



Brand Equity, Brand Image, Perceived Value and Behavioural Intentions Nexus: A Mediation Model in an Emerging Market

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ABSTRACT

This paper evaluates how brand image and perceived value intervene in the relationship between brand equity, which is conceptualized as perceived quality and brand credibility, and behavioural intentions in an emerging market. Structured questionnaires were used to gather data from 265 customers through a systematic sampling procedure. The hypotheses were tested using structural equation modelling in Smart PLS 3. The findings show that perceived value partially mediates the interaction between brand equity and behavioural intentions, and fully mediates the link between brand image and behavioural intentions. Similarly, brand image partially mediates the link between brand equity and perceived value. The study, therefore, establishes that perceived value is a critical success factor when building brand equity and brand image to reinforce behavioural intentions. Brand image also plays a crucial role in strengthening the effect of brand equity on perceived value in the emerging herbal market. This research provides a clear strategic blueprint for managers: while building a credible, high-quality brand is essential, it is the customer's perception of value that ultimately converts brand strength into repeat purchases, premium pricing, and positive word-of-mouth. The study empirically confirms that perceived value is the indispensable lever for turning brand equity into commercial success in the herbal industry.

Keywords: Emerging Market, Brand Equity, Brand Image, Perceived Value, Behavioural Intentions

JEL Classifications: M30, M31

1. INTRODUCTION

In recent years, herbal medicines have emerged as an alternative and/or complementary to orthodox medicines, despite the widespread availability of orthodox medicines. In most developing countries, herbal medicines serve as the first-line and basic health therapy that the people resort to (WHO, 1998). For example, it is reported that traditional medicine is used by nearly 80% of the population in Africa (WHO, 2002), where herbal medicine forms a crucial aspect of the health service (WHO, 1998). Herbal medicine encompasses "herbs, herbal materials, herbal preparations and finished herbal products that contain, as active ingredients, parts of plants or other plant material or combinations thereof" (WHO, 2019, p. 29).

In advanced economies, where orthodox medicines are readily available, interest in and utilisation of herbal medicines has

increased over the years. For instance, more than half of the population in Europe, North America, and other advanced countries has used complementary or alternative medicines at least once (WHO News, 2004). A study shows that over 70% of the population in Germany has used "natural remedies," and for most of them, herbal medicine was their first choice for treating minor ailments (WHO, 2004). Herbal medicines represented approximately 20% of the total drug market, which is valued at US\$ 60 billion annually (WHO News, 2004). In Ghana, roughly 951 tonnes of herbal medicines amounted to a total value of US\$ 7.8 million and were sold in Ghana's herbal market in 2010 (van Andel et al., 2012). Furthermore, it has been highlighted that more than half of Ghanaians continue to rely on herbal medicine to combat and manage their ailments (WHO, 2019).

This escalating demand has catalysed intense competition within the herbal industry, compelling firms to seek sustainable competitive advantages. More companies have established themselves in response to the growing demand for herbal medicines, leading to an increase in the number of products available in the market. In this context, building a powerful brand emerges as a critical strategic imperative. This increase in competition may have resulted in significantly lower prices and profits. It has been emphasised that building strong brands is an avenue for a firm to charge price premiums, which may generate sustainable cash flow (Aaker, 1991; Keller and Swaminathan, 2020). Kotler et al. (2022) defined a brand as a name, term, sign, symbol, design or combination of them, intended to identify and differentiate a firm's products from those of competitors. Perceived quality and brand credibility are regarded as important factors that can build a strong brand with equity (Erdem and Swait, 2004; Oppong, 2020a; Wang et al., 2021). A brand with positive equity can provide a competitive advantage, which may serve as a real barrier for competitors (Aaker, 1991). Moreover, developing a brand with strong equity can also improve its image, customer perceived value, and behavioural intentions (Jiang et al., 2017; Rambocas et al., 2018; Ng et al., 2014; Bakhshizadeh and Aliasghari, 2023). Enhanced brand image and perceived value can also increase customers' behavioural intentions (Chen et al., 2020; Jiang et al., 2017), which may translate into actual behaviour.

The existing literature has documented the impact of brand equity on brand image (e.g., Ng et al., 2014; Liu et al., 2015), customer perceived value (e.g., Bakhshizadeh and Aliasghari, 2023; Hakim et al., 2017), and customer behaviour intentions (e.g., Jiang et al., 2017; Rambocas et al., 2018). Likewise, the impact of brand image (Jiang et al., 2017; Raji et al., 2019) and perceived value (Chen et al., 2020; Tuncer et al., 2021) on behavioural intentions has been noted in the literature. Moreover, the influence of brand image on perceived value has been studied (Huang et al., 2019; Devantha and Ekawati, 2021). This suggests that perceived value and brand image can mediate the brand equity and behavioural intentions nexus.

However, the extant literature presents some critical unresolved issues. First, the precise relationship between brand equity and behavioural intentions remains ambiguous. First, the evaluation of the existing literature also shows that most researchers have studied brand equity as a unidimensional construct (Yoo et al., 2000; Utami and Jannah, 2019; Rambocas et al., 2018; Pitaloka and Gumanti, 2019), while only a few have investigated it as a multidimensional construct, treating it as a higher-order construct with its dimensions as lower-order constructs in the services industry (Bakhshizadeh and Aliasghari, 2023; Tsai et al., 2013; Gómez et al., 2015; Wong and Teoh, 2015; Frías-Jamilena et al., 2018; Cambra-Fierro et al., 2021). As a result, the consumer-packaged goods industry has not been the subject of any of these studies. Moreover, few or no studies have modelled perceived quality and brand credibility as lower-order variables and brand equity as a higher-order construct and investigated their impact on behavioural intentions via the mediating role of perceived value and brand image.

