<b>Std. Error</b>	<b>z</b>	<b>p</b>	<b>Std. Estimate</b>
Perceived value	Brand visual design	0.627	0.08	7.886	0	0.635
perceived quality	Brand innovation	0.733	0.079	9.313	0	0.841
Perceived quality	Brand visual design	0.607	0.071	8.502	0	0.705
Perceived quality	Perceived value	0.792	0.077	10.307	0	0.952
Brand influence	Brand innovation	0.729	0.08	9.121	0	0.807
Brand influence	Brand visual design	0.653	0.075	8.693	0	0.732
Brand influence	Perceived value	0.78	0.077	10.089	0	0.904
Brand influence	Perceived quality	0.741	0.071	10.371	0	0.987

#### 4.9 Result of Discussion

This section discusses the influence of PI in elements of BI, BVD, PV, PQ, and BINF.

##### **Brand Innovation → Purchasing Intention**

The research findings are consistent with results from various fields in recent years. Wu and Ho (2014) discovered that when consumers perceive some mobile phones as highly innovative and disruptive in terms of technology, they intensely desire the product. Wu and Ho's findings are consistent with the study's findings on the magnitude and effectiveness of water heater innovations, namely that people desire innovations that are significant and consistent with consumer needs.

Shams et al. (2017) identified the value of brand innovation in their study on the role of brands, noting that high levels of brand innovation often attract consumers, enticing them to purchase and use the brand's services or products. The results of Shams et al. confirm that consumers pay attention to brand innovation, not just a specific series of products. Water heater brands can improve Chinese consumers' perception of their innovative attributes through continuous innovation, thereby gaining higher consumer brand purchase intention.

Nazam et al. (2019) categorized innovation into several dimensions, including unique, complex, sustainable, and packaging innovations, which can influence people's purchasing intentions. Nazam et al.'s description of the uniqueness and complexity of innovation is related to the innovation magnitude and personalization in brand visual design in the water heater study. However, the sustainability and packaging innovations of Nazam et al. were not identified in this study. Some past studies have shown that China is still a developing country, and consumers' willingness to buy products or brands with sustainability is low (Chen & Wang, 2021). China is in a period of economic depression. Sustainable goods often have a higher premium (Du & Tang, 2023). This premium may have hindered Chinese consumers from purchasing.

However, innovation is not always accepted. As early as the beginning of this century, Douthwaite et al. (2001) pointed out the drawbacks of innovation, highlighting higher complexity, which can make people feel unfamiliar with the technology or service and thus easily resisted by old customers. The study did not identify the negative impact of innovation on purchase intention. This may be because the current innovation conforms to the perceived ease of use (Kim, S., & Lee, 2020). People do not have to put in more effort to master the usage rules for new products.

Chen et al. (2021) affirmed an unconventional brand innovation regarding green performance, suggesting that green innovation helps consumers achieve their environmental aspirations. Although this study did not include green innovation, it provides a unique perspective for future research plans. With the rapid recovery of China's economy, the improvement of consumers' environmental awareness, and national environmental protection initiatives, environmental protection may become an important direction for water heater brand investigation.

*H1: Brand innovation has a positive influence on consumer purchase intention.*

### **Brand Visual Design → Purchasing Intention**

The relationship between brand visual design and people's purchase intentions has also been explored in the past. Park et al. (2015) examined brand visual marketing by investigating visual images such as fashion, attractiveness, and functionality. They found that nationality and attractiveness significantly positively influence brand equity, thereby enhancing consumers' purchase intentions by improving their brand attitudes. This study found the fashionable attributes of water heater brands as the primary visual elements promoting consumers' purchasing intention. Although water heaters are rarely used for display to others, buyers, especially female buyers, still have high requirements for appearance. This may be related to gender differences among consumers. Female consumers tend to pay more attention to products' visual and emotional value (Cova & Dalli, 2009; Meyers-Levy & Loken, 2015). Shi and Jiang (2023) discovered that Chinese cultural elements in branding relate to perceived brand image consistency and strengthen purchase intentions by enhancing brand identity. Cultural elements are less correlated with fashion but more correlated with the brand's unique personalized design. Ai and Chen L. (2022) pointed out that cultural elements

cleverly construct personalized brand identity in brand design. Shi and Jiang's findings were confirmed in this study, and the personalized design of water heater brands significantly increased people's willingness to buy. This may be related to Tuškej et al.'s (2013) findings that brand personalization can achieve emotional identification with specific consumers. Another reason for the demand for water heater brand personalization points to the satisfaction of consumers' self-expression needs. Kim and Min (2015) found that brand personalization can be used to expand and express users' personalized claims.

However, brand visual design does not always influence purchase intentions. This study contradicts some views. For instance, Shaouf et al. (2016) found through a study of over 300 survey samples on web ad visual design that while web ads can influence consumer attitudes and purchase intentions, they do not directly affect purchase intentions. However, this result may be affected by data elements and may not be accurate enough. For example, Fishbein, M., & Ajzen (1975) clearly stated in the Theory of Reasoned Action that purchase intention is a direct manifestation of attitude. Therefore, Shaouf et al.'s conclusion that visual design affects behavioral intention through attitude but not directly may be accidental. The results of this study point to a direct relationship between brand visual design and purchase intention, particularly in water heater brands. This result does not conflict with Shaouf.

*H2: Brand image design has a positive influence on consumer purchase intention.*

### **Perceived Value → Purchasing Intention**

Many studies have recognized the positive and significant relationship between perceived value and purchasing intention. Wu and Ho (2014) believe that people tend to favor highly cost-effective products, making them feel that their cost investment is

worthwhile, stimulating their purchasing intention. This is similar to the study's findings on how perceived value and cost-effectiveness affect people's purchase of water heaters. The reason for this common social phenomenon may be related to China's sluggish economy and consumption habits. In 2024, most Chinese residents spontaneously took measures to reduce consumption in response to layoffs and income cuts, and the result of consumption downgrade pointed to cost-effective goods (The Economist, 2024). In developing countries, including China, people are more inclined to use their minimal income to buy more products to meet their daily needs, and cheap or high-cost-effective goods have become the first choice (Sheth, 2020).

This conclusion has been confirmed in other studies as well. A large study with 1,042 valid samples on pork affirmed the finding that the functional value, emotional value, social value, and conditional value of a product act as a value combination, influencing people's overall perception of the product's cost-effectiveness and leading to higher purchasing intentions (Kung et al., 2021). Unfortunately, this water heater study did not specifically categorize brand value but focused more on price-related attributes, including cost-effectiveness and price. The researchers acknowledged that Kung et al. provided a good research perspective and that they could examine consumers' views on different value dimensions in the future, such as luxury brand premium, service premium, technology premium, and health premium. China's preference for cheap goods may be temporary. In 2025 China will become the largest market for luxury goods transactions (Statista, 2025). Water heater brand assets may be re-examined to meet the latest findings on dynamic social needs.

