Assessing Intangible Value: The Mediating Roles of WOM and Brand Credibility in Quality and Equity Nexus in Emerging Market

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ABSTRACT

There is a growing demand for herbal treatments, which has resulted in intensified competition in the emerging herbal market. The increasing competition has compelled firms to build strong brand equity to sustain profitability and differentiation. However, the mechanisms through which brand quality, word-of-mouth (WOM), and brand credibility interact to influence brand equity remain underexplored, particularly in the herbal industry. The research aims to examine the mediating role of WOM on the extent to which brand quality influences credibility and equity in an emerging herbal market. The data for this paper were gathered from 226 customers through systematic random procedures. Structural equation modelling was utilised to test the hypotheses via AMOS 24. The findings demonstrate that WOM plays a complete intervening role in the link between brand quality and equity, and also partially mediates in the brand quality and credibility nexus. The analysis also indicates that brand credibility completely intervenes in the nexus between WOM and equity. The study establishes that WOM is an important factor if herbal companies want to create brand quality to strengthen brand credibility and equity, whilst credibility is regarded as a critical ingredient when utilising WOM to raise brand equity in the emerging market.

Keywords: Emerging Market, Brand Quality, Credibility, Equity, Word-of-Mouth
JEL Classifications: M30, M31

1. INTRODUCTION

Strong brands with equity are considered enduring and important intangible assets of a company because they provide a reliable source of generating competitive distinctiveness. According to Keller et al. (2015), a brand is anything intended to identify and differentiate a firm`s products from those of competitors. Brand credibility and perceived quality are essential factors for creating powerful brands with equity (Erdem and Swait, 1998; Aaker, 1991; Aaker, 2014; Nasir and Guvendik, 2021).

In recent years, the demand for herbal treatment across the globe has been increasing and Ghana is not an exception (WHO, 2019). It has been estimated that about 80% of Ghanaians depend on herbal treatment, especially those dwelling in rural communities where herbal therapy is the only source of health care (UNDP, 2007; WHO, 2019). The rapid increase in demand for plant medicinal products has fueled intense competition due to the entry of several new firms and the expansion of existing ones (Essegbey et al., 2014).

Empirical evidence also indicates that favourable perceived quality is an important ingredient for building brand credibility, equity and positive word-of-mouth (WOM) referrals (Kusuma and Wuisan, 2021; Mukerjee, 2018; Anggabrata and Giantari, 2021). Superior brand credibility, equity and WOM endorsement can create an edge over competition and induce customers to pay a high price for a brand (Xu et al., 2020; Aaker, 1991; Oppong et al., 2022),

which can enhance herbal firms` profitability. Moreover, it has been estimated that about 67% of consumers` buying decisions are attributed to favourable WOM, according to (Mothersbaugh and Hawkins, 2016), which can lead to the growth of herbal firms in the industry.

The positive impact of perceived quality on brand credibility (Perera et al., 2021; Oppong, 2020), brand equity (Oppong and Phiri, 2018; Amelia, 2018) and word-of-mouth (Wang et al., 2017; Mukerjee, 2018) has been documented in the literature. Likewise, the role of WOM in enhancing brand credibility (Perera et al., 2021; Oppong et al., 2025) and brand equity (Wang et al., 2021; Perera et al., 2021) as well as the interaction between brand credibility and equity (Oppong et al., 2022; Perera et al., 2021) have been confirmed in the extant literature. This demonstrates that perceived quality can directly and indirectly via WOM influence brand credibility and equity. It can also be deduced that WOM can directly and indirectly via brand credibility positively affects brand equity.

Besides, a review of the existing literature suggests that the empirical investigations on the impact of perceived quality and WOM on brand equity have yielded inconclusive results. For example, while earlier studies found significant direct effect of perceived quality (Oppong and Phiri, 2018; Amelia, 2018) and WOM (Wang et al., 2021; Perera et al., 2021) on brand equity, other authors reported non-significant positive effect of perceived quality (Sanyal and Datta, 2011; Dib and Alhaddad, 2014) and WOM (Appiadu et al., 2023) on brand equity. However, there is little or no studies conducted to validate the impact of perceived quality on brand credibility and equity through the mediating role WOM to bridge this gap in the literature. Similar research looked into the intermediary role of brand awareness and brand image in the path between favourable WOM and brand equity (Appiadu et al., 2023). Likewise, Sanyal and Datta (2011) investigated the impact of perceived quality on brand equity via the mediating role of intrinsic and extrinsic cues. Again, Wang et al. (2021) verified the impact of corporate social responsibility on brand equity through the mediating role of brand credibility.

While prior studies have examined alternative mediators, there is limited understanding of how WOM influences the pathways between perceived quality, brand credibility, and brand equity. Hence, the current paper seeks to inquire into the intermediary role of WOM in the effect of brand quality on brand credibility and brand equity in the emerging herbal market. Addressing this gap is essential to advancing theoretical and practical insights into brand management. For this purpose, the objectives proposed to achieve the study`s goal were to evaluate the: (1) influence perceived quality on brand credibility and brand equity via WOM: and (2) influence of WOM on brand equity via brand credibility. By addressing these objectives, the research contributes to the broader understanding of brand equity dynamics and offers actionable insights for practitioners in competitive markets.

