

Impact of Product attributes on Competitive Advantages in the bottled water industry in Ghana

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Abstract

The purpose of this study is to examine and predict the impact of product attributes on competitive advantages in the bottled water industry in Ghana. The main objective is to the investigate association between of product constructs attribute with competitive advantage. The population comprised of consumers who purchase various brands of bottled water. 421 out of the 600 participants returned their questionnaires. Respondents were recruited from Tema, Accra and A&C shopping mall in the Greater Accra Region of Ghana. The study adopted purposive sampling technique to select the shopping centers whereas convenience sampling techniques employed select were to customers of bottled water. With the aid of SPSS the following statistics were used: descriptive statistics in order to have a clear picture of study variables, Cranach's alpha to measure the internal consistency of the construct, Kurtosis and Skewness values to

check the normality of each variable used and regression analysis to measure the effect of independent variables on dependent variables. The findings revealed that all three constructs of product attributes namely; packaging, quality, and brand awareness had a significant and positive relationship with competitive advantage. The research suggests that management should invest time and money into public relations activities such as sponsorship, community relations, media relations, and corporate social responsibilities to create beneficial mutual relationship with the public to promote easy identification of brands.

Keywords: packaging; quality; brand awareness; competitive advantage; product



Introduction

It is the dream of every company, to stand tall over other companies in the same industry producing similar products to the same targeted group. Competitive advantage is defined by different researchers at different points in time. Competitive advantage has been defined as "something that the firm does better than its competitors that give it an edge in serving customers' needs and/or maintaining mutually satisfying relationships with important stakeholders" (Ferrell, 2012). Adner and Zemsky (2007)define competitive advantage as superior value creation -- with the firm's ability to sustain competitive advantage equivalent to its ability to sustain added value.

To have a competitive advantage, you must create an edge over your competitors. In the aggressive business world, especially in today's economy, every advantage counts to establish your business in the top of your industry. Gaining a competitive advantage takes strategic planning and extensive research (Hadley 2000). According to William and Curtis (2008) basing core competencies on product features and capabilities may prove to be counter-

productive in terms of adapting to changes in external market environment. In other words, William and Curtis (2008) argue that core competency may become a core rigidity imposing threats to long-term growth prospects of the business.

Clegg (2000) said; "however, good the products, however strong the brand, customer satisfaction is the only way to have a competitive edge and to keep customers coming back all the time". Boone and Kurtz (2013) recommend the adoption of strong brand image and technological innovation in various business processes for the sources of competitive advantage, because of higher levels of sustainability of such sources of competitive advantage due to their difficulty being imitated by competitors. Loudon et al. (2010) propose changes in customer needs and emergence of new customer needs as potential sources of competitive advantage. Changes in government regulations are mentioned by Ginter (2013) as opportunity to gain competitive advantage by certain private entities. Introduction of tariffs for the import of certain products in order to support local manufacturers, thus providing cost advantages to local manufacturers to



compete with foreign multinational corporations.

Literature review

Product-related attributes associated with packaging, quality and brand awareness, tend to create competitive advantage (Suresh et al. 2012).

Product attributes constructs

Packaging

Packaging may be perceived as a family of activities that are concerned with the design, production and filling of a container or wrapper of the product item in such a way that the product can be effectively protected, stored, transported and identified, as well as successfully marketed(Kent & Omar 2003). Packaging of a particular manufacturer standing on the shelf and distinguish it from other competing brands (Cronje et al. 2003). Wright (2006) also acknowledges that packaging is effective in marketing products since most consumers are greatly affected by appearances and design of product.