Consequently, a significant gap exists in the brand management literature. There is a lack of integrated research that simultaneously:

(a) Conceptualises brand equity as a higher-order construct with perceived quality and brand credibility as its formative dimensions, and (b) investigates the dual mediating roles of brand image and perceived value in transmitting the effects of this equity to behavioural intentions. For this purpose, this paper aims to develop a model to identify brand equity as a higher-order variable and brand credibility and perceived quality as a lower-order construct and its impact on behavioural intentions via the mediating role of perceived value and brand image in an emerging herbal industry. Achieving this aim will, hopefully offer insights to brand managers on the key sources of brand equity and how they interact with customer behavioural intentions directly and indirectly through brand image and perceived value. This will help brand managers better build and manage their brands to maintain their competitive edge in the market.

The next sections of this paper are structured as follows: First, the theoretical review, the conceptual model, and the hypotheses are explained. This is followed by the research methodology, which includes research population and sampling, data collection and procedure, and data analysis, and results are presented. The final section provides the discussion, implications, conclusion, limitations, and direction for future research.

2. THEORETICAL FOUNDATION

2.1. Signalling Theory

The signalling theory postulated by Spencer (1973), which was drawn from information economics, is based on the imperfect and asymmetric nature of information in the marketplace. The imperfect and asymmetrical information in the market creates doubt about product attributes in the minds of consumers. Customers use product attributes as extrinsic cues to infer the perceived quality of the product. Firms, therefore, employ brands as market signals to enhance the customers' impressions of the product's attributes and, hence, their confidence in the product's information. A brand serves as a signal to consumers due to its association with marketing efforts that have enhanced its credibility in the marketplace. Thus, a credible brand name provides a signal to consumers and assures them of the perceived quality of the product, which decreases the perceived risk and information costs and thereby generates favourable product attribute perceptions. This results in an increase in CBBE. This theory postulates that the clarity, content, and credibility of product messages are critical elements that help build and manage CBBE. More specifically, brand credibility and perceived quality are the main drivers of CBBE (Erdem and Swait, 1998).

The study relied on this theory to investigate the impact of perceived value and brand image on the relationship between brand equity and behavioural intentions in the herbal market. This is because this theory has been adopted by several scholars to study brand credibility and perceived quality as the dimensions of CBBE in many contexts (Erdem and Swait, 2004; Ok et al., 2011; Ghaleb and Kaplan, 2019). In the herbal medicine industry, where variation in product efficacy, safety, and standardisation may be substantial, these signals assume heightened relevance. By framing brand equity as a signalling mechanism, this study theorises that

brand credibility and perceived quality transmit information that shapes consumers' perceived value, brand image, and ultimately their behavioural intentions.

3. LITERATURE REVIEW AND RESEARCH HYPOTHESIS

3.1. Behavioural Intentions

Customer behavioural intention has gained much attention from researchers and practitioners nowadays, as it has a critical impact on a company's success in a highly competitive retail setting. Behavioural intention refers to a customer's future actions regarding either patronising a specific company and its offerings or switching to its competitors (Zeithaml et al., 1996).

According to Jin et al. (2015), behavioural intentions are connected to customers' attitudes about their experiences with products and their frequent interactions with the decision-making process that influences whether they choose to remain loyal to a firm or switch to a competitor. Existing literature shows that favourable behavioural intention is demonstrated by the preference of a company over others, repeated purchases, an increase in the volume of purchases, WOM referrals, and WTP at a high price (Buil et al., 2013; Rambocas et al., 2018), which impacts a firm's profitability (Zeithaml et al., 1996).

Extant literature suggests that some researchers have considered behavioural intentions a multi-dimensional construct (e.g., Jiang et al., 2017; Tran and Vu, 2019). However, other authors have examined behavioural intentions by considering each specific aspect of it (e.g., Buil et al., 2013; Rambocas et al., 2018). In this paper, however, behavioural intentions are considered as composite variable, comprising WOM referrals, repurchase intention, and the willingness to pay a high price, consistent with prior research (Ali et al., 2013; Raji et al., 2019; Jiang et al., 2017). Repurchase intention relates to a customer's volition to purchase again a particular offering from the same company, regardless of the prevailing current or the likely future market conditions (Hellier et al., 2003). According to Harrison-Walker (2001), word-of-mouth is an informal interpersonal communication of a business and/or its offerings between a perceived non-commercial communicator and a receiver. Willingness to pay a price premium denotes a customer's preparedness to pay an extra amount of money for a favourite brand over comparable brands (Netemeyer et al., 2004; Rambocas et al., 2018). Given the competitive and trust-sensitive context of herbal medicinal products, understanding behavioural intentions is theoretically and practically significant. The willingness of consumers to repurchase a brand depends not only on functional performance but also on perceptions of credibility, value, and image dimensions that are particularly salient in markets with quality uncertainty.

3.2. Research Hypotheses

Based on the literature review and conceptual model, the following hypotheses are developed.

3.2.1. Brand equity

Healthy brand equity is an important asset that supplies predictable cash flow to a firm (Aaker, 1991). Scholars have explored the concept of brand equity from both customer and financial viewpoints (Keller and Swaminathan, 2020; Lassar et al., 1995). The financial-based view estimates brand equity as the financial value it provides to a company during a franchise (Lassar et al., 1995). In contrast, customer-based brand equity (CBBE) describes how brand knowledge affects consumer responses resulting from marketing activities (Keller and Swaminathan, 2020). According to the author, brand awareness and brand image are the determinants of CBBE. Aaker (1991) also noted that brand equity encompasses assets and liabilities linked to the brand name that can reduce or enhance its value. These brand assets comprise brand awareness, association, quality, loyalty and other proprietary brand assets, like patents, trademarks, etc. Likewise, Lassar et al. (1995, p. 12) considered brand equity as "the enhancement in the perceived utility and desirability a brand name confers on a product." The scholars also proposed that CBBE encompasses brand performance, social image, commitment, trust, value, and attachment. Alternatively, Erdem and Swait (1998, p. 132) defined CBBE as the "value of a brand signal to consumers." They suggested that brand credibility and perceived quality are the key dimensions of CBBE. This research is, therefore, guided by the dimensions of CBBE suggested by Erdem and Swait (1998) to address its aim.

