AN EMPIRICAL STUDY TO ASSESS THE INFLUENCE OF PACKAGED DRINKING WATER ON CUSTOMER SATISFACTION

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Abstract

Packaged drinking water bottle becomes need of the era and it is most wanted in all social events such as seminars, conferences, board meetings, marriage functions, etc. Because of this multiple needs, demand for the drinking water bottles increased and thus invites more players in to the market. The increased competition and survival will leads to work on quality and subsequent customer satisfaction. There are many factors influencing the customer satisfaction and this study aims to understand the customer satisfaction with respect to packaged drinking water bottles. A structured questionnaire was used to collect the responses from 230 respondents who are located in and around Tamil Nadu and was analysed with statistical tools like Cronbach's Alpha, Exploratory Factor Analysis, ANOVA and Regression. The outcomes of this study are discussed detailed in this research paper.

Keywords: Brand Equity, Packaged Drinking Water, Customer Satisfaction

1. Introduction

"No seminar, conference or any other social event can be planned without packaged drinking water".

Packaged drinking water is considered as filtered and UV or Ozone treated water which is free from sweeteners, sugar and chemicals. It becomes one of the important travel items for long distance travellers and it is available in railway stations, bus stops, road side shops, airports, etc. The high in demand for the packaged drinking water is because of the increased health awareness among public, unavailability of quality water, growth of tourism, and availability of sufficient branded drinking water, (India Water Portal).

Packaged drinking water companies have started expanding their tie ups with airlines, theatres, malls, hotels, restaurants to increase their sales. The demand for the packaged drinking water is increasing day by day and is expected to show its growth rate of 20.75% [CAGR], (Business Wire, 2019) with Rs.403.06 billion in the year 2023. Packaged drinking water is available in India at different capacity such as 1 lt, 2 lts, 500 ml, 250 ml, pouches and barrels of 15 lts and 20 lts. Among them, more than 50% of market share holds by 1 lt water bottles followed by 500 ml and 250 ml.

People's interested towards flavoured drinking water has also increasing in the recent days. Flavours are the artificial sweeteners like soda, juice and cola mixed are eating the market share of packaged drinking water. This shows an opportunity to expand the product line for the branded drinking water companies in India. Inspite of the growing demand, many fake drinking water bottles are floated in the market. These fake companies do not maintain quality in filtration and water treatment, which leads to health issues among public. Mostly these fake companies are targeting rural areas where in the branded drinking water companies are failed to penetrate.

2. Literature Review

(Janghyeon Nam, 2011) conducted a study to assess the relationship between brand equity, brand loyalty and consumer satisfaction. The study found that the five dimensions of brand equity such as physical quality, staff behaviour, ideal self-congruence, brand identification and lifestyle-congruence are influencing the consumer satisfaction in a positive way. Further consumer satisfaction was partially influenced by the staff behaviour, ideal self-congruence and brand identification, whereas, the effects of physical quality and lifestyle-congruence on brand loyalty are fully influencing the consumer satisfaction.

The preferences of packaged drinking water various from customers to customers, (S Shalini, 2016). Bisleri, Aquafina and Kingfisher are the mostly preferred brands of customers and especially they prefer with a capacity of water bottles are influenced by the customers' income level. Further, the purchase of water bottles is highly influenced by their needs like, family functions, events and programmes and they spend very low amount for this purchase.

Almost 97% of the respondents are not brand associated customers and very few customers only checking the ingredients and brands of drinking water bottles (Minyahel Tilahun, 2020). The drinking water bottle preference was highly influenced by the customer's gender, education level and health status. Customers are becoming more concerned about prices while they are out of their residence place.

Travellers mostly prefer to buy branded drinking water bottles. Especially, the preferences of brands are highly influenced by the taste, shape, size of branded drinking water bottles and the easy of availability, quality, quantity and safe for health are influencing the customer to prefer, (Lisha Patel, 2020). The brand image, promotion methods, taste, packaging methods and purification methods are the influencing factors for the people residing in Karnataka, (Harish K.S, 2018).

Price, quality and label information are the factors influencing customer satisfaction, (K.S.Adlin Kanisha, 2015). The demographic variables such as age, gender and occupation of the respondents are not the influencing factors for the customer satisfaction. The study found the highest level of customer satisfaction with respect to packaged drinking water manufactured by Bisleri.

