

## The Influence of Packaging and Brand Equity on Over-The-Counter Herbal Medicines in Kumasi, Ghana

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**Abstract:** In today's competitive business environment, packaging and brand equity provide a competitive advantage to a firm which may increase and maintain its market share. However, the role of packaging in supporting the brand equity is relatively new in the over-the-counter pharmaceutical market and currently, there is a lack of empirical research to uncover its significance in this product segment. This paper seeks to investigate the impact of packaging on brand equity through the mediating effect of dimensions of brand equity in the over-the-counter drug market in Kumasi metropolis. Based on Aaker's customer-based brand equity model, eight hypotheses were formulated and tested through structural equation modelling. Using systematic sampling, data was collected through survey questionnaires from a sample of 348 consumers who patronize in herbal medicines from herbal stores in Kumasi Metropolis. The study found that packaging significantly contributes to support brand equity of plant medicines through the mediating effect of brand awareness, brand association and brand loyalty. These results indicate that brand managers in the plant medicine industry need to consider packaging as an important brand-building tool in their marketing strategy to enhance brand equity in the over-the-counter pharmaceutical market. This will enhance their competitive distinctiveness in the over-the-counter market.

**Keywords:** *Packaging, Herbal medicines, Over-the-counter, Brand equity, Consumers*

### 1. Introduction

Over the years, over-the-counter (OTC) medications have played a crucial role in health care delivery across the world. Over-the-counter medicines are recognised as the most frequently used medications for common ailments which provide multiple self-treatment options and easy access to medicines (DeLorme, Hu, Reid & Ann, 2010). Herbal medicines are often used as OTC medication (WHO, 2011; Essegbey, Awuni, Essegbey, Akuffoeba, & Mica, 2014; WHO, 2005) and are bought to combat minor sickness, chronic ailments, maintain fitness or health (Samojlik, cited by Naresh & Reddy, 2016). Empirical research shows that nearly 70–95 % of the people living in less developed countries rely on medicinal plant products to satisfy their primary health care needs (WHO, 2011). Roughly, 80% of the population in Ghana use plant medicines for their basic health care needs (UNDP, 2007). Most of the plant medicines produced in Ghana are packaged and sold at pharmacies, chemists' shops and herbal shops (WHO, 2011; Essegbey et al., 2014). Herbal medicines consist of processed plant materials or raw plant materials as well as herbal medicinal products with therapeutic or human benefits derived from one or more plants (WHO, 1998). Packaging is one of the essential regulatory requirements in the pharmaceutical industry (FDA, 2013). In the OTC product market, medicines are usually bought without a prescription, and consumers buy a product on their own initiative and all the roles with regard to the decision-making process and consumption of products are performed by the end-user similar to fast moving consumer goods market (Dickov, 2012; Kim & King, 2009).

Packaging is therefore the key element that conveys comprehensive information critical to the safe and effective use of medicines by patients (WHO, 2002). Consequently, the functions of packaging in the OTC product market are similar to the consumer packaged goods market (Kim & King, 2009). It has also been noted that a well-designed packaging does not only aid consumers' decision-making in the OTC market but also strengthen brand equity (Keller, 2013). According to Chaudhary (2011), building a successful brand is one of the powerful competitive weapons used to break through competition. As a competitive tool (Shuiling & Moss, 2004), strong brands can insulate a firm against competitive attacks and entry into the market in order to secure and maintain market share (Farquhar, 1989; Keller, 2013). Despite the growing importance of packaging in strengthening brand equity, there is relative scarcity of empirical research available to confirm its significance (Pieterse, 2013; Keller & Lehmann, 2006; Brodersen & Manolova, 2008), particularly in the OTC pharmaceutical market. Consequently, the aim of this research is to explore the influence of

packaging on brand equity through the mediated effect of dimensions of brand equity in the OTC product market.

**Objectives of the Study:** The following objectives were formulated to address the purpose of this study:

- To examine the influence of packaging on brand equity through the mediating effect of brand awareness in the OTC market.
- To determine the impact of packaging on brand equity through the mediating influence of brand association in the OTC market.
- To evaluate the influence of packaging on brand equity through the mediating role of brand quality in the OTC market.
- To investigate the effect of packaging on brand equity through the mediating influence of brand loyalty in the OTC market.

## 2. Literature Review

**Customer-Based Brand Equity:** In the last few years, the concept of brand equity has attracted researchers and practitioners due to its strategic role in the success of a business. Essentially, one of the most important assets of a business organization is the name of the brand that is linked to their products or services (Keller, 2013). It has been highlighted that positive brand equity conveys numerous advantages to a company, such as, greater loyalty, resilience to competitive attacks and marketing crises, higher margins and licensing opportunities which generate sustainable cash flow (Farquhar, 1989; Keller, 2013). Obviously, one of the invaluable assets of a company is the brand it has built over the years (Keller, 2013). Keller (1993) defined customer-based brand equity (CBBE) as the differences in outcome of consumer's reactions to the marketing of the brand due to the consumers' knowledge with the brand. The author further noted that, a brand has high (or low) equity if customers respond favourably (or negatively) to the product and its marketing mix activity compared to the identical but unbranded product. Keller (2001) highlighted that the strength of a brand depends upon what is stored in consumers' memory as a result of their past exposures with the brand.