The next sections of this paper cover the literature review, the research conceptual model and the hypotheses, followed by the methodology and the findings. The last part discusses the findings and provides the implications, conclusion, limitations and suggestions for further studies.

2. THEORETICAL REVIEW

2.1. Signaling Theory
Signaling theory provides a foundational framework for understanding the dynamics of brand quality, credibility, and equity. Signaling theory is drawn from the information economics perspective and focuses on the imperfect and asymmetric nature of information in the market (Spence, 1973). This theory has been adopted by several researchers to conceptualise customer-based brand equity (Erdem and Swait, 1998: Ok et al., 2011; Ghaleb and Kaplan, 2019). This theory is used to postulate that imperfect and asymmetrical information in the market creates uncertainty about product attributes in the consumers` minds. As a result, companies use brands as market signals to improve the consumers' perceptions about the product attributes and hence, their confidence in the product information. A brand is used to signal results from prior and current marketing activities in connection with the brand. In this viewpoint, clarity, content and credibility of product information are the important ingredients for building and managing CBBE. Consequently, a credible brand name provides a signal to consumers and assures them of the perceived product`s quality and thereby reducing perceived risk and information search costs, which can, in turn, generate positive brand attribute perceptions. This in effect, strengthens customer-based brand equity. By framing perceived quality as a signal that flows through WOM to shape consumer perceptions, the research highlights the mechanisms by which intangible attributes contribute to tangible market outcomes.

2.2. Literature Review and Research Hypotheses
Drawing from the research model and the literature, the hypotheses formulated to achieve the goal of the research are presented below.

2.2.1. Brand equity
Healthy brands with powerful equity are considered the most enduring and essential assets of a firm as they offer sustainable revenue flow. The notion of brand equity has been studied from financial (e.g. Simon and Sullivan, 1993) and market (Aaker, 1991; Keller, 1993) perspectives in the extant literature. The finance-based approach explains the amount of money brand equity generates for a firm. This results from the consumer response to the brand name. The latter looks at the market perceptions and is the major determinant of the market share and profitability of the brand (Christodoulides and de Chernatony, 2010). The CBBE is defined as "the differential effect of brand knowledge on consumer responses to the marketing of the brand" (Keller, 1993, p. 2). Aaker (1991; 1996) also viewed CBBE as comprising brand awareness, association, quality and loyalty that reduce or increase the value the organisation and its customers obtain from a product. Alternatively, Erdem and Swait (1998, p. 132) describe CBBE as the "value of a brand signal to consumers."

Aaker (1992) opined that brands with strong equity can act as a switching barrier; growth in brand extensions; a basis for charging high prices; and reduction in promotional budget and hence,

higher margins. In the herbal industry, brand equity represents an important driver for differentiation, given the increasing competition. A firm that fosters strong brand equity can achieve greater price power, consumer loyalty and low sensitivity to market fluctuations.

2.2.2. Perceived quality
Perceived quality is viewed as one of the strategic thrusts of several organisations because of its role in driving profitability (Aaker, 1991). Zeithaml (1988) described perceived product quality as the buyers' judgement of the total excellence or superiority of the product. Kotler et al. (2021) suggested that product quality consists of performance and conformance quality. Performance quality looks at the ability of the product to deliver its stated functions whereas conformance quality denotes an absence of defects and consistency in fulfilling its intended level of performance. Past research also indicates that perceived quality is an aspect of perceived value (Oppong et al., 2021), and hence, it can serve as an important determinant of consumers` brand choice decisions (Yoo et al., 2000). In addition, a high level of perceived quality can result in superior levels of customer satisfaction, and high prices, gaining distributors` interest and forming the basis for brand position and differentiation (Aaker, 1992; Kotler and Keller, 2016).

In the context of the herbal market, perceived quality plays a crucial role in influencing consumer behaviour. High-quality perceptions motivate repeat buying and also foster loyalty (Aaker, 1991), which represents a strategic priority for firms seeking to build and sustain strong brands. Moreover, superior perceived quality strengthens customer satisfaction which motivates repurchase decisions and loyalty (Aaker, 1991; Molinillo et al., 2022). Additionally, studies show that perceived quality lends strong support to the brand equity (Oppong and Phiri, 2018; Amelia, 2018), brand credibility (Perera et al., 2021; Oppong, 2020) and word-of-mouth (Wang et al., 2017; Mukerjee, 2018).

On this basis, the study posits that:
- H_1: Perceived quality has a significant and direct effect on brand equity
- H_2: Perceived quality has a significant and direct effect on word-of-mouth
- H_3: Perceived quality has a significant and direct effect on brand credibility.