(Seyed Ali Sajjadi, 2016) revealed that the demographic variables such as age, gender, income level and education of the respondents are influencing them to prefer branded drinking water bottles. However, office employees, women and poor families are conformable with the tap water quality. Further, they reluctant to use tap water which produces foam, unsuitable taste and colour.

3. Objectives

The present study is primarily intended to understand the influence of branded drinking water bottles on its customer satisfaction. The study also assessed the significant relationship between four variables such as brand awareness, brand association, perceived quality and brand loyalty on brand equity of branded water bottles.

4. Research Methodology

Descriptive research was adapted in this study to access the influence of branded drinking water bottles on its customer satisfaction. A well-structured questionnaire considering four dimensions such as brand awareness, brand association, perceived quality and brand loyalty was used in this study to collect the data from 230 respondents who are selected randomly from in and around Tamil Nadu. The collected data collected were analysed using statistical tools such as Cronbach's Alpha, Simple Percentage Analysis, Exploratory Factor Analysis, ANOVA and Regression.

In order to understand the significance relationship between the variables, following hypothesis were framed and validated with suitable testing.

H_0: There is no significant relationship between perceived quality and brand equity / customer satisfaction

H_0: There is no significant relationship between brand awareness and brand equity / customer satisfaction

H_0: There is no significant relationship between brand association and brand equity / customer satisfaction

H_0: There is no significant relationship between brand loyalty and brand equity / customer satisfaction

H_0: There is no significant relationship between brand equity and customer satisfaction

5. Analysis and Interpretation

For the purpose of understanding basic profile of the respondents, their demographic profiles such as gender, age, income, education and marital status were collected. In addition to that, the respondents preference towards

branded water bottle was also collected using closed ended questionnaire. The collected details were analysed using simple percentage and presented below.

Table 01: Demographic profile of the respondents

Parameter		Count	Percentage
Gender	Male	146	63.5
	Female	84	36.5
Total		**230**	**100.0**
Age in years	Less than 20 years	42	18.3
	21 to 30 years	68	29.6
	31 to 40 years	54	23.5
	Above 41 years	66	28.7
Total		**230**	**100.0**
Income per month	Less than Rs.10,000	88	38.3
	Rs.10,001 to Rs.20,000	70	30.4
	Rs.20,001 to Rs.30,000	54	23.5
	More than Rs.30,001	18	7.8
Total		**230**	**100.0**
Education	SSLC and below	16	7.0
	HSC	28	12.2
	UG Degree	130	56.5
	PG Degree	56	24.3
Total		**230**	**100.0**
Marital Status	Married	70	30.4
	Unmarried	160	69.6
Total		**230**	**100.0**
Brand Preference	Bisleri	36	15.7
	Aquafina	48	20.9
	Bailey	16	7.0
	Himalayan Water	14	6.1
	Qua Water	18	7.8
	Oxyrich	8	3.5
	Tata Water Plus	24	10.4
	Pure Life	12	5.2
	Kinley	54	23.5
Total		**230**	**100.0**

From the above table it is inferred that 146 out of 230 respondents are male which almost 63.5% of the total responses. More than 130 respondents are aged above 20 years and out 230 respondents, 158 are earning more than Rs.10,000 per month. Only 7.8% of the people are earning above Rs.30,000 per month. More than 80% of

the respondents are educated having minimum of UG degree qualification and around 70% of the respondents are married; 160 out of 230 respondents. 54 respondents out of 230 are prefers to buy or consume Kinley water bottles. Next to Kinley, Aquafina water bottles are preferred by 48 respondents, however, brands such as Bailey, Himalayan Water, Qua Water, Oxyrich and Pure Life are preferred by less than 10% of the respondents. One of the famous and very old brand such as Bisleri as a preferred brand for 36 respondents which is 15.7% of the total respondents.