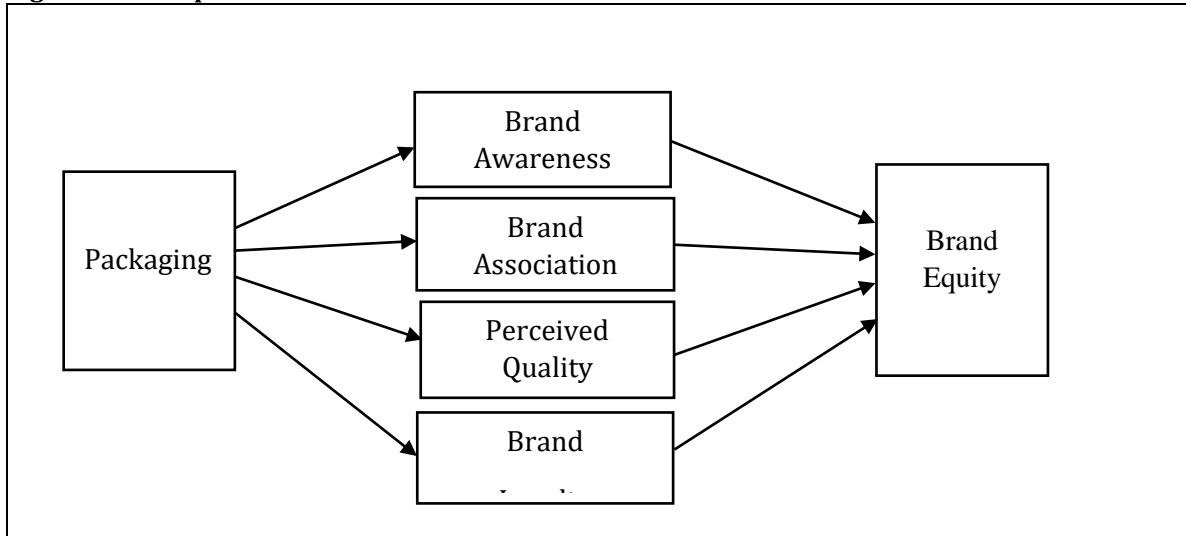
In author's view, brand knowledge is the main source of CBBE and is decomposed into brand awareness and brand image. Keller (2013) noted that CBBE occurs when a consumer demonstrates strong awareness and familiarity with the brand and some strong, favourable, and unique association with a brand. Lassar, Mittal & Sharma (1995) are of the view that CBBE results from the greater assurance consumers have with a brand compared to its competing brands. Alternatively, Aaker (1991) proposed that brand equity consists of assets and liabilities which are associated with a brand that enhance or reduce the value a product endowed to a company and its customers. The author further noted that brand assets that create value for a product are brand name awareness, brand association, perceived quality, brand loyalty and other proprietary brand assets such as patents, trademarks, and channel relationship. However, Aaker (1996) confirmed that brand awareness, brand associations, perceived quality and brand loyalty represent customers' perceptions, while the other brand assets are obtained from the information in the market.

Hence, in the author's view, brand awareness, brand loyalty, brand associations and perceived quality are the dimensions of CBBE. A review of the literature shows that the dimensions of Aaker's CBBE have been widely used in many empirical research and in many contexts (e.g. Christodoulides, Cadogan & Veloutsou, 2015; Buil, Martinez & de Chernatony, 2013; Yoo, Donthu & Lee, 2000; Gil, Andres & Martinez, 2007; Washburn & Plank, 2002). In addition, the importance of Aaker's CBBE model has been documented in the pharmaceutical marketing literature (e.g. Dlacic & Kezman, 2014; Moss, 2007; Panchal, Khan & Ramesh, 2012; Sanyal & Datta, 2011). Hence, this study is guided by Aaker's CBBE model. In this regard, the study will contribute to advance the existing stock of knowledge on the significance of packaging and brand equity in the OTC health industry. Moreover, the study will have managerial significance in guiding strategic packaging and branding decisions of plant medicine companies and the pharmaceutical industry as a whole.

**Conceptual Framework:** The focus of a conceptual model is to determine dependent and independent variables and the relationship between them in a study. In this study, the packaging is recognised as an independent variable, whilst the dimensions of brand equity are intervening variables, and the overall brand equity is considered as a dependent variable. The Figure I below depicts the conceptual framework of this

study. It can be observed that packaging influences brand equity through the mediating effect of the brand loyalty, brand awareness, perceived quality and brand association. In turn, brand loyalty, brand awareness, brand association and perceived quality are directly related to the overall brand equity.

**Figure 1: Conceptual Model**



**Source:** Researchers` Own Elaborations

**Research Propositions:** On the basis of the conceptual model deduced from the literature, the proposed hypotheses in this study are discussed below.

**Relationship between Brand Equity and its Antecedents:** According to Aaker (1996), the key brand assets that provide value to a product are brand loyalty, brand associations, brand awareness and perceived quality.

