

**AKENTEN APPIAH-MENKA UNIVERSITY FOR SKILLS TRAINING AND
ENTREPRENEURIAL DEVELOPMENT**

**EFFECT OF BRAND EQUITY ON THE PURCHASING BEHAVIOUR OF
CONSUMERS OF DECOCTED HERBAL PRODUCTS IN KUMASI-GHANA**

MILLICENT MAAME ESI BENTUM

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**A Thesis Submitted to the Department of Management Studies Education, of the
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requirements for award of a Master of Philosophy degree in Business
Management**

JANUARY, 2024

DECLARATION

CANDIDATE'S DECLARATION

I hereby declare that this thesis is my own original work and that no part of it has been presented for another degree at this university or elsewhere.

Millicent Maame Esi Bentum

Signature.....

Date.....

SUPERVISOR'S DECLARATION

We hereby declare that the preparation and presentation of this thesis work was supervised in accordance with the guidelines for supervision of dissertation as laid down by the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED) for the thesis work and I am satisfied that this work is the result of the student's own efforts.

Principal Supervisor: Mr. Anthony Freeman

Signature.....

Date.....

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DEDICATION

I dedicate this piece of work to my mother and daughter; Mrs Comfort Arhin and Achedi Akoto-Sasu, respectively.

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ABSTRACT

This study explores the influence of brand equity on the acquisition of decocted herbal commodities in Kumasi, Ghana, within the context of African traditional medicine. Using a cross-sectional design, data was collected from 386 regular consumers through structured questionnaires, revealing a predominantly male consumer base (63.99%) and a notable concentration of young consumers (36.79%) aged 26-35. Reliability analysis employing Cronbach Alpha demonstrated high internal consistency (0.822-0.957) across key variables, affirming the accuracy of measurement scales. Descriptive statistics of brand equity sub-dimensions indicated that perceived quality scored the highest ($M = 3.3089$), followed by brand association, brand awareness, and brand loyalty. Correlation analysis established a strong positive relationship between brand equity and purchasing behavior, suggesting regional and cultural influences in Kumasi. The study further unveiled that 62.6% of the variation in decocted herbal product purchases can be attributed to brand equity, emphasizing its crucial role. ANOVA results confirmed the statistical significance of the impact of brand equity on purchasing behavior ($p < 0.000$). Notably, positive and significant relationships were identified between purchasing behavior and perceived quality ($r = .734$), brand awareness ($r = .758$), and brand association ($r = .675$). Despite the strong correlation between brand equity dimensions and purchasing behavior, the study aimed to assess if educational level mediates this relationship. However, multiple regression analysis revealed that educational level does not significantly mediate the brand equity-purchasing behavior relationship. In conclusion, this research contributes to the understanding of brand equity dynamics in the consumption of decocted herbal products in Kumasi. The findings highlight the significant impact of brand equity on purchasing behavior, emphasizing the need for marketers and policymakers to consider local market dynamics and cultural influences in their strategies.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

African traditional medicine encompasses and occasionally serves as a synonym for herbal medicine. It stands as the earliest and most prevalent medical system currently in use (Alegre & Chiva, 2013). Throughout history, herbal remedies have been extensively employed in the provision of healthcare, primarily for the treatment and/or management of a wide array of illnesses and diseases. Its usage remains widespread, particularly in West Africa, where the majority of individuals rely on it for their primary healthcare needs (Alegre & Chiva, 2013). The perception that these medications can effectively treat a broad range of disorders, some of which may not be adequately addressed by synthetic medications, is one of the factors contributing to the extensive utilization of commercially available herbal medicines in West Africa. Furthermore, this can be attributed to their availability, accessibility (i.e., lack of a doctor's prescription), or affordability when compared to synthetic drugs (Adigbole et al., 2022)

The World Health Organization (WHO, 2011) provides a definition of herbal medicines that encompasses various components, including herbs, herbal preparations, herbal materials, and finished herbal goods (Hoozée & Bruggeman, 2010). These goods are comprised of parts of plants, whether in the form of whole plants or plant matter, which are commonly sold in open markets as fresh or dried roots, seeds, leaves, stems, barks, or fruits. Furthermore, these herbal goods can be easily found in drugstores, pharmacies, and herbal shops, typically in the forms of decoctions, herbal pills, or capsules (Venâncio & Pinto, 2020) have identified three distinct categories of herbal medications. The initial category comprises herbal substances, which can be either raw or processed plant

materials, such as powders or slices. The second category encompasses traditional herbal products, which are decoctions, tablets, pills, or capsules that contain either raw plant materials or raw extracts(Eniola & Entebang, 2015). Lastly, the third category consists of standardized herbal products, which are formulations that contain standardized extracts or purified substances. Beyond the scope of mainstream medicine, the utilization of herbs holds a long-standing history and is presently undergoing a surge in popularity. This surge can be attributed to advancements in clinical research, analysis, and quality control, which have demonstrated the efficacy of herbal medicine in the realms of disease diagnosis, treatment, and prevention (Njoroge & Gathungu, 2013).In Ghana, herbal medicine is frequently used as the first line of defense against disease, particularly in rural areas and is deeply rooted in the culture of the people. Herbal medicines are used for a variety of reasons, including lack of access to medical facilities, inadequate roads and infrastructure, and the cost of care (Jolaosho, 2022). The choice of kind of health care is influenced by other variables, including financial situation, educational level, and recommendations from friends and family (Daswani et al., 2011). Non-prescription medicinal herbs that are either commercially prepared or unrestricted crude herbal products that are traditionally used as medicines are sold (Dlačić & Kežman, 2014).

The market for herbal products has seen rapid growth in recent years, with an increasing number of consumers turning to these products as a natural alternative to traditional medicine (Umarudeen et al., 2023). Decocted herbal products, prepared by boiling medicinal herbs in water to extract their active ingredients, have been used for centuries in traditional Ghanaian medicine and other alternative medical practices. Although decocted herbal products offer a natural and holistic approach to healthcare, the multitude of brands offering these products has created a crowded market(Cheng & Yan, 2018). Decocted herbal products, in particular, have gained immense popularity among

consumers due to their effectiveness in treating various ailments (Mohajan, 2017). As a result, many companies in Ghana are now producing and selling these products, creating a highly competitive market.

The success of any product in the market is heavily influenced by brand equity. Brand equity is the value that a brand adds to a product, which is derived from consumers' perception of the brand (Viladrich et al., 2017). Brand equity is used to describe the value that a brand adds to a product. Consumers' brand perceptions are influenced by a range of factors such as brand awareness, brand image, brand loyalty, and brand associations (Fisher et al., 2016). Brands with high levels of brand equity are associated with positive attributes such as quality, trustworthiness, and reliability, which in turn can influence consumer behavior and purchasing decisions (Mbima & Tetteh, 2023). Factors such as brand image, brand awareness, and brand loyalty contribute to the overall perception of a brand and its equity. For example, a brand associated with natural and organic ingredients is more likely to appeal to consumers seeking natural remedies (Farhana & Islam, 2012). Likewise, a brand with a strong online presence and positive customer reviews can help build brand loyalty and influence purchasing decisions (Abd Aziz & Yasin, 2010).

External factors such as pricing, packaging, and distribution channels can also affect brand equity. Consumers are more likely to perceive a brand as having high quality and trustworthiness if the packaging is visually appealing and if the pricing is reasonable. Moreover, the distribution channels through which decocted herbal products are sold can affect brand equity (Gautam & Kumar, 2012). For example, online sales channels can help build brand equity by providing a convenient and accessible way for consumers to purchase these products (Konuk, 2019). In the context of decocted herbal products, brand

equity is an important factor that marketers should consider when promoting their products. With so many brands offering similar products, building strong brand equity is essential to stand out from the competition and capture the attention of health-conscious consumers(Ozioma & Chinwe, 2019). Overall, understanding the concept of brand equity and its influencing factors is essential for marketers of decocted herbal products (Pérez & del Rodríguez Bosque, 2013)(Daswani et al., 2011). By building strong brands associated with positive attributes such as safety, effectiveness, and naturalness, these marketers can capture the attention of health-conscious consumers and succeed in this competitive market. Against this backdrop, the study sought to assess the impact of brand equity on the purchasing of decocted herbal products in Kumasi, Ghana.

1.2 Problem Statement

In recent years, the consumption of decocted herbal products in Ghana has witnessed a notable surge, with consumers increasingly seeking alternative and traditional remedies for health and wellness (Mbima & Tetteh, 2023). As the market for these products expands, understanding the factors influencing consumers' purchasing decisions becomes crucial for both producers and marketers. One such determinant that warrants investigation is the influence of brand equity on the purchasing behavior of consumers.

Brand equity encompasses the perceived value and associations that consumers attach to a brand, reflecting their overall perception of the brand's quality, credibility, and distinctiveness. In the context of decocted herbal products in Ghana, brand equity may play a pivotal role in shaping consumers' preferences and choices. However, despite its potential significance, there is a notable gap in the existing literature regarding the specific impact of brand equity on the purchasing behavior of consumers in this particular market. This research aims to address this gap by exploring the relationship between

brand equity and the purchasing behavior of consumers of decocted herbal products in Ghana. Several sub-issues contribute to the complexity of this relationship, including the specific dimensions of brand equity that are most influential, the role of cultural perceptions and traditional beliefs, and the potential moderating effects of demographic factors such as age, income, and education. By understanding how brand equity influences consumers' decisions in the context of decocted herbal products, marketers can develop more effective strategies to build and manage brand equity, thereby enhancing the competitiveness of products in this growing market. Moreover, such insights can inform policymakers and industry stakeholders in crafting regulations and initiatives that foster responsible branding practices and consumer well-being. This study seeks to contribute valuable insights that can inform marketing strategies, drive business growth, and ultimately benefit both consumers and producers in the burgeoning market of decocted herbal products in Ghana.

1.3 Justification

The escalating popularity of decocted herbal products in Kumasi has stimulated an increasing interest in comprehending the influence of brand equity on the procurement of these products. The impact of brand equity on the procurement of decocted herbal products in Kumasi, Ghana holds significant importance. Through the establishment of robust brand equity via factors such as quality, expertise, packaging, and advertising, manufacturers and herbalists have the ability to foster strong connections with consumers, cultivate brand loyalty, and augment sales. In a market where traditional remedies are highly esteemed and competition is intense, brand equity can serve as a potent instrument for differentiation and triumph. By comprehending the effect of brand equity on the procurement of decocted herbal products in Kumasi, Ghana, manufacturers

and herbalists can formulate effective marketing strategies that will drive sales and enhance profitability. Additionally, this study can contribute to the existing body of knowledge on brand equity and its influence on consumer behavior in emerging markets. While substantial research has been conducted on brand equity in developed markets, there remains a dearth of research on its impact in emerging markets such as Ghana. By examining the effect of brand equity on the procurement of decocted herbal products in Kumasi, Ghana, researchers can furnish valuable insights into the unique challenges and opportunities associated with establishing brand equity in emerging markets.

1.4 Study Objectives

1.4.1 Main Objective

The primary aim of the study was to evaluate the impact of brand equity on the acquisition of decocted herbal commodities in Kumasi, Ghana.

1.4.2 Specific Objectives

The specific objectives formulated to realize the research purpose were:

1. To determine the level of perceived quality, brand awareness, brand association and brand loyalty of decocted herbal products in Kumasi, Ghana.
2. To investigate how perceived quality, brand awareness, brand association and brand loyalty affect the purchasing behavior of consumers of decocted herbal products in Kumasi, Ghana.
3. To examine the relationship between perceived quality, brand awareness, brand association and brand loyalty and purchasing behavior of decocted herbal products.

1.5 Research Questions

1. What is the level of perceived quality, brand awareness, brand association and brand loyalty of decocted herbal products in Kumasi, Ghana?
2. How does perceived quality, brand awareness, brand association and brand loyalty affect the purchasing behavior of consumers of decocted herbal products in Kumasi, Ghana.
3. What is the relationship between perceived quality, brand awareness, brand association and brand loyalty and purchasing behavior of decocted herbal products
4. How does educational level affect the relationship between brand equity and purchasing behavior?

1.6 Research Hypothesis

1. Hypothesis 1 (H1): There is a positive and significant relationship between brand awareness and the purchasing behavior of consumers of decocted herbal products in Ghana.
2. Hypothesis 2 (H2): Perceived quality of decocted herbal products has a positive and significant impact on the purchasing behavior of consumers in Ghana
3. Hypothesis 3 (H3): Brand associations related to cultural values and traditional beliefs positively influence the purchasing behavior of consumers of decocted herbal products in Ghana.
4. Hypothesis 4 (H4): There are significant moderating effects of demographic factors, such as age, income, and education, on the relationship between brand equity and purchasing behavior

CHAPTER TWO

LITERATURE REVIEW

2.1 Traditional Medicine – A Global Perspective

The utilization of plants for therapeutic purposes dates back to the inception of human society. Medicinal plants have served as the foundation of traditional medicine (TM) employed in the treatment of various ailments across diverse cultures around the globe. Botanicals and pharmaceuticals derived from plants have played an integral role in the management of health and disease for numerous centuries (Afriyie et al., 2018). Numerous ancient societies have provided documented evidence supporting the usage of herbal extracts, concoctions, and diverse forms of plant preparations for the treatment of a wide range of diseases and afflictions (Sweida & Reichard, 2013).

The significance of traditional medicine (TM) in the field of healthcare has garnered significant global attention. Traditional medicine is utilized in almost every region of the world, and in certain areas, it is the primary means of delivering healthcare (Kraa, 2012). Traditional medicine has had a notable impact on reducing the elevated rates of mortality, morbidity, and disability associated with various diseases such as mental illness, malaria, anemia, HIV/AIDS, diabetes, and sickle cell disease (Ngek, 2015). By creating more job opportunities and establishing a healthcare system that caters to a larger portion of the population, TM has raised the standards of living. It is evident that by enhancing its quality, efficacy, and safety, TM can extend its reach to a greater number of individuals in comparison to previous periods (Acholonu & Oyeku, 2020).