Research on consumer behavior in electronic supermarkets has obtained similar conclusions: the higher the perceived value, the less hesitation and the more positive

the purchasing intention. This study refutes a past finding. For example, Chi et al. (2011) did not identify an influence of perceived value on purchasing intention. This finding has been contradicted in studies in the water heater field. Of course, it is not difficult to explain. Many products are relatively expensive despite being of high value. Usually, people with a limited budget do not consider products beyond their budget. Kumar and Gupta S. (2016) stated that the shopping behavior of low-income groups tends to be similar; they strictly allocate resources and avoid products beyond their budget. Water heater brands need to adjust the selling price appropriately according to the income of the consumer group to ensure that consumers believe this is an affordable brand.

*H3: Perceived value has a positive influence on consumer purchase intention.*

#### **Perceived Quality → Purchasing Intention**

Against the backdrop of a surge in global store brands, Calvo-Porrall and Lévy-Mangin (2017) examined consumers with high perceived quality (HPQ) and low perceived quality (LPQ), finding significant differences in brand trust and purchasing intentions between the two groups, with HPQ consumers having a more favorable purchasing intention. This finding was confirmed in the study by Satriawan and Setiawan (2020), where increased perceived quality was associated with higher purchasing intentions. This study obtained similar findings. Perceived quality positively and significantly affects Chinese consumers' purchase intention for water heater brands. Researchers speculate that the impact of perceived quality on consumers' purchase intention is related to the brand's quality performance in different consumer demand dimensions rather than those general elements. For example, 57% of consumers care about the battery life and battery life of their mobile phones (Siddique et al., 2013). However,



this factor is rarely considered in daily remote controls. Thus, perceived quality is related to the quality dimensions of a specific product.

Technologies related to water or cleaning are often explicitly required to perform self-cleaning. Kim & Shi (2022) Discovery. The core functions of smart home devices gradually include innovations in self-cleaning, which consumers recognize and increase their purchase intention. For example, the self-cleaning function of sweeping robots brings greater convenience to consumers and significantly increases consumers' purchase intention (Park & Yoo, 2021). Some studies have also confirmed the need for self-cleaning in water purifiers. Lee & Kim (2020) affirmed that more consumers tend to favor water purifier brands that focus on self-cleaning. In this study, self-cleaning was also seen as a key factor influencing consumers to purchase water heaters or related to the convenience and hygiene experience they bring.

As digital technology grows rapidly and improves human well-being, consumers are becoming more dependent on specific digital technology performance, such as self-diagnosis and the quality of human-computer interaction. Self-diagnosis technology can be divided into two aspects: the use of technology to enable consumers to self-diagnose personal health problems and the self-diagnosis of technology failures during operation (Li & Kim, 2020; Lu et al., 2022). This study affirms the latter. Due to non-health detection technology, the water heater health diagnosis quality was not paid attention to in semi-structured interviews and Delphi studies. People's demand for this technical dimension may be related to maintenance costs, safety, and reducing the probability of emergencies. Water heaters are used frequently in daily life, and damage will affect people's daily bathing needs and bring safety hazards. Self-detection serves the purpose of early warning and clarifying maintenance projects.

Research related to brands is not uncommon, especially studies on brand image, perceived quality, and perceived value in connection with purchasing intentions (Suhud et al., 2022). However, the conclusions of this study are not unnecessary. Some past studies have yielded contrary results. Wu and Ho (2014) found that reliable product quality is crucial to consumers. However, consumers' purchasing intentions did not increase with improved quality; instead, they showed a declining trend. This study once again affirms the positive influence of perceived quality on purchasing intentions in the water heater field rather than a negative one.

*H4: Perceived quality has a positive influence on consumer purchase intention.*

#### **Brand influence → Purchasing Intention**

This study denies the influence of e-reputation, brand awareness, and brand justice image in Brand influence on the willingness to buy water heater brands. This may be negatively affected because the influence of the water heater brand is still relatively complex after the Delphi method. For example, some past studies have focused more on e-reputation, brand awareness, and brand justice image rather than simultaneously treating them as three observed variables in a latent variable. Of course, we cannot deny the possibility that e-reputation, brand awareness, and brand justice image do not affect the willingness to buy water heater brands.

Huang & Sarigöllü (2022) stated that brands with higher visibility are less likely to be at a disadvantage in the market. They are often well-known by consumers and have more product or brand visibility, which promotes consumer purchases. Aaker, J., & Biel (2021) found that in unfamiliar product categories, brands point the way for consumers, helping them to transform their aimless purchases into familiar brands. The single effect of brand awareness on purchase intention is valid and easy to

understand. However, it is not absolute. For example, brands with higher visibility may have a premium or easily cause aesthetic fatigue to consumers (Huang & Sarigöllu, 2012). In addition, some products, such as erasers, light bulbs, and water cups, are highly homogeneous, and the choice of brand has no value and meaning and cannot affect purchase intention (Keller, 2013). Water heater brands may be abandoned due to some consumers' perception of homogeneity, premium perception, and aesthetic fatigue.

Cheung and Thadani (2022) stated that with the increase in electronic word-of-mouth and the emergence of favorable, high-quality, and trusted reviews, people's willingness to buy is guided by opinion leaders and social influence. However, this is usually based on the premise that consumers do not have fanatical and blind trust in a particular brand. Filieri et al. (2018) stated that when consumers have a high degree of trust in a brand, they will assume the remarks in electronic word-of-mouth to be false or the result of malicious competition from peers and will not affect their willingness to buy the brand. Therefore, the electronic word-of-mouth of water heater brands may not influence those determined brand advocates but more those who know little about the brand. Of course, as competition in the Chinese market intensifies, it is difficult for people to discern the authenticity of the host's description of the product in the Douyin live broadcast and which false or exaggerated propaganda may further affect people's negative views of the brand.

Park and Lee (2023) believe that brand justice image promotes consumers' advocacy for a specific brand and strengthens their willingness to buy by establishing resonance with consumers regarding moral will and emotional value. Justice is often related to consumer trust, which promotes purchase intention by promoting trust (Kim & Lim,

2022). However, consumers may be suspicious and think that businesses are always using different means to increase sales, including hypocritical justice. Sen and Bhattacharya (2001) found that when consumers link the company's justice behavior with the purpose of sales growth, they will no longer work hard to consume for the company's justice. Therefore, this study speculates that many water heater companies in the Chinese market have carried out moral behavior driven by non-moral purposes, which is a deception to win the favor of consumers and should not generate positive purchase intention. The emergence of purchase intention will prompt companies to believe that this is an effective means, not a sincere moral performance, that consumers are eager to see.

*H5: Brand influence has no positive or significant influence on consumer purchase intention.*

The conclusion shows that in China's creative industry water heater market, the impact of brand equity on consumers' purchase intention is mainly reflected in the four key dimensions of brand innovation, visual design, perceived value, and perceived quality, which all show significant positive effects. Specifically, brands that consistently introduce innovative products have appealing visual designs, offer good value for money, and ensure high-quality performance will effectively enhance consumers' purchase intentions. However, brand influence does not significantly affect purchase decisions in this study, suggesting that in the current competitive market environment, consumers pay more attention to the actual value and performance of products rather than relying solely on brand awareness or market position; the proposed model provides a comprehensive tool for understanding and enhancing consumer purchase intentions in the water heater industry.