**Brand Awareness:** Brand awareness is regarded as one of the elements of brand equity because the consumer must first be aware of the existence of the brand at the marketplace (Buil et al., 2013; Keller, 2013; Hoeffler & Keller, 2002). Brand awareness relates to the salience of the brand in consumers` memory (Aaker, 1996). Keller (2013) identified brand recognition and brand recall as the sources of brand awareness. Brand recognition relates to the consumers` ability to confirm their past experiences with the brand, whilst brand recall indicates the ability of consumers to spontaneously generate the brand from memory (Hoeffler & Keller, 2002; Keller, 1993). Alternatively, Aaker (1996) operationalized brand awareness as brand recognition, brand recall and top-of-mind awareness of the brand. Keller (1993) suggested that one of the advantages of high brand awareness is that it has the potential to influence consumers to include the brand among alternatives they wish to purchase. Secondly, strong brand awareness can impact on consumers` decisions in the consideration set. The author further stated that high brand awareness is necessary for the formation and strength of the consumer`s mental association with the brand. Aaker (1996) is also of the view that a high level of brand awareness can drive brand choice and loyalty in the market. A study reveals that positive brand awareness significantly influences brand equity (Asif, Abbas, Kashif, Hussain & Hussain, 2015). Consequently, the following hypothesis is postulated:

**H1: Brand Awareness is Significant and Directly Related to Brand Equity**

**Brand Association:** Another element of brand equity is a brand association (Keller, 1993; Aaker, 1991). Brand associations relate to anything that the consumer mentally associates with the brand (Aaker, 1991). Aaker (1996) is of the view that perceived value, brand personality and organizational associations are the sources of brand association. The perceived value relates to the functional benefits that a brand endows to its customers. According to Zeithaml (1988), perceived value is the subjective evaluation of the utility of the product in terms of what is received and given out. Brand personality refers to a set of human traits linked to

the brand (Aaker, 1997), and it tends to reflect the emotions and feelings evoked by the brand (Keller, 1993). For some brands, a brand personality provides symbolic and self-expressive benefits which in turn, serve as a source of differentiation and customer-brand relationships (Aaker, 1996). While product-related attributes tend to serve a utilitarian function, extrinsic product features provide a personality for the brand (Keller, 1993; Aaker, 1997).

Finally, the organizational association relates to the organizational elements (people, values, and programs) that are connected to the brand and have the potential to drive choice and brand differentiation. The empirical study also confirms that perceived value, brand personality and organizational associations significantly influence brand equity (Buil et al., 2013). Aaker (1991) stated that brand associations can be used as a platform to the position, distinguish and extend brands. Furthermore, consumers depend on brand associations to retrieve, organize and process the information in their minds to assist in making buying decisions. Chen (2001) is also of the view that a strong and unique brand association would increase brand equity and which ultimately, provides a firm with a strong competitive edge in the market. A study also reveals that brand association has a significant positive relationship with brand equity (Yoo et al., 2000). Hence, the following proposition is postulated;

### ***H2: Brand Association is Significant and Directly Related to Brand Equity***

**Perceived Quality:** Perceived quality is another component of brand equity (Aaker, 1996). Zeithaml (1988) defined perceived quality as the consumer's subjective assessment of excellence or superiority of a product. Aaker (1991) is of the view that perceived quality differs sharply from actual product quality where the latter relates to the extent to which a product or service provides superior service. Gil et al. (2007) argued that perceptions of quality can, however, be enhanced by improving the actual quality of the product. The author further suggested that the firm needs to convey the quality of the brands in its marketing activities. A further distinction is made between manufacturing-based quality and product-based quality. Gavin (1983) stated that product-based quality relates to nature and an amount of ingredients that make up a product, whilst manufacturing-based quality refers to conformance to production or service requirements. Aaker (1991) noted that consumers' perceptions of quality of a product depend on performance, features, reliability, conformance, durability, serviceability, fit and finish. In addition, perceived quality has also been identified as a component of perceived value (Zeithaml, 1988), and high perceptions of quality of a brand would drive consumers to select that brand rather than its competitors (Yoo et al., 2000). Aaker (1992) highlighted that perceptions of high brand quality can provide a source of differentiation, basis for purchases, line extensions, channel member interest and price premium and overall, contributing to the profit margin of the firm. It has been established that perceived quality has a positive effect on brand usage, price elasticity and stock returns which ultimately, contribute to the profitability of the brand (Aaker 1996). It has been highlighted that brand equity increases when consumers perceive the brand to be of high of quality (Buil et al., 2013; Yoo et al., 2000). Past research also shows that perceived quality has a significant influence on brand equity (Buil et al., 2013). As a result, the following hypothesis is posited:

### ***H3: Perceived Quality is Significant and Directly Related to Brand Equity***

**Brand Loyalty:** Another major element of brand equity is brand loyalty, and it measures the attachment customers have with a particular brand (Aaker, 1991). Oliver (1999) defined loyalty as a commitment to repeatedly patronize a preferred product, despite competitors' marketing efforts or situational influences. Chaudhuri and Holbrook (2001) categorized brand loyalty into behavioural and attitudinal loyalty. Behavioural loyalty indicates consumers' re-patronage of a brand, whilst attitudinal loyalty describes a customer's commitment to a brand. Empirical research shows that both behavioural and attitudinal brand loyalty influence brand equity (ibid). The loyal customer base has been demonstrated to have a significant influence on market share, price premium, the barrier to competitor entry, and the overall profitability of the brand (Chaudhuri & Holbrook, 2001; Aaker, 1996). Aaker (1992) also pointed out that brand loyalty relatively reduces the marketing cost involved in retaining customers in winning new ones and also improves trade leverage. A study shows that brand loyalty has a dominant influence on brand equity (Atilgan, Aksoy & Akinci, 2005), and hence, the following hypothesis is formulated:

### ***H4: Brand Loyalty is Significant and Directly Related to Brand Equity***

**Relationship between Packaging and Brand Equity Dimensions:** Brand equity, one of the strategic objectives of marketing is significantly influenced by packaging and is the single most influential marketing communications tool for conveying a brand's core identity for most consumer products (Hanzaee, 2009; Wallace, 2001). Thus, a well-designed packaging serves as a platform for building customer-based brand equity (Keller, 1993) by enhancing the recognition and recall of the brand (Underwood, 2003). Keller (2013) is of the view that brand awareness occurs when consumers have greater familiarity with the brand via repeated contact with the brand. Essentially, the packaging is the first point of contact that exposes the consumer to the brand which can enhance familiarity and awareness of the brand. While in the store, packaging also serves as a "visible billboard" that attracts and sustains consumer's attention to the brand creating immediate recognition and recall of the brand (Kotler & Keller, 2009; Keller, 2013; Peter & Olsons, 2008). It has been emphasized that packaging colour is a vital element that creates brand awareness (Kotler, 2003) because it is more vivid, memorable, and evokes consumers' emotions about the brand (Garber, Burke & Morgan, 2000). Empirical studies also confirm that, a distinctive and appealing packaging contributes significantly to brand awareness (Pieterse, 2013). In this regard, the following hypothesis is proposed:

***H5: Packaging has Significant and Positive Relationship with Brand Awareness***

According to Farhana (2012) packaging plays an important role in strengthening consumers' mental associations with a brand. Underwood (2003) is of the view that the visual and structural elements of packaging such as colours, fonts, brand logo, packaging materials, shapes, product description and other elements convey brand personality which provides rich brand associations. Moreover, visual, verbal and tactile elements of packaging evoke images of product performance, quality, usage situations, and past experiences in the consumer's memory (Garber et al., 2000). Gardner (1981) noted that a product's package is a symbol of communication that penetrates the mind and invokes meanings that obviously affect a consumer's sensory response to the product. While, Keller (1993) proposed that brand knowledge is the key dimension of brand equity and ultimately, the power of brand resides in the minds of consumers. Packaging therefore serves as a powerful source of brand associations as it conveys the potential meanings of the brand (Underwood, 2003). For many non-durable consumer goods, packaging plays a key role in communicating symbolism and images of the brand and thus, effectively distinguishing the brand from its competitors (Underwood & Ozanne, 1998). Empirical evidence suggests that product picture on the package can assist less familiar brands to grab more attention and transfer experiential benefits to consumers (Underwood, Klein & Burke, 2001) which can strengthen brand associations (Pieterse, 2013). Hence, the following proposition is stated;

***H6: Packaging has Significant and Positive Relationship with Brand Association***

Pitta and Katsanis (1995) suggested that quality products are wrapped in quality packages. It has also been emphasized that the perceived quality of pharmaceutical products depends largely on the quality of the package (WHO, 2002). Hence, a package of high quality is perceived to contain quality products and vice versa (Silayoi & Speece, 2004). Visual elements of packaging design (e.g. colours, typeface, logos, size and graphics) are important inputs for judging the quality of products and brands. The results of an empirical study also indicate that visual packaging attributes directly influence perceived quality and brand preference of products and brands (Edward, 2013). Products are made up of intrinsic and extrinsic elements (Miyazaki, Grewal & Goodstein, 2005) and consumer perception of product quality lies on these attributes (Zeithaml, 1988). Packaging is recognized as a non-product related attribute (Keller, 1993), yet it forms the basis for consumer's perception of product quality (Pitta & Katsanis, 1995). However, the packaging is regarded as both intrinsic and extrinsic cue that signal quality (Zeithaml, 1988; Underwood, 2003). Past research also indicates that packages that contain pictures signal high quality (Underwood & Klein, 2002). As a result, the following hypothesis is posited:

***H7: Packaging has Significant and Positive Relationship with Perceived Quality***

Underwood (2003) argued that packaging is a key element that conveys functional, experiential and /or symbolism which establishes a relationship between the customer and brand. It has also been emphasized that product packaging that grabs attention, persuades and conveys authentic information can strengthen

brand loyalty and customer- brand relationship (Underwood & Ozanne, 1998). Similarly, Smith and Taylor (2002) noted that packaging can create competitive strength by providing stronger shelf presence, positioning the brand and overall, supporting brand loyalty. A distinctive packaging is described as “a visual magnet” that attracts the buyer to purchase the brand which can create loyalty to a brand (ibid). Hess, Singh, Danes and Metcalf (2014) pointed out that packaging provides a platform for building and enhancing consumer product satisfaction which underlies enduring brand loyalty and profitability. Previous studies also suggest that packaging significantly influences brand loyalty (Dhurup, Mafini & Dumasi, 2014; Khan, 2012). Consequently, the following hypothesis is postulated:

***H8: Packaging has Significant and Positive Relationship with Brand Loyalty***

### **3. Research Methodology**

A research plan used for testing the statistical significance of the proposed hypotheses is explained below. In this research, Made-in-Ghana herbal medicines sold at licensed herbal shops within Kumasi metropolis were selected. These herbal medicines are fully licensed and certified by Ghana Food and Drugs Authority. Though, licensed chemist shops by law can sell herbal medicines and OTC orthodox medicines, identifying respondents will not be practicable. Hence, licensed herbal shops were chosen as they are mandated by law to distribute only plant medicines.