2.2.3. Word-of-mouth
Prospective customers, customers and non-customers share information about products, services and companies without being prompted by company owners. This phenomenon has been a naturally occurring event (Fill and Turnbull, 2016). However, WOM communication has received greater attention in the last few decades in the marketing literature due to its considerable influence on consumers` buying intentions. According to Stokes and Lomax (2002), WOM refers to the interpersonal conversation about products or services where the receiver considers the communicator as impartial. Thus, those who deliver information regarding a firm and its products or services through WOM communication are often regarded as informal experts who are recognized as trustworthy, unbiased and objective (Fill

and Turnbull, 2016). Word-of-mouth communication has also been described as any favourable or unfavourable information transmitted by potential, actual or former customers about a company or its products to people or institutions (Hennig-Thurau et al., 2004). Word-of-mouth is seen as informal, unplanned and voluntary communication which provides information and purchasing support, and serves to fortify an individual consumer`s buying decision (Fill and Turnbull, 2016).

Word-of-mouth communication is recognised as more reliable, credible and trusted because it is coming from non-commercial or marketing sources (Kardes et al., 2011). As a form of mass media, word-of-mouth communication is one of the widest and the most important tool for consumers and it can influence where they shop, what they buy and how they evaluate certain products (Özdemira et al., 2016). Consequently, it has a greater impact on consumers` attitudes and behaviours relative to advertising and other promotional elements (Hoyer et al., 2013).

A global online consumer survey conducted by Nielsen (2009) cited by Shih et al. (2013) also established that whilst only 33% of consumers trust online advertisements, 90% trust recommendations from friends and 70% creates enthusiasm, trust, and hope in the recipients which ultimately, strengthen their perceptions of the company and its offerings (Sweeney et al., 2008). It has also been found that word-of-mouth has a direct effect on brand credibility (Perera et al., 2021; Oppong et al., 2023) and brand equity (Wang et al., 2021; Perera et al., 2021). In turn, WOM is directly affected by perceived quality (Wang et al., 2017; Mukerjee, 2018). This study utilizes WOM as both a direct driver and a mediator in the relationships between perceived quality, brand credibility, and brand equity. On this basis, the study postulates that:
- H_4: Word-of-mouth has a significant and direct effect on brand equity
- H_5: Word-of-mouth has a significant and direct effect on brand credibility
- H_7: Word-of-mouth positively mediates the relationship between perceived quality and brand equity
- H_8: Word-of-mouth positively mediates the relationship between perceived quality and brand credibility.

2.2.4. Brand credibility
Brand credibility is an important brand element that significantly supports the formation and strength of a value of a brand (Erdem and Swait, 1998). Brand credibility measures the degree to which consumers have confidence in a brand's product message in that it is able and willing to persistently deliver its intended purposes (Erdem and Swait, 2004). Keller et al. (2015) viewed brand credibility as the perceived trustworthiness, expertise and attractiveness of a brand. Brand credibility contains the trustworthiness and expertise of a brand (Erdem and Swait, 2004). Trustworthiness indicates how ready the firm is to deliver its promises, and in contrast, expertise denotes how capable the company is to keep the promises made. The credibility of a brand reflects the aggregate outcomes of all marketing efforts. As a result, Erdem and Swait (1998) established that developing credible brands necessitates high investment, consistency and clarity in marketing promotional activities.

In this study, brand credibility is positioned as a mediating factor in the relationship between WOM and brand equity. Brand credibility has been noted to provide value to customers by decreasing information costs and perceived risks in making purchasing decisions. A credible brand also has the potential to enrich the perceived quality of a brand which eventually improves its expected utility (Erdem and Swait, 1998). Brand credibility has been found to have a greater influence on brand equity (Wang et al., 2021; Perera et al., 2021; Oppong et al., 2022) and in turn is affected by WOM (Perera et al., 2021; Oppong et al., 2023).

On this basis, the study posits that:

H_6: Brand credibility has a significant and direct effect on brand equity

H_9: Brand credibility positively mediates the relationship between word-of-mouth and brand equity.

2.2.5. Conceptual framework

The conceptual framework to underpin this study integrates perceived quality, WOM, and brand credibility to explain their collective impact on brand equity. The proposed research conceptual model focuses on the variables of interest and the relationship between them. The framework is drawn from the signaling theory to posit that perceived quality serves as a signal of a brand, which influences brand credibility and equity. Thus, perceived quality is considered a predictor, word-of-mouth is mediator and brand credibility and brand equity are outcome variables. Likewise, brand credibility is regarded as a mediator, while WOM and brand equity are considered as predictor and outcome variables respectively. The conceptual model is presented in Figure 1, which suggests that perceived quality exerts a direct influence on brand credibility, brand equity and word-of-mouth. In turn, WOM has a direct relationship with brand credibility and brand equity, while brand credibility positively influences brand equity.