Previous studies have also indicated that brand credibility (Oppong, 2020a; Spry et al., 2011; Wang et al., 2021) and perceived quality (Oppong, 2020a; Amelia, 2018) increase brand equity. Perceived quality is related to customers' perceptions of the overall superiority of a product to its rivals and intended uses (Keller et al., 2022). Likewise, brand credibility has been explained as the degree to which customers consider a brand believable in relation to its ability and willingness to perform its stated purposes (Erdem and Swait, 2004). Studies have shown that brand credibility and perceived quality increase brand image (Ng et al., 2014; Liu et al., 2015), the perceived value of a product (Pham et al., 2016; Ng et al., 2014), and behavioural intentions (Lin et al., 2019; Oppong, 2020b). Keller and Swaminathan (2020) asserted that brand equity provides the basis of competitive distinctiveness, resistance to competitors' actions and entry, and charging exceptional prices. Again, earlier authors found that increased brand equity positively influences behavioural intentions (Jiang et al., 2017; Rambocas et al., 2018), perceived value (Bakhshizadeh and Aliasghari, 2023; Hakim et al., 2017), brand image (Kim et al., 2008).

Given these theoretical and empirical insights, the following hypotheses are proposed:

- H₁: Brand equity is significantly and positively related to behavioural intentions.
- H₂: Brand equity is significantly and positively related to perceived value.
- H₃: Brand equity is significantly and positively related to brand image.

3.2.2. Brand image

According to Keller and Swaminathan (2020), building a strong brand that commands positive equity in a competitive market requires a strong brand image. The authors defined brand image as perceptions consumers have about a brand name in memory. It is reported that brand image consists of a set of associations linked to the brand name in the consumers' memory (Keller, 1993; Aaker, 1991). These associations attached to the brand name may consist of brand attributes or benefits related to aspects of the product or independent of it (Keller and Swaminathan, 2020). The authors believe that developing a favourable brand image requires linking marketing programmes to strong, favourable and distinctive associations to the brand held in memory. Developing a favourable brand image is regarded as crucial because it can provide a firm with larger margins and more inelastic responses to its price increases (Keller, 1993). Similarly, a positive brand image may drive consumers' purchase decisions and loyalty (Aaker, 1991). Prior investigations also show that brand image significantly influences perceived value (Huang et al., 2019; Devantha and Ekawati, 2021; Liu et al., 2015) and behavioural intentions (Jiang et al., 2017; Raji et al., 2019). Brand equity, in turn, positively influences brand image (Ng et al., 2014; Liu et al., 2015).

On this basis, the proposed hypotheses are:

- H₄: Brand image is significantly and directly related to perceived value
 H₅: Brand image is significantly and directly related to behavioural intentions.
 H₇: Brand image significantly and positively mediates the relationship between brand equity and behavioural intentions
 H₈: Brand image significantly and positively mediates the relationship between brand equity and perceived value.

3.2.3. Perceived value

In today's keen competitive retail environment, firms are looking for different ways to distinguish themselves from those of competitors in the market. It has been emphasised that one of the surest ways to remain distinctive in the market is to provide superior product value to its customers over those of its competitors (Roberts-Lambard and Parumasur, 2017). Perceived value has been defined as the total assessment of the net worth of a product based on customers' judgement of what is obtained and what is sacrificed, according to Hellier et al. (2003). Alternatively, it measures customers' evaluation of overall perceived benefits and costs of an offering compared to alternatives in the market (Kotler et al., 2022). A review of the literature suggests that some authors have conceptualised and operationalised perceived value as a multidimensional factor (Sheth et al., 1991; Sweeney and Soutar, 2001; Petrick, 2002), whereas others have also considered it a unidimensional factor (Baek and King, 2011; Mukerjee, 2018; Konuk, 2019). However, the most common conceptualisation of perceived value is unidimensional, defined as the trade-off between the perceived benefits of a product's performance and the sacrifices related to the total costs incurred (Kotler et al., 2022; Hoffman and Bateson, 2024; Sánchez-Fernández and Iniesta-Bonillo, 2007). As a result, this study will rely on the latter position to investigate the concept of customer perceived value. Studies have shown that perceived value directly impacts behavioural intentions (Chen

et al., 2020; Tuncer et al., 2021; Lin et al., 2019), and in turn, perceived value is directly affected by brand equity (Bakhshizadeh and Aliasghari, 2023; Hakim et al., 2017) and brand image (Huang et al., 2019; Devantha and Ekawati, 2021; Liu et al., 2015).

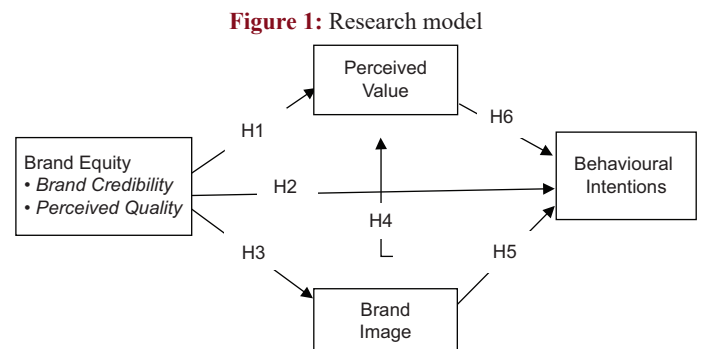
Consequently, the following hypotheses are proposed:

- H₆: Perceived value is significantly and positively related to behavioural intentions
 H₉: Perceived value significantly and positively mediates the relationship between brand equity and behavioural intentions.
 H₁₀: Perceived value significantly and positively mediates the relationship between brand image and behavioural intentions

3.2.4. Research model

The research model for this study is grounded in Signalling Theory (Spence, 1973) and the customer-based brand equity (CBBE) framework. The research model illustrates the constructs of interest in the study, along with their proposed linkages, which are presented as a diagram and explained in narrative form (Sekaran and Bougie, 2016). As a result, in this model, brand equity is a higher-order construct, and brand credibility and perceived quality are lower-order constructs that are considered exogenous variables. Brand image and perceived value are intervening variables, whereas behavioural intention is regarded as an endogenous variable, as represented in Figure 1. This indicates that brand equity has a positive effect on behavioural intentions, mediated by brand image and perceived value.