Packaging appears to be one of the important factors in purchase decisions made at the point of sale. This makes packaging an essential part in the selling process (Silayoi & Speece 2004). In current

competitive retail environments, consumers are exposed to a plethora of messages on packaging and merchandising (Klevas 2005). When consumers are forced to select among available product range, they rely on product externalities, such as packaging (Rundh 2005). Marketing depend heavily on the visual communication of packaging to inform and persuade consumers, both at the point of purchase and at the point of consumption & Ji (McNeal 2003). Packaging also adds exceptional value to products (Underwood, Klein & Burke 2001) and is a vital product differentiation tool that has a beneficial stimulus effect on the buying behaviour of consumers (Wells, Farley & Armstrong 2007). It attracts the consumer's attention to particular brand, enhances its image and influences consumers' perceptions about a product (Vila & Ampuero 2007)

Quality

Quality is a competitive advantage tool in the marketplace. According to Lee.C and. Zhou.X (2000) providing products that meet or exceed customer needs leads to competitive advantage. Quality is clearly viewed. Parajogo.D (2007) defines quality



as a main source of competitive advantage, requirements. by meeting customer Moreover, scholars have linked quality to competitive strategy. Kumar.K Kumar.U (2004) revealed that quality is associated with both conformance to specifications and critical customer expectations.

Brand awareness

Brand awareness is an important indicator of consumers' knowledge about a brand, the strength of a brand's presence in the consumers' minds and how easily that knowledge can be retrieved from memory (O'Guinn, Allen & Semenik 2009). There are two main types of brand awareness, namely 'aided awareness' and 'top of the mind awareness' (Farris et al.2010). Aided

awareness occurs when a consumer is provided with a list of brand names and they recognize the brand from the given set whereas 'top of the mind awareness' occurs when the name of the brand is automatically recollected because the consumer very promptly associates the brand with the product category (Keller 2008).

influences Brand awareness consumer decision-making in various ways. For instance, consumers may use brand awareness as a nominal anchor in their purchase decisions (Hoyer & Brown 1990). Brand awareness therefore has the effect of increasing brand market performance (Huang & Sarigöllü 2012).

Conceptual frame





Source; Impact of Product attributes on Competitive Advantages model (author)

Impact of Product attributes on Competitive Advantages

Ahasanul and Ali (2009) also found that packaging plays an important role to reflect the product attributes to unsuspecting and otherwise disinterested consumers (Gonzalez & Twede 2007). Goods services must be priced in a way that achieves profitability for the company and satisfies customers, in addition to adapting to various constraints such as competition (Sahay 2007). Pricing enables companies to segment markets, define products, create incentives for consumers and even send signals to competitors (Atchariyachanvanich & Hitoshi 2007). When consumers know a certain brand, they tend to include that name in their personal consideration set (MacDonald & Sharp 2000). A well-known brand is likely to perform better in the marketplace than a lesser-known brand (Yoo, Donthu & Lee 2000).

Based on the literature reviewed and conceptual framework, the following hypotheses were developed.

Research Hypotheses

H1: There is a positive significant relationship between packaging and competitive advantages.

H2: There is a positive significant relationship between quality and competitive advantages.

H3: There is a positive significant association between brand awareness and competitive advantages.

Objectives of the study

The purpose of this study is to examine the impact of product attributes on competitive advantage. The specific research objectives of the study are;

- To evaluate the relationship between packaging and competitive advantages
- To investigate the relationship between quality and competitive advantages



 To access the relationship between brand awareness and competitive advantages

Problem of the study

The bottled water industry in Ghana is highly competitive, new brands join the search for customers every passing day. Today, the norm is to purchase water either in sachets or bottles produced in factories. Due to its relatively moderate price and accessibility, bottled water is highly patronized. Bottled water is the sole source of drinking water at home for most Ghanaian families living in the urban centers. Bottled water is regarded as a convenient product. Customers buy any brand available to quench their thirst. Bottled water is distinguished based on the bases of price, packaging, brand name, quality, pricing and other variables. Therefore, competitive advantage here is paramount. Adner and Zemsky (2007) define competitive advantage as superior value creation -- with the firm's ability to sustain competitive advantage equivalent to its ability to sustain added value.). Wright (2006) also acknowledges that packaging is effective in marketing products since most consumers are greatly affected by appearances and design of product. Packaging also adds exceptional value to products (Underwood, Klein & Burke 2001). Parajogo (2007) defines quality as a main source of competitive advantage, by meeting customer requirements. Brand awareness therefore has the effect of brand market increasing performance (Huang & Sarigöllü 2012). However, there is no or little effort to investigate factors that might lead to competitive advantage in the bottled water industry in Ghana. This study focused on the impact of products attributes on competitive advantage

Methodology and Techniques Used

Both primary and secondary data were used in the study. The study adopted purposive sampling technique to select the shopping centers whereas convenience sampling techniques were employed to select customers of bottled water. This is due to the difficulty in determining the specific list of customers.