#### **4.10 Summary**

The approach used to answer the three research questions is thoroughly described in Chapter Four. Thoroughly reviewing the literature highlights areas of unmet research need and clearly states the goals and questions of the study. Then, considering cost, brand reputation, and product performance, a conceptual model is created to investigate the aspects influencing customer purchase intention in the water heater sector. After the model is built, it is validated to ensure reliability and accuracy. The research methodology comprises five stages: problem identification, proposed solution, design, development and evaluation, and conclusion. In the problem identification stage, research gaps and issues within the field are identified through literature review and market research. The proposed solution involves formulating initial ideas to address the research objectives and questions. The design stage entails detailed planning of research steps and activities, including data collection methods, sample selection, and experimental design. The development stage involves implementing the designed research plan and collecting relevant data. Finally, in the evaluation stage, the collected data is analyzed and interpreted to draw conclusions and provide recommendations for further study.

## **CHAPTER FIVE**

### **CONCLUSION**

This study begins by writing about the study's findings, which aim to analyze the influence of brand elements on water heater consumers' purchase intention in the creative industry. Secondly, the research contribution of this study is described. However, there are limitations to the study, such as the geographical restriction of the sample, which may affect the generalizability of the results, which can be expanded to a broader region in the future. For future research, it is recommended to explore further the differences in consumer behavior across cultures and the dynamics of technological innovations on brand influence mechanisms. Finally, this chapter summarizes the study's findings and highlights its practical value in guiding water heater companies to improve the consumer experience and branding advantages.

#### **5.1 Finding**

The analysis of the study's results is based on a thorough evaluation of the research questions, which are inherently consistent with the overall goals of this study. The present study aims to investigate the following research objectives specifically:

- i. To identify the elements of brand equity that influence consumer purchase intention.
- ii. To develop the brand equity model to influence consumer purchase intention.
- iii. To evaluate the brand equity model in influencing consumer purchase intention.

A strong basis for the following study was established in the previous chapter when this study went into great depth on the data analysis outcomes. An important first step

in uncovering the processes underlying consumer behavior is the identification of the significant variables that influence consumers' purchase intentions in this study section. After that, an attempt was made to develop the IBECPI model, which stands for Integrated Brand Evaluation and Consumer Purchase Intention. A well-crafted model is built around the important components discovered and integrated into a cohesive framework to capture the interaction between brand features and customer preferences. In addition to being a theoretical development, the IBECPI model offers a valuable tool for analyzing and forecasting consumer intention. Finally, this study uses SEM to assess the robustness and validity of the IBECPI model critically. In doing so, this study provides empirical evidence for the proposed theoretical framework by validating the assumptions that were put forth based on the significant components that were discovered and the IBECPI model.

- i. RO1. To identify the elements of brand equity that influence consumer purchase intention.

The researchers conducted an SLR of water heaters and brand equity studies over the past five years. The researchers identified 22 elements related to brand equity. Through semi-structured interviews, discussions were held with two brand equity experts, two creative industry experts, four sales personnel, and two designers, focusing on the elements influencing brand equity for water heaters in China. These discussions further supplemented the dimensions of brand equity for water heaters. In addition to reducing the existing dimensions, the researchers allowed the experts to add variables during each round of the Delphi questionnaire freely. After obtaining many brand equity influencing elements, the researchers used the Delphi method, inviting eight experts to eliminate elements that had little or no influence on brand equity to ensure irrelevant

elements did not disrupt the study. These new dimensions were evaluated in the subsequent Delphi rounds. Ultimately, the researchers successfully reduced the relevant water heater brand equity elements to 14, incorporating them into five main dimensions, including BI, BVD, PV, PQ, and BING, as shown in Table 5.1.

Table 5.1

*Key Dimensions and Purchase Intention Elements*

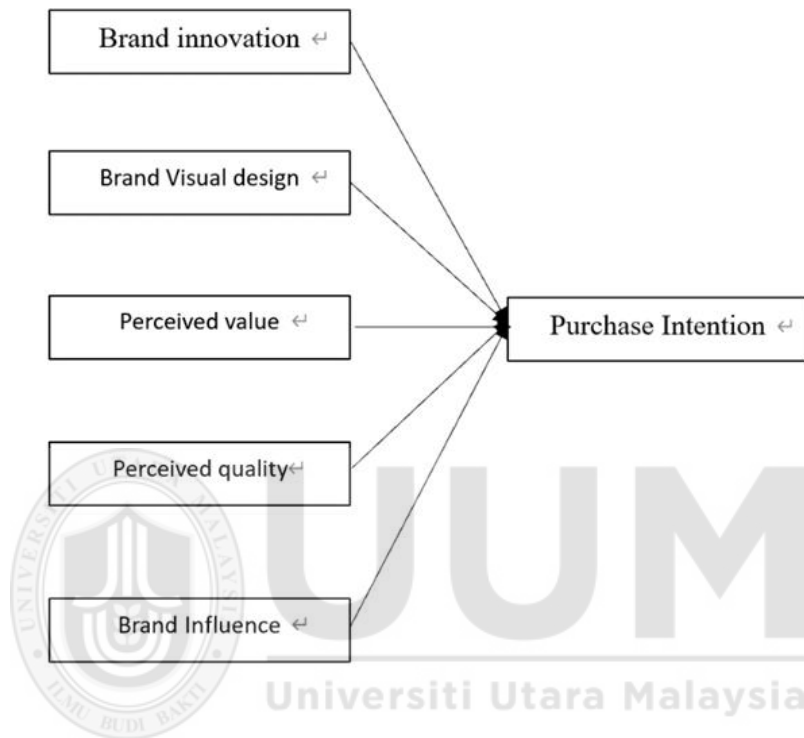
Dimensions	Elements
BI	<ul style="list-style-type: none"> <li>● Innovation amplitude</li> <li>● Innovation frequency</li> <li>● Innovation effectiveness</li> </ul>
BVD	<ul style="list-style-type: none"> <li>● Personalize</li> <li>● Fashion</li> </ul>
PV	<ul style="list-style-type: none"> <li>● Cost-effectiveness</li> </ul>
PQ	<ul style="list-style-type: none"> <li>● Price</li> <li>● Self-cleaning function</li> <li>● Self-diagnosis function</li> </ul>
BING	<ul style="list-style-type: none"> <li>● Human-computer interaction</li> <li>● After-sales experience</li> <li>● Electronic word-of-mouth</li> <li>● Brand awareness</li> <li>● Brand justice image</li> </ul>

ii RO2. To develop the model of brand equity in influencing consumer purchase intention.