2.1.1 Traditional Herbal Medicine in Africa – An Overview

Traditional medicine used to be the only health-care system available to the whole of the African population before the introduction of allopathic or conventional medicine (Abdullahi, 2011). The practice received international recognition after the 1978 Alma Ata Conference Declaration, which aimed to achieve primary health care for all by the year 2000 through the use of traditional medicine (Silveira et al., 2011). TM, especially herbal medicine, still forms the backbone of rural health care in Africa, supporting an estimated 80–90% of the population. In Africa, as in other developing nations, about 80% of the human population still depends on plant-based TM for their healthcare needs (Sweida & Reichard, 2013). There exist diverse reasons for the continuing use of herbal medicines for health care in Africa; these include cultural acceptability, promising efficacy of the herbal preparations within the locality, easy accessibility and affordability, and in some instances, non-availability and prohibitive cost of allopathic medicines (Okoye et al., 2017). Some people also employ herbal medicines under other circumstances, for example, in health conditions that have failed to respond to orthodox treatment or which allopathic medicines are deemed not to treat adequately and less safely (Kofi et al., 2010). Other health conditions believed to have spiritual origins (Abdullahi, 2011), and those thought to need holistic therapies are also managed with herbal medicines.

African traditional medicine, particularly herbal medicine, is deeply rooted in the continent's culture and plays a significant role in primary healthcare (Ozioma, 2019). It is a holistic approach that considers the physical, spiritual, and social aspects of health and illness (Zimmerman et al., 2015). The knowledge and practice of traditional medicine are passed down through generations, and its therapeutic potential is vast, with a wide range of treatments including herbal medicine, fasting, and psychotherapy (Waheed et

al., 2019). Despite its potential, the use of African medicinal plants is hindered by poor quality control and safety, and the need for stricter regulatory controls has been emphasized (Plateau & Well-, 2020) A traditional healer is one who provides medical care in the community that he lives, using herbs, minerals, animal parts, incantations, and other methods, based on the cultures and beliefs of his people. He must be seen to be competent, versatile, experienced, and trusted [4]. In other definitions, priestesses, high priests, witch doctors, diviners, midwives, seers or spiritualists, and herbalists are included. Traditional medical practitioner (TMP), however, seems to be a modern acceptable concept agreed on by the Scientific Technical and Research Commission (STRC) of the Organization of African Unity (OAU), which is now African Union (AU). In specific cultures, these people go by their local names, depending on their tribe, such as Sangoma or inyanga in South Africa, akomfo, bokomowo in Ghana, niam-niam, shaman, or mugwenu in Tanzania, nga:nga in Zambia, shaman or laibon in Kenya, and babalawo, dibia, or boka, etc. in Nigeria (Ivanova et al., 2020).

It is commonplace to see traditional healers dressed in certain peculiar attires, with head bands, feathers, and eyes painted with native chalk. Traditional medicine is viewed as a combination of knowledge and practice used in diagnosing, preventing, and eliminating disease (Sciences, 2021). This may rely on past experience and observations handed down from generation to generation either verbally, frequently in the form of stories, or spiritually by ancestors or, in modern times, in writing [6]. It has also been said that before attaining knowledge in traditional African medicine, one is often required to be initiated into a secret society, as many characteristics of this form of medicine can only be passed down to initiates (Shahzad et al., 2020). The importance of traditional medicine, however, dwindled during the colonial period, whereby it was viewed as inferior to Western medicine. It was thus banned completely in some countries due to its

association with witchcraft /voodoo, supernatural, and magical implications, in which case, it was also termed "juju" (Nigeria) or "native medicine," since it made use of charms and symbols which were used to cast or remove spells. Some forms of treatment may also involve ritual practices such as animal sacrifices to appease the gods, if the ailment was envisaged to be caused by afflictions from the gods, especially in the treatment of the mentally ill patients. In African traditional setting, there was always an explanation as to why someone was suffering from a certain disease at a particular time.

According to Ayodele (Yasmin, 2020), diseases mostly revolve around witchcraft/sorcery, gods or ancestors, natural, as well as inherited. Illness in the African society is different from the allopathic Western medicine point of view. Illness is believed to be of natural, cultural, or social origin (Shahzad et al., 2020) Cultural or social illness is thought to be related to supernatural causes such as angered spirits, witchcraft, or alien/evil spirits, even for conditions now known to be well understood in modern medicine such as hypertension, sickle-cell anemia, cardiomyopathies, and diabetes. African traditional beliefs consider the human being as being made up of physical, spiritual, moral, and social aspects. The functioning of these three aspects in harmony signified good health, while if any aspect should be out of balance, it signified sickness.(Analysis, 2022)

2.1.2 Traditional Herbal Medicine in Ghana

According to estimates, the expense of healthcare in Ghana is made up of between 60 and 80 percent of pharmaceuticals (Munizu, 2010). Over 70% of the conventional medications consumed in Ghana, according to Harper and Gyansa-Lutterodt (2017), are imported, whereas just 30% are made locally(Veselovsky et al., 2019). To meet their fundamental medical needs, however, more than 50% of the population in Ghana uses

plant-based remedies (Zaini et al., 2016). Not only is plant medicine accessible and reasonably priced, but many Ghanaians also trust it. Together with this, the country boasts a diverse range of medicinal plants, a rich biodiversity, and a culture of plant medicine in many forms (Ampofo et al., 2012). Successive governments have launched programs to integrate plant medicines into a national healthcare system after realizing the potential influence they could have on the delivery of healthcare. The Ghana Psychic and Traditional Healers Association (GPTHA) was founded in 1961 to support, advance, and safeguard the nation's traditional medical system (Dickov & Igić, 2013). To conduct and advance research into the herbal medicines used by conventional healthcare providers, a national research institute called the Centre for Scientific Research into Plant Medicine (CSRPM), which is now known as the Centre for Plant Medicine Research (CPMR), was established in 1975.

In addition, the Food and Drugs Authority (FDA) was founded in 1992 after the Traditional and Alternative Medicine Directorate (one of the Ministry of Health's seven directorates) was established in 1991. The Food and Drugs Law, 1992, (P.N.D.C.L, 305B), which further controls contemporary medications, was promulgated in 1992, marking the beginning of the regulation of herbal medicine (Oppong & Phiri, 2018a). The Directorate was established to unite all practitioners of traditional medicine under a unified federal organization. In addition, the Ghana Federation of Traditional Medicine Practitioners (GHAFTRAM), which unites all the numerous traditional health organizations, was founded in 1999 (Chinsemu, 2016). This will make it easier for conventional medical practitioners to enhance their capacities and exchange knowledge (Nagalingam, 2017). The Traditional Medicine Practice Act, 2000 (Act, 575) was passed by the government in 2000 to establish the Traditional Medicine Practice Council

(TMPC). The Council was created in 2010 with the mandate to advance, oversee, and manage the delivery of conventional medical care(Hudson et al., 2016).

These are accomplished through licensing, registration, and training in addition to establishing and upholding the proper code of ethics and standard of conduct for traditional medicine. The Food and Drugs Authority (FDA) and the Traditional Medicine Practice Council (TMPC) work together to control all commercial production of medicinal herbal products that have received scientific approval, including manufacturing, packaging, labeling, advertisement, sale, preparation, and registration(Tang & Tang, 2018). The Ministry of Health (MOH), however, is tasked with creating policy guidelines to support expansion and development within the traditional herbal medicine sector (Konuk, 2019). This is done through the Traditional and Alternative Medicine Directorate(Harper-Anderson, 2019). The adoption of these regulations demonstrates that conventional herbal remedies have been included in national legislation and policy (Obidike & Salawu, 2013). Clinical studies for plant-based medicines have been supported by other affiliated research organizations such as the Noguchi Memorial Institute for Medical Research and the College of Health Sciences at the University of Ghana(Nadler et al., 2015).

The Kwame Nkrumah University of Science and Technology (KNUST) School of Pharmaceutical Sciences in Kumasi has set up a program in traditional medicine practice to further advance the research and application of plant medicine in Ghana(Mehta, 2020). Also, various research has been carried out by the College of Health Sciences at the University of Ghana and the School of Pharmaceutical Sciences at KNUST, Kumasi to enhance the efficacy, safety, and quality of herbal medicines in order to modernize the sector (Asante & Avornyo, 2013). The Ministry of Health brought herbal clinics into the

national healthcare system nationally in 2012, and some government hospitals have herbal medicine departments all throughout the nation (Sahaym et al., 2019). More significantly, the Ministry of Health has included several herbal medicines on the Essential Drug List, which is a significant step in using state procurement to increase the market for plant medicine (Kraemer-Mbula & Wunsch-Vincent, 2016). Traditional herbal medicine is a significant aspect of healthcare in Ghana, particularly in the treatment of mental disorders (Kpobi, 2018). A wide range of medicinal plants are used for treating various diseases and ailments, with factors such as time and place of harvesting considered important (Boadu, 2017). The practice of herbal medicine is deeply rooted in traditional religion and is disseminated through generations (Abel, 2005). The herbal medicine market in Ghana is economically significant, with a diverse range of species traded, particularly for women's health, rituals, and as aphrodisiacs (Andel, 2012).

2.1.3 Herbs in Water – The Decocted Concept

Decoction (hot aqueous extract) of indigenous plants has been found in ethno-botanical research to be a favored method of treatment (Dlačić & Kežman, 2014), hence it has become the most popular way to take herbal medicine. Decoctions are commonly consumed orally. Of all the conventional preparation methods, they have the quickest absorption rates and the most potent effects (Asante & Avornyo, 2013). The decoction approach is most frequently used for severe and urgent diseases. Decoctions can also be applied topically to the problematic areas of the body or as herbal baths for the entire body (Yang & Ross, 2014). However, there are several evident disadvantages to decoctions.

They take some time to prepare, particularly for chronic illnesses; they don't always taste great; and they are difficult to carry or store (Moura et al., 2017). The delivery of herbal medicine in sealed vacuum-packed bags that may be kept in the refrigerator for a few days and the option to make decoctions for patients are modern advancements made by some herbal pharmacies. For tougher herbs like barks, roots, and seeds, decoctions are typically recommended (Daswani et al., 2013). Before making the decoction, it is beneficial to ground or crush the whole root, bark, and seeds. This is made by cooking the required quantity of herbs in water for about 30 minutes, or until roughly half the water has evaporated (Carlos Pinho et al., 2014). To avoid the evaporation of any vital components during heating, the vessel must be sealed (Ampofo et al., 2012). The extract is next taken off the heat and filtered through a filter; the decoction is then utilized either in its whole or after the proper dilution (Nagalingam, 2017).

This is what is termed as decocted herbal products considered in this study. Due to advances in pharmacognosy, decocted herbal products are now well-packaged and can be kept on the shelf for a reasonable period. It is no surprise that most herbal shops in Ghana have decocted herbal products on sale (Aulia & Briliana, 2017). Wang (2016) and Currey (2019) both explore the impact of water on the chemical composition and growth of herbs. Wang's study on the Danggui-Shaoyao San formula found that the co-decoction of blood-associated and water-associated herbs resulted in higher levels of certain compounds, suggesting a potential synergistic effect. Currey's research on containerized culinary herbs demonstrated that increasing substrate water content promoted growth. These findings highlight the importance of water in the cultivation and use of herbs. Danggui-Shaoyao San (DSS) is a famous Chinese formula for activating blood circulation and promoting urination. This study was to investigate the difference of material basis between a blood-associated herbs group and a water-associated herbs

group. According to the theory of traditional Chinese medicine, the formula can be divided into a blood-associated herbs group (*Angelica sinensis*, *Paeonia lactiflora* and *Ligusticum chuanxiong*) and a water-associated herbs group (*Atractylodes macrocephala*, *Alisma orientale* and *Poria cocos*). The HPLC fingerprint of the formula was established for quality control. Serum samples from rats, orally administrated DSS, and the decomposed recipes of DSS, were analyzed by HPLC-DAD and the transitional blood components of DSS were identified. Twenty-one common peaks were identified in the fingerprint of DSS. Contents of paeoniflorin, albiflorin, ferulic acid and alisol B 23-acetate in co-decoction were significantly higher than those in individual decoction. Eleven peaks belonged to the blood-associated herbs group (four metabolites and seven prototype components; paeoniflorin and ferulic acid appeared in prototype components), whereas six peaks belonged to the water-associated herbs group (three metabolites and three prototype components). It was concluded that the serum pharmacochemistry is a meaningful approach for clarifying the difference between blood-associated and water-associated herbs in chemical composition.

2.2 Brands and Products

The core of marketing is designing and creating a product to satisfy consumer needs. A crucial component of brand equity is considered to be the product itself (Asante & Avornyo, 2013). This is because it shapes consumer perceptions of the brand and is what the business communicates to consumers in its marketing communications (Keller, 2013). In a larger sense, products refer to tangible items, services, concepts, people, and locations that provide both intangible and tangible benefits that people and organizations demand in exchange for anything of value (Letsyo et al., 2017). In contrast, everything introduced to the market for acquisition, attention, consumption, or usage that satisfies a

demand is referred to as a product by Kotler et al. (2012). The authors claim that consumers frequently view things as a collection of intricate bundles of benefits that satisfy their desires or needs. According to Kotler and Keller (2019), a brand is anything that is used to identify and set apart a company's or group of companies' products from those of rivals (Cheng & Yan, 2018). It has been stated that a brand's significance goes beyond its connection to a particular product since it has other qualities that set it apart. These characteristics may be physical and logical, relating to the functionality of the product, or more symbolic, emotional, and intangible, expressing the significance connected with the brand (Zulfiqar et al., 2021).

Kotler & Keller (2019) also pointed out that many practitioners believe that a brand conveys significance beyond merely creating a logo, symbol, and name for a new product. A brand thus stands for something that has significantly increased in visibility, significance, and repute in the marketplace. De Chernatony et al. (2011) further noted that the key difference between a product and brand is the "added values," which denote the extra or supplementary qualities people sense in the product but are not directly associated with it (Konuk, 2019). According to them, a brand is made up of emotional and practical advantages that provide businesses the capacity to reassure clients about the unique and enjoyable exposure they will receive from the brand. So, a brand communicates a set of advantages to consumers that meet both their intellectual and emotional demands (Ursachi et al., 2015).