This paper conceptualises brand equity as how herbal medicinal brand knowledge affects the consumer responses resulting from its marketing activities (Keller and Swaminathan, 2020). Additionally, perceived quality refers to consumers' judgement of the overall excellence of a medicinal herbal product in comparison to its competitors and intended uses, while brand credibility is defined as the degree to which customers trust that a medicinal herbal brand can consistently deliver its claimed benefits authentically. Brand image is also conceptualised as the consumers' perceptions about a medicinal herbal brand, which are connected to the associations registered in their minds (Keller, 1993), while perceived value is operationalised as the assessment of the net worth of a medicinal herbal product based on customers' judgements of what is obtained and what is sacrificed (Hellier et al., 2003). Behavioural intentions relate to customers' future behavioural actions reflected in whether they will patronise a medicinal herbal product or decide to switch to its competitors (Zeithaml et al., 1996). This integrated model



Source: Developed by the authors

captures the hierarchical cognitive pathway through which brand signals (credibility and quality) translate into value judgements and behavioural outcomes.

4. RESEARCH METHODOLOGY

The methods and materials used to attain the research objectives are illustrated below.

4.1. Research Design

This study employed a quantitative, cross-sectional approach to evaluate the interactions among the constructs because it created an opportunity to statistically analyse the collected data (Creswell and Creswell, 2023). Hypotheses were tested using structural equation modelling (SEM). This design is appropriate because it facilitates the testing of theoretically grounded relationships, accommodates measurement error, and allows for simultaneous assessment of direct and indirect effects among constructs. Thus, it provided an avenue to analyse the direct relationship between brand equity and behavioural intentions, as well as the indirect effect of brand equity on behavioural intentions through brand image and perceived value. Cross-sectional data were collected at a single point in time due to feasibility constraints and the stable nature of the brand-related constructs examined.

4.2. Research Context

The study was conducted in the Cape Coast Metropolis of Ghana, an area with a high concentration of licensed herbal retail outlets. The herbal industry in Ghana is highly competitive, fragmented, and characterised by variations in quality and regulatory oversight, making it an ideal context for examining brand equity and consumer decision-making.

4.3. Population and Sample

The population for the study comprised: Retail herbal shops licensed under the Traditional Medicine Practice Council, and customers who purchase herbal medicinal products from these shops. The study included 26 retail herbal shops that mainly distribute herbal medicines and a total of 854 customers who patronise their products in the Cape Coast metropolis in Ghana. The 854 participants were obtained from the sales daybooks of the 26 retail shops, while the 26 retail herbal shops were obtained from the current data of the Traditional Medicine Practice Council in Cape Coast, which is a state institution set up to regulate the distribution of herbal medicines. A sample of 265 customers was selected from the 854 customers in accordance with Krejcie and Morgan's (1970) sample calculation framework. This threshold also exceeds the minimum required for SEM, which recommends 10-20 cases per estimated parameter (Hair et al., 2019).

The characteristics of the research participants demonstrate that a greater proportion were males, between 26 and 35 years old and graduates from senior high school. This implies that as many as 115 (51.6%) of the participants were males, 89 (39.7%) were between 26 and 35 years old, and 78 (35.5%) were graduates from senior high school.

4.4. Scale Development and Procedures

The test items adopted to measure the consumers' perceptions of brand image, perceived value, behavioural intentions, perceived quality, and brand credibility were a Likert scale type of questionnaire with five-point responses, anchored on (1) strongly disagree to (5) strongly agree. These test items were picked from previous studies conducted within the context of the plant-based medicine industry. The test items of measuring brand credibility, image and behavioural intentions were picked from Oppong (2020b), and perceived value were adopted from Oppong et al. (2022) and perceived quality were taken from Oppong (2021). The structured questionnaires were used because they are aligned with quantitative research (Sekaran and Bougie, 2016).

Guided by a systematic sampling procedure, the survey was conducted by distributing the questionnaires after the participants had finished shopping in front of the herbal stores. The first participant was randomly contacted to partake in the survey, and then a third of every participant was invited to respond to it. The systematic sampling technique was adopted because it has the potential to recruit the participants without prior information about their sampling frame (Malhotra et al., 2017). Out of the 265 copies of the questionnaires sent out, 230 were brought back and 226 were used for the analysis.

A pilot test was conducted with 20 respondents to assess clarity, length, and cultural appropriateness. Minor wording modifications were made. Subject-matter experts from marketing and branding validated the instrument to ensure relevance, clarity, and cultural appropriateness. Construct validity was assessed through: confirmatory factor analysis (CFA), average variance extracted ($AVE \geq 0.50$), Fornell-Larcker criterion and Heterotrait-Monotrait ratio ($HTMT < 0.85$). Similarly, the study confirmed the reliability of the data through Cronbach's alpha ($\alpha \geq 0.70$), composite reliability ($CR \geq 0.70$) and item loadings (≥ 0.50 after deletion of low-loading items).