In this paper, brand credibility indicates the degree to which consumers believe the herbal medicinal brand's product information, relating to its trustworthiness and expertise to persistently fulfil its intended use (Erdem and Swait, 2004). Word-of-mouth relates to interpersonal communication about a herbal firm and its products from a non-commercial communicator to a receiver (Stokes and Lomax, 2002), and perceived quality is a subjective assessment of an overall superiority of a medicinal herbal product relative to alternatives (Zeithaml, 1988). Brand equity also denotes an added value transferred to medicinal herbal product due to its brand name (Farquhar, 1989).

3. RESEARCH METHODOLOGY

The methodology adopted to address the purpose of this research is elucidated below.
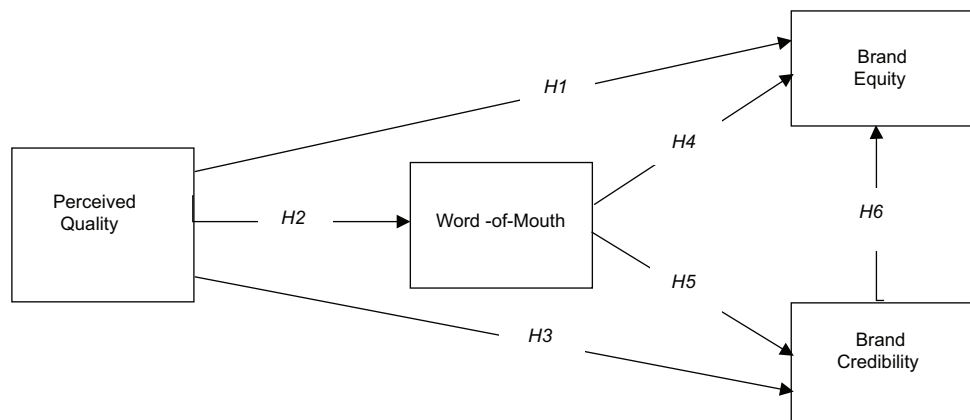
3.1. Participants and Sampling

The study targeted end-users of herbal products in Ghana, which reflects the growing importance of this market segment. The target population comprises 854 end users of herbal medicines obtained from the sales day books of 26 retail shops in the Cape Coast central business district in Ghana. The lists of the herbal retail stores were supplied by the Traditional Medicine Practice Council which is legally permitted to regulate the commercialisation of herbal products. The selection of a sample of the customers was guided by Krejcie and Morgan`s (1970. p. 608) sample table, and as result, 265 samples were chosen.

The characteristics of the sample chosen show that a large proportion is male, fall between 26 and 35 years and has gone through senior high school education. Thus, 51.6% are males, 39.7% fall between 26 and 35 years, and 35.5% had graduated from senior high school.

3.2. Measures and Procedures

Data collection employed a structured questionnaire designed to measure perceived quality, WOM, brand credibility, and brand equity. Specifically, five-point Likert scale items with responses ranging from 1 to 5, denoting strongly disagree and strongly agree respectively was adopted to measure the variables in this study. The measures were adopted from the past validated test items and were modified to suit the objectives of the study. Erdem and Swait (2004) provided the measurement items of brand credibility, word-of-mouth from Zeithaml et al. (1996), brand equity was supplied by Yoo et al. (2000) and perceptions of quality were from Yoo et al. (2000) and Gil et al. (2007). This type of questionnaire

Figure 1: Research conceptual model

Source: Designed by the researchers

was employed because it is aligned with statistical measurement (Cooper and Schindler, 2014).

Guided by a systematic sampling technique, the survey was carried out by supplying the participants with questionnaires after shopping in the store. Hence, the first participant was randomly recruited and subsequently, a third of every participant was surveyed. This technique of sampling was adopted as it created a platform for the researcher to pick participants without the knowledge of their profile in the sample lists (Malhotra et al., 2017). Two hundred and sixty-five (265) questionnaires were self-administered to the participants. However, 230 were collected and 226 were analysed resulting from poor answers.

4. ANALYSIS AND FINDINGS

The data gathered were quantitatively analysed using exploratory factor analysis (EFA) and structural equation modelling (SEM) aided by SPSS 25 and AMOS 24 respectively.

4.1. Exploratory Factor Analysis
The EFA was conducted to evaluate the extent to which the scale items load on their constructs. For this purpose, a total of 16 indicators were used to perform the EFA using the principal axis factoring extraction method and direct Oblimin with Kaiser Normalization rotation procedure.

Table 1 reveals the results of the EFA, which indicate that the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.826 and Bartlett's Test of Sphericity is significant at $P < 0.05$, suggesting that the EFA is acceptable (Hair et al., 2014; Pallant, 2020). Furthermore, the results from the pattern matrix yielded a four-factor model, where factor 1 is brand equity, 2 is brand credibility, 3 is perceived quality and 4 is word-of-mouth. Overall, 12 scale items were loaded on their respective constructs because loadings below the absolute value of 0.30 were not considered acceptable for further analysis (Pallant, 2020).

In addition, all the four factors had eigenvalues above 1.0 and also predicted a cumulative variance of 64.00% of the analysis. Again, Cronbach alpha test was used to determine the internal consistency reliability of the indicators produced by the EFA to eliminate those with low inter-item correlations from the model. The results in Table 1 suggest that all the four factors have Cronbach alpha above 0.70 which indicate a better internal consistency reliability (Hair et al., 2021).