The role of brands in consumer behavior and product perception is a complex and multifaceted issue. (Selem et al., 2023) highlights the trend of products incorporating branded components, such as Intel microprocessors in personal computers. (Ferraris, 2022) explores the reasons behind consumers' willingness to pay a premium for branded

products, linking it to the signaling of quality in experience goods. (Support et al., 2021) delves into the influence of corporate associations on consumer perceptions of products, suggesting a potential interplay between the two. Danesi (2006) provides a broader perspective, discussing the construction of brand identities and logos as semiotic signs that tap into societal meanings. These studies collectively underscore the significance of brands in shaping consumer choices and product evaluations. The role of brands in consumer behavior and product perception is a complex and multifaceted issue. (Chithambo, 2020) highlights the trend of products incorporating branded components, such as Intel microprocessors in personal computers. (Yamba et al., 2019) explores the reasons behind consumers' willingness to pay a premium for branded products, linking it to the signaling of quality in experience goods. (Vannucci et al., 2021) delves into the influence of corporate associations on consumer perceptions of products, suggesting a potential interplay between the two. (Weng & Ahmed, 2020) provides a broader perspective, discussing the construction of brand identities and logos as semiotic signs that tap into societal meanings. These studies collectively underscore the significance of brands in shaping consumer choices and product evaluations.

2.2.1 Branding in the Drug Industry

For many years, the idea of branding has been used as a strategy to set a company's offering apart from rival goods by developing an instantly recognizable and memorable image (Asyraf & Afthanorhan, 2013). Traditional consumable goods producers have maintained their market presence over time by branding their items (Mohajan, 2017). According to certain theories, one of the ways for businesses to thrive and expand over time in the market is to carefully build and control the value of their goods and services. Companies can generate this value through the branding of their products (Dlačić &

Kežman, 2014). Yet, persistent research and development and aggressive sales strategies have historically been the sources of value generation in the drug sector as a whole (Ozioma & Chinwe, 2019).

Science has usually been the dominant force in the drug industry, and the development of superior products that benefit humanity has been a major factor in the industry's success (Raut, 2015). As a result, the industry prioritized products over brands (Nath Sanyal et al., 2013). Products are not unique because they can be easily duplicated, and they generate returns on investment that are comparable to those of competitors. According to Dickov & Igić (2013), brand equity in the pharmaceutical sector is almost nonexistent because a product's worth is determined by its therapeutic usefulness and how long the patent will be in effect. In addition, compared to their counterparts in the traditional consumer products business, the discipline of branding in the medicine industry has developed slowly and has not attracted strategic attention (Baird, 2015).

The scholars also claimed that until lately, intensive research and development, robust patent protection, and effective sales representatives were the key success factors in the sector. The sector has so earned a reputation for being driven by products, research, and development but not by markets. The sector is not expanding as quickly as it once did, according to Schuiling & Moss (2004), in part because the conventional success characteristics are less successful in the cutthroat marketing environment of today (Ampofo et al., 2012). However, performance gaps between products are closing, and generic competition is rising, which poses a serious challenge to the sector. Companies in the sector are currently looking for fresh strategies to establish themselves in the market. Many mergers and acquisitions have been made throughout the years to maximize productivity from research and development to acquire industry-wide

economies of scale (Dickov & Igić, 2013). According to Ladha (2017), the idea of branding would be more essential and of strategic relevance to the company because of the fierce competition present in the sector. Yet, contrary to the conventional consumer packaged products industry, several constraints limit branding and marketing strategies in the pharmaceutical sector (Farhana & Islam, 2012).

Brands prosper in a market where direct and open relationships are present, as well as when product availability and choice are unlimited, according to Blackett & Robins (2012). Yet, the ethical pharma industry doesn't take into account many of these factors. In the ethical medication sector, the contact between the buyer and the supplier is strongly regulated, and regulatory agencies levy penalties, restrict product availability, and prohibit direct consumer communication regarding a product's features (Dickov & Igić, 2013) Unlike other consumer products, the brand name for drugs is not transferrable to a new product after the patent expires, according to Schuiling & Moss (2004), who claim that the drug business is a highly controlled industry globally. The limited life cycle of pharmaceutical brands has led to the conclusion that investing in them is not worthwhile. Another significant issue is the ongoing cycle of product innovation, which leads to the quick launch of new brands at the expense of established ones (Dlačić & Kežman, 2014). Despite this, the authors underlined that medication corporations have not actively sought to establish and share the brand identity of their goods with consumers to set their brands apart from rivals (Zhang et al., 2012). Additionally, it is said that the ethical medication sector lacks a brand emphasis (Gu et al., 2016). Nonetheless, the industry has several well-known and powerful brands, the majority of which have little to no patent protection (Fisher et al., 2016).

Moreover, brand logic and associated techniques as prevalent in the consumer-packaged products business have been adopted by the OTC market, which functions similarly to the traditional consumer goods industry (Fisher et al., 2016). The majority of complementary and alternative medications are also managed like standard FMCGs because they are widely available and the consumer has a significant amount of decision-making power (Gu et al., 2016). According to Dickov & Igić (2013), in the consumer retail markets, several popular OTC products, such as Aspirin and Strepsils, are equivalent to classic brands like Coca-Cola and are acknowledged as global brands. To build great brands as they represent a new form of corporate value, several moral pharmaceutical companies are now manufacturing and investing in over-the-counter (OTC) medications. This is because they recognize the vital role that branding plays in the OTC market (Raut, 2015).

The pharmaceutical industry's approach to branding is complex and evolving. While some studies suggest that emotional branding can differentiate pharmaceuticals (Bednařík, 2015), others highlight the power of trademarks and patents in brand promotion and market protection (Id et al., 2018) Vaz (2021) further explores the branding activities in different pharmaceutical product categories, drawing on consumer marketing industry learnings and successful strategies. Supliet (2017) adds to this by discussing the impact of umbrella branding on consumer welfare and market expansion. These studies collectively underscore the importance of branding in the pharmaceutical industry, with a focus on emotional content, intellectual property, and market expansion. Add columns Sort: Most relevant Filters. Role of marketing in pharmaceutical industry is increasing and inspiration by successful brands known from consumer goods market influenced pharmaceutical companies enough to switch their attention to

branding initiatives. Still there is little evidence that pharmaceutical brands represent anything more than product only.

2.3 Conceptualization of Brand Equity

The most enduring and invaluable assets of a company in a competitive business environment are its associated brand names, as asserted by experts and scholars. The objective of branding is to confer a robust sense of brand ownership on products (Plano Clark, 2010). The notion of positive brand equity has been underscored for its manifold advantages to a business, encompassing heightened customer loyalty, resilience against competitive assaults and marketing crises, augmented profitability, and the possibility of licensing arrangements that engender a steady stream of revenue (Asante & Avornyo, 2013). Moreover, it is contended that although competitors may attempt to imitate a company's physical infrastructure and manufacturing procedures, replicating a brand proves challenging due to consumers' deep affinity for both its intangible and tangible benefits (Baird, 2015).

Undoubtedly, a company's brand, which it has developed over time, is its most important asset (Keller, 2013). The theory of brand equity has, however, been theorized and operationalized for varied objectives in a variety of ways since it was first proposed. As a result, alternative conceptualization and measurement approaches for the notion have been developed in the marketing literature (Gadermann et al., 2012). Brand equity has been described as the added value that branding gives to a product (Farquhar, 1989). Branding adds value to a physical product that goes beyond its functionality. Even though brand equity is not conceptualized in a way that is generally accepted, an examination of the literature shows that at least some authors concur with the definition offered by (Beglar & Nemoto, 2014). For instance, Keller (2013) defined brand equity as marketing

outcomes that are solely attributable to the brand name. For Keller (2013), brand equity develops because branded products produce different results when sold than comparable generic alternatives (Ursachi et al., 2015). Brand equity, according to Aaker (2011), is made up of the assets and liabilities associated with a brand's name that increase or decrease the value of a marketing offer to a business and its customers (Ursachi et al., 2015). Customers as well as the company in this case benefit from the brand value. Brand equity can increase or decrease a product's worth in Aaker's view. Due to clients' repeated exposure to branded products, brands can thus produce favorable or unfavorable perceptions of a product (Kapferer, 2012).

As a result, the equity of a brand, its emblem, and/or identity can be either good or negative. When compared to unbranded and private label brands, a brand with negative brand equity has little impact on the product (Trott & Sople, 2016). The benefits of branding to a company and its customers can therefore be increased or decreased depending on brand equity (Campbell, 2002). Brand equity is a complex and multifaceted concept, with various factors influencing its formation and measurement. Jara (2012) emphasizes the role of retail brand awareness, perceived quality, and brand personality in shaping brand equity. Keller (1993) further explores the individual consumer's perspective, defining customer-based brand equity as the impact of brand knowledge on consumer response. Raggio (2016) introduces the distinction between brand equity and brand value, highlighting the importance of leveraging equity to create value. (Alegre & Chiva, 2013) provides a comprehensive overview of brand equity research, categorizing different conceptualizations and measures. These studies collectively underscore the need for a holistic understanding of brand equity, considering both consumer perceptions and managerial strategies.

2.3.1 Perspectives of Brand Equity

In the realm of marketing literature, the concept of brand equity has traditionally been examined and evaluated through two opposing methodologies. According to (Postmes et al., 2013)), certain studies have defined and assessed brand equity from a financial perspective (Konuk, 2019), while others have taken a customer-centric approach to understand brand equity (Dueck et al., 2015). The term "firm-based brand equity," which originates from the financial standpoint, refers to the value that a brand contributes to a business (FBBE). On the other hand, a customer-centric approach to brand equity investigates how consumers interact with the product and is grounded in consumer perceptions (Ursachi et al., 2015).

However, it is the customers' responses to a brand name that generate the brand's value. The financial value that a brand brings to a company by enhancing profitability and market share essentially stems from how consumers perceive brand equity (Aulia & Briliana, 2017). Brand equity fundamentally emerges from the high level of trust that consumers have in a particular brand compared to its competitors (Oppong & Phiri, 2018b). With the utilization of brand strength, (Oppong & Phiri, 2018b) aimed to establish a connection between the characteristics of customer-based brand equity (CBBE) and brand value (CBBE outcomes such as premium price and market leadership). The author defined brand value as the net present value of a firm's future cash flows attributed to branding after accounting for interest on production-related capital, operational costs, and marketing expenses. Due to the mediating function of brand strength, the value of a brand serves as a measure of the potential profits its assets may generate. The author argues that for a brand to truly possess positive equity, it must provide tangible financial value (Asyraf & Afthanorhan, 2013).

However, a third strategy for building brand equity has also been mentioned in the brand literature, combining both firm-based brand equity and consumer perceptions (Buzdar et al., 2016). As a result, brand equity has been conceptualized and evaluated in marketing literature using three distinct approaches: financial-based, customer-based, and hybrid-based metrics, as depicted in Figure 2.2 below. Brand equity is a complex and multifaceted concept, with various perspectives on its creation, maintenance, and measurement. Erdem (2016) and Farris (2018) both emphasize the role of brand signals and credibility in enhancing perceived quality and reducing consumer-perceived risk. Ioannou (2012) adds a cross-cultural dimension to this, suggesting that brand equity is context-specific and can be influenced by cultural differences.

Farris (2017) further underscores the importance of brand equity as a promise to deliver both functional and emotional benefits, and as an evolving relationship based on customer perceptions and experiences. The focus of this monograph is the information-economics theoretic framework of brand equity. Adopting this view, (Hoozée & Bruggeman, 2010) argue that consumer-based brand equity is the value of a brand as a credible signal of a product's positioning. In their framework, the content, clarity, and credibility of the brand signal creates intangible benefits, enhances perceived quality, and decreases consumer-perceived risk and information costs, and hence increases consumer utility, which underlies the added value associated with a brand. The central (and motivating) construct in this view is the "credibility" of brands as signals.

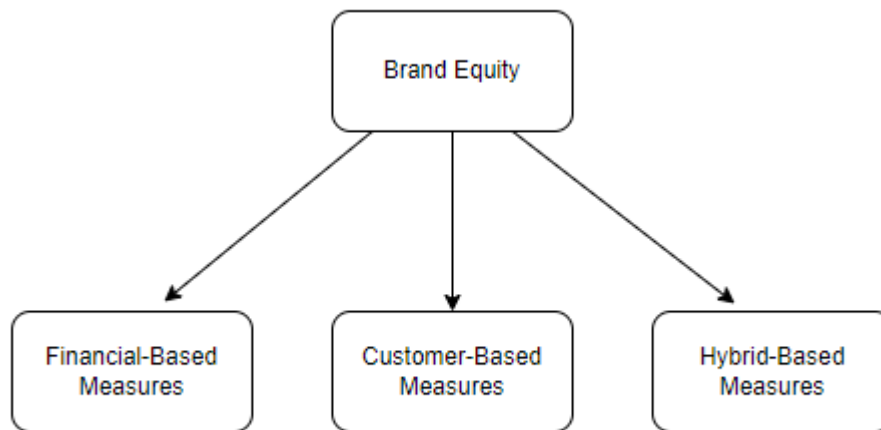


Figure 2.1.: Brand Equity Measure Approaches

Source: Oppong (2018)

2.3.2 Brand Equity - Financial Perspective

A brand is seen as an asset in the financial appraisal of brand equity because it is based on the revenue it generates (Konuk, 2019). As a result, brands are seen as tangible assets that can be traded like machinery and other pieces of equipment. From a business's standpoint, a brand's worth is based on how much it can be sold on the financial market (Hudson et al., 2016). According to Keller (2014), the increased use of financial-based measurements of brand equity is attributable to their use in accounting, merger and acquisition, and divestment procedures. (Farhana & Islam, 2012) analyze the origins of financial-based brand equity and suggest brand quality, brand association, brand loyalty, and intellectual assets like patents and channel partnerships. He also suggests brand association and brand awareness. Several methods were used to determine the financial-based brand's relative shortcomings, according to (Dickov & Igić, 2013)

A product's price premium is connected to the first approach, which is used to gauge brand loyalty or demand elasticity. According to the authors, this technique could produce skewed results because it only considers one factor when evaluating the FBBE. Brand replacement cost, or the expense incurred to introduce a product under a new brand name, is an alternative strategy (Dickov & Igić, 2013). This method has also drawn criticism because it only offers one source for valuing a brand financially. To evaluate a company's viewpoint on brand equity, the writers used a financial-market value assessment. According to them, brand equity is the net increase in financial value that a branded product generates over an unbranded equivalent product.

This method involves deducting the brand's worth from the value of the company's other assets to determine the brand's cash value. Here, the value of the company's brand is calculated using the stock price. According to Ailawadi et al. (2013), the drawback of utilizing stock market price to predict a brand's future potential is that it is extremely volatile and does not give marketing an immediate boost because numerous things other than marketing efforts might influence it. According to (Gu et al., 2016), the monetary measure of brand equity is less significant unless the brand's underlying value can be developed or practitioners have the skills necessary to harness the value by developing effective brand strategies.