After a comprehensive analysis based on the interviews in RO1 and the Delphi method, this study successfully identifies and constructs a model for consumer purchase intention in creative industries. This model analyses the key elements influencing



consumers' purchasing decisions through five core latent variables (BI, BVD, PV, PQ, and BINF) and their subordinate 14 observational variables. The proposed research model is constructed on this basis, as shown in Figure 5.1; the key findings are as follows:



*Figure 5.1. The Proposed Model of IBECPI*

### **Importance of Brand Innovation (BI):**

**Innovation Amplitude:** There is a tremendous need for deep and wide innovation, as seen by consumers' propensity to purchase innovative items that provide a high degree of novelty and diversity.

Innovation frequency: Brands that release new items regularly are more likely to catch consumers' attention, as their constant innovation activity communicates their vitality and forward-thinking attitude.

Effectiveness of innovation: Innovation should not only be new but also market-acceptable and have beneficial advantages since these elements directly influence customers' desire to trust and purchase a brand.

**BVD attraction:**

Personalize: Brands that can offer specialized services are becoming increasingly well-liked as customers' need for customization increases.

Fashion: Creative industries are closely linked to fashion; brands that follow or lead trends often inspire consumers to buy.

**PV consideration:**

Cost-effectiveness (Cost-effectiveness): Consumers pursue high quality but also focus on cost-effectiveness, whether the product is worth the money.

Price (Price): Price is still one of the key elements affecting the purchase decision, but it is not the only determining factor; it needs to be considered in conjunction with other elements.

**PQ guarantee:**

Self-cleaning function (Self-cleaning function), self-diagnosis function (Self-diagnosis function): These high-tech features enhance the product's practicality and convenience and increase the consumer's willingness to buy.

Human-computer interaction: Effective design of human-computer interaction enhances the usability and user experience of products, which is a crucial element in drawing in customers.

After-sales experience: Good after-sale support may increase customer brand loyalty, which is crucial when purchasing.

**BINF:**

Electronic word-of-mouth: Online evaluations and suggestions significantly influence customers' purchase decisions in the digital era.

Brand awareness: Consumers are likelier to trust and pay attention to well-known companies.

Brand justice image: Building long-term consumer connections requires a fair and honest perception of a brand in the eyes of the general public.

In conclusion, we discovered through interviews and the Delphi method analysis that the primary elements influencing consumers' purchase intention in the creative industries are the five latent variables BI, PV, PQ, BVD, and price value—as well as their subordinate 14 observational variables. For businesses in the creative sector, this study is a valuable resource for better understanding consumer demand, streamlining offerings, and building brand equity.

iii . RO3. To evaluate the model of brand equity in influencing consumer purchase intention.

The IBECPI was constructed based on LR, semi-structured interviews, and the Delphi method, and its fit with Chinese Sichuan consumers is to be verified. This study adopts a quantitative approach and utilizes SEM for final validation. The results are shown in Table 5.2, and the model is shown in Figure 5.2. The study delves into the effects of brand innovation, visual design, perceived value, perceived quality, and brand influence on purchase intention and comes up with a series of important findings.

The significant positive effect of BI on PI: According to the study, brand innovation significantly increases consumers' intentions to buy ( $\beta = 0.313$ ,  $p = 0$ ). This study highlights how crucial brand innovation capabilities are to attracting and keeping customers. It recommends that businesses use innovation as a primary tactic to improve their competitiveness and standing in the market.

The strong influence of BVD: Of all the independent elements, brand visual design had the most positive influence on customer purchase intention ( $\beta = 0.410$ ,  $p = 0$ ). To increase brand appeal and market effect, businesses should concentrate on innovation and optimization of brand visual aspects, as this study highlights the critical role that visual design plays in brand identification and customer emotional connection.

The positive contribution of PV: The results show that customer purchase intention is significantly positively influenced by perceived value ( $\beta = 0.330$ ,  $p = 0$ ). This shows that consumers are making more and more decisions based on the usefulness and affordability of products. As a result, businesses should work to increase consumers' perceived value by enhancing the quality of their products and optimizing them. This will increase consumers' propensity to buy and their loyalty.

Robust role of PQ: Though to a significantly lower extent than other characteristics, perceived quality has also been demonstrated to have a substantial positive influence on customers' purchase intention ( $\beta = 0.277$ ,  $P = 0$ ). This study reminds businesses that quality control must always come first to guarantee that their products fulfill customers' expectations and basic needs. It also highlights the critical role that product quality plays in branding and consumer decision-making.

The complexity of the relationship between BINF and PI: The study revealed that, in contrast to predictions, brand influence did not significantly and directly influence consumers' intentions to purchase ( $\beta = -14.675$ ,  $P = 0.823$ ). This study casts doubt on the widely held belief that brand influence directly and deterministically shapes purchase intention, implying that other variables may influence brand influence or may need to function in concert with them to have a meaningful influence. As a result, businesses must review their approaches to brand communication and look into new, more efficient ways to increase market penetration and brand influence.

In conclusion, this study uses empirical analysis to show the intricate link between BINF, PV, PQ, BI, BVD, and customer PI. These findings offer businesses a solid scientific foundation on which to build and execute marketing plans that work and valuable insights into how businesses may improve their market position and brand competitiveness.

Table 5.2  
*Finding of Hypothesis*

Research hypothesis	Variables	Test results
H1	Brand innovation has a positive influence on consumer purchase intention.	true
H2	Brand visual design has a positive influence on consumer purchase intention.	true
H3	Perceived value has a positive influence on consumer purchase intention.	True
H4	Perceived quality has a positive influence on consumer purchase intention.	true
H5	Brand influence has a positive influence on consumer purchase intention.	Null

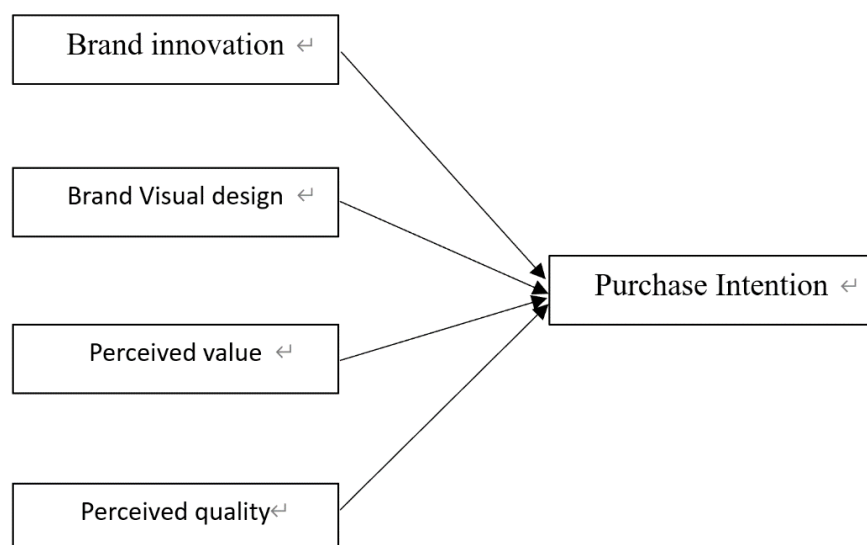


Figure 5. 2. The Final Model of IBECPI

## **5.2 Research Contribution**

The primary output of this study is a conceptual model that explains how purchase intention in the creative industry can be influenced. This model emphasizes the importance of visual design, perceived value, and perceived quality, and it is based on a thorough analysis of the intricate relationship between brand innovation and purchase intention. In addition to complementing current theories, this model may close theoretical gaps. It offers corporate branding solid backing and helpful direction, assisting businesses in making well-informed policy decisions that will increase their competitiveness in the marketplace.