4.2. Structural Equation Modelling
The SEM was utilized to test the hypothesised relationships stated in the conceptual framework. This approach was chosen because of its ability to simultaneously analyse the individual multiple interdependent relationships, accounting for overall fit, measurement errors and modification of the model (Hair et al., 2010; Byrne, 2016). Guided by Anderson and Gerbing (1988) technique for carrying out SEM, the analysis followed a two-step process, comprising estimating the measurement model and the structural model.

4.3. Measurement Model
The essence of conducting measurement model was to validate the results of the exploratory factor analysis. Indicator items with standardized loadings below 0.50 were eliminated to strengthen the convergent validity and model fit indexes (Hair et al., 2014). Consequently, 2 indicators of credibility were excluded from the model. The results of the measurement model in Table 2 and Figure 2 reveal that 12 indicators converged on the four factors, and all the standardized regression weights, ranging from 0.619 to 0.978 were all statistically significant at $P < 0.001$.

Again, the model fit indexes in Table 2 supported the model (Hu and Bentler, 1999; Hair et al., 2014) except the Chi-square test which was statistically significant at $P < 0.00$ due to its vulnerability to sample size (Byrne, 2016). The results provided a robust foundation for proceeding with the structural model analysis.

Table 1: Results of the pattern matrix

Scale items		M	SD	Factor			
				1	2	3	4
BE3	It makes sense to buy X instead of any other brand even if they are the same	3.90	0.979	0.923			
BE4	If another brand is not different from X in any way, it seems smarter to purchase X	3.86	1.026	0.809			
BE2	Even if another brand has the same characteristics as X, I would prefer to buy this brand	3.81	1.092	0.764			
BC2	X delivers what it promises	4.21	0.917		0.817		
BC3	X has the ability to deliver what it promises	4.15	0.878		0.788		
BC4	X`s product claims are believable	4.12	0.837		0.745		
BC5	Over time, my experiences with X had led me to expect it to keep its promises.	4.05	0.930		0.598		
BC1	X has a name you can trust	3.94	0.880		0.584		
PQ2	I can always trust X if I want a product of high quality	4.26	0.810			0.991	
PQ1	X is of high quality	4.19	0.847			0.736	
WOM3	I would encourage my friends and relatives to buy X.	4.23	0.815				0.956
WOM2	I would recommend X to someone who asks for my advice	4.23	0.695				0.671
Cronbach alpha				0.865	0.857	0.864	0.817
Eigenvalues				5.995	1.572	1.410	1.263
Percentage of variance explained				37.470	9.824	8.811	7.895
Percentage of total variance explained=64.001%							

KMO=0.826; Bartlett's test of Sphericity (χ^2/df)=1768.136/120; P=0.000
X=Focal brand; M=Mean; SD=Standard deviation

4.4. Psychometric Properties

The psychometric properties of the measurement model were assessed to ensure construct reliability and validity. The construct validity was verified through the discriminant validity and convergent validity which were determined by Fornell and Lacker (1981) criterion and average variance extracted (Bagozzi and Yi, 1988) respectively. Table 3 presents the outcomes of the psychometric properties, which show that all the AVEs were above 0.50, indicating convergent validity (Bagozzi and Yi, 1988). Moreover, the square roots of the AVEs were higher than the squared inter-variable correlations, confirming

Table 2: Results of measurement model

Constructs and their scale items	Standardized estimate	t-values
Perceived quality		
PQ1	0.978	— a
PQ2	0.779	8.556
Word-of-mouth		
WOM2	0.842	— a
WOM3	0.830	7.577
Brand credibility		
BC3	0.619	— a
BC4	0.795	8.810
BC5	0.832	8.917
Brand equity		
BE2	0.788	— a
BE3	0.891	13.609
BE4	0.803	12.576
Model fit indexes	**Values**	
Chi-square test (χ^2/df)	61.195/26; P=0.000	
The goodness-of-fit index (GFI)	0.950;	
Adjusted goodness of fit (AGFI)	0.904;	
Root mean square error of approximation (RMSEA)	0.070	
Normed Chi-square statistic (CMIN/DF)	2.110;	
Root mean residual (RMR)	0.027	
Incremental fit index (IFI)	0.970	
Relative fit index (RFI)	0.915	
Comparative fit index (CFI)	0.953	
Tucker-lewis index (TLI)	0.970	
Normed fit index (NFI)	0.945	

a=path parameter was set to 1; therefore, no t-values were estimated; all standardized loadings are significant at P=0.001 level

discriminant validity (Fornell and Lacker, 1981). Likewise, the composite reliability test suggests that all the coefficients exceed 0.70, supporting construct reliability (Hair et al., 2014). This result indicates that the measurement items for each construct consistently capture the intended dimensions.