Brand equity, from a financial perspective, is a crucial aspect of brand management, with the potential to be reported in financial statements and used in sale or acquisition valuations (Anderson, 2011). It is often a key factor in mergers and acquisitions, with brands playing a significant role (Venâncio & Pinto, 2020). The information-economics perspective views brand equity as the value of a brand as a credible signal of a product's positioning (Erdem, 2016) presents a technique for estimating brand equity based on the

financial market value of the firm, which can be used to assign an objective value to a company's brands and track changes in brand equity over time.

2.3.3 Customer-Based Brand Equity

Measures of brand equity encompass various aspects such as perceptions, images, experiences, emotions, thoughts, attitudes, and beliefs. These aspects are associated with the brand and are stored in the memories of customers (Nadler et al., 2015). According to Keller (2013), measurements of customer mindset can be divided into five key components: brand awareness, associations, attachments, attitudes, and behavior. These metrics of brand equity that are based on customers have generated significant academic interest (Buil et al., 2013) and have been the subject of business research. The approach of Customer-Based Brand Equity (CBBE) is rooted in cognitive psychology and emphasizes the brand associations that are stored in the memory of consumers (Hudson et al., 2016).

For example, Keller (2015) defines CBBE as "the differential impact of brand knowledge on consumer response to the marketing of the brand" and illustrates how it is based on the cognitive psychology of customers. This concept places particular emphasis on the individual buyer and their reaction to the marketing efforts of the product (Ampofo et al., 2012). On the other hand, Ampofo et al. (2012) identified four components of brand equity: brand loyalty, brand associations, perceived quality, and brand awareness. These components reflect how customers perceive and respond to the brand. Researchers have operationalized CBBE based on either consumer perceptions (Keller, 1993) or customer purchasing behavior (Raut, 2015), as stated by Dickov & Igić (2013). The enhancement of perceived usefulness and desirability that a brand name provides to a product is how Lassar et al. (2015) defined CBBE.

In their perspective, customer-based brand equity alludes to the additional value that a product's brand name conveys compared to a similar product lacking a brand name. The disparities in customer inclination towards or intention to acquire a branded product over its generic counterpart were operationalized as customer-based brand equity. Utilizing significant correlations to the dimensions of the (Dickov & Igić, 2013) model, the authors employed brand loyalty, perceived quality, and brand awareness to quantify brand equity. The authors introduced a novel concept called overall brand equity to further expand upon the (Aaker, 2017) model. Total brand equity gauges how each component of brand equity impacts or enhances brand equity (Abdullahi, 2011).

Through fortifying the components of brand equity, a brand's value can be generated, managed, and augmented. Consequently, high brand equity signifies that customers exhibit loyalty towards the brand, possess strong associations with it, and perceive it to possess good quality. The discussion on CBBE conducted by (Moura et al., 2017) delves into brand consumption, evoked set, and brand awareness. Conversely, Erdem et al. (2016) approached the study of CBBE from a distinct perspective, drawing upon the signaling theory of information economics and specifically highlighting the market's imperfect and asymmetrical information structure (Oppong & Phiri, 2018a). From this vantage point, CBBE is described as "the value of a brand signal to the customers."

According to the authors, credibility stands as the most crucial aspect of CBBE, with clarity, content, and brand credibility determining CBBE. It is prudent to possess a contingency plan in case of unforeseen circumstances. CBBE may be enhanced as a result of these influences. Despite cognitive psychology serving as the dominant research approach for CBBE, the two viewpoints are considered compatible (Christodoulides & De Chernatony, 2010). Consequently, Christodoulides & De Chernatony (2010) defined

CBBE as "a set of perceptions, attitudes, knowledge, and behaviors on the part of customers that results in increased utility and allows a brand to earn greater volume or greater margins than it could without the brand name," encompassing the fundamental tenets of both perspectives.

According to Ailawadi et al. (2013), perceptual measures of brand equity are significant as they provide various sources of brand equity, possess strong diagnostic power, and can be utilized as a tool for predicting the brand's well-being (Fayrene & Lee, 2011). Data from customer-based brand equity can be employed to determine and evaluate the effectiveness of a company's tactical and strategic marketing decisions (Gu et al., 2016). Nonetheless, it is argued that this approach often relies on consumer surveys of preferences, attitudes, and purchase intentions. Thus, the primary drawback of the CBBE approach is the absence of objective means to translate consumer perceptions into accurate assessments of a company's financial value (Fisher et al., 2016).

The relationship to previous perspectives on brand equity and the potential applications of the brand perpetual value measure are discussed. Introduction Developing a financial measure of brand equity is crucial for effective brand management. Quantifying the dollar value of a brand would allow firms to report brand asset values in financial statements, and assign an objective value to a brand during sale or acquisition. A standard measure of brand equity that can be tracked longitudinally would also allow marketers to evaluate changes in a brand's value over time, helping to evaluate the effects of changes in marketing strategies or tactics, competitive factors, or managerial impact(Njoroge & Gathungu, 2013).

Developing a financial measure of brand equity would address MSI's top priority of increasing accountability and measuring ROI of marketing expenditures (MSI 2018).

Although the idea of a standard brand equity measure has great appeal, there is much disagreement about what brand equity means, and how it should be measured. There exist three main perspectives on brand equity. These include the notions of brand equity as: a set of cognitive associations (Mbima & Tetteh, 2023), a price or revenue premium compared to a benchmark competitor (Aaker 1991, Ailawadi et al 2013), and a stock price premium (Adigbole et al., 2022).

These three perspectives on the meaning of brand equity have given rise to a multitude of proposed brand equity measures in the academic arena. Amid academia's definitional and measurement variability, professionals have developed their own measures of brand equity. These measures depend on various assumptions, which differ between measures. As a result, brand equity estimates vary widely. For instance, the brand equity for Google in 2007 ranged from \$17 billion to \$66 billion – more than three times as much! – depending on the measurement scheme employed (Afriyie et al., 2018). Clearly, academia needs to develop a financial measure for brand equity that can gain credibility and acceptance by the professional community. The purpose of this article is to propose a definition and measure of brand equity that can accommodate the contributions of the various perspectives already proposed by academic researchers, and attain acceptance by the professional community. Consumer-based brand equity, a key concept in marketing, has been the subject of significant research and development.

Szőcs (2014) provides a comprehensive review of brand equity models, with a focus on consumer-based models. This is further explored by Guliyev (2016), who emphasizes the role of brands in differentiation and recognition. Battistoni (2013) introduces a new approach for measuring brand equity, applicable across sectors, and applies it to the fashion industry. Girard (2017) examines the dimensions of consumer-based brand equity

in private-label branding, highlighting the importance of awareness/familiarity and perceived quality. These studies collectively underscore the significance of consumer perceptions and experiences in shaping brand equity.

2.3.4 Hybrid Approach to Brand Equity

Kim et al. (2013) argue that merging customers' impressions and financial perspectives of brand equity is crucial for a comprehensive understanding. Relying solely on one research stream may lead to inefficiencies. The limitation of financial-based metrics, as highlighted by Buzdar et al. (2016), is their inability to pinpoint the sources of brand equity. The emphasis on Comprehensive Brand Equity (CBBE) is seen as a remedy, assessing goods and services beyond their monetary value. However, in the pursuit of enhanced marketing results, management is increasingly viewing this metric as less significant. Motameni & Shahrokhi (2016) proposed a global measure of brand equity value that integrates both financial and customer perspectives. This combined approach, according to the authors, offers a more precise way to quantify brand equity and identify its origins.

In addition, Raut (2015) took a comprehensive approach by integrating financial-based metrics with customer survey data to define brand equity as the "incremental contribution each year generated by the brand compared to the underlying product (or service) without any brand-building initiatives." Non-attribute preference, attribute perception, and brand awareness were proposed as major components of brand equity by the authors. Gautam & Kumar (2012) asserted that Aaker's brand equity framework dimensions serve as the foundation for all perspectives on brand equity. Ailawadi et al. (1) recognized that neither of the two viewpoints on brand equity fully encapsulates all the characteristics ideal for measuring it. Consequently, they developed a revenue premium, emphasizing a solid

conceptual foundation, high external validity, simplicity in calculation, and completeness (Farhana & Islam, 2012).

The Inter Brand Group, an industry brand analyst, devised a brand strength model, considering factors such as understanding, clarity, protection, commitment, authenticity, responsiveness, relevance, differentiation, presence, and consistency (Nadler et al., 2015). This model aligns with academic research on brand equity measurement and is employed to determine a brand's ability to generate financial value for shareholders through an extensive financial model of the firm (Zaato et al., 2022). Despite this, Pitta & Katsanis (2015) stressed the legitimacy of marketers exploring brand equity based on consumer perceptions. In the current study on herbal medicines in the OTC medicine market, the assessment of packaging's potential contribution to maintaining brand equity relies on consumers' perceptions (Umarudeen et al., 2023).

A hybrid approach to brand equity, as proposed by (Veselovsky et al., 2019), involves a holistic measurement that considers both short-term profitability and long-term value enhancement through relationships. This approach is further developed by Burmann (2019), who integrates internal and external sources of brand equity, including employees, into the measurement model. Pakseresht (2010) emphasizes the role of corporate responsibility in brand equity, suggesting that a composite approach that includes social and environmental attributes is needed. Atilgan (2019) adds a customer-based perspective, identifying perceived quality, brand loyalty, brand associations, and brand trust as key dimensions of brand equity for global brands.

These studies collectively highlight the need for a comprehensive, multi-dimensional approach to brand equity that considers both financial and non-financial factors. Both brand equity and relationship marketing are continuing to receive practitioner and

academic attention. Measurement of the holistic brand entity is necessary to balance the focus on short-term profitability as well as providing control for the marketing function and comparing alternative courses of action (Carlos Pinho et al., 2014). The need for longer-term thinking has also driven the perception of marketing as value enhancement through a network of relationships. As brand equity has yet to be successfully reduced to money values for these purposes, practitioners will have to rely on the marketing indicators but these may be re-expressed in terms of the end-user's and intermediate customers' relationships with the brand. Further work is needed to reduce those to the fewest measures which also sensitively predict future profitability.

2.4 Brand Resonances Model

The brand resonance model gauges' brand strength based on consumer perceptions, assumptions, and attitudes. Marketing executives need to determine what and how customers learn about the product, what are their differences and connections, the desired reactions and the motivations why customers need to be brand loyalists, as well as what will the experience with the brand be to achieve the desired results (Márkus & Fallmyr, 2014).

According to their customers, one can determine which brands are the strongest, as well as which brands have issues (Farhana & Islam, 2012). The brand resonance pyramid's inclusion of the brand overhang block at the base of the pyramids is one of its most significant improvements over Keller's original CBBE Model. Since brand recognition and recall are now equally as critical as brand awareness across the widest range of consumer events, sailing has grown significantly more crucial (Н. Л. Зайкина, 2016). Four processes make up the Brand Resonant Model, which is used to generate brand

equity (Farhana & Islam, 2012; Tsui-Hsu Tsai et al., 2014). Each step must be carried out for the subsequent one to be completed (Márkus & Fallmyr, 2014).

For a brand to achieve its resonance stage, managers must be able to influence customers' emotional and cognitive responses to the brand by developing a distinctive brand identity and strong positive connotations that are difficult for rival companies to imitate (Márkus & Fallmyr, 2014). In conclusion, the brand resonance model is built on the associations consumers have with it (Moura et al., 2017). The first step is to build brand identity and recognition among consumers, or broad and deep awareness and brand recall. The second step is to give the brand a meaning. To do this, brand associations and characterizations are developed, both in terms of rational and concrete aspects related to brand performance and in terms of emotional and intangible aspects related to brand image (Márkus & Fallmyr, 2014; Tsui-Hsu Tsai et al., 2014).

The third step is when people start responding favorably to the brand through their perceptions and emotions (Abd Aziz & Yasin, 2010). In the case of brand judgments, reflects an overall cognitive assessment of the product's credibility, quality, superiority, and other symbolic and functional aspects in comparison to its competitors (Raut, 2015). In the case of emotional responses, feelings represent the emotions and sensations that the brand generates in the consumer and may represent the degree of identification between those consumers and the brand (Raut, 2015). The fourth step, which is based on the consumers' positive reactions to the brand, aims to build a strong relationship between the brand and its customers in terms of loyalty through repeat purchases and other behaviors like positive word-of-mouth marketing, an increase in the number of products and services bought related to the brand. This is the stage in a brand's relationship with its customers where brand resonance exists (Márkus & Fallmyr, 2014).

It may also be the level of sacrifice required for a customer to purchase a brand (Raut, 2015). As a result of the execution of these four processes, six building blocks—the brand's salience, judgment, performance, image, sentiment toward the brand, and resonance—that will support the Brand Resonance Pyramid have been created (Gautam & Kumar, 2012; Márkus & Fallmyr, 2014; Tsui-Hsu Tsai et al., 2014). A series of studies have explored the Brand Resonance Model, with a focus on its application in various industries. Moura (2019) validated the model, finding that the rational path (performance and judgment) has a greater impact on brand resonance than the emotional path (image and feeling). Ambedkar (2017) and Ande (2017) both quantified brand resonance using different techniques, with Ambedkar using the Analytic Network Process (ANP) and Ande using the Analytic Hierarchy Process (AHP). Both studies provided useful guidelines for improving brand resonance in the financial services industry.

Abraham (2020) extended the model's application to the mobile phone industry, identifying the influence of different brand experience dynamics on brand resonance. This study has the purpose to test and validate the Brand Resonance Model which is represented by a pyramid that contains cause and effect relationships between the constructs related to the brand (salience, image, performance, feeling, judgment and resonance), whose ultimate goal is to represent brand equity. Part of the research was carried out by a survey applied to hotel guests, at the end obtaining 302 questionnaires. Procedures were performed for data treatment, the constructs one-dimensionality and reliability, convergent validity, discriminant validity and nomological validity. The results indicate that the Brand Resonance Model has nomological validity, since all the theoretical relations between the constructs were statistically significant. In terms of outcome the rational path - formed by performance and judgment - has a greater impact

on brand resonance than the emotional path - image and feeling. The R² of brands' resonance, the value obtained was 83% (Harper-Anderson, 2019).