4.5. Data Analysis Techniques

Data were analysed using SmartPLS 3.0 following the two-step approach recommended for PLS-SEM. This approach is appropriate when analysing complex models involving mediation and hierarchical constructs and is robust with smaller sample sizes (Hair et al., 2019). The first step involved the measurement of model assessment through the following: indicator reliability, internal consistency reliability convergent validity and discriminant validity. In addition, a structural model assessment was conducted via path coefficients (β), effect sizes (f^2), coefficient of determination (R^2), predictive relevance (Q^2) and bootstrapping (5000 resamples) for significance testing.

5. ANALYSIS AND RESULTS

This section presents the analytical procedures and empirical results derived from the study. Consistent with PLS-SEM analytical conventions, the analysis proceeded in three stages: (1) Preliminary descriptive statistics, (2) measurement model assessment, and (3) structural and mediation model evaluation.

5.1. Descriptive Statistics

Table 1 presents descriptive statistics, consisting of the means and standard deviations of the study variables. The results indicate that the customers have satisfactory perceptions and experiences with all the constructs, as all their means are above 3, ranging from 3.860 to 4.107. Average scores for all constructs were above the scale midpoint (3.0), with means ranging from 3.860 (perceived value) to 4.107 (brand credibility). This suggests that consumers evaluate the credibility, quality, value, and behavioural outcomes associated with herbal medicinal products positively.

5.2. Measurement Model Analysis

The measurement model was analysed to determine the psychometric measures, which include the reliability of individual scale items, construct reliability, and validity (Hair et al., 2017). The model consists of reflective test items, and for that matter, a reflective measurement model was conducted. Figure 2 displays the results of the measurement model, and all the test items' standardised loadings were significant at a probability level of 0.05. However, test items with loadings <0.50 were deleted from the model in order to enhance convergent validity (Byrne, 2016). As a result, two test items of brand credibility and one test item of perceived quality were deleted from the model. The test items' standardised loadings range from 0.624 to 0.901, which lend support to the convergent validity of the measures (Hair et al., 2017).

5.3. Psychometric Measures

As stated earlier, the psychometric measures validated in this research consist of individual item reliability, composite reliability and construct validity, which includes convergent validity and discriminant validity. The findings of the psychometric measures can be seen in Table 2, which reveals that the coefficients of both composite reliability and Cronbach's alpha satisfy the acceptable threshold of 0.70, indicating that the constructs and their test items are reliable (Hair et al., 2017).

Furthermore, the coefficients of the AVE for all the constructs meet the acceptable threshold of 0.50, which confirms the convergent validity (Bagozzi and Yi, 1988). Likewise, the coefficients of the square root of the AVE exceed the square correlations between the variables, which validates the discriminant validity test (Fornell and Lacker, 1981). Finally, the coefficients of heterotrait-monotrait correlations between the variables are below the acceptable threshold of 0.85, which further provides proof of the discriminant validity (Henseler et al., 2015). These combined results confirm that the constructs are reliable, valid, and sufficiently distinct from one another.

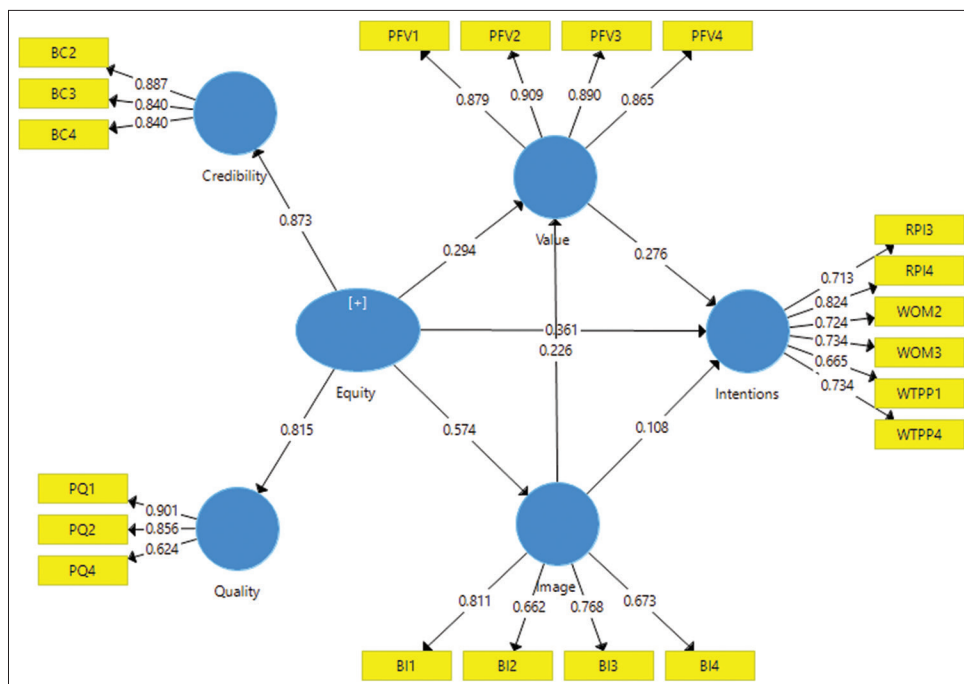
5.4. Structural Model Quality Analysis

To test the statistical significance of the hypotheses using the path model, its quality is first validated through a coefficient of determination (R^2), cross-validated redundancy measure (Q^2), effect size (f^2), and variance inflation factor (VIF), as suggested by Hair et al. (2021).

Table 1: Results of descriptive statistics

Latent constructs	Number of observations	Minimum	Maximum	Mean	Standard deviation
Perceived quality	226	1.00	5.00	4.056	0.638
Brand credibility	226	1.20	5.00	4.107	0.711
Brand image	226	1.00	5.00	3.905	0.727
Perceived value	226	1.25	5.00	3.860	0.827
Behavioural intentions	226	1.67	5.00	4.025	0.649

Figure 2: Results of the measurement model



The R^2 was employed to assess the predictive power of the predictor variable on the outcome variable (Hair et al., 2021). The analysis indicates that brand equity predicts 21.3%, 32.9% and 37.1% of the variance of perceived value, brand image and behavioural intentions, respectively. Again, the analysis shows that the coefficients of Q^2 for perceived value, brand image, and behavioural intentions are 0.164, 0.163, and 0.186, indicating that all the variables have low predictive relevance respectively (Hair et al., 2017).