4.5. Structural Model

The structural model used to test the hypotheses stated in the study by using t-statistics of 1.196 and a significance level of 0.05. The findings from the model fit indexes show that except the Chi-square test ($\chi^2 = 61.195$, DF = 29, P < 0.001), all the other indexes are satisfactory: CMIN/DF = 2.110; RMR = 0.027; GFI = 0.950; AGFI = 0.904; NFI = 0.945; RFI = 0.915; IFI = 0.970; TLI = 0.953; CFI = 0.970; RMSEA = 0.070.

The findings in Table 4 and Figure 3 reveal that perceived quality has a positive influence on brand equity, WOM and brand credibility, which support H_1, H_2 and H_3 respectively. Again, the findings suggest that WOM has a positive impact on brand equity and brand credibility, confirming H_4 and H_5 respectively. In turn, brand credibility has a positive and significant effect on brand equity, supporting H_6.

4.6. Mediation Model Analysis

The paper also attempted to evaluate the mediating role of word-of-mouth in the nexus between perceived quality, brand credibility and brand equity (H_7 and H_8). The study also sought to verify the intermediatory role of brand credibility in the relationship between WOM and brand equity (H_9). The analysis evaluated both direct and indirect effects to determine the mechanisms through which perceived quality influences brand equity.

Guided by Baron and Kenny's (1986) process of mediational analysis, the analysis was conducted through the bootstrap procedure using a re-sampling of 2000 and 95% bias-corrected confidence level with the aid of AMOS 24. The findings from mediational model analysis are displayed in Table 5, which show that the direct effect of perceived quality on brand equity is not statistically significant. However, the indirect effect of perceived quality on brand equity through WOM is significant at P < 0.001, confirming H_7. Moreover, the direct effect of perceived quality on brand credibility is statistically significant at P < 0.001. Likewise,

Table 3: Results of psychometric properties

Constructs	CR	AVEs	PC	BC	BE	WOM
Perceived quality (PC)	0.875	0.781	0.883**			
Brand credibility (BC)	0.795	0.569	0.200	0.754**		
Brand equity (BE)	0.867	0.686	0.179	0.358	0.828**	
Word-of-mouth (WOM)	0.822	0.699	0.101	0.168	0.192	0.836**

CR: Composite reliability, AVE: Average variance extracted; ** = Square root of AVEs; Off-diagonal values indicate squared inter-variable correlations

Table 4: Results of the structural model

Hypotheses	Structural relations			Standardized estimate	Standard errors	t-value	P-value	Significance
H_1	Equity	<---	Quality	0.160	0.076	2.196	0.028	Yes
H_2	Mouth	<---	Quality	0.319	0.057	3.944	0.000	Yes
H_3	Credibility	<---	Quality	0.353	0.057	4.069	0.000	Yes
H_4	Equity	<---	Mouth	0.206	0.112	2.695	0.007	Yes
H_5	Credibility	<---	Mouth	0.206	0.079	3.509	0.000	Yes
H_6	Equity	<---	Credibility	0.443	0.146	4.793	0.000	Yes

Table 5: Mediation model result

Hypotheses	Structural relations	Direct effect	Indirect effect	Total effect
H$_7$	Equity <---WOM <--- Quality	0.160 (0.078)*	0.264 (0.000)**	0.424 (0.001)**
H$_8$	Credibility <---WOM <--- Quality	0.353 (0.004)**	0.095 (0.003)**	0.448 (0.002)**
H$_9$	Equity <--- Credibility <--- WOM	0.206 (0.081)*	0.132 (0.008)**	0.338 (0.002)**

**Statistically significant at P<0.001; * Not statistically significant; Figures outside the brackets are standardized beta values; Figures in the brackets are P-values