2.5 Purchasing Behavior (PB)

Consumer behavior involves studying the actions of individuals, groups, or organizations concerning the acquisition, utilization, and disposal of goods and services. Marketers face a significant challenge in comprehending the decision-making process of consumers, who actively choose products based on factors such as disposable income and budget constraints (Oppong & Phiri, 2018b). Consumer buying behavior encompasses the actions taken by consumers, both online and offline, before making a purchase (Obidike & Salawu, 2013). The reliability of measurements, such as test-retest reliability and internal consistency, plays a role in understanding the consistency of consumer responses over time (Gu et al., 2016).

Complex buying behavior arises when consumers make high-value, infrequent purchases, such as homes or cars, involving extensive research and high involvement in the decision-making process (Ursachi et al., 2015). Dissonance-reducing buying behavior is characterized by high involvement in the purchase process, with consumers struggling to differentiate between brands, leading to post-purchase dissonance, as seen in the example of buying a lawnmower (Taherdoost & Group, 2020). Routine buying behavior involves low involvement in decision-making, as consumers make repeat purchases without perceiving significant brand differences, such as buying groceries or household items (Nadler et al., 2015). Variety-seeking behavior is exhibited by consumers seeking new experiences, showing low brand loyalty, and often making impulsive purchases (Nadler et al., 2015).

The COVID-19 pandemic and various factors like social, cultural, demographic, and situational influences can lead to changes in consumer behavior, particularly in the purchase of higher-priced goods, which involve higher risks. Marketers can enhance results by segmenting consumers based on their purchasing capacity (Nadler et al., 2015). Understanding these diverse consumer behaviors enables businesses to segment their target audience effectively and tailor marketing strategies to meet specific needs and preferences within each segment (Pérez & del Rodríguez Bosque, 2013). Ultimately, businesses can leverage insights into consumer behavior to develop products that align with the preferences and needs of their target audience, such as creating environmentally friendly products in response to consumer demand for eco-friendly options (Cheng & Yan, 2018). (Sweida & Reichard, 2013) presents the Behavioral Perspective Model of purchase and consumption, which emphasizes the role of environmental factors and reinforcement in shaping consumer behavior.

This model is further explored by Han (2015), who identifies store image, knowledge, quality perception, and economic value as key attributes of PB products that influence consumer attitudes and purchase behavior. Li (2015) adds to this by discussing the impact of behavior-based pricing on consumer perceptions of fairness, finding that strong fairness concerns can increase firm profits but decrease consumer surplus. These studies collectively highlight the complex interplay of environmental, product, and pricing factors in shaping PB. The Behavioral Perspective Model of purchase and consumption (BPM) portrays the rate at which consumer behaviors take place as a function of the relative openness of the setting in which they occur and the informational and hedonic reinforcement available in or promised by the setting. Each of eight combinations of contingencies based on these explanatory variables is uniquely related to a specific mode of observed consumer behavior (Zaini et al., 2016). By providing an environmental

perspective on consumer behavior, the model makes a critical contribution to the development of contemporary consumer research that frequently decontextualizes its subject matter. It also presents an innovative conceptualization of the nature of marketing strategies.

2.6 Brand Loyalty (BL)

Brand loyalty is a consumer's positive feelings towards a brand and their dedication to purchasing the brand's products and/or services repeatedly regardless of deficiencies, a competitor's actions, or changes in the external environment. It is a commitment to repurchase or continue to use a brand's product or service over time, regardless of changes in competitors' pricing or changes in the external environment (Gadermann et al., 2012). Brand loyalty occurs when consumers are willing to pay higher prices. Existing customers loyal to brands purchase 90% more frequently than new customers, and maintaining the brand-loyal segment is also far less expensive than marketing to attract new customers. Loyal customers are willing to pay more for a certain brand and go out of their way for the brand, or think highly of it (Tsui-Hsu Tsai et al., 2014). Brand loyalty is based on perception, and customers will consistently buy the same product since they perceive it as superior to other available products.

Brand loyalty is sticky, and once a customer is loyal to a brand, it is often more difficult for them to switch to a competitor (Abd Aziz & Yasin, 2010). This customer stickiness can give companies a significant competitive advantage, as they don't have to continually reinvest in acquiring new customers. Loyal customers tend to not only spend more with the brand but also recommend the brand to their friends and family. This self-reinforcement means that brand loyalty can beget even more brand loyalty, further solidifying a company's competitive advantage (Umarudeen et al., 2023). To cultivate

brand loyalty, companies can provide best-in-class customer service, find their brand voice and story, use rewards programs, and offer exclusive discounts through a loyalty program. Companies can also invest in a loyalty program to boost customer acquisition and encourage existing consumers to up their spending (Raut, 2015).

Brand loyalty is a crucial factor in driving revenue and market share (Lee, 2009). It can be a source of competitive advantage for firms, benefiting both customers and brand owners (Denoue, 2009). Relationship quality, particularly self-congruence, plays a significant role in building brand loyalty in social commerce (Zhang, 2016). Relational bonds, particularly structural bonds, have a significant impact on brand loyalty, with brand relationship quality mediating this relationship (Huang, 2014).

2.7 Perceived Quality (PQ)

Perceived Quality (PQ) is the impression of excellence that a customer experiences about a product, brand, or business, derived through sight, sound, touch, and scent. It is the customer's opinion about the overall quality or image of the product or service or the brand itself concerning its purpose of use as against its alternatives (Viladrich et al., 2017). PQ is intangible and cannot be measured on quantitative grounds, preferably because judgments about what is important to the customers vary widely across different personalities, needs, and preferences. Here are some key points about PQ: (Fisher et al., 2016). PQ is a significant factor influencing consumer purchase decisions. When customers perceive a product or service as high quality, they are more likely to purchase it, potentially leading to increased sales and market share for a business (Viladrich et al., 2017).

High-perceived quality contributes positively to a brand's image and reputation. Over time, this can help to attract new customers, retain existing ones, and differentiate the business from its competitors (Dueck et al., 2015). PQ is more skewed towards the brand image, customer experience with the brand and its other products, peer opinions, etc. Thus PQ differs from objective quality, product-based quality, and manufacturing quality (Postmes et al., 2013). PQ is the result of subconscious thought, and most people will have an intrinsic ability to determine a product's quality from looking, feeling, and listening to it. Often, an opinion is formed in a matter of minutes or even seconds (Moura et al., 2017).

PQ can be a key differentiator that sets a company apart from its competitors, particularly in industries where product offerings are similar. Given these reasons, businesses often strive to improve the PQ of their products or services as a strategic move to enhance their market performance and customer relationships (Nath Sanyal et al., 2013). Perceived Quality (PQ) is a complex concept that encompasses user satisfaction and the ability to process multimedia content (Ghinea, 2005). It is influenced by both intrinsic and extrinsic quality cues and can be shaped by a consumer's experiences and beliefs (Ophuis, 1995). Solin (2022) proposes a new definition of PQ as an impression of quality, which is influenced by quality cues and information asymmetry. Cioffi (2012) further explores PQ in the context of healthcare, identifying four factors that contribute to patients' perceptions of quality. Although the effectiveness of multimedia applications depends largely on the performance capabilities of networking protocols and communication delivery systems, optimum service, however, cannot always be guaranteed due to two competing factors: multimedia data sizes and network bandwidth. When these factors degrade a network's performance, congestion, packet loss, bit errors and out-of-order arrivals result. Consequently, a great deal of research in this area has focused on the

technical and networking aspects of delivering multimedia applications. The success of a particular application, however, is ultimately determined by the end-user's experience.

Research into the end-user's perception of and satisfaction with multimedia applications delivered over networks has been relatively limited, however. In this context, Apteker et al. have investigated the effects that different video frame rates have on human satisfaction with the multimedia presentation [1]. Their results showed that for certain ranges of human receptivity, a small variation of it leads to a much larger relative variation of the required bandwidth. Closely related to this work is the one of Fukuda et al. who derived a mapping between the required bandwidth of multimedia video and three quality of service (QoS) parameters (frame rate, signal-to-noise ratio, spatial resolution) [4], whilst Yamazaki examined the effects of different frame rates, sizes and quantization parameters of MPEG-4 video on perceptual quality [8].

Blakowski and Steinmetz showed that synchronization between media is generally characterized by three regions: one in which synchronization errors are unnoticeable by the user, one in which they are perceived but tolerated, and one in which they are found irritating [2]. Kawalek, on the other hand, is more interested in the cut-off rate beyond which the quality of transmitted audio and video becomes unacceptable to human users in desktop conferencing environments [6]. He showed that the perception of media loss is highly dependent on the medium in question. Steinmetz's and Apteker's earlier work and investigate the perceptual tolerance to discontinuity caused by media losses and repetitions, and to that of varying degrees of mis synchronization across streams [9]. User satisfaction, perception and understanding of multimedia should be the driving force in networking and operating systems research. The focus of our work has been the enhancement of the traditional view of QoS with a user-level defined quality of

perception (QoP). This measure encompasses not only a user's satisfaction with multimedia clips (which we shall denote by QoP S), but also his/her ability to understand, synthesise and analyze the informational content of such presentations (which we shall denote by QoP U). We believe that a measure such as QoP will have more meaning for a typical multimedia user than typical QoS metrics. As such, we have investigated the interaction between QoP and QoS and its implications from both a user perspective as well as from a networking angle.

2.8 Brand Awareness (BAW)

Brand awareness is a fundamental part of any successful marketing strategy. It is the first step in the buying process and is the most important since without brand awareness, the consumer will generally not consider the brand for purchase. Brand awareness is a key indicator of a brand's market performance (Oppong & Phiri, 2018b). Brands competing in a highly globalized market invest in global advertising and distribution to compete for consumers' attention and awareness. Establishing brand awareness is a formidable marketing strategy that induces consumers to cultivate an innate inclination towards a brand and its offerings (Dickov & Igić, 2013).

This tactic holds significant value when it comes to advertising and endorsing a company and its products, particularly during the nascent stages of a business. A heightened level of brand awareness can potentially result in augmented sales and market share for a business (Daswani et al., 2011). Furthermore, it can aid in the acquisition of new customers, the retention of existing ones, and the differentiation of the business from its competitors. Building brand awareness is a continuous process that requires consistent effort and investment. It can be achieved through marketing campaigns and tactics, social media, storytelling, and making sharing easy (Dlačić & Kežman, 2014). Brand awareness

(BAW) is a crucial aspect of advertising and marketing, influencing consumer decision-making and brand equity (Bergkvist, 2022; Anand, 2023). It is defined as the likelihood of a person recalling a brand identifier and product category across relevant situations (Bergkvist, 2022). The formation of brand awareness is influenced by various factors, including cognitive processes and brand recognition (Anand, 2023). Successful brand awareness campaigns, such as those by Nike, Coca-Cola, and Apple, have employed effective strategies to resonate with their target audience (Anand, 2023). In the context of micro, small, and medium enterprises (MSMEs), building brand awareness is crucial for maintaining product demand and consumer loyalty (Rahayu, 2017). Brand awareness is the likelihood that a person retrieves a brand identifier and a product category or category need from memory across brand-relevant situations. In addition, the article summarizes the trajectory of the use of dependent measures of advertising effectiveness and calls for greater focus on the measurement of BA in its various forms. To this end, the article provides guidelines for measuring BA and specific recommendations to future researchers for including BA in studies of advertising effectiveness.

2.9 Brand Association (Bas)

Brand association is the mental connection, feelings, and responses that occur when a customer thinks of a particular company, its products, services, and ethos. It is the association that a customer makes between a brand and a concept, image, emotion, experience, person, interest, or activity (Fisher et al., 2016). Brand association can be positive or negative, and it heavily influences purchase decisions. It can be based on a variety of criteria, including brand identity, brand assets, company reputation, personal experience of the company, influence of friends and peers, and responses to previous marketing, advertising, and social media campaigns (Fisher et al., 2016). Brand

association can be celebrity-based, where consumers associate a brand with a celebrity who endorses the product. For example, when a consumer hears about Nike, they immediately associate it with fitness, and when they hear about Tesla, they might associate it with Elon Musk (Viladrich et al., 2017). Brand associations develop with every interaction of the brand with the customer, including marketing efforts, pricing efforts, brand loyalty, referrals, and every instance that involves the brand (Dueck et al., 2015). Building positive brand associations is key to a company's success. It helps promote brand recall and brand equity and increases customer retention and loyalty.

The most powerful brand associations only take an instant to trigger a person's recognition of a brand (Postmes et al., 2013). To build brand associations, businesses can focus on brand identity, brand assets, company reputation, personal experience of the company, influence of friends and peers, and responses to previous marketing, advertising, and social media campaigns. They can also use symbols, advertising, endorsements, retail channels, and other marketing tactics to build brand associations (Moura et al., 2017). Therefore, quality control measures should be in place to ensure that the finished product is safe for consumption., the level of brand equity of decocted herbal products can be influenced by various factors, including packaging, quality control, and the extraction process (Nath Sanyal et al., 2013).

Brand Association (BAs) is a crucial aspect of brand management, influencing consumer purchasing decisions (Ergin, 2011). Ugglá (2014) introduces a model for managing the transfer of meaning between brands, emphasizing the leader brand, partner brand, institutional associations, and customer's brand image. Virutamasen (2015) suggests that social enterprise (SE) can strengthen brand association, particularly in the context of the triple bottom line. Maulan (2016) focuses on the development of a scale for measuring

Halal brand association (HalBA) for Islamic banks, identifying three dimensions: Shari'ah-compliant association, God-consciousness association, and corporate social responsibility association. These studies collectively highlight the importance of BAs and the potential for strategic leveraging and measurement in different contexts. Brand Association (BAs) is a crucial aspect of brand management, influencing consumer purchasing decisions (Ergin, 2011). Uggla (2004) introduces a model for managing the transfer of meaning between brands, emphasizing the leader brand, partner brand, institutional associations, and customer's brand image. Virutamasen (2015) suggests that social enterprise (SE) can strengthen brand association, particularly in the context of the triple bottom line. Maulan (2016) focuses on the development of a scale for measuring Halal brand association (HalBA) for Islamic banks, identifying three dimensions: Shari'ah-compliant association, God-consciousness association, and corporate social responsibility association. These studies collectively highlight the importance of BAs and the potential for strategic leveraging and measurement in different contexts.