Moreover, the results in Table 3 show that the coefficients of the VIF of all the predictor variables are below the suggested threshold of 5, suggesting no collinearity in the model (ibid). Furthermore, the coefficients of the effect size (f^2) of 0.02, 0.15, and 0.35 show low, moderate, and substantial predictive effects of the independent variables on the dependent variables, respectively. In contrast, the coefficient of effect size (f^2) below 0.02 suggests that there is no predictive effect of the independent variable on the outcome variable. The findings from Table 3 show that brand equity has a low, moderate, and substantial impact on perceived value, behavioural intentions, and image, respectively. Moreover, the findings point out that brand image has a lower impact on both perceived value and behavioural intentions, and in turn, perceived value has a lower impact on behavioural intentions.

5.5. Hypothesis Testing

The hypotheses were validated through the t-statistic of 1.96 at a $P = 0.05$. Table 3 and Figure 3 present the findings of the analysis of the hypotheses, which suggest that the lower-order variables

(i.e., perceived quality and brand credibility) are positively related to brand equity.

Furthermore, five of the hypotheses were confirmed, that is, H_1 to H_4 and H_6 . The results indicate that brand equity significantly impacts perceived value, brand image, and behavioural intentions, which confirm hypotheses H_1 , H_2 , and H_3 . In turn, the impact of brand image on perceived value is also significant, supporting H_6 . However, H_5 , which shows the relationship between brand image and behavioural intentions, was not confirmed.

5.6. Mediation Model Analysis

This study also examined the intermediary roles of perceived value and brand image in the nexus between brand equity (perceived quality and brand credibility) and behavioural intentions. The study followed the procedures developed by Baron and Kenny (1986) to analyse and interpret the mediation model. The analysis was carried out through a bootstrapping resampling procedure using smart PLS 3. The model was examined by using t-statistics of 1.96 at a significance level of 0.05. The outcomes of the direct effects, specific indirect effects, total indirect effects, and total effects were considered (Hair et al., 2021), to produce the results shown in Table 4. The results of the direct effects (without the mediators) have already been examined in Table 3.

However, the results of the direct, indirect and total effects are displayed in Table 4, which shows that the indirect relationship between brand image and behavioural intentions through perceived value was significant, confirming H_7 . Likewise, the indirect

Table 2: Results of psychometric measures

Latent variables	α	CR	AVE	BC	BI	BEH	PQ	PV
Brand credibility (BC)	0.818	0.892	0.733	0.856				
Brand image (BI)	0.710	0.820	0.534	0.549	0.731			
Behavioural intention (BEH)	0.828	0.874	0.538	0.393	0.424	0.734		
Perceived quality (PQ)	0.710	0.842	0.645	0.429	0.405	0.533	0.803	
Perceived value (PV)	0.909	0.936	0.785	0.388	0.394	0.471	0.320	0.886
Heterotrait-monotrait ratio								
Latent Constructs	BC	BI	BEH	PQ	PV			
Brand credibility (BC)	1							
Brand image (BI)	0.704	1						
Behavioural intention (BEH)	0.470	0.527	1					
Perceived quality (PQ)	0.556	0.565	0.692	1				
Perceived value (PV)	0.447	0.485	0.530	0.404	1			

α : Cronbach alpha, CR: Composite reliability, AVE: Average variance extracted, **: Square root of AVE, Off-diagonal estimates measure the square inter-construct correlations

Table 3: Results of the structural model

First-order constructs							
Structural relations				Beta estimate	t-value	P-value	Results
BC \rightarrow BE				0.873	40.078	0.000	Significant
PQ \rightarrow BE				0.815	19.981	0.000	Significant
Hypotheses	Structural Relations	F^2	VIF	Beta estimate	t-value	P-value	Supported
H_1	BE \rightarrow PV	0.074	1.491	0.294	3.638	0.000	Yes
H_2	BE \rightarrow BI	0.491	1.000	0.574	8.423	0.000	Yes
H_3	BE \rightarrow BEH	0.129	1.601	0.361	4.929	0.000	Yes
H_4	BI \rightarrow PV	0.043	1.491	0.226	2.992	0.003	Yes
H_5	BI \rightarrow BEH	0.012	1.556	0.108	1.292	0.197	No
H_6	PV \rightarrow BEH	0.095	1.271	0.276	4.073	0.000	Yes

BC: Brand credibility, BI: Brand image, BEH: Behavioural intention, PQ: Perceived quality, PV: Perceived value, BE: Brand equity