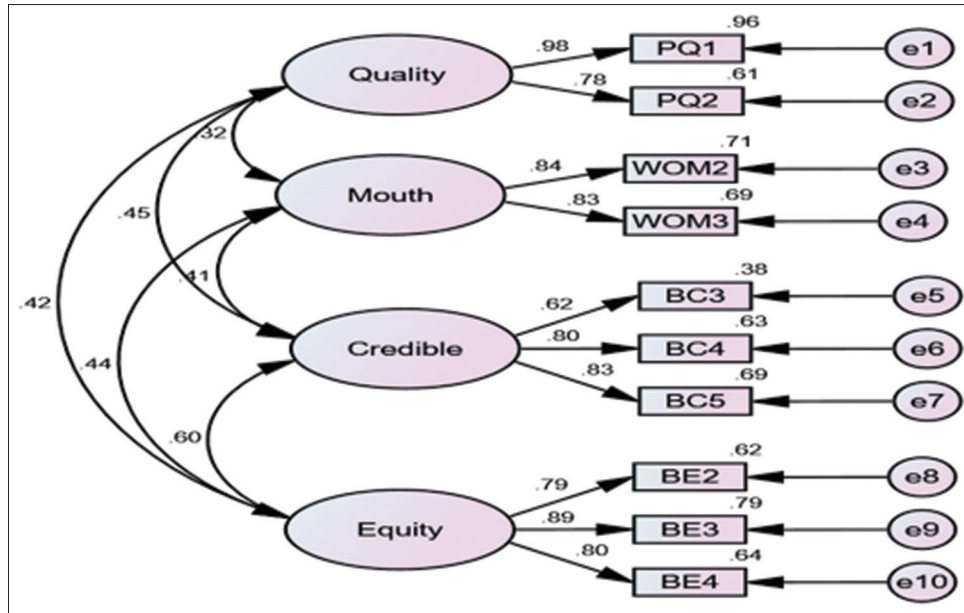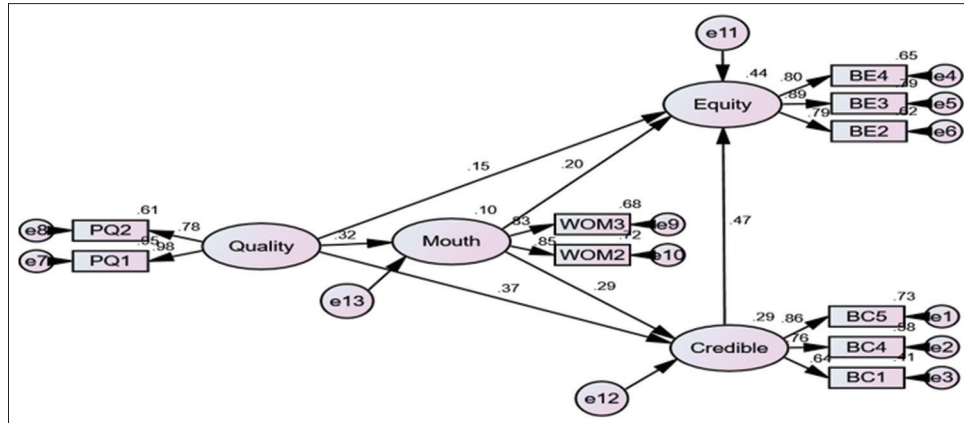**Figure 2:** Result of measurement path diagram

Figure 3: Path model diagram

the indirect relationship between perceived quality and brand credibility through WOM is significant at P < 0.001, supporting H$_8$. Finally, the direct effect of WOM on brand equity is not statistically significant. However, the indirect effect of WOM on brand equity through brand credibility is statistically significant at probability level of 0.001, confirming H$_9$. These findings highlight the central roles of WOM and brand credibility in leveraging perceived quality to build strong brand equity.

5. DISCUSSION OF FINDINGS

The study's main objective was to evaluate the causal path between brand credibility, WOM, quality and brand equity, together with the mediation influence of brand credibility and WOM in these

relationships in the emerging market. The findings from this paper demonstrate that perceived quality significantly contributes to increasing brand equity. This result is consistent with the findings of previous investigations (Oppong and Phiri, 2018; Amelia, 2018), which indicate that brand equity is directly influenced by quality. This implies that herbal brand that is perceived to be good quality adds commercial value to it.

More so, the results show that brand quality impacts positively on the customers' WOM endorsement of herbal brands in the industry. This outcome concurs with past research findings (Wang et al., 2017; Mukerjee, 2018), suggesting that WOM referral is directly affected by brand quality. In other words, customers will provide positive word-of-mouth endorsement for a brand only if

it is of superior quality. Moreover, in agreement with the findings of previous studies (Perera et al., 2021; Oppong, 2020), this paper revealed that herbal brand quality significantly influences its credibility. This suggests that herbal customers consider herbal brands that command a high level of quality as credible in the market. Additionally, similar to the results of earlier investigations (Wang et al., 2021; Perera et al., 2021), brand equity is positively affected by WOM in the industry. This implies that high levels of positive WOM of herbal medicinal brands contribute to enhancing to their value in the market.

Besides, in line with the findings of prior studies (Perera et al., 2021; Oppong et al., 2023), the researchers reported that positive customers' word-of-mouth referrals about a brand strengthens its credibility in the market. This shows that the consumers' positive word-of-mouth referral for the herbal brands enhances their credibility. It was also found that high perceived herbal brand credibility has a significant effect on its brand equity in the market. This outcome confirms the findings of past studies (Wang et al., 2021; Perera et al., 2021), which reported that favourable brand equity is directly affected by the perceived brand credibility. Thus, herbal brands that are perceived to be credible increase their value in the market.

The research further points out that the customer's WOM endorsement fully supports the association between perceived brand quality and equity. This means that WOM fully enhances the role of perceived brand quality in building herbal brand equity. The study also revealed that the interaction between perceived brand quality and credibility is partially enhanced by customers' WOM referral. Thus, WOM referral partially assists perceived herbal brand quality to increase its credibility in the market. Finally, it is also reported that perceived brand credibility fully reinforces WOM referral to build brand equity. This implies that brand credibility exerts a significant impact on WOM role in developing herbal brand equity in the market.