2.10 Theoretical Framework

2.10.1 Aaker's Brand Equity Theory

Brand equity, as defined by Aaker (1991), encompasses a collection of assets or liabilities associated with a brand, including its name and symbol. These assets and liabilities contribute to or detract from the value that a product or service provides to a company and its customers. To establish brand equity, these assets or liabilities must have an impact on the brand name and/or symbol. Assets such as brand quality, brand recognition, brand loyalty, brand association, and other unique brand features like channel relationships, trademarks, and patents all contribute value to brands (Oppong & Phiri, 2018b). Each aspect of brand equity plays a role in creating value for both the company

and its clients. For example, perceived quality forms the foundation for brand extension, price premium, and the interest of channel members in the brand. It also plays a role in positioning and differentiation, ultimately enhancing the brand's performance in the market. Brand equity can either increase or decrease the value of customers, depending on their perceptions (Umarudeen et al., 2023).

Specifically, brand equity enhances customer value by assisting them in understanding, processing, and retaining product information. It also instills confidence in customers during the purchasing process and ensures user satisfaction. Similarly, brand equity generates value for businesses by improving the effectiveness and efficiency of marketing campaigns, brand expansions, pricing strategies, customer loyalty, trade leverage, and competitive differentiation. While other brand assets are derived from market-based data rather than direct customer input, Aaker (1996) demonstrated that brand awareness, brand associations, brand loyalty, and perceived quality are perceptual dimensions of brand equity.

2.10.2 Keller's Brand Equity Theory

From the perspective of an existing or potential individual client, company, or organization, Keller (2014) approached CBBE. The primary tenet of this theory is that a brand's health is dependent on the impressions that consumers have of it from prior exposures (Keller, 2041). Consumers' interactions with a brand are influenced by what they have been told, seen, felt, and educated about. CBBE, according to Keller (1993), is "the differential impact of brand knowledge on consumer response to the marketing of the brand." The author also stressed that a brand has great value if consumers respond favorably to the market offering and its marketing initiatives in comparison to an equivalent product that is not branded (Dlačić & Kežman, 2014). In general, positive

customer feedback and a strong brand can lead to cheaper expenses, increased sales, and ultimately higher profits. Here, the phrase "differential effect" refers to variations in consumer response to the marketing of a brand name product as opposed to an unbranded version of the same product. Second, preferences, behavior, and impressions stemming from all facets of the company's marketing initiatives reveal how consumers respond to brand marketing (Tsui-Hsu Tsai et al., 2014).

The author claims that brand knowledge, which includes brand awareness and brand image, is the primary antecedent of CBBE. Therefore, Keller (2013) highlighted that when a customer exhibits strong brand knowledge and familiarity as well as some strong, positive, and distinctive mental connections with the brand, customer-based brand equity is created. Brand knowledge was described by the author as the knowledge of a brand that is kept in memory and reflects a variety of associations. This definition was based on an associative network memory model. The strength of a brand's node or memory trace is correlated with brand awareness. Brand recognition and brand recall are two different types of brand awareness. When provided a cue, a customer's capacity to corroborate prior brand encounters is measured by brand recognition (Chinsebu, 2016).

Contrarily, brand recall refers to consumers' capacity to conjure up the brand in their minds. Marketers can concentrate on enhancing brand image after there is a sufficient level of brand awareness. It is possible to think of a brand image as customers' subconscious associations with the brand. It is related to perceptions about the brand. The other informative nodes associated with the brand node in memory and containing the brand's meaning for consumers are referred to as brand associations (Keller, 2014). Although brand connections can take many different forms, they often consist of characteristics or elements that are unique to the product. In essence, brand connections

are made up of characteristics, advantages, and attitudes with a growing range. According to how closely they relate to the functionality of the product, brand attributes are qualities that describe market offerings (Holmes, 2017). They are divided into intrinsic and extrinsic attributes. The physical makeup or specifications of a product that are necessary for it to perform as desired by customers are referred to as intrinsic characteristics (Zickuhr, 2016).

According to how closely they relate to the functionality of the product, brand attributes are qualities that describe market offerings. They are divided into intrinsic and extrinsic attributes. The physical makeup or specifications of a product that are necessary for it to perform as desired by customers are referred to as intrinsic characteristics (Stevanin, 2019). The significance and value that consumers attach to the product features is another aspect of brand benefits. Depending on the underlying motives to which they connect, brand advantages may be experiential, symbolic, or utilitarian. On the other side, brand attitudes are thought of as consumers' assessments of the caliber of the brand (Keller, 1993). The strength, distinctiveness, and favorability of each of these brand linkages varies. Marketers endeavor to reduce marketing expenses and increase sales. Their objective is to increase the efficiency of the marketing effort. They continuously look for the factors that increase marketing efficiency. Strong brands enjoying high brand equity can help managers to relish higher margins, greater customer loyalty, less vulnerability to competitive attacks, better customer response to communications, and more cooperation from trade and other intermediaries. In order to keep track of the strength of their brands, managers need to be able to quantify brand equity. However, measuring brand equity is a challenge for managers. The measure of brand equity should reflect the construct it is measuring, should capture the changes in brand equity and should be applicable to different markets and products.

Brand equity has been defined by researchers in different ways. Aaker defines brand equity as ' a set of assets (and liabilities) linked to a brand ' s name and symbol that adds to (or subtracts from) the value provided by a product or service to a fi rm and / or that fi rm ' s customers ' . 1 Keller, however, defines brand equity as ' the differential effect of the brand knowledge on consumer response to the marketing of the brand ' . (Sahaym et al., 2019) Similarly, Yoo and Donthu defi ne brand equity as ' consumer ' s different response between a focal brand and an unbranded product when both have the same level of the marketing stimuli and product attributes ' . 3 According to Srinivasan et al , ' Brand equity is defi ned as the incremental contribution (\$) per year obtained by the brand in comparison to the underlying product (or service) with no brand-building efforts ' . (Zulfiqar et al., 2021) researchers have carried out a lot of work in identifying the dimensions to capture and measure brand equity. Some of them have come up with perceptual dimensions. For instance, according to Keller, 2 brand awareness and brand image constitute brand equity. As per Park and Srinivasan, 5 brand equity consists of attribute-based and non-attribute-based components.

Researchers like Kamakura and Russell 5 used actual consumer purchase behavior or market behavior to ascertain brand equity. Considering both perceptual and market behavior measures, Aaker 6 proposed that brand loyalty, perceived quality / leadership, associations / differentiation, awareness and market behavior are the various dimensions acting as sources of brand equity. Using perceptual dimensions from the studies of Keller 2 and Aaker, 6 Yoo and Donthu 3 developed a scale for measuring brand equity comprising brand loyalty, perceived quality and brand awareness / associations as various dimensions. Because this scale is based on Keller ' s 2 and Aaker ' s 6 dimensions, we do not know whether this scale is sufficient to explain brand equity or whether some more items representing additional sources of brand equity are required to be identified. This

is so because Keller 2 does not explain the relationship between brand awareness and brand image and has only provided a framework to measure these dimensions, and does not provide a concrete measure of brand equity. Similarly, Aaker 6 provides only an indication towards a set of items that can contribute to brand equity. Nobody knows how these items and which of these items should be combined to capture brand equity. Whether these items are exhaustive and what is the reliability and validity of these items are some of the other questions left unanswered by the study(Shahzad et al., 2020).

2.11 Empirical Review

Zia and colleagues (2021) conducted a study to investigate the role of brand recognition as a mediator in the relationship between brand loyalty, brand image, and brand equity. The researchers employed a straightforward random sampling technique (Zaikina, 2016) to collect data from a diverse group of participants, including members of the general public, college students, and university students. The sample size consisted of 390 individuals, and a non-probability and convenience sampling strategy was utilized for the quantitative study design. The results of the study indicated a positive and significant correlation between brand awareness and brand image. Moreover, there was a significant relationship between brand loyalty and brand image, with brand recognition serving as a mediator in this interaction. Shabbir and colleagues (2017) conducted a study in Mirpur, Azad Kashmir, India to explore the mediating role of brand awareness in the relationship between brand equity, brand loyalty, and brand image. The findings of the study revealed that brand awareness fully mediates the impact of brand equity on brand loyalty and brand image.

Severi and Ling (2013) aimed to examine the indirect relationship between the dimensions of brand equity and brand equity itself. The dimensions considered in this

study were brand association, brand awareness, brand loyalty, perceived quality, and brand image. The results indicated a moderating influence of the brand equity components on brand equity. Emari and colleagues (2011) conducted a study focusing on the fundamental aspects of brand equity in the chocolate sector. The researchers developed a model to identify the elements contributing to the development of brand equity. Additionally, they assessed the mediating role of brand imagery and brand loyalty in the relationship between brand equity and brand association, personality, and attitude. The findings of this empirical study suggested that brand loyalty and brand image are major components of brand equity in the chocolate industry. Furthermore, the results provided evidence supporting the mediating role of brand image and brand loyalty in brand equity.

Sasmita and Suki (2015) examined the impact of brand associations, brand loyalty, brand awareness, and brand image on brand equity among young consumers. The empirical findings from multiple regression analyses confirmed that brand awareness has a primary influence on brand equity among young consumers. These young customers actively engage with social media platforms to express their opinions and gather information about specific products or brands. They can easily distinguish a particular brand or product from others and acquire knowledge about its appearance and features through social media platforms (Zaikina, 2016).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This study sought to examine the impact of brand equity on the purchasing of decocted herbal products in Kumasi, Ghana. This chapter presented the methods employed in the study and it was organized as follows, research design, study area, population, sampling procedure, data collection instrument, validity and reliability, data collection procedures, and data processing and analysis.

3.2 Research Design

Research design, according to Wyk (2015), is the overall strategy for linking the relevant empirical research to the conceptual research concerns. As intimated by Creswell & Creswell (2018), experimental (science experiments), non-experimental (such as case studies, and surveys), and longitudinal designs as the three main types of research designs for the quantitative research approach. A cross-sectional design was used for the study. Cross-sectional is appropriate for capturing a snapshot of the relationship between brand equity and purchasing behavior at a specific point in time. It allows for the examination of multiple variables simultaneously, offering a comprehensive understanding of the current state of consumer behavior and brand perceptions

3.3 Research Approach

The three main approaches to research are quantitative, qualitative, and mixed methods, according to Creswell and Creswell (2016). According to Creswell (2014), the quantitative approach focuses on describing events by gathering numerical data that are

then analyzed using techniques with a mathematical foundation (in particular statistics). Also, the quantitative research approach would give the researcher the chance to extrapolate sample results to the population from which they were drawn. Techniques for gathering information for the qualitative analysis include case studies, observation, interviewing with a guide, & literature review (Yates, 2014). Via in-person interviews with members of the project management committee, the researcher collects data from the quantitative survey's results for qualitative analysis. To gain clarity on the research problem, mixed methods are a way to collect and incorporate both quantitative and qualitative data at a certain stage of the research process inside a single study (Tashakkori and Teddlie, 2003; Creswell, 2005). According to Creswell et al. (2006), combining both types of data in a study captures the patterns and specifics of a situation because neither qualitative nor quantitative methods are insufficient on their own.

Three crucial distinctions between qualitative and quantitative study approaches are stated by Saunders et al. (2016). The first distinction put forth by the scholars is that the quantitative research approach enables the researcher to separate, identify, and connect variables to create a study hypothesis. Regarding the qualitative research method, this is not the case. The second distinction made by the authors is the fact that the quantitative research approach permits objectivity concerning the procedures used in data collecting and analysis. Conversely, the qualitative research approach frequently introduces subjectivity throughout the data-gathering and processing stages. The objective of the qualitative research approach is not to generalize the sample results to the entire population, whereas the quantitative research method permits the use of bigger samples and the generalization of the sample results to the entire population. Because of the nature of the study aim, the specific objectives, the hypotheses, and the type of primary data to be gathered and analyzed, this study used the quantitative research approach. Given that

the study looked at cause-and-effect linkages between the study variables, a quantitative research approach was pertinent (Saunders, Lewis, and Thornhill, 2009).

3.4 Study Area

The city of Kumasi Metropolis is cosmopolitan and distinguished by its cultural richness. Kumasi is located in the transitional forest zone and is roughly 270 kilometers north of Accra, the country's capital, according to the Ghana Statistical Service (2014). With a 250–300-meter elevation above sea level, it is located between latitudes 6.350 N and 6.400 S and longitudes 1.350 W and 1.350 E. Services, manufacturing, and agriculture are the main economic drivers in the metropolis, supporting its people. The mainstay of the populace, supporting over 72% of the economically active population, is the services industry. Throughout the city, there are also sporadic clusters of industry, including conglomerated small-scale food processing, mechanical shops, construction companies, and wood processing businesses. Due to its status as Ghana's second-largest commercial center with an active market for the herbal industry, Kumasi Metropolis was chosen as the study site.

3.5. Population

The study population for the research on the effect of brand equity on the purchasing behavior of consumers of decocted herbal products in Ghana consisted of adult consumers who actively engage in the consumption and purchase of decocted herbal products in Kumasi, Ghana.

3.6. Sampling Procedure

The respondents were chosen using a simple random sampling process to ensure that every person had an equal chance of being chosen from the population at an herbal shop (Patten and Newhart). This technique of selection was chosen because it is easy to apply, is believed to be an equitable way to choose herbal businesses, and is also a basic probability sampling method.

3.7. Data Collection Instrument

The data collection tool used was a structured questionnaire. A specific kind of survey method known as a questionnaire asks respondents the same set of questions (Polit and Beck, 2008). A questionnaire can be used to reach a large number of respondents, is quicker and easier to complete, and is less expensive than conducting interviews, according to Plano Clark (2010). Sadly, this test has serious faults, such as unclear questions, low response rates, and possible literacy issues (Kaplan and Saccuzzo, 2017). Notwithstanding these, the questionnaire was nonetheless utilized because it was thought to be a useful tool for obtaining data for a quantitative investigation.

The study's research objectives and questions served as the basis for the questionnaire's content, which was written succinctly and appropriately to prevent ambiguity and pique respondents' attention.

3.8 Validity and Reliability

The rating scale for the items in sections B through E ranged from 1 to 5, with 5 denoting the highest level of agreement. Due to its importance in attaining the research goals of the study, this scale was chosen. This is because it is more desirable for performing both inferential (correlation, regression) and descriptive (means and standard deviations) statistics (Creswell and Creswell, 2017).