### **Research Methodology Contribution**

Past studies on branding often relied on quantitative or qualitative research methods, with few utilizing the semi-structured interviews, surveys, and the Delphi method simultaneously. Thus, this study contributes a mixed analysis approach and demonstrates the feasibility of this study technique.

### **Research Theory Contribution**

Many studies on brand equity still rely heavily on older theories related to CBBE and FBBE, such as the Aaker Brand Equity Model and Keller Model. Some researchers have proposed novel theoretical frameworks, such as the Baalbaki Brand Equity and Information and Consumer Intention Theory. In this study, these theoretical frameworks have not been widely confirmed. This study consolidates and integrates these theories while extracting key variables as research guidelines. Additionally, the study creates a new brand equity model, achieving theoretical innovation and supplementation in the field of CBBE.

### **Evidence Contribution**

There has been a lack of detailed descriptions regarding whether people care about brand innovation, perceived value, brand visual design, and brand influence, mainly regarding the segmentation of these variables. For example, it was unclear whether desired innovative brands refer to fast innovation speed or large innovation amplitude. This study concludes that people care about various sub-domains such as Innovation Amplitude, Innovation Frequency, Innovation Effectiveness, Personalization, Fashion, Cost-effectiveness, Price, Self-cleaning function, Self-diagnosis function, Human-computer interaction, After-sales experience, Electronic Word-of-mouth, Brand awareness, Brand justice image.

### **Business Contribution**

This study provides a better approach for businesses to make the consumer experience. It informs them about the development directions they should focus on, such as innovation that meets consumer demands and emphasizes innovation frequency and amplitude. It also emphasizes ensuring procedural, communication, and distribution justice within the company, establishing a rapid response mechanism for after-sales service, maintaining a high value-for-money and small-profit margin policy, adding self-cleaning and problem diagnosis functions to water heaters, and equipping them with warning functions.

### **Consumer Contribution**

This study elucidates consumer perceptions of brands and clarifies consumer brand preferences. When the market responds to consumer needs, consumers can quickly identify more types of brands they prefer. Engaging in relevant justice intention



dissemination or innovation product dissemination during digital media time is easy for brands.

### **5.3 Research Limitation**

The geographical restriction to Sichuan makes it challenging to reflect the behavioral characteristics of consumers across the country comprehensively; the lack of longitudinal data makes it impossible to track the dynamic changes in consumer attitudes and behaviors; the limited diversity of the samples may lead to results that are not broadly representative; the research methodology may be potentially culturally biased, which may affect the generalizability of the conclusions; and the finding of an unexpected non-significance of brand influence in purchase intention is insufficiently explored to dig deeper into the Insufficient exploration of the unexpected non-significance of brand influence in purchase intention, which fails to explore the underlying reasons and influencing mechanisms in depth, restricts the significance of the study in guiding brand strategy development. These limitations suggest that future research needs to expand the scope and increase the dimensions and depth of data.

### **Literature Review**

The literature review of this study lacks complete correlation with the results of the Delphi method and quantitative research results. Without identifying the research findings, researchers cannot determine which variables will significantly influence brand equity from the consumer perspective.

### **Longitudinal Study**

While this study captures current consumer perceptions of brands, it does not account for how the attitudes of this demographic towards brand attributes may have changed over the past 5 years or even longer. This implies that this study does not have enough evidence to speculate on changes in consumer brand preferences in the coming years.

### **Data collection limitations**

This study relied mainly on qualitative data for model construction and hypothesis formulation. Although the Delphi method ensured the accuracy and consistency of the data, it lacked the support of quantitative data. Future research can combine quantitative data for more in-depth validation and analysis.

### **Industry limitation**

This study focuses on the water heater industry, and its conclusions may not directly apply to other industries. Future research could explore the differences and commonalities of brand equity models across different industries.

### **Sample limitations**

Although this study invited several experts to the interviews, the sample size is small, and there may be some under-representation problems. Future research can expand the sample scope to improve the generalizability of the study.

## **5.4 Recommendation**

### **5.4.1 Recommendations for Future Research**

Cross-industry research: Future research can further explore the differences and commonalities of brand equity models across different industries to guide broader brand management practices.

**Dynamic modeling research:** As the market environment changes and consumer demands diversify, brand equity models must be updated and improved. Future research can focus on the dynamic change process of the brand equity model and propose more adaptive brand management strategies.

**Cross-cultural research:** Consumers in different cultures may have different perceptions and preferences for brands. Future research can explore the influence of cross-cultural elements on the brand equity model and provide a reference for brand management of multinational enterprises.

#### **5.4.2 Recommendations for Brands**

##### **i. Deepen the implementation of innovation strategy:**

Technological innovation: Committed to research and development of more energy-efficient, intelligent, and environmentally friendly water heater products, as well as the deep integration of technology and brand image. Specific measures include developing intelligent control functions to realize remote control and intelligent management;

Exploring solar water heater technology and using renewable energy to improve energy efficiency and continuously optimizing energy-efficient technologies to reduce energy consumption.

Design innovation: Closely focusing on consumer demand for self-diagnosis, self-cleaning, human-computer interaction, and other functions to create creative and personalized product design. The products stand out in appearance, function, and user experience through innovative design concepts and advanced technical means.

Service Innovation: Provide comprehensive and considerate after-sales service, including fast door-to-door repair, regular maintenance, and intelligent remote service. Optimizing the service process and improving service efficiency and quality bring consumers a more convenient and intimate experience.

## **ii. Comprehensively improve brand perception:**

Product quality control: Strictly control product quality to ensure each product meets high-quality standards by displaying product test results, quality certification, and other information to enhance consumer trust and recognition of the product.

Optimization of detail experience: Focus on handling product details and strive for perfection in all aspects, from material selection and craftsmanship to packaging design. Improving the texture of the product makes consumers' experience more pleasant.

Word-of-mouth communication promotion: actively encourage users to share their experiences and expand the brand influence through word-of-mouth communication. At the same time, it strengthens interaction and communication with consumers, responds to consumer feedback promptly, and establishes a good brand image.

## **iii. In-depth transmission of brand value:**

Clear value transmission: By clearly communicating the core value of the product, such as energy savings, safety, and comfort, through advertising, publicity, and other means, the product value is effectively delivered to the target consumer groups.

Emotional marketing strategy: use advertising, publicity, and other means to deeply associate the brand with consumers' lifestyles and emotional needs. Emotional marketing enhances consumers' sense of identity and belonging to the brand.