5.1. Practical Implications
The findings of this paper have practical implications for the management of herbal companies which are currently facing intense competition in the herbal and the drug industry as a whole. This paper found that perceived quality contributes positively to the formation and strength of herbal medicines' brand credibility, equity and word-of-mouth endorsement in the market. Consequently, management of herbal companies can benefit from increased brand credibility, equity and favourable WOM from their customers if they build brands that are perceived to be of superior quality in the market.

The study also revealed that favourable WOM provided by the customers creates and enhances herbal medicines' brand credibility and equity. Enhanced brand credibility and equity can create sustainable competitive advantage and hence, management of herbal companies should consider WOM as critical element in their communication strategy to develop strong brand credibility and equity for their products. It has also been emphasised that positive word-of-mouth is recognised as more trusted and less expensive compared to the other forms of the promotional mix (Kardes et al., 2011).

Moreover, the study points out that brand credibility strengthens the health of brand equity. Brands with positive equity conveys several advantages, such as, greater loyalty, lower marketing cost, increased repurchases and volume of purchases (Keller et al., 2015; Aaker, 1991). As result, the management of herbal companies needs to develop credible brands to strengthen the brand equity to survive in a highly competitive retail environment.

Furthermore, the research demonstrated that the interaction between perceived quality and brand equity is fully supported by WOM. This implies that developing favourable WOM will improve the interaction between brand quality and equity. Consequently, the management of herbal companies can increase value of herbal medicines' brand if they include perceived quality in their strategic decisions to build brand credibility to improve brand equity in the market. In addition, the study shows that WOM partially supports perceived quality to enhance brand credibility. This implies that any effort by management to incorporate WOM to develop perceived herbal medicines' quality will enrich its credibility. Finally, it was found that herbal brand credibility fully reinforces WOM to improve brand equity. This suggests that management of herbal companies need to leverage the herbal brands' credibility when building WOM communication to improve brand equity.

5.2. Theoretical Contributions
The study also contributes to and extends the theory of strategic brand management, specifically CBBE. First, the examination of the current literature indicates that there is plethora of investigations on the causal link of brand credibility (Kusuma and Wuisan, 2021; Shindy and Hariandja, 2020) and brand equity (Anggabrata and Giantari, 2021; Rambocas et al., 2017) to WOM in the CBBE literature However, studies on the causal link of WOM to brand credibility (Perera et al., 2021; Oppong et al., 2023) and equity (Wang et al., 2021; Perera et al., 2021) are relatively scarce in the CBBE literature. Hence, this paper is one of the few studies that have shown that WOM positively affects brand credibility and equity, thus, contributing to extending the existing CBBE literature.

Moreover, the direct impact of perceived quality on brand credibility and brand equity has been well-noted in the literature. However, this study introduced WOM communication into the interaction between perceived quality, brand credibility, and equity, which has been overlooked in the CBBE literature. It was discovered that WOM perfectly mediates the interactions between brand quality and brand equity and partially mediates the relationship between brand quality and brand credibility. Consequently, this result of the study extends the current stock of CBBE literature.

The study also incorporated brand credibility as a mediating factor in the interaction between WOM and brand equity, which has not yet been explored in the literature. The results indicate that the interactions between WOM and brand equity is partially mediated by brand credibility. This outcome has also contributed to the formation of new perspectives in the CBBE literature. Finally, a new research framework was used to test the causal

relationships which have been proven to be sound because all the psychometric properties were satisfactory and hence, it can be used in CBBE studies.

6. CONCLUSION

This paper sought to ascertain the causal interactions among brand credibility, perceived quality, brand equity and WOM endorsement in the emerging herbal market. The analysis reveals that brand quality exerts a direct impact on brand credibility, equity and customers` word-of-mouth endorsement. In turn, WOM positively influences brand equity and brand credibility. Besides, it was also discovered that herbal brand credibility positively influences its equity. This implies that there are causal interactions among brand quality, WOM, brand credibility to improve herbal brand equity.

The findings also show that brand quality impacts on brand equity through WOM, but both directly and indirectly on brand credibility via WOM. Again, it was found that WOM directly and indirectly via brand credibility enhances brand equity. It can, therefore, be concluded that WOM communications play a key role when developing brand quality to strengthen brand credibility and equity. Likewise, brand credibility is recognised as a critical variable when creating WOM to enrich herbal brand equity.

6.1. Limitations and Future Research

Despite its contributions, the study has several limitations that provide avenues for future research. The current study is limited to only the finished packaged medicinal herbal product. Hence, it is suggested that future studies need to include herbs, herbal materials and preparations to secure the comprehensive impressions of the consumers on brand credibility, quality, equity and WOM referrals in the industry. In addition, the research was confined to a store-based setting and therefore, it is recommended that future studies should consider the marketspace environment.

Moreover, the quantitative research procedure and closed-ended questions were employed to identify the views of the research participants. It is suggested that future research should consider a mixed-method procedure to obtain in-depth views of the research participants. Geographically, the research is confined to Ghana and hence, it is suggested that future research needs to be expanded to include other countries, especially emerging markets of the globe to enhance generalisation to other cultures.

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