By implementing multiple techniques to evaluate and improve the instrument, the study ensured the validity and reliability of the research tool (questionnaire). For example, face validity was dealt with by allowing peers with strong research experiences to carefully read the questionnaire to spot and fix errors. Before use, the instrument underwent a final, in-depth review by a subject-matter expert (supervisor) to ensure content validity. As opposed to this, reliability is defined as the degree of internal consistency of the measuring device across time (Saunders, 2011). This indicates that a tool is considered dependable if it consistently produces the same results when concepts are measured from the same or comparable respondents, even when utilized by different scholars. The consistency of a data-gathering method or instrument is another definition of reliability (Creswell, 2014). A reliability test was conducted to ensure the validity of the study's research instrument, and the results, including the Cronbach alpha, were presented in the next chapter's introduction. If an instrument's Cronbach alpha is 0.7 or higher, it is regarded as dependable.

3.9 Data Collection Procedure

A letter of authorization from the department head, signed before to data collection, was included with the questionnaire. This was done to ensure that respondents do not question the validity of the entire data collection process. The questionnaires were then dispersed at random to the respondents after receiving approval from the proper authorities. The staff of the herbal shops were given a questionnaire to complete. A time frame of 10 working days was set out for the data-gathering exercise to guarantee a high and prompt response rate. After the set period, the questionnaires were taken back. The major difficulty encountered during the exercise was the unwillingness of some staff to partake in the data collection exercise due to various reasons such as inflexible schedules, and

confidentiality issues. However, this difficulty was minimized by addressing respondent grievances, and for instance, the staff were made to answer the questionnaires during break times due to their tight schedules.

3.10 Data Processing and Analysis

The data was entered into SPSS version 25, and quantitative statistical techniques, such as percentages, frequencies, means, standard deviations, correlation, and regression, were employed to evaluate the data that was generated. The findings, in chapter four, were presented in tables and subject to discussion. Credible checks were completed after the entire data collection process to modify and guarantee error-free data. As a result, all inconsistent and incomplete questionnaires were properly removed before coding and data processing. The error-free data was then processed using Statistical Package for Social Science (SPSS) version 26. Moreover, the processed data was then analyzed quantitatively using descriptive and inferential statistical tools such as percentages, frequencies, means, standard deviations, correlation, and regression. The results obtained were represented in tables and discussed as well in chapter four.

3.11. Chapter Summary

In particular, the research design, study organization, population, sampling procedure, data collection instrument, data collection procedure, data processing, and analysis were covered in this chapter along with the methods used in the study. Specifically, the chapter revealed that the study employed the causal design because of the purpose of the study. It was also revealed that both descriptive and inferential statistical tools were employed to analyze data obtained in a bid to achieve the study's objectives. The next chapter presented the results and discussions of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter entails the socio-demographic characteristics of respondents and the results and discussion on the; (1) level of brand equity of decocted herbal products, (2) the different dimensions of brand equity and how it affects the purchasing behavior of consumers of decocted herbal products, (3) relationship between brand equity and purchasing behaviour of decocted herbal products (4) and effects of educational level on the relationship between brand equity and purchasing behaviour. A total of 400 questionnaires were administered but 386 were filled and were used for the analysis in this study. Therefore, the response rate was 96.5%.

4.2 Socio-Demographic Characteristics

The study sampled 386 respondents who are regular consumers of various decocted herbal products in Kumasi. Table 4.1 gives the socio-demographic breakdown of the respondents. There were 247 male respondents, representing 63.99% whilst female respondents were 139 for 36.01%. This implies that more males patronize decocted herbal products than females. From Table 4.1, most of the respondents (142) were in the age bracket 26 – 35, representing a percentage of 36.79. This was followed by 18 – 25 years (103 respondents) representing 26.68%, then 36 – 45 years with a frequency of 63 representing 16.32%. The implication of the count for the various age brackets is that most consumers of decocted herbal products are young people in the age bracket 18 – 25 years.

Table 4.1: Socio-demographics of Respondents

Background Information	Frequency (n)	Percentage (%)
Sex		
Male	247	63.99
Female	139	36.01
Age		
18 – 25	103	26.68
26 – 35	142	36.79
36 – 45	63	16.32
46 – 60	42	10.88
60 +	36	9.3
Marital Status		
Single	223	57.77
Married	142	36.79
Divorced	15	3.89
Widowed	6	1.55
Educational Level		
No Formal Education	5	1.29
Basic Level	11	2.85
High School Level	59	15.28
Diploma	5	1.3
HND	12	3.1
Bachelors	213	55.18
Masters	64	16.58
PhD	17	4.4

Also, the majority of patrons of decocted herbal products in Kumasi were from people who were not married. They were 223 of the total respondents, contributing to 57.77% of the total. Out of the 386 responses, 142 (36.79%) were married who did patronised decocted herbal products. Also, in terms of the educational level of respondents,

bachelor's degree holders patronized decocted herbal products the most (213, 55.18%) followed by master's degree holders.

4.2 Reliability Test

Table 4.2: Reliability of Measurement Items

Variable	Cronbach Alpha	No. of Items
Purchasing Behaviour (PB)	0.840	6
Brand Loyalty (BL)	0.946	10
Perceived Quality (PQ)	0.957	4
Brand Awareness (BAW)	0.917	6
Brand Association (BAs)	0.822	2

A scale's reliability can be determined by how free from random error it is (Pallant, 2013) or by how well it yields consistent results when repeated measurements are made (H. Л. Зайкина, 2016). Cronbach Alpha, a measure of internal consistency, was used to determine how well each item on a scale represents an underlying construct. Individual consistency reliability needs to be at least 0.7. The Cronbach alpha varied from 0.822 to 0.957 for the variables purchasing behaviour, brand loyalty, perceived quality, brand awareness, and brand association in Table 4.2. This suggests that all measurement scales and constructs employed in the study were accurate.

4.3 Level of Brand Equity of Decoated Herbal Products

Table 4.3 Descriptive Statistics of Dimensions of Brand Equity of Decoated Herbal Products.

Sub-scale	Score Range	Mean	Std. Deviation
Brand Loyalty	0 – 4.0	2.8847	1.159
Perceived Quality	0 – 4.0	3.3089	1.312
Brand Awareness	0 – 4.0	3.0829	1.148
Brand Association	0 – 4.0	3.0972	1.287

The descriptive information on the sub-dimensions of brand equity is shown in Table 4.3. The mean scores for each of the dimensions of brand equity ranged from 0 to 4.0. From Table 4.3, the respondents showed more perceived quality ($M = 3.3089$, $SD = 1.312$), followed by brand association ($M = 3.0972$, $SD = 1.287$), then brand awareness ($M = 3.0829$, $SD = 1.148$) and finally brand loyalty ($M = 2.8847$, $SD = 1.159$).

4.4 Effect of Brand Equity on Purchasing Behaviour of Decoated Herbal Products

With brand equity as independent variable which has the various dimensions; brand loyalty, perceived quality, brand awareness and brand association, and purchasing behaviour as the dependent variable, Table 4.4 provides the model summary of the regression output. This table has the various statistics; R, R square, Adjusted R Square and the Standard Error. R is the Pearson product moment correlation coefficient which connotes the strength and direction of the linear relationship between the variables; brand equity and purchasing behaviour. From Table 4.4, a positively strong correlation exists between brand equity and purchasing behaviour of decoated herbal product in Kumasi since the R value is .793. Brand equity and consumer behaviour are positively correlated, as shown by the R value of 0.793. Generally, correlation coefficients typically fall

between -1 and 1, with -1 signifying a perfect negative association, 1 a perfect positive correlation, and 0 signifying no association. An R-value near 1 of 0.793 indicates a significant positive association. This implies that consumer behavior tends to improve along with brand equity. The correlation coefficient's positive sign suggests that buying behavior tends to rise as brand equity rises. This is in line with the logical assumption that consumers are more likely to buy products with higher brand equity because they may believe those things to be more dependable, dependable, or of higher quality.

Table 4.4: Model Summary of Regression Output

Model	R	R Square	Adjusted R Square	R Std. Error of the Estimate
1	.793 ^a	.629	.626	.673

a. Predictors (Constant), Brand Association, Perceived Quality, Brand Awareness.

Regarding the relationship between brand equity and purchasing behavior; the correlation reveals a strong positive and significant relationship between the two variables. This association may be influenced by regional or local circumstances. Understanding the local Kumasi market dynamics, cultural influences, and consumer preferences may help explain why brand equity is so closely tied to customer behavior there. The R square states the amount of variation that exists in the dependent variable caused by the independent variable; indicating that 62.6% variation in purchasing of decocted herbal products in Kumasi. This implies that the melioration of brand equity has brought the increase in purchasing of decocted herbal products in Kumasi.

Table 4.5 ANOVA Output

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	292.560	3	97.520	215.4	.000 ^b
Residual	172.914	382	.453	41	
Total	465.473	385			

a. Dependent Variable: Purchasing Behaviour (PB).

b. Predictors: (Constant), Brand Association (BAs), Perceived Quality (PQ), Brand Awareness (BAW)

Table 4.5 is the ANOVA table which connotes the test significance for R and R² using the F-statistic. The F-statistic is the regression mean square (MSR) divided by the residual mean square (MSE). If the significance value of the F-statistics is less than 0.05, then the independent variable well explains the variation in the dependent variable. In this analysis the p-value is below .05 ($p < .000$). Since $F(3,382) = 215.44$, $p = .000$, there is a statistically significant impact of brand equity on the purchasing behavior of decocted herbal products in Kumasi.

Table 4.6: Coefficients of the Regression Output

Model	Unstandardised		Standardized	t	Sig
	Coefficients				
	B	Std. Error	Beta		
(Constant)	.373	.102		3.677	.000
PQ	.234	.048	.279	4.900	.000
BAW	.368	.057	.384	6.473	.000
BAs	.167	.041	.196	4.115	.000

a. Dependent Variable: PB

Table 4.6 labeled coefficients provide information that is useful for understanding the regression equation. Under the column “Unstandardized coefficient” specifically B, the

numerical value for the first row, labeled (Constant), is the value for the intercept a in the regression equation. The numerical value on the second, third, and fourth rows labeled as PQ, BAW, and BAs in this case (representing the independent variables), is the value for the slope b for the regression equation. Based on these results, the researcher can report the following regression equation, predicting the impact of different dimensions of brand equity on the purchasing behavior of decocted herbal products in Kumasi.

$$Y (\text{Purchasing behaviour}) = .373 + .235PQ + .368BAW + .167BAs.$$

The relationship between the variables can be seen in the column named “Beta”. Taking the values for the slope and the intercept in the resulting regression equation, the researcher can make the following accessions, in the absence of any influence from the predictor variables (PQ, BAW, or BAs), the intercept (0.373) indicates the anticipated or base level of purchasing behavior. In other words, you would still anticipate a certain level of purchasing behavior shown by customers, which in this example is 0.373, even if all the predictor factors were zero.

4.5 The Relationship between Brand Equity and Purchasing Behaviour of Decocted Herbal Products

The relationship between brand equity dimensions and purchasing behavior was determined with a correlation analysis as shown in Table 4.7. A significantly positive strong association was found between purchasing behavior and brand equity dimensions; brand loyalty (BL), perceived quality (PQ), Brand Awareness (BAW), and Brand Association (BAs). A positive strong relationship ($r = .734$, $p = .000$) was found between purchasing behavior (PB), and brand loyalty (BL) of decocted herbal products in Kumasi.

With a p-value of .000, it denotes that a significant relationship exists between purchasing behavior and brand loyalty.

Table 4.7. Correlation Matrix of Significant Study Variables

		PB	BL	PQ	BAW	BAs
PB	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	386				
BL	Pearson Correlation	.734**	1			
	Sig. (2-tailed)	.000				
	N	386	386			
PQ	Pearson Correlation	.734**	1.000**	1		
	Sig. (2-tailed)	.000	.000			
	N	386	386	386		
BAW	Pearson Correlation	.758**	.823**	.823**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	386	386	386	386	
					.734**	1
					.000	
N	386	386	386	386	386	386

Also, a significantly positive strong relationship ($r = .734$, $p = .000$) exists between purchasing behavior and perceived quality (PQ) of decocted herbal products in Kumasi. A significantly positive stronger relationship ($r = .758$, $p = .000$) exists between purchasing behavior and brand awareness (BAW) of decocted herbal products in Kumasi. Finally, a significantly positive strong relationship ($r = .675$, $p = .000$) exists between purchasing behavior and brand association (brand association) of decocted herbal products in Kumasi. The association between the dimensions of brand equity although significantly correlates with the purchasing behavior of decocted herbal

products positively in Kumasi, the strength of the association can be ranked as BAW ($r = .758$) > BL ($r = .734$), PQ ($r = .734$) > BAs ($r = .675$).

Although there are scanty studies on the effect of brand equity on decocted herbal products, other scholars have studied the individual dimensions of brand equity concerning purchasing intention for products other than decocted herbal products. For instance, Gunawardane (2015) investigated the impact of brand equity on the purchase intention of Mobile connection service providers in Sri Lanka. They found a strong positive relationship between brand awareness and perceived quality with purchase intention. A similar outcome was observed in this study. Slaton, Kelcie, et al. (2020) investigated the function of the brand experience, as conceptualized by (Н. Л. Зайкина, 2016), in fostering Consumer Based Brand Equity (CBBE) elements associated with the new store format and their effect on subsequent purchase intention through multiple retail channels. The study's findings show that CBBE, which has a favorable effect on purchase intention, can be effectively fostered by the brand equity of a tiny, inventory-free retail model. Jalilvand et al. (2011) studied the effect of brand equity components on purchase intention in the automobile industry. They found

4.6 The Effect of Educational Level on the Relationship between Brand Equity and Purchasing Behaviour

Table 4.8: Regression Analysis Showing the Paths for Mediating Variable

Effect	Path	β	SE	z	95% CI		p
					Lower	Upper	
Total (c)	BE → PB	.855	.026	32.46	.793	.895	.000
Indirect	BE → EL → PB						
Path 1 (a)	BE → EL	-.187	.053	-3.75	-.304	-.094	.000
Path 2 (b)	EL → PB	-.023	.025	-0.84	-.070	.028	.400
Direct (c')	BE → PB	.857	.027	31.11	.788	.892	.000

The study aims to test if educational level mediates the relationship between brand equity and purchasing behavior. Multiple regression was used to test the mediation model. Table 4.7 reveals that the total effect, that is the impact of brand equity on purchasing behavior is positively significant, $\beta = .855$ (95% CI: .793, .895), $z = 32.46$, $p < .001$. The indirect effect; paths 1 and 2, however, reveals a negatively significant and negatively insignificant association, $\beta = -.187$ (95% CI: -.304, -.094), $z = -3.75$, $p < .001$ and $\beta = -.023$ (95% CI: -.070, .028), $z = -0.84$, $p < .001$, respectively. Thus, the educational level does not significantly mediate the relationship between brand equity and purchasing behavior of decocted herbal products in Kumasi as shown by the p-value of Table 4.8. That notwithstanding, brand equity has a direct significant positive relationship with purchasing behaviour as shown in Table 4.7. The findings suggest that a consumer’s level of education does not affect his perspective about a brand and subsequently his/her purchasing behavior of that brand of decocted herbal products in Kumasi in the Ashanti Region of Ghana.