Participants

The target population comprised consumers who purchased various brands of bottled water and are between the ages of 18 and 60



years. Also, 421 out of the 600 individuals returned their questionnaires. Respondents were recruited from Tema, Accra and A&C shopping mall in the Greater Accra Region of Ghana.

Data collection

Data were collected through the use of a structured questionnaire. The questionnaire was divided into five sections. Section A elicited general and biographical information about respondents. Section B elicited information on respondents' perceptions of packaging. Section C elicited information on price. Section D elicited information on brand awareness and Section E sought information on competitive advantage. Likert scales anchored by strongly disagree (1) and strongly agree (5) were used in the questionnaire. The questionnaire was administered on three consecutive holidays, Farmers day. Christmas day and Boxing Day all in the month of December 2012. Holidays were selected as they are the busiest shopping days in Ghana.

With the aid of SPSS, the following statistics were used: descriptive statistics in

order to have a clear picture of study variables. Cranach's alpha, which measures the internal consistency of a construct, Kurtosis and Skewness values were used to check the normality of each variable used in the research. Regression analysis was used to measure the effect of the independent variable on the dependent variable.

Table 2. Supporting literature for measurement scales.

Construct	scales
Packaging	[38,59]
Quality	[37,46]
Brand awareness	[41,56]

All of the measurement scales used, as indicated in **Table 2**, were based on previous research. Assuring the validity and reliability of the measures required supporting literature to validate the scales which were used in the research constructs. The competitive advantage construct was measured using the scales and indices included in the work of Suresh et al.(2012), who used the following variables to determine product attributes: packaging, quality, brand awareness, cost, flexibility and price. As shown in **Table 2**, product



attributes were used as measurement scales adapted from previous studies.

Result and Discussions

Table 3. Demographic information

Variables	Frequency	Percentage	
Gender			
Female	227	54.0	
Male	194	46.0	
Total	421	100.0	
Ages			
18-24	85	20.2	
25-45	296	70.3	
46-60	40	9.5	

Brands (ot bott	led w	ater
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Ever pure	65	15.4
Ice cool	69	16.3
Standard	77	18.3
Ice park	112	26.7
Special ice	98	23.3

The result shown in Table 3 shows that 54.0% of the respondents are females while 46.0% are male. 20.2% of the respondents fall between the ages of 18 -24, 70.3% of the respondents are in 25-45 range and 9.5% are in the range of 46-60. Besides 15.4%, 16.3%, 18.3%, 26.7and 23.3% of the respondents patronize, ever pure, ice cool,

standard, Ice Park and special ice respectively.

Table 4. Values of Cranach's alpha for the research construct

Constructs	Cranach's alpha
Packaging	0,756
Quality	0,745
Brand awareness	0,732
Competitive advantage	0.784



A reliability test was carried out using Cranach's alpha, which measures the internal consistency of a construct. The recommended minimum acceptable limit of reliability measure, as reported by (Sekaran, 2003) is 0.60. As shown in Table 3, all the constructs passed the reliability test.

Table 5. Descending means of the constructs

Construct	Mean	Standard deviation
Packaging	4.076	0.4095
Quality	4.254	0.7450
Brand awareness	4.065	0.6542
Competitive	4.678	0.5546
advantage		

(Source field work, 2013)

The result shown in Table 5 indicates frequency and descriptive statistics used to determine the relative importance of each of the constructs. The construct shown in Table 5 have a mean above 4. Therefore it concludes that all of constructs are of significant importance to the study.