Figure 3: Result of the path model

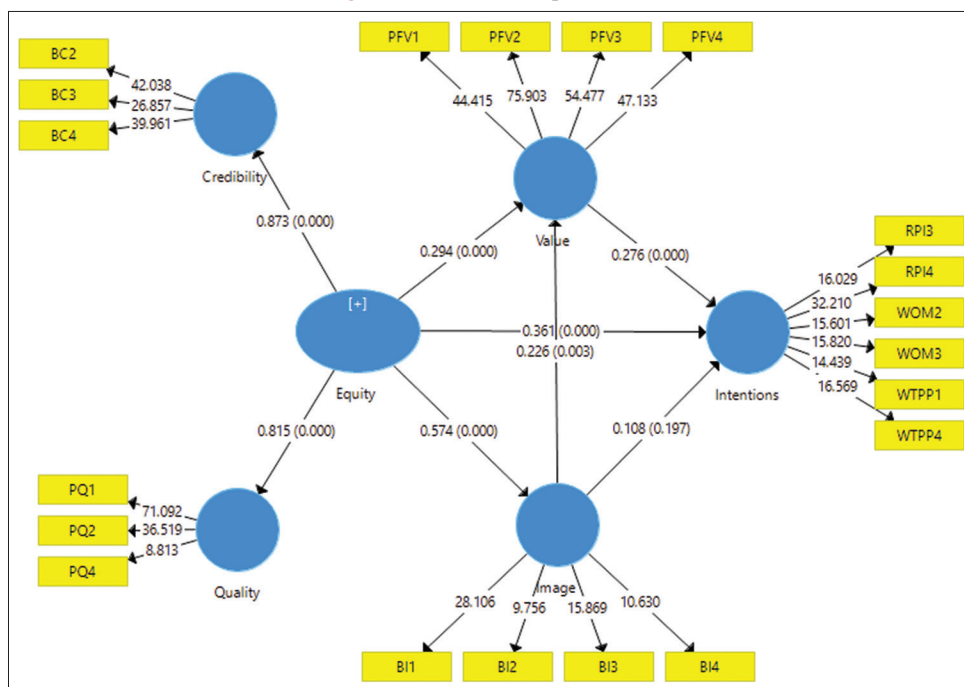


Table 4: Results of mediation model analysis

Hypotheses	Structural relations	Direct effect	Indirect effect	Total effect	Supported
H ₇	BI → PV → BEH	0.108 (1.292)*	0.062 (2.189)**	0.170 (2.099)**	Yes
H ₈	BE → BI → PV	0.294 (3.638)**	0.129 (2.829)**	0.423 (6.635)**	Yes
H ₉	BE → PV → BEH	0.361 (4.929)**	0.179 (3.268)**	0.540 (8.807)**	Yes
H ₁₀	BE → BI → BEH	0.361 (4.929)**	0.062 (1.245)*	-	No

relationship between brand equity and perceived value via brand image was significant, supporting H₈. Moreover, the indirect effect of brand equity on behavioural intentions through perceived value is significant, and hence, H₉ is confirmed. However, the indirect effect of brand equity on behavioural intentions through brand image is not significant, and H₁₀ is not supported. This suggests that brand image does not mediate the relationship between brand equity and behavioural intentions. As a result, the results of specific indirect effects are reported because there are no values for total direct and total effects for H₁₀.

6. DISCUSSION

The study aimed to investigate how brand image and perceived value serve as intermediaries between brand equity, which includes brand credibility and perceived quality, and behavioural intentions. The results of the study indicate that brand credibility and perceived quality are antecedents of brand equity. The result is consistent with the conceptualisation of Erdem and Swait (1998), who asserted that perceived quality and brand credibility are key determinants of CBBE. Additionally, this outcome aligns with previous studies (Oppong, 2020a; Spry et al., 2011; Wang et al., 2021; Amelia, 2018) that suggest perceived quality and brand credibility are components of CBBE. This result demonstrate that in the herbal medicinal context, where safety, efficacy, and trustworthiness are critical, brand credibility and quality perceptions remain fundamental to shaping brand strength.

Again, the research establishes that brand equity directly impacts behavioural intentions. This outcome is consistent with earlier studies (Jiang et al., 2017; Rambocas et al., 2018), which demonstrate that behavioural intentions are positively enhanced by brand equity. Thus, an increase in brand equity through perceived quality and brand credibility can enrich the behavioural intentions of customers for herbal medicinal products. Within the herbal medicinal market, enhanced brand equity appears to foster greater confidence, encouraging customers to engage in favourable behavioural responses. Furthermore, brand equity is found to positively contribute to improving the perceived value of the customers. This outcome also corroborates with previous studies (Bakhshizadeh and Aliasghari, 2023; Hakim et al., 2017), which revealed that brand equity has a direct impact on the perceived value of customers. This implies that herbal brands with positive equity provide value to the customers compared to how much money they spend on the products in the market.

Moreover, it was revealed that brand equity has a positive influence on herbal brands' image in the industry. This outcome agrees with prior studies (Ng et al., 2014; Liu et al., 2015; Kim et al., 2008), which suggest that brand equity positively affects the herbal brand image. This outcome means that enhanced brand equity creates a positive image for herbal medicinal products. However, this result contradicts past studies (Kabangunan and Hidayat, 2023; Dada, 2021), which highlight that a favourable brand image fortifies brand equity. The divergence may stem from the specific

characteristics of the herbal medicinal market, where credibility and perceived quality, rather than symbolic imagery appear to serve as the foundation upon which brand image is formed.

Consistent with previous studies (Huang et al., 2019; Devantha and Ekawati, 2021; Liu et al., 2015), this paper reports that brand image has a positive and significant influence on the customers' perceived value of herbal medicinal products. This suggests that the customers obtain value from the positive image of the herbal medicinal products. However, the study shows that brand image has no influence on customers' behavioural intentions. This suggests that customers do not perceive herbal medicinal brands positively enough to encourage them to share word-of-mouth referrals or to consistently repurchase these products at future premium prices. Given the high-involvement, efficacy-sensitive nature of herbal medicinal products, consumers may require more concrete, value-based assurances before translating brand perceptions into behavioural commitments.

It was also confirmed that perceived value positively influences customers' behavioural intentions. This result agrees with earlier authors' findings (Chen et al., 2020; Tuncer et al., 2021; Lin et al., 2019), who found that perceived value directly impacts behavioural intentions. The high perceived value of herbal medicinal products provides the customers with more benefits than the money they pay, and hence, they will be willing to involve in future repurchases, pay premium prices and provide favourable word-of-mouth referrals.

The study also points out that perceived value fully mediates the relationship between brand image and behavioural intentions, and also plays a partial mediating role in the relationship between brand equity and the behavioural intentions. This suggests that perceived value plays an important role in strengthening the nexus between brand equity, brand image, and customers' behavioural intentions. Finally, the study revealed that brand image partially mediates the relationship between brand equity and perceived value. This implies that the indirect relationship between brand equity and perceived value is partially induced by brand image.