**Sample and Data Collection Procedures:** The study population consisted of 3 710 consumers at the age of 18 years and above and 80 herbal shops operating within Kumasi Metropolis. The total number of the herbal store were obtained from the 2017 statistical data of Traditional Medicine Practice Council (TMPC) in Kumasi which is mandated by law to license herbal selling points. Moreover, the total number of consumers was obtained from 2017 sales records of the 80 herbal shops. Out of this number, 60 shops provided only retail services, whilst 20 offered both wholesale and retail services. Using stratified random sampling and guided by Krejcie and Morgan (1970) table for determining sample size, 71 herbal stores were chosen in order to ensure that each stratum is well-represented to increase the precision of the sample (Malhotra & Birks, 2007). Sample sizes of 348 consumers were included in the study by using Krejcie and Morgan (1970) model for determining sample size. Moreover, the results of the Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy was 0.927 which is more than 0.70, indicating that the study's sample size is satisfactory (Hair, Black, Babin & Anderson, 2010). The questionnaires were distributed through face-to-face contact with the participants at the shops through a systematic sampling strategy. Thus, the first customer entering the shop was randomly intercepted and subsequently, every eleventh customer was contacted until the entire sample size was exhausted. Systematic sampling strategy was employed because it made it possible to obtain respondents “without the knowledge of the elements in the sample frame” (Malhotra & Birks, 2007, p. 417) and concurs with past research (Pappu, Quester & Cooksey, 2006), where systematic sampling method was used to recruit participants for a study in a busy shopping mall in an Australian State Capital City. The questions were also read to respondents who were busy shopping while the answers provided were ticked.

**Test Instruments Development:** A closed-ended questionnaires with five-point Likert scale anchored on strongly disagreed (1) to strongly agree (5) were utilized to capture the participants' perceptions on packaging, brand loyalty, brand awareness, brand quality, brand association and overall brand equity. The questionnaires comprise multiple test items for measuring packaging, overall brand equity, brand association, brand loyalty, brand awareness and perceived quality.

**Packaging Design:** Six test instruments were designed to measure consumers' perceptions of packaging design of herbal medicines.

**Brand Awareness:** Five indicators were employed to measure brand awareness and were taken from Gil et al. (2007) and Yoo et al. (2000) and modified.

**Perceived Quality:** Five test responses were used to evaluate the perceived quality and four of them were adopted from Gil et al. (2007) and Yoo et al. (2000) and modified.

**Brand Associations:** Five test items used to evaluate brand associations were borrowed from Aaker (1996) and Tong and Hawley (2009) and modified.

**Brand Loyalty:** Six test items employed to measure brand loyalty were obtained from Tong and Hawley (2009) and Yoo et al. (2000) and adapted.

**Overall Brand Equity:** Five test responses employed to measure overall brand equity were borrowed from Yoo et al. (2000) and also modified. Closed-ended questionnaires were employed because the data gathered lends itself more to statistical analysis and interpretation (Creswell, 2014; Mackenzie & Knipe, 2006). More importantly, the shoppers did not have time and therefore the pre-determined answers made it easier and quicker for them to respond to the questions.

#### 4. Data Analysis and Results

Out of the total number of 316 questionnaires collected, 307 were found usable for the analysis because 9 of them were incomplete and therefore were discarded. The demographic structure of the sample suggests that the majority of the respondents were young, traders, had secondary education and with moderate to high income. Out of the total number of 304, 68.4% (208) were male whilst 31.6% (96) were female. 40.7% (124) were between the age of 18 and 25 years, 39.2% (120) had secondary education, 36.7% (110) were traders and lastly, 61.2% (127) had daily expenditure above US\$2.

**Reliability and Validity of Test Instruments:** Consistent with earlier studies (Yoo et al., 2000; Gil et al., 2007), Cronbach's alpha coefficients, exploratory factor analysis and confirmatory factor analysis were utilized to determine the reliability and validity of the test items in the research.

**Internal Consistency Reliability:** Cronbach's alpha coefficient was used to assess the satisfactory levels of internal consistency reliability of the test items in the study. The findings reveal that test items of packaging, brand equity, brand awareness, brand loyalty, brand association and perceived quality had Cronbach's alpha values above the acceptable cut-off of 0.70 which ranged between 0.724 and 0.857, showing good internal consistency reliability (Nunnally, 1975; Tavakol & Dennick, 2011; Hair et al., 2010). Consequently, all the constructs produced acceptable reliability and 22 test items were retained representing the six (6) latent variables in the research.

**Exploratory Factor Analysis:** Exploratory factor analysis was undertaken to examine how well the multiple indicators load on their respective latent variables as intended in order to produce brand loyalty, brand awareness, perceived quality, brand equity, brand association and packaging. A total of 31 indicator items were used for the exploratory factor analysis. The results of Bartlett's Test of Sphericity reveal that the correlation matrix has significant correlations ( $X^2 = 5812.912$ ,  $df = 465$ ,  $p < 0.001$ ) with all the variables in this study. This outcome provided an acceptable solution for the factor analysis. Exploratory factor analysis through maximum likelihood factoring with oblimin rotation method produced six (6) latent constructs and 22 respective indicator items. The results of the pattern matrix demonstrate that most of the indicators loaded above 0.30, ranging from 0.305 to 0.986 which offered an admissible factor structure (Hair et al., 2010). The six latent constructs extracted explained a total of 64.94% of the variance in the explored phenomenon in this sample. Furthermore, all the corrected item-total correlation coefficients were above 0.30, ranging from 0.506 to 0.837 which suggest that the observed items correlate well with the summated score (Joiner, Pfaff & Acres, 2002). Analysis of the orthogonal rotation also yielded similar results which provide evidence of construct validity.