Table 6. Skewness and Kurtosis for research constructs.

Variable	Skewness	Kurtosis
Customer loyalty	-0.001	-0.500
Quality	-0.234	-0.122
Service quality	-0.602	-0.503
Customer	-0.702	0.104
satisfaction		
Brand image	0.345	0.634

(Source field work, 2013)

From Table 6, Kurtosis and Skewness values were used to check the normality of each variable used in the research. Skewness values larger than (+1) or smaller than (-1), as suggested by Hair., Babin, Money and Samouel (2003) indicate a substantially skewed distribution.

Besides according to Hair, Anderson., Tatham. and Black (1998) added that a curve is too peaked when the Kurtosis exceeds (+3) and is too flat when it is below (-3). This means Skewness values within the range of (-1) to (+1) and Kurtosis values within the range of (-3) to (+3) indicate an acceptable range. As shown in Table 5, the values of Skewness and Kurtosis for each variable indicate that the research constructs fell within the acceptable range.



Multiple regression analysis was conducted to test the research hypotheses. Regression analysis was used to measure the effect of independent variable on dependent variable. (Multiple for several predictors and linear for one independent). Besides multiple regressions is used to identify how much of the variance in the dependent variable is explained when a set of variables is able to predict a particular outcome. (Aldlaigan & Buttle 2002).

Table 7. Model summary

	R	R	Std. Error of
Model		Squared	the Estimate
	0.820	0.730	0.170

(Source field work, 2013)

The results of the multiple regression analysis, as shown in **Table 7**, R determines the correlation between Products attributes construct and competitive advantage. The correlation between the two variables is 0.082 which explains a strong positive significant relationship. Coefficient of determination, R², predicts the relationship between the independent variables and dependent is 0.730. This means that 73.0 percent of the total variance in the dependent variable (competitive advantage) is accounted for by the independent variables (Packaging, Quality and Brand awareness). This result affirms that all the three constructs of products attributes is significant in creating competitive advantage

Table 8 ANOVA result model

1 B : 007 2 500 1000	
1 Regression .865 2 .532 193.0	1 .000(a)
Residual 65.254 139 .478	
Total 86.119 501	

a Predictors: (Constant), quality, brand awareness

b Dependent Variable: competitive advantages

(Source field work, 2013)



The results of the F-ratio, as shown in **Table 8**, indicates that the regression model is significant at p < 0.001. It can be concluded, that the regression model predicts competitive advantage strongly. In other

words, the products attributes construct: packaging, quality and brand awareness (the independent variables) have the ability to predict competitive advantage (the dependent variable).

Table 9. Results of multiple regression analysis

		Unstandardized		Standardized		
		Coefficients		Coefficients		
Model		В	Std. Error	Beta	t	Sig.
	(Constant)	4.703	.693		6.790	.000
	packaging	175	.083	0.41	2.458	.000
	quality	.081	.088	0.43	5.092	.000
	Brand awareness	131	.101	0.40	4.074	.000

a Dependent Variable: competitive advantage

(Source field work, 2013)

The regression analysis presented in **Table 9** reveals that the creation of competitive advantage is determined by the Products attributes construct of packaging, price, and brand awareness. Packaging has a beta value of 0.41. This means that Packaging explains 41.0% of the creation of competitive advantage, at a p-value of 0.000. This explains a significant positive association of Packaging with competitive advantage.

Quality has a beta value of 0.43. This means that quality explains 43.0% of the creation of competitive advantage, at a p-value of 0.000. This indicates a significant positive association of quality with competitive advantage. Brand awareness has a beta value of 0.40. This means that brand awareness explains 40.0 % of the creation of competitive advantage, at a p-value of 0.000. This shows a



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significant relationship between of Brand awareness and competitive advantage.

Regression model is significant at p < 0.001. The above data shows that all the above hypothesized relationships between Products

attributes and competitive advantage are accepted.

Table 10 summarizes the research hypotheses and their results.