Reasonable pricing strategy: Develop a reasonable pricing strategy based on product positioning and the characteristics of the target consumer group. Matching price and value enhances the product's market competitiveness and consumers' willingness to buy.

#### **iv. Continuous improvement and strategy adjustment:**

Market Research and Consumer Insight: Conduct regular market research to understand consumer needs and market trends in-depth. Through market research, this study strongly supports product innovation and brand strategy adjustment.

Competitor Dynamic Attention and Response: Pay close attention to competitors' dynamics and market performance and adjust brand strategy to respond to market changes. Through flexible strategic adjustments, this study maintains the advantageous position of the brand in the market competition.

Active exploration of new technologies and media: Continuously explore and apply new technologies and media to bring more innovative elements to brand marketing. Enhance brand communication effect and market competitiveness through the innovative application of technology and media.

## 5.5 Conclusion

This study constructs a conceptual model of the behaviors influencing consumer purchase intention within the water heater domain. This is achieved in three stages: In the first stage, key elements are identified through a systematic literature review, combined with expert interviews and the Delphi method, (i) To identify the elements of brand equity that influence consumer purchase intention (Objective 1). (ii) To develop the brand equity model influencing consumer purchase intention (Objective 2). (iii) To validate the brand equity model influencing consumer purchase intention (Objective 3).

One of the shortcomings in the research field points to the lack of segmentation of brand equity in specific areas. Based on this viewpoint, the researchers employed a series of relevant research methods to develop the asset model IBECPI for water heater brands in the Sichuan region of the Chinese market, thereby contributing to the study of brand equity in the creative industry field. This process was mainly divided into several stages: SLR to initially establish a cluster of brand equity influencing elements; semi-structured interviews with experts to enrich the dimensions influencing water heater brand equity; the Delphi method to filter the large set of brand equity dimensions into high-quality content; and the SEM to conduct actual assessments of Sichuan residents to verify the influence of each dimension within the IBECPI.

After exploring the water heater market in the Sichuan region as a specific example of consumer purchase intention research in the creative industries, this study has come to the core conclusion that several key elements, including BVD, BI, PQ, and PV positively influence consumer purchase intention in the creative industries. In contrast, traditional BINF does not play a significant role in this context.

This finding has profound implications for understanding and optimizing the marketing strategies of products in creative industries, such as water heaters sold in Sichuan. BI, as a key component of enhancing PV, encompasses the breadth (magnitude of innovation), frequency (speed of innovation), and effectiveness (effectiveness of innovation) of innovation, which together shape the uniqueness and attractiveness of a brand in the minds of consumers. At the same time, shaping brand image, mainly through personalized BVD and elements that follow fashion trends, can further deepen consumers' perception and goodwill towards the brand. In terms of PV, consumers are paying more and more attention to the cost-effectiveness and price reasonableness of products, which means that enterprises need to be more flexible and transparent in their pricing strategies to meet consumers' pursuit of cost-effectiveness. On the other hand, PQ, as an important factor influencing purchasing decisions, covers the actual functional performance of the product, such as the water heater's self-cleaning and self-diagnostic functions, human-computer interaction experience, as well as after-sales service. Together, these aspects constitute a comprehensive assessment of PQ, which affects consumers' purchase intention.

Based on the above findings, companies selling water heaters in Sichuan should adopt a leaner management strategy, focusing on improving BI, optimizing BVD, and strengthening the PQ and value of their products. Specifically, enterprises can enhance brand differentiation and uniqueness by continuously launching innovative products and services; at the same time, they should focus on shaping and maintaining the BVD to enhance the brand's goodwill and loyalty in the minds of consumers; in addition, they should also strengthen the technological research and development of the products and quality control to ensure the products' excellent performance in actual

use; finally, they should enhance consumers' perceived value by adopting a reasonable pricing strategy and high-quality. Finally, through reasonable pricing strategy and high-quality after-sales service, the perceived value of consumers can be enhanced, thus further stimulating their purchase intention. To summarize, this study deepens our understanding of the elements influencing consumers' willingness to buy in creative industries and provides valuable market strategy references for water heater sales enterprises in Sichuan, which can help them establish and consolidate their brand advantages in the fierce market competition.





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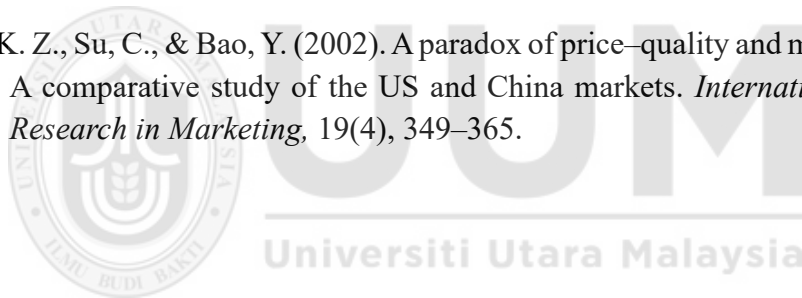
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## APPENDICES

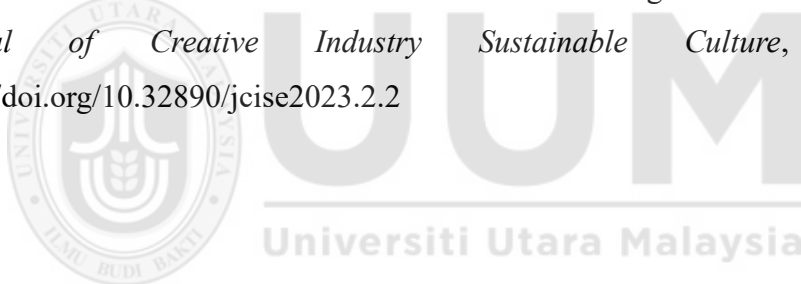
### Appendix A Paper Published

#### Scoups Index journal

Yingrui, L. & Che Mat,R. (2023). The Influence of Visual Image on Brand Communication: A Multi-Dimensional Interaction Model Analysis. *Journal of Logistics, Informatics and Service*. Vol.10 (2023)No.4, pp.250-266. DOI:10.33168/JLISS.2023.0417(Scopus).

#### Refereed journal

Yingrui, L. & Che Mat, R. (2023). The Application of New Media in Brand Communication: The Influence of Brand's Visual Image on Purchase Intentions. *Journal of Creative Industry Sustainable Culture*, 2, 22-33. <https://doi.org/10.32890/jcise2023.2.2>



## Appendix B



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### Water heater purchase intention first round of expert review form

The following table focuses on the simplification of the brand equity dimensions of water heaters. Please tick the brand equity dimensions you think have the most significant influence on consumer usage intention. You are asked to express your opinion on removing and retaining any dimension, allowing other researchers to reject or support your opinion. After all experts, including you, have completed filling in the questionnaire, the host will share the questionnaire, and you will get seven other experts who have completed the questionnaire and enter the second round.