**Structural Equation Modelling:** The structural equation modelling was employed to test the proposed hypotheses in the study. As recommended in the literature, the structural equation modelling was conducted in two stages. First, the measurement model was conducted through the confirmatory factor analysis and subsequently, the structural model was undertaken (Anderson & Gerbing, 1988; Byrne, 2016).

**Confirmatory Factor Analysis:** Confirmatory factor analysis was conducted through the use of SPSS Amos 22 with maximum likelihood estimation to confirm the results that emerged from the exploratory factor

analysis and to further evaluate the convergent and discriminate validity of the constructs. In order to purify the model to achieve construct validity and better model fit, standardised residual estimates of pairs of measured items above 2.5 were deleted as they reflect a greater level of error in the measurement (Hair et al., 2010; Byrne, 2016). Moreover, observed variables with standardised factor loadings below 0.50 were dropped with the view to achieving convergent validity (Hair et al., 2010). As a result, two items of brand equity, three items of packaging and one item of brand associations were discarded and the findings are shown in Table 1 below. The results show that 16 indicators loaded on their purported latent constructs and the factor loadings were statistically significant at  $p < 0.001$  level, and above 0.50 ranging from 0.575 to 0.893, providing evidence of construct validity (Anderson & Gerbing, 1988; Hair et al., 2010). Though, the Chi-square test ( $X^2 = 200.075$ ,  $DF = 89$ ,  $p < 0.001$ ) failed to confirm the model, the other fit indices were acceptable. Normed Chi-square statistic (CMIN/DF), Root Mean Residual (RMR), Goodness-of-Fit Index (GFI) and Adjusted Goodness-of-Fit Index (AGFI) were 2.248, 0.044, 0.925 and 0.886 respectively, indicating satisfactory fit of the model (Hair et al., 2010; Kline, 2005). The Standardised Root Mean Square Error (SRMR) and Root Mean Square Error of Approximation (RMSEA) were 0.039 and 0.064 with 90% confidence interval falls within the range of 0.052 and 0.076 respectively, which shows that the model has a good fit (Hu & Bentler, 1999).

Finally, the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Normed Fit Index (NFI) and Incremental Fit Index (IFI) were 0.952, 0.935, 0.917 and 0.952 respectively. These results show that the model fitted well with the data (Hu & Bentler, 1999; Hair et al., 2010) and therefore provide an acceptable solution to proceed with the structural model.

**Table 1: Results of Confirmatory Factor Analysis**

Latent constructs and Indicator items	Standardised loadings	t- value
<b>Packaging (<math>\alpha = 0.845</math>, <math>CR = 0.756</math>, <math>AVE = 0.514</math>)</b>		
P2 The packaging preserves the contents of X	0.575	9.266
P4 The packaging of X makes X environmentally-friendly	0.712	11.215
P5 The packaging of X makes X convenient to use	0.840	— <sup>a</sup>
<b>Brand Awareness (<math>\alpha = 0.770</math>, <math>CR = 0.769</math>, <math>AVE = 0.528</math>)</b>		
A3 Some characteristics of X's packaging come to my mind quickly	0.670	— <sup>a</sup>
A4 When I think about X, the first thing that comes to my mind is X's packaging	0.719	10.429
A5 I am aware of the packaging of X	0.787	11.085
<b>Perceived quality (<math>\alpha = 0.848</math>, <math>CR = 0.851</math>, <math>AVE = 0.741</math>)</b>		
PQ1 The packaging of X makes X function well	0.893	— <sup>a</sup>
PQ2 The packaging of X makes X very reliable	0.828	14.970
<b>Brand associations (<math>\alpha = 0.724</math>, <math>CR = 0.685</math>, <math>AVE = 0.522</math>)</b>		
PAS1 X's packaging makes X offer good value for money	0.698	— <sup>a</sup>
PAS2 X's packaging makes me like the image of X	0.745	9.459
<b>Brand loyalty (<math>\alpha = 0.823</math>, <math>CR = 0.807</math>, <math>AVE = 0.584</math>)</b>		
PL2 The packaging of X would make me recommend X to my friends	0.740	— <sup>a</sup>
PL4 The packaging of X makes me loyal to X	0.768	12.570
PL5 I will keep on buying X as long as I am satisfied with the packaging of X	0.783	12.794
<b>Brand equity (<math>\alpha = 0.857</math>, <math>CR = 0.823</math>, <math>AVE = 0.608</math>)</b>		
PE3 The packaging of X makes X more than a product to me	0.766	12.892
PE4 X's packaging makes it seems smarter to purchase X, if another brand is not different from X in any way	0.827	13.861
PE5 The packaging of X makes me prefer X, even if there is another brand as good as X	0.746	— <sup>a</sup>

**Notes:** X = Focal brand;  $\alpha$  = Cronbach's alpha; CR = Composite reliability; AVE = Average variance extracted; <sup>a</sup> = path parameter was set to 1, therefore no t-values were estimated; all loadings are significant at 0.001 level.