Table 10. Summary of research hypotheses and results

	Description	Beta	t-	Comment
Hypothesis			value	
H1	There is a significant positive relationship between packaging and competitive advantages	0.41	2.458	Accepted
H2	There is a significant positive relationship between quality and competitive advantages	0.43	5.092	Accepted
Н3	There is a significant positive association between brand awareness and competitive advantages	0.40	4.074	Accepted

(Source field work, 2013)

Discussions

The empirical results support all hypotheses H1, H2, and H3. The empirical results found a significant positive relationship among packaging, quality and brand awareness and competitive advantage.

The first hypothesis was tested using multiple regression coefficients to establish a direct relationship between packaging and

advantage among all the competitive respondents. Result showed packaging relates positively with competitive advantages. This is supported by Bo (2009) whose finding demonstrates that packaging competitive advantage. influences indicated that packaging trigger customers to make a purchase and/or re-enforce the brand name for a re-purchase of the product. Also a study conducted by Hysen and Mensur (2008) reveals that packaging has a



great positive effect on the purchase of dairy products. Bed (2008) revealed that the right packaging can help a brand to position carve a unique in the marketplace in the minds of and consumers. Most of the packaging decisions affect how consumers associate themselves with a firm's products (Del Rio, Vazquez & Iglesias 2001 Olande .R, & Nilsson, F 2009;). This implies that an increase score of packaging would leads to an increase score of competitive advantage.

Besides, second hypothesis was also tested with multiple regression coefficients to establish the relationship between quality and competitive advantage among all the respondents. Result showed quality relates positively with competitive advantages. The finding is supported by (Czinkota et al 2001). Also, Awwad S et al 2013 conducted a study to examine the relationship between the competitive priorities of Jordanian manufacturing firms and their competitive advantage on a population of 88 Jordanian manufacturing firms, the result reveals that quality contributes to competitive advantages. This indicates that an increase investment on quality of would leads to an increase score of competitive advantage.

The third hypothesis was also tested with multiple regression coefficients to establish direct relationship between brand competitive awareness and advantage among all the respondents. Result indicated that brand awareness relates positively with competitive advantages. This is in line with (Madhukar .N 2010) who conducted a study involving a sample size of 100 selected from the database of the company. The study was on brand awareness levels of Hyundai customers. The study concludes that brand awareness determines competitiveness of a product. This means that an increase in investment on brand awareness would lead increase score on competitive an advantage.

Conclusion and Recommendation Conclusion

The results of this study shows, positive strong relationships between product attributes and competitive advantage. Managers of bottled water should consider Packaging positively affects the that: creation of competitive advantage; quality strategy affects positively the creation of competitive advantage and brand awareness positively affects the creation of competitive advantage.



To remain competitive, manufacturers must provide bottled water at high quality with fewer or lesser defected outcome. This would enable management to implement cost leadership strategy through reduction of production time and manufacturing cost. Operation cost would fall forcing price to fall leading to competitive advantage. Besides bolted companies should create brand awareness through consistent advertising using below and above the line methods especially during the dry season. The advert should lay much emphasis on what makes their product different from the rest. This would assist position their product in the mindset of customers.

Reputable celebrities should be used to endorse the brands; the endorser should be attractive to the target audience in certain aspects like physical appearance, intellectual capabilities, athletic competence, and lifestyle. It has been proven that an endorser that appears attractive as defined above has a greater chance of enhancing the memory of the brand that he/she endorses. This would contribute to easy identification and powerful instrument of differentiation. Internal marketing should also be looked at.

Successfully recruiting, educating and motivating employees leads to perfect customer service. It is not possible to expect perfect services from an organization, whose employees are not satisfied. Companies should also invest into public relations activities such, sponsorship, community relations, media relations, and corporate social responsibilities to create beneficial mutual relationship with the public to promote easy identification of brands.

Limitation of the study

The decision about the size of the sample was taken considering time and cost, the need of precision and a variety of further considerations. Due to the limit of time and costs, the population was narrowed to bottled water customers in one region alone. This study is also limited to few attributes of products as other existing constructs were excluded from the study.

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