NO.	Brand Equity Dimensions	Retain	Remove	Reason
1	Image		x	
2	Social Influence		x	
3	Subjective Norms		x	
4	Imitation		x	
5	Auditory effect	✓		
6	Patriotism		x	
7	Environmental Protection	✓		
8	Charity		x	
9	Commitment		x	
10	Fairness		x	
11	Respect	✓		
12	Forgiveness		x	
13	Excellence	✓		

14	Career Development		x	
15	Channels For Information Acquisition		x	
16	Difficulty Of Information Acquisition		x	
17	Types Of Information		x	
18	Credibility Of Information		x	
19	Quality Of Information	✓		
20	Quantity Of Information		x	
21	Consensus On Information		x	
22	Brand Awareness	✓		
23	Price	✓		Chinese people are highly price sensitive, and price greatly affects consumers' purchase intention
24	Cost-effectiveness	✓		
25	Credibility		x	
26	Premium		x	
27	In-Store Experience		x	
28	Face-To-Face Service Experience		x	
29	Online Shopping Experience	✓		
30	After-Sales Service Experience	✓		
31	Pre-Sales Service Experience		x	
32	Logistics Experience		x	
33	Installation Experience		x	
34	Product Experience		x	
35	Perception Of Product Vulnerability		x	
36	Perception Of Service Response Speed	✓		



37	Perception Of Product Safety		x	
38	Perception Of Product Cost		x	
39	Perception Of Service Coverage		x	
40	Perception Of Service Duration	✓		
41	Perception Of Service Details		x	
42	Perception Of Service Attitude		x	
43	Perception Of Innovation		x	
44	Brand Logo		x	
45	Store Design		x	
46	Online Store Design		x	
47	Product Design	✓		
48	Uniforms		x	
49	Transportation		x	
50	Health		x	
51	Water Flow Rate		x	
52	Thermal Efficiency		x	
53	Ph Value Adjustment		x	
54	Human-Machine Interaction	✓		
55	Artificial Intelligence	✓		
56	Remote Control		x	
57	Scheduling		x	
58	Timing		x	
59	Energy Saving		x	
60	Power Failure Protection	✓		
61	Whole House Hot Water Circulation		x	
62	Innovation Amplitude	✓		
63	Innovation Frequency	✓		
64	Innovative Services		x	
65	Innovative Models		x	
66	Electronic word-of-mouth	✓		

Additional elements that you think should be mentioned in the above questionnaire include:

**Self-cleaning function:**

Reduce repair and replacement costs: Because self-cleaning extends the life of the water heater and keeps it operating efficiently, repair and replacement costs due to equipment failure or performance degradation can be reduced.

Convenience: Traditional water heater cleaning usually requires a professional on-site service, which is time-consuming and laborious. The water heater with self-cleaning function can be automatically cleaned at the time set by the user, without additional manual operation, which is very convenient.

**Self-diagnosis function**

The car has a self-diagnosis function, and the water heater is also necessary to have this function, which can allow consumers to easily identify the fault and avoid some big safety hazards. Extended service life.

**Innovation effectiveness**

Through the introduction of intelligent control methods such as mobile phone APP and voice control, the water heater allows users to remotely operate the water heater anytime and anywhere, such as switching, and temperature measurement.

Rapid heating and constant temperature protection: Modern water heaters use efficient heating technology to achieve rapid heating, and add constant temperature protection and other functions to ensure that users can instantly enjoy stable and comfortable hot water

**Personalize**

The personalized design of water heaters is one of the important trends in the development of the industry in recent years, which aims to meet the individual needs of consumers for comfort, convenience, safety, and other aspects

**Fashion**

Not all brands approach design similarly; product design revolves around specific elements, such as fashion. For young people, choices in home decor products are often made with more caution than choices in clothing. While an undesired service can be discontinued, an unwanted water heater typically must continue to be used and is not easily replaced. Consequently, fashion brands aligning with society's aesthetic style are usually more popular and favored.

**justice image**

Corporate reputation is very important now, and people's trust in companies drives consumption. Huawei, Wahaha, Li Ning, Haidilao examples are enough to illustrate.



## Appendix C



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### **Water heater purchase intention second round of expert review form**

The following table focuses on the simplification of the brand equity dimensions of water heaters. Please tick the brand equity dimensions you think have the most significant influence on consumer usage intention. You are asked to express your opinion on removing and retaining any dimension, allowing other researchers to reject or support your opinion. After all experts, including you, have completed filling in the questionnaire, the host will share the questionnaire, and you will get six other experts who have completed the questionnaire and enter the third round.

NO.	Brand Equity Dimensions	Retain	Remove	Reason
1	Image	✓		
2	Social Influence		×	
3	Subjective Norms		×	
4	Imitation		×	
5	Auditory Effect	✓		
6	Patriotism		×	
7	Environmental Protection		×	
8	Charity	✓		
9	Commitment		×	
10	Fairness		×	
11	Respect		×	
12	Forgiveness		×	

13	Excellence		×	
14	Career Development		×	
15	Channels For Information Acquisition		×	
16	Difficulty Of Information Acquisition		×	
17	Types Of Information	✓		
18	Credibility Of Information		×	
19	Quality Of Information		×	
20	Quantity Of Information		×	
21	Consensus On Information		×	
22	Brand Awareness	✓		
23	Self-cleaning function	✓		
24	Self-diagnosis function	✓		
25	Credibility		×	
26	Premium		×	
27	In-Store Experience		×	
28	Face-To-Face Service Experience		×	
29	Online Shopping Experience		×	
30	After-Sales Service Experience	✓		
31	Pre-Sales Service Experience		×	
32	Logistics Experience	✓		
33	Installation Experience		×	
34	Product Experience	✓		
35	Perception Of Product Vulnerability		×	
36	Perception Of Service Response Speed		×	
37	Perception Of Product Safety		×	
38	Perception Of Product Cost	✓		
39	Perception Of Service Coverage	✓		
40	Perception Of Service Duration	✓		
41	Perception Of Service Details		×	
42	Perception Of Service Attitude		×	
43	Perception Of Innovation		×	

44	Brand Logo		×	
45	Store Design		×	
46	Online Store Design		×	
47	Innovation effectiveness	✓		
48	Product Design	✓		
49	Uniforms		×	
50	Transportation		×	
51	Health		×	
52	Water Flow Rate	✓		
53	Thermal Efficiency		×	
54	Ph Value Adjustment		×	
55	Artificial Intelligence		×	
56	Remote Control		×	
57	Scheduling		×	
58	Timing		×	
59	Energy Saving		×	
60	Power Failure Protection		×	
61	Whole House Hot Water Circulation		×	
62	Personalize	✓		
63	Fashion	✓		
64	Innovative Services		×	
65	Innovative Models		×	
66	Brand justice image	✓		

Additional elements that you think should be mentioned in the above questionnaire include:

## Appendix D



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### Water heater purchase intention questionnaire design

College of Arts and Sciences (CAS)  
Universiti Utara Malaysia (UUM)  
06010 UUM Sintok, Kedah, Malaysia  
Phone : 18634826326  
Dear respondents

#### **A NOVEL MODEL OF BRAND EQUITY INCORPORATING ELEMENTS OF INNOVATIVE NESS AND CREATIVITY TO PREDICT PURCHASE INTENTION OF WATER HEATER IN THE CHINESE MARKET**

The general purpose of this study is to examine the elements that influence Sichuan consumers' purchasing intention for water heaters

Your response will be kept **STRICTLY CONFIDENTIAL** and for academic research only; the data from this study will be coded and reported only in the aggregate. Your cooperation and generosity in completing the attached questionnaire are very much appreciated in advance. Please do not hesitate to contact me if you have queries about the questionnaire to Ying Rui Li.