Furthermore, composite reliability statistics were estimated for each latent constructs to determine the internal consistency reliability in the measurement model. Although, composite reliability is similar to Cronbach's alpha estimates, the former is considered a more superior measure (Washburn & Plank, 2002; Hair et al., 2010). The findings of the composite reliability statistics show that all the constructs were above the traditional threshold of 0.70 and ranged between 0.756 and 0.851 except brand association which had value of 0.685. However, it is recommended that coefficients ranging between 0.60 and 0.70 are deemed adequate (Bagozzi & Yi, 1988; Tong & Hawley, 2009; Hair et al., 2010). As a result, all the constructs have satisfactory internal consistency reliability. Also, average variance extracted was used to test convergent validity (Fornell & Larcker, 1981; Hair et al., 2010) and all the constructs had coefficients higher than the recommended value of 0.50 ranging between 0.514 and 0.741 which indicate good convergent validity (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2010). To provide support for discriminate validity, the loadings of individual indicator items on their respective latent factors were above the cross-loadings on any other latent factors (Hair et al., 2010). These results show that brand awareness, brand association, perceived quality, brand loyalty, packaging and brand equity were reliable and valid constructs in this analysis.

**Structural Model:** The structural model was employed to test the statistical significance of the proposed hypotheses in the study. Packaging was specified as the independent variable and brand awareness, brand association, brand loyalty and perceived quality were mediating variables whilst overall brand equity is considered as a dependent variable. Although, the Chi-square test ( $X^2 = 240.948$ ,  $DF = 95$ ,  $p < 0.001$ ) did not support the sample data, all other the fit measures suggest that the structural model provided an acceptable solution to the path estimates in this study;  $CMIN/DF = 2.536$ ;  $GFI = 0.909$ ;  $AGFI = 0.870$ ;  $NFI = 0.900$ ;  $IFI = 0.937$ ;  $TLI = 0.920$ ;  $CFI = 0.936$ ;  $RMSEA = 0.071(0.060 - 0.082)$ ;  $SRMR = 0.049$ . The results of the structural model in Table II reveal that brand awareness ( $\beta = 0.331$ ,  $t = 3.659$ ,  $p = 0.000$ ) and brand loyalty ( $\beta = 0.451$ ,  $t = 4.870$ ,  $p = 0.000$ ) are positively related to overall brand equity at significant level of  $p < 0.001$ , whilst brand associations ( $\beta = 0.273$ ,  $t = 3.182$ ,  $p = 0.001$ ) is directly related to brand equity at significant level of  $p = 0.001$ . These outcomes confirm *H1*, *H4* and *H2* respectively. However, the results further show that perceived quality ( $\beta = -0.061$ ,  $t = -0.822$ ,  $p = 0.411$ ) is not significantly related to brand equity and therefore *H3* is rejected. Moreover, the results of the structural model in Table II indicate that packaging is positively related to brand awareness ( $\beta = 0.826$ ,  $t = 8.256$ ,  $p = 0.000$ ), brand association ( $\beta = 0.753$ ,  $t = 7.608$ ,  $p = 0.000$ ), perceived quality ( $\beta = 0.784$ ,  $t = 9.606$ ,  $p = 0.000$ ) and brand loyalty ( $\beta = 0.838$ ,  $t = 8.968$ ,  $p = 0.000$ ) at  $p < 0.001$  level. These findings support *H5*, *H6*, *H7* and *H8* respectively. In the structural model, however, no direct path between packaging and brand equity was specified. Instead, as conceptualized in this study, brand equity is indirectly influenced by packaging through the mediated dimensions of brand equity. In order to ascertain the indirect (mediated) effect of packaging on brand equity in this analysis, bootstrap was performed with samples of 1000 at a biased-corrected confidence interval of 95%. The results indicate that packaging ( $\beta = 0.809$ ,  $t = 7.516$ ,  $p = 0.004$ ) has statistically significant indirect effect on brand equity at  $p < 0.001$  two-tailed level.

**Table 2: Test Results of the Proposed Hypotheses**

Hypotheses	Structural relations	Standardized Estimates ( $\beta$ )	t-value	p-value	Remarks
H1	Brand equity <---Brand awareness	0.331	3.659	< 0.001	Accepted
H2	Brand equity <--- Brand association	0.273	3.182	0.001	Accepted
H3	Brand equity <----Perceived quality	-0.061	-0.822	> 0.05	Rejected
H4	Brand equity <---- Brand loyalty	0.451	4.870	< 0.001	Accepted
H5	Brand awareness <----- Packaging	0.826	8.256	< 0.001	Accepted
H6	Brand association <----- Packaging	0.753	7.608	< 0.001	Accepted
H7	Perceived quality <----- Packaging	0.784	9.606	< 0.001	Accepted
H8	Brand loyalty <----- Packaging	0.838	8.968	< 0.001	Accepted

**Discussion:** The research aimed to examine the impact of packaging on the brand equity of herbal medicines in the OTC pharmaceutical market. The study found that brand awareness is significant and positively affected by packaging and is in line with the results of past research (Pieterse, 2013). While, brand awareness

significantly contributes to enhance brand equity and is consistent with the results of earlier studies (Asif, Abbas, Kashif, Hussain & Hussain, 2015; Panchal et al., 2012). These results also confirm the existing literature (Keller, 1993; Underwood, 2003), which suggests that brand equity is strengthened by well-designed packaging by supporting awareness of the brand. This outcome of the study demonstrates that consumers rely on packaging to be able to recognize and confirm their past experiences with the brands of herbal medicines in the OTC market. This has eventually contributed to strengthening the value of brands of herbal medicines sold in the OTC market. This result also confirms numerous advertising being run by plant medicine companies on radios, television and internet nationwide.