6.1. Practical Implications

The results of the study have practical implications for the strategic decisions of the management of herbal companies. The study revealed that brand equity enhances customers' perceptions of value, brand image, and behavioural intentions. Brand image, in turn, positively influences perceived value and enriches customers' behavioural intentions. This indicates that by developing and harnessing brand equity through perceived quality and credibility, the customer's perceived value, brand image, and behavioural intentions will be enhanced. Hence, any investment by brand managers to increase perceived value, brand image and favourable behavioural intentions of the customers should be directed at creating healthy brand equity via perceived quality and brand credibility.

Besides, an enhanced brand image will engender high customer value and, in turn, create positive behavioural intentions which can be translated into actual behaviour to enhance sales and profitability

of the herbal medicinal products. It was also established that brand equity and image have an indirect effect on behavioural intentions through customer perceived value. This implies that perceived value plays a critical role when developing brand equity and brand image to create and reinforce customers' behavioural intentions. Consequently, brand managers can enhance their brand image and equity to support customers' behavioural intentions by leveraging the herbal medicinal products value within the industry. Once again, brand image mediates the relationship between brand equity and perceived value. Thus, brand image enhances the relationship between brand equity and customer-perceived value. This suggests that brand managers need to consider a favourable brand image as one of the critical success factors when building brand equity in order to reinforce customers' perceptions of the value of herbal medicines in the industry.

6.2. Theoretical Implications

The study also does not only have the practical implications of the strategic decisions of brand managers but also contributes to the current brand management literature.

First, the earlier authors evaluated the relationship between perceived quality, credibility, equity, image, value, and behavioural intentions in a separate studies in the brand management literature (Ng et al., 2014; Bakhshizadeh and Aliasghari, 2023; Jiang et al., 2017; Chen et al., 2020; Huang et al., 2019). However, this paper carved out a single model to assess the causal interactions among brand equity, comprising perceived quality and brand credibility, brand image, perceived value, and behavioural intentions and hence, contributing to advancing the current stock of brand management literature. Similarly, this study used a hierarchical model to examine the nexus between brand equity and behavioural intentions, which is relatively scarce in brand management literature in the consumer packaged goods industry. The findings of the research indicate that brand credibility and perceived quality are lower-order variables and brand equity is a higher-order construct, confirming that brand equity is a multi-dimensional construct (Erdem and Swait, 1998; Aaker, 1991; Keller, 1993).

Additionally, in the current brand management literature, brand image and perceived value have been conceptualised and empirically tested as dimensions of brand equity and are therefore inputs of brand equity (Aaker, 1991; Keller, 1993; Gil et al., 2007). However, it has also been conceptualised in the literature that apart from brand loyalty, the other dimensions of brand equity can be outcomes of brand equity (Aaker, 1991). As a result, this paper is one of the few studies that have empirically confirmed that brand equity contributes positively to an image of a brand and its perceived value, which hitherto is relatively scarce in the current brand management literature.

This paper also introduced perceived value as an intervening variable in the relationship between brand image, brand equity and behavioural intentions, which up until now has not been documented in the brand equity theory. The research established that perceived value fully mediates the nexus between brand image and behavioural intentions and partially mediates the nexus between brand equity and behavioural intentions. Not

only this, but this paper also presented brand image as a mediator in the relationship between brand equity, perceived value and behavioural intentions, which is also not yet explored in the brand management literature. The results of the study revealed that brand image partially mediates the relationship between brand equity and perceived value.

7. CONCLUSION

The study aims to investigate the mediating role of brand image and perceived value in the relationship between brand equity (a higher-order construct) and perceived quality and brand credibility (a lower-order construct) and behavioural intentions in the emerging herbal market.

The study found that perceived quality and brand credibility are determinants of CBBE. This confirms that CBBE is a multi-dimensional construct, as it has been postulated in the literature (Aaker, 1991; Keller, 1993; Erdem and Swait, 1998). Besides, brand equity was found to have a positive and significant relationship with perceived value, brand image and behavioural intentions of the customers, and in turn, brand image directly influences the perceived value of the herbal medicines. Moreover, perceived value positively influences behavioural intentions. This result, therefore, confirms that there is a causal interrelationship between brand equity and its outcomes. The study further establishes that brand image, perceived value and behavioural intentions are outcomes of brand equity.

This paper also revealed that brand equity and image have an indirect relationship with behavioural intentions through perceived value, whereas the nexus between brand equity and value is mediated by brand image. This indicates that perceived value plays an essential role in the relationship between brand equity, brand image, and behavioural intentions in the herbal industry. Likewise, brand image plays a crucial role in the relationship between brand equity and perceived value in the emerging herbal industry.

7.1. Limitations and Future Studies

Although this paper is based on sound literature and has methodological rigour, it has some limitations, which provide directions for further investigations.

First, the data were collected from a sample of customers who use herbal medicines in Cape Coast, which indicates that the sample is too narrow to represent the entire population in the country and beyond. Hence, future studies should consider samples from Ghana and beyond to enhance their generalisation. Moreover, herbal products may be classified as medicinal and non-medicinal in the industry. However, this paper considered only the herbal medicinal products, and as a result, it is suggested that future studies should include the non-medicinal products to gain comprehensive perceptions with regard to their image, equity, value and the behavioural intentions of the consumers.

Additionally, while some herbal products are sold online, the data collected only pertained to those available in physical retail settings. It is suggested that future studies should take into account

those that are sold online to enrich the generalisations of the findings across different contexts. Finally, the study was based on quantitative methodologies and a single cross-sectional survey. It is, therefore, recommended that future enquiries should include mixed methodologies and longitudinal surveys to provide a holistic long-term view of brand image, value, equity and behavioural intentions of the customers to enhance its generalisation.

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