Thank you for your time and kind cooperation.

Yours sincerely,

YING RUI LI

UUM College Of Art and Sciences

Universiti Utara Malaysia.

Hand Phone No: 60-1110820715

Email: lyr891118@163.com

Section H: Demographic information

The following section relates to your demographic profile. Please X in the following relevant box.

Gender	Male ( )	Female ( )
Age	Below 20 ( )	20-35 ( ) 36-50 ( ) 51 and above ( )

Monthly income	RMB _____
Level of education	Primary school ( ) Junior high school ( ) High school ( ) Undergraduate ( ) Master and above ( )
Residence status	Alone ( ) live with partner ( ) Live with elders ( ) live with children ( )
Marital status	Single ( ) Married ( )
Is there a water heater at _____	Yes ( ) No ( )
Housing situation	Renting a house ( ) Purchased a house ( ) Shared apartment ( )

### Section A: Brand Innovation

To what extent do you agree or disagree	Strongly agree	disagree
Compared to brands with lower levels of innovation, I prefer brands in the water heater industry that innovate significantly each time.	1 2 3 4 5	
Compared to brands with lower innovation frequency, I prefer brands in the water heater industry that frequently update their products or services.	1 2 3 4 5	
Compared to brands with false innovation, I prefer water heater brands that innovate based on key consumer demand.	1 2 3 4 5	

### Section B: Brand Visual Design

To what extent do you agree or disagree	Strongly agree	disagree
Compared to brands with conventional appearance designs, I prefer brands of water heaters whose products appear unique and personalized.	1 2 3 4 5	
Compared to brands with outdated appearance designs, I prefer brands of water heaters whose products appear more stylish.	1 2 3 4 5	

### Section C: Perceived value

To what extent do you agree or disagree	Strongly agree	disagree
Compared to brands with low value for money, I prefer brands of water heaters that offer reasonable pricing and excellent quality.	1 2 3 4 5	
Compared to expensive brands, I prefer brands of inexpensive water heaters that are suitable for most households.	1 2 3 4 5	



**Section D: Perceived quality**

<b>To what extent do you agree or disagree</b>	<b>Strongly agree</b>				<b>disagree</b>
Compared to traditional functional water heater brands, I prefer brands of water heaters with self-cleaning functionality.	1	2	3	4	5
Compared to traditional water heater brands requiring manual diagnosis and maintenance, I prefer brands of water heaters with self-diagnosis functions.	1	2	3	4	5
Compared to water heater brands without digital technology, I prefer brands of water heaters with human-machine interaction capabilities.	1	2	3	4	5
Compared to water heater brands with poor after-sales service quality, I prefer water heater brands with prompt response and a willingness to take responsibility for after-sales service.	1	2	3	4	5

**Section E: Brand influence**

<b>To what extent do you agree or disagree</b>	<b>Strongly agree</b>				<b>disagree</b>
Compared to brands with poor online reputations, I prefer water heater brands highly praised by people on the internet.	1	2	3	4	5
Compared to lesser-known brands, I prefer water heater brands widely recognized by most people.	1	2	3	4	5
Compared to brands with poor reputations and ethical performance, I prefer brands that frequently engage in charitable activities and uphold employee rights.	1	2	3	4	5

**Section F: Quantification of Brand Equity**

<b>To what extent do you agree or disagree</b>	<b>Strongly agree</b>				<b>disagree</b>
The brand of water heater I use in the future will consider personal brand preference.	1	2	3	4	5
The brand of water heater I used in the past was chosen according to my personal brand preference.	1	2	3	4	5

## Appendix E



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### INFORMATION LETTER

Dear participant,

We would like to invite you to participate in a study "A Conceptual Model of the Influence of Brand Equity on Consumer Purchase Intention in the Creative Industry at Sichuan Province: Water heater brand case study ". The aim is to identify the main elements that influence consumer purchase intention. This study is part of my Doctor of Philosophy (PhD) in Creative Industries Management and Performing Arts under the supervision of Dr. Ruzinoor Che Mat from Universiti Utara Malaysia.

The expert review aimed to identify the key elements driving people to buy water heaters in Sichuan. The following table focuses on the simplification of the brand equity dimensions of water heaters. Please tick the brand equity dimensions that you think have the greatest influence on consumer usage intention. You are asked to express your opinion on the removal and retention of any dimension, allowing other researchers to reject or support your opinion.

If you agree to participate in this study, you must clearly understand the study's objectives and the tasks involved. Please feel free to ask any questions and ensure that all your queries are addressed satisfactorily before giving your consent to participate.

## Appendix F



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### CONSENT FORM FOR EXPERT REVIEWER

1. With my invaluable expertise and knowledge, I willingly offer to serve as an expert reviewer for this study, as proposed by YINGRUI LI, a graduate student from the Awang Had Salleh Graduate School, College of Arts & Sciences, Universiti Utara Malaysia (UUM), under the guidance of Dr. Ruzinoor Che Mat.
2. the expert review process is designed to gather information and comments to improve the proposed application.
3. I understand that no part of the proposed application may be reproduced, stored in the retrieved system, or transmitted in any form or by any means, electronic or otherwise, without prior permission from the researcher and her supervisors.
4. I am aware that the researcher will not disclose my identity in any report using information obtained from the questionnaire. I am assured that my confidentiality as a participant in this study will be strictly maintained. Any subsequent use of records and data will adhere to standard data use policies, ensuring the anonymity of individuals and institutions.
5. I understand this study has been reviewed and approved by the Awang Had Salleh Graduate School, College of Arts & Sciences, and Universiti Utara Malaysia. I have read and understood the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
7. I am given a copy of this consent form.

\_\_\_\_\_  
Date and Signature



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7. I am given a copy of this consent form.

*Yongbin Zhao*

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Date and Signature



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*Baishun Zhong*

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Date and Signature



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*wangmengjun*

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Date and Signature



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Qi Li

Date and Signature





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*Ruixiang Chang*

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Date and Signature





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*Xinfeng Ji*

Date and Signature



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6. All my questions were answered satisfactorily, and I voluntarily agreed to participate in this study.
7. I am given a copy of this consent form.

A handwritten signature in black ink, appearing to read 'Ruzinoor', is written over a faint, circular watermark of the UUM logo.

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Date and Signature



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### **CONSENT FORM FOR EXPERT REVIEWER**

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7. I am given a copy of this consent form.

*Xiaoru*

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Date and Signature