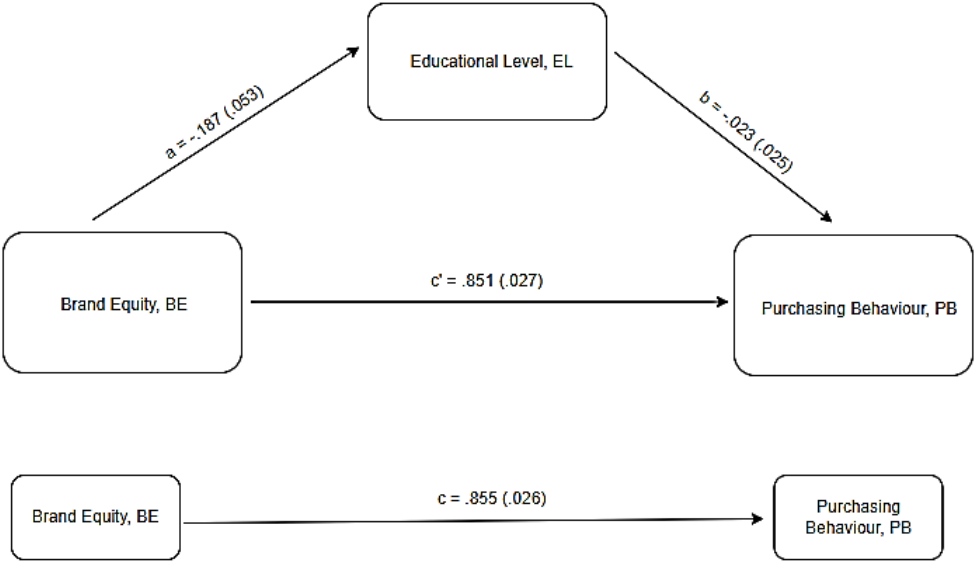


Figure 4.1: The direct and indirect relationship among the variables (Source: Field Data, 2023).

Sobel Test on the relationship between brand equity and purchasing behavior as mediated by educational level.

Table 4.9: Sobel Test for the Mediating Variable's Effect

	Test Statistics	Std. Error	<i>p</i>-value
Sobel test	0.81973654	0.00509798	0.41236631
Aroian test	0.79337746	0.00526735	0.42755794
Goodman test	0.84891047	0.00492278	0.39593111

The Aroian test assesses the mediating effect and its significance. Implication: A test statistic of 0.79337746 with a *p*-value of 0.42755794 suggests a similar trend as the Sobel test. The mediating effect might not be statistically significant, reinforcing the notion that the educational level may not significantly mediate the relationship between brand equity and purchasing behavior.

4.7 Discussions

The reliability of a scale can be determined by how free from random error it is or by how well it yields consistent results when repeated measurements are made. Cronbach Alpha is a measure of internal consistency that determines how well each item on a scale represents an underlying construct. Individual consistency reliability needs to be at least 0.7. The Cronbach alpha varied from 0.822 to 0.957 for the variables purchasing behavior, brand loyalty, perceived quality, brand awareness, and brand association in Table 4.2, suggesting that all measurement scales and constructs employed in the study were accurate. Internal consistency reliability is a type of reliability that is most often used to determine the reliability of a scale. It reflects that items are consistent with other items in the set and that the items are measuring the same construct(Okoye et al., 2017).

Cronbach's alpha is a common statistic used to measure internal consistency, and it measures the correlation between multiple items in a factor. When using Cronbach's alpha, a value of 0.7 or higher is considered acceptable(Lawrence, 2011) The mean scores for each of the dimensions of brand equity ranged from 0 to 4.0, with perceived quality having the highest mean score ($M = 3.3089$, $SD = 1.312$), followed by brand association ($M = 3.0972$, $SD = 1.287$), then brand awareness ($M = 3.0829$, $SD = 1.148$) and finally brand loyalty ($M = 2.8847$, $SD = 1.159$). A study conducted in Kumasi, Ghana found that brand equity and consumer behavior are positively correlated, as shown by the R-value of 0.793. This implies that consumer behavior tends to improve along with brand equity. The correlation coefficient's positive sign suggests that buying behavior tends to rise as brand equity rises. This is in line with the logical assumption that consumers are more likely to buy products with higher brand equity because they may believe those things to be more dependable, dependable, or of higher quality(Munizu, 2010). The internal consistency of the scale can be assessed using Cronbach's alpha, with a value of 0.7 or higher considered acceptable.

The descriptive information of the sub-dimensions of brand equity, as shown in Table 4.3, indicates that respondents perceived quality ($M = 3.3089$, $SD = 1.312$) the most, followed by brand association ($M = 3.0972$, $SD = 1.287$), then brand awareness ($M = 3.0829$, $SD = 1.148$), and finally brand loyalty ($M = 2.8847$, $SD = 1.159$). In a study conducted in Tiruchirappalli District, the authors found that product use and influence, as well as brand use and influence, were positively related to consumer satisfaction with brand, product satisfaction, and brand loyalty(Okoye et al., 2017). Similarly, a study conducted in Chennai City found that consumer satisfaction towards herbal products was influenced by various factors, including product use and influence, brand use and

influence, and product satisfaction(Mickiewicz, 2016). The study you mentioned found a positively strong correlation ($R = 0.793$) between brand equity and purchasing behavior of decocted herbal products in Kumasi. This indicates that consumer behavior tends to improve along with brand equity, and buying behavior tends to rise as brand equity rises. This is in line with the logical assumption that consumers are more likely to buy products with higher brand equity because they may believe those things to be more dependable, dependable, or of higher quality(Abotsi et al., 2011).

In comparison, other studies have also found a positive relationship between brand equity and purchasing behavior. For example, a study conducted in India found that brand equity significantly affects the use of herbal products. Another study conducted in the United States found that brand equity and consumer satisfaction were positively related, suggesting that consumers are more likely to purchase products with higher brand equity because they may believe those things to be more dependable, dependable, or of higher quality. In conclusion, the descriptive information of the sub-dimensions of brand equity and the positive relationship between brand equity and purchasing behavior of decocted herbal products in Kumasi support other studies that have found a similar relationship between brand equity and purchasing behavior.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Overview

The goal of the study was to assess the effect of brand equity on the purchasing of decocted herbal products in Kumasi, Ghana. The level of brand equity of decocted herbal products in Kumasi, Ghana, and the different dimensions of brand equity's effect on the purchasing behavior of consumers of decocted herbal products in Kumasi, Ghana were assessed. Also, the relationship between brand equity and purchasing behavior of decocted herbal products was, and the effects of educational level on the relationship between brand equity and purchasing behavior were examined.

5.2 Summary Findings

This study conducted in Kumasi, Ghana, investigates the influence of brand equity on the acquisition of decocted herbal products, aligning with African traditional medicine. The research, employing a cross-sectional design and structured questionnaires, surveyed 386 regular consumers, revealing a male-dominated consumer base (63.99%) and a concentration of young consumers (36.79%) aged 26-35.

Reliability analysis ensured measurement accuracy, with Cronbach Alpha indicating high internal consistency (0.822-0.957). Descriptive statistics of brand equity sub-dimensions showed that perceived quality held the highest mean score, followed by brand association, brand awareness, and brand loyalty. Correlation analysis established a strong positive relationship between brand equity and purchasing behavior, suggesting regional and cultural influences in Kumasi. The study disclosed that 62.6% of the variation in decocted herbal product purchases can be attributed to brand equity,

emphasizing its significant role. ANOVA results confirmed the statistical significance of the impact of brand equity on purchasing behavior ($p < 0.000$).

Positive and significant relationships were identified between purchasing behavior and perceived quality ($r = .734$), brand awareness ($r = .758$), and brand association ($r = .675$). Despite the strong correlation between brand equity dimensions and purchasing behavior, the study aimed to assess if educational level mediates this relationship. However, multiple regression analysis revealed that educational level does not significantly mediate the brand equity-purchasing behavior relationship. In summary, this research enhances our understanding of brand equity dynamics in the consumption of decocted herbal products in Kumasi, emphasizing the importance of considering local market dynamics and cultural influences in marketing strategies.

5.3 Conclusions

This study provides valuable insights into the relationship between brand equity and the acquisition of decocted herbal products in Kumasi, Ghana, within the context of African traditional medicine. The findings highlight the significance of brand equity in influencing purchasing behavior, particularly in a region where cultural and local dynamics play a crucial role. With a male-dominated consumer base and a concentration of young consumers, understanding these demographic nuances becomes imperative for marketers and policymakers.

The high internal consistency observed in the measurement scales indicates the reliability of the study's constructs, strengthening the validity of the findings. The positive and strong correlation between brand equity and purchasing behavior, as well as the substantial variation explained (62.6%), underscores the pivotal role that brand equity plays in shaping consumer choices.

Despite the prominence of perceived quality among brand equity dimensions, the study also identifies the importance of brand association and awareness. This suggests that a holistic approach to brand building, considering multiple dimensions, is crucial for effective marketing strategies in the Kumasi market.

5.3 Recommendations

Policy Recommendations

1. **Cultural Sensitivity in Marketing Strategies:** Given the strong influence of regional and cultural factors on the relationship between brand equity and purchasing behavior, marketers should adopt culturally sensitive strategies. Understanding local dynamics, preferences, and cultural nuances in Kumasi will enhance the effectiveness of marketing campaigns.
2. **Targeted Marketing to Younger Demographics:** The concentration of young consumers, particularly those in the 18-25 age bracket, indicates an opportunity for targeted marketing campaigns. Marketers should tailor their messaging and promotional activities to resonate with the preferences and lifestyles of this demographic.
3. **Comprehensive Brand Building:** While perceived quality holds a significant position, the study emphasizes the importance of brand association and awareness. Marketers should focus on comprehensive brand-building strategies that consider all dimensions of brand equity to create a well-rounded and impactful brand image.
4. **Continuous Monitoring and Adaptation:** The dynamic nature of consumer behavior suggests the need for continuous monitoring of market trends and consumer preferences. Regular assessments of brand equity and purchasing

behavior will allow businesses to adapt their strategies to evolving market conditions

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APENDIX

QUESTIONNAIRE

**AKENTEN APPIAH MENKA UNIVERSITY OF SKILLS TRAINING AND
ENTREPRENEURIAL DEVELOPMENT**

INFORMED CONSENT

Dear Respondent,

I am an MPhil student pursuing Management Studies at the Akenten-Appiah Menka University of Skills Training and Entrepreneurial Development. This interview schedule is administered purely for academic purposes. The objective of this interview schedule is to collect data that would assist the researcher in examining the effect of brand equity on the purchasing of decocted herbal products in Kumasi si in the Ashanti Region of Ghana. The information given will solely be used for this research. You are also assured of full confidentiality, privacy, and anonymity of all the information that you will be giving out. Please feel free to give the right information to ensure the success of this research.

Thank you.

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Please, select the check box that applies to you.

1. Gender: Male Female
2. Age: 18 – 25 years 26 – 35 years 36 – 45 years 46 – 60 years More than 60 years
3. Marital Status: Married , Single , Divorced , Widowed
4. Education: Basic education Secondary education Diploma education
Tertiary education any other specify.....

5. Occupation/ Profession: Teaching [] Trading [] Artisan [] Nurse [] Clerk []
Security [] Manager [] any other specify.....

SECTION B: PURCHASING BEHAVIOR

Please tick (✓) the appropriate number to indicate the level of importance attached to the following items.

PURCHASING BEHAVIOUR

- a. How frequently do you make purchases for personal use?
1. Not Very Frequent
 2. Not Frequent
 3. Neutral
 4. Frequent
 5. Very Frequent
- b. How often do you read product descriptions and specifications before making a purchase?
1. Not Very Often
 2. Not Often
 3. Neutral
 4. Often
 5. Very Often
- c. How likely are you to recommend a product or service to others based on your purchasing experience?
1. Not Very Likely

2. Not Likely
3. Neutral
4. Likely
5. Very Likely

d. How important is the customer service experience in influencing your purchasing decisions

1. Not Very Important
2. Not Important
3. Neutral
4. Important
5. Very Important

e. How often do you make impulse purchases?

1. Not Very Often
2. Not Often
3. Neutral
4. Often
5. Very Often

f. How much importance do you place on price when making a purchase decision?

1. Not Very Important
2. Not Important
3. Neutral
4. Important

5. Very Important
- g. How often do you make impulse purchases?
1. Not Very Often
 2. Not Often
 3. Neutral
 4. Often
 5. Very Often

SECTION C: BRAND EQUITY DIMENSIONS

Please tick (√) the appropriate number to indicate the level of importance attached to the following motivational items (On a scale of 1-5 with 1=Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5=Strongly Agree):

Brand Loyalty	1	2	3	4	5
1. I will use from the products-services of this brand next time					
2. I intend to keep patronizing this brand					
3. I am committed to this brand					
4. I would be willing to pay a higher price for this brand					
5. I am emotionally attached to this product/service brand					
6. I have a sense of belonging to this product/service					
7. I would say positive things about this brand to other people					
8. I would recommend this brand to someone who seeks my advices					
9. I would encourage partnership to buy service-products of this brand					
10. I consider this brand my first choice in buying such services-products					

Perceived Quality					
11. I purchase the brand because of its high-quality					
12. I purchase the brand because the likely quality of this brand is extremely high					
13. I purchase the brand because the likelihood that it would be functional is very high					
14. I purchase the brand because the likelihood that this brand is reliable is very high					

Brand Awareness					
15. I purchase because I know what this brand I looks like					
16. I purchase because I can recognize this brand among another competing brand					
17. I purchase the product because I am aware of this brand					
18. I purchase the brand because its characteristics come to my mind quickly					
19. I have difficulty in imagining this brand in my mind					
20. I purchase because I can quickly recall the symbol or logo of this brand					

Brand Association					
21. The decocted herbal product I buy has a very unique brand image compared to other brands					
22. I purchase the product because I respect and admire people who use the product					
23. I purchase the product because I like the brand image of the product					