Additionally, the study also established that packaging significantly supports the formation of a valuable brand association. This result concurs with the previous studies (Pieterse, 2013; Underwood et al., 2001) which indicate that distinctive packaging strengthens brand associations. The results also reveal that brand association, in turn, directly influences brand equity. Consistent with the findings of past research (Tong & Hawley, 2009; Yoo et al., 2000) which suggest that brand equity is enhanced when there is the existence of strong and unique brand associations. These outcomes demonstrate that effective packaging design significantly contributes to strengthen brand equity through the mediating influence of brand association. This is in line with the current literature (Farhana, 2012; Underwood, 2003), which propose that packaging enhances brand equity by positively influencing brand association. In the OTC pharmaceutical market, consumers use packaging to develop a positive image about the brands of herbal medicines. Furthermore, consumers' perceptions of the value of medicinal herbal brands depend on the packaging design. Additionally, the study found that packaging directly influences the perceived quality and is consistent with past research (Edward, 2013; Underwood & Klein, 2002). This suggests that packaging is an important clue which consumers use to evaluate the quality of herbal medicines in the OTC health market. However, the results further show that the path between perceived quality and brand equity is not significant and is consistent with the results of past study (Tong & Hawley, 2009). In addition, the study establishes that packaging significantly supports the formation of customers' loyalty to the brands of plant medicines in the OTC market. This, in turn, contributes to strengthen the value of the brands. Consistent with the results of past studies (Dhurup et al., 2014), which show that packaging positively influences brand loyalty, whilst brand loyalty (Atilgan et al., 2005; Tong & Hawley, 2009; Yoo et al., 2000), significantly strengthen brand equity. More importantly, the study found that among the dimensions of brand equity, packaging has a greater influence on brand loyalty and hence, contributes substantially to overall brand equity of herbal medicines in the OTC market.

## **5. Conclusion and Recommendations**

### **Based on the Results of the Study, the Following Recommendations are made:**

The study revealed that packaging contributes to enhance brand equity through the mediating effect of brand awareness, brand association and brand loyalty in the OTC health market. First, traditional herbal medicine firms should frequently track consumers' perceptions of the packaging elements as a means of supporting the awareness, image and loyalty of their brands in the OTC market. Moreover, traditional herbal medicine companies should not consider packaging as an afterthought but rather prioritize packaging decisions in their branding strategy in order to develop strong brands in the OTC drug market. The data set of the study reveals that consumers were concerned with the role of packaging in safeguarding the content of the product, the environment and making the product convenient to use. Therefore, traditional herbal medicine companies should go beyond the industry's regulatory requirements and design consumer-driven packages through the combination of colours, photograph and packaging innovations to satisfy their customers to leverage the importance of packaging in the OTC health market.

The study established that packaging has a stronger effect on brand loyalty than any other dimension of brand equity in the OTC market. Recognizing the important role of brand loyalty to the growth of a business, traditional herbal medicine companies should consider packaging in their loyalty programs to substantially enhance loyalty in the OTC health market. The research also found that packaging significantly supports the brand quality. However, perceived quality did not contribute to the overall brand equity of the herbal medicines. It has also been emphasized that quality products are wrapped in attractive and distinctive

containers (Pitta & Katsanis, 1995). Efforts should therefore be directed towards improving the attributes of packaging design, such as colour, size and shape, photography, material and typography to substantially strengthen consumers' perceptions of quality and hence, the overall brand equity.

**Conclusion:** The aim of the study was to identify the impact of packaging on brand equity of herbal medicines in the OTC pharmaceutical market. The study established that packaging contribute to enhance overall value of a brand through the mediating impact of brand awareness, brand associations and brand loyalty in the OTC health market. These findings confirmed that packaging has indirect effect on brand equity through the mediated brand equity dimensions. Traditionally, product packaging was used to protect, preserve and ease the movement of goods but as a result of increase in self-service ethos and changes in consumer's lifestyle, the role of packaging has expanded to include environmental and marketing functions. In the OTC pharmaceutical market, however, packaging is an important brand-building tool as it performs a role similar to other marketing communications elements in supporting brand equity of plant medicines.

**Limitations and Future Research:** The current research was conducted by using a single product category in the consumer health market and participants were selected from the end-users of this product. Though, the results could be useful to other non - prescription orthodox medicines, drawing from only a single product category suggests that the findings of the research may not be generalized to other consumer packaged goods. Future research should include different samples of products to enhance the generalizability of the findings to wider product categories. Moreover, the current research employed quantitative research options where survey questionnaires were used to capture the views of respondents. Future research should be undertaken by employing qualitative methods to allow for in-depth study of the impact of packaging on brand equity in the OTC drug market.

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