Reliability Test

Cronbach's alpha was used to test the reliability of the questionnaire used in this study. Reliability level for the 28 questions representing customer satisfaction and four dimensions of brand equity such as brand awareness, brand association, perceived quality and brand loyalty was calculated and presented as below:

Table 02: Reliability Test

Dimension	No. of Questions	Cronbach's Alpha
Perceived Quality	4	0.812
Brand Awareness	6	0.822
Brand Association	5	0.824
Brand Loyalty	5	0.853
Brand Equity	5	0.908
Customer Satisfaction	3	0.868

The outcome of reliability test from the above table signifies the presence of solid internal consistency of the questionnaire used, as the values of Cronbach's Alpha are above the standard value of 0.7. Hence it is concluded that the variables used in this study are more reliable to measure the influence of branded water bottles on its customer satisfaction.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was applied on the questionnaire used in this study comprising questions related to customer satisfaction and the four dimensions of brand equity such as perceived quality, brand awareness, brand association and brand loyalty. The KMO value (0.787) is above the standard value of 0.75 and considered as good result and allowing the researcher to procced factor analysis. The significance value of Bartlett's test of sphericity indicates the absence of high correlation between the variables.

Table 03: Barlett's test of sphericity

Kaiser-Mayer-Olkin		0.787
Bartlett's test of sphericity	App. Chi Square Value	510.23
	Sign	0.000*

*Significant at 1% LOS

Table 04: Exploratory Factor Analysis

Dimension	Item	Mean	Factor loading
Perceived Quality	The likelihood that my brand would be functional is very high	3.85	0.75
	The likelihood that my preferred brand is reliable is very high	4.02	0.83
	The quality of my brand is higher in comparison to its competitors	4.02	0.82
	Buying this brand is risk free	3.73	0.74
Brand Awareness	I can recognize my brand among competing brands	4.24	0.78
	I am aware of my brand of water bottle	4.20	0.89
	Some characteristics of my brand come to my mind quickly	4.18	0.84
	I can quickly recall the symbol or logo of my brand	4.30	0.86
	My water bottle brand has a personality of its own	4.28	0.76
	This is the only brand I recall, when needed to make a purchase decision	3.37	0.83
Brand Association	There is a reason to buy my brand over others	4.18	0.72
	I have a clear image of the type of person who would use my brand	3.74	0.8
	I trust my preferred brand	4.05	0.67
	I associate my preferred brand with excellence	4.19	0.72
	I associate this brand with a good feeling	4.24	0.68
Brand Loyalty	If I am going to buy products other than water bottle, I may choose my brand if it makes the product	3.72	0.62
	I consider myself to be loyal to this water bottle brand	3.79	0.74
	Compared to other brands that have similar features, I am willing to pay a higher price for my preferred brand	3.53	0.73
	I will not buy other water bottle brand, if my brand is available for purchase	3.73	0.76
	I make my purchase selection according to my favourite brand name, regardless of price	3.28	0.82
Brand Equity	Even if another brand has same features as my brand, I would still prefer to buy my brand	3.89	0.72
	Even if another brand has the same price as my brand, I would still buy my preferred brand	3.96	0.78
	Even if there is another brand as good as my brand, I would still prefer to buy my brand	3.62	0.82
	Even if another brand is similar to my brand, it still seems smarter to purchase my brand	3.82	0.76
	Using my brand adds value to my experience	3.81	0.86
Customer Satisfaction	Compared to other brands, this brand confirms to your expectation	3.76	0.76
	You are satisfied with price/quality ratio offered for this product	3.82	0.78
	Based on all experiences with this product, you are very satisfied	3.80	0.81

Regression Analysis

Regression Analysis was used to check the existence of significant relationship between variables and the customer satisfaction. The outcome of the regression analysis is presented below.

Table 05: Regression Analysis

S.No	Relationship	Beta Co-eff	Significance
1	Perceived Quality – Brand Equity	0.592	0.004*
2	Brand Awareness – Brand Equity	0.634	0.042**
3	Brand Association – Brand Equity	0.620	0.000*
4	Brand Loyalty – Brand Equity	0.730	0.000*
5	Brand Equity – Customer Satisfaction	0.534	0.008*

*Significant at 1% LOS, ** Significance at 5% LOS

The data from above table indicates the existence of significant relationship between the variables and customer satisfaction. The significance values indicate that the variables such as perceived quality, brand association and brand loyalty are significantly associated with brand equity at 1% LOS. Similarly, brand awareness is having significant relationship with brand equity at 5% LOS. There is a proven evidence for the existence of significant relationship between brand equity and customer satisfaction at 1% level of significance.

Association between variables

In order to understand the significant association between the mean values of customer satisfaction and the four dimensions of brand equity such as perceived quality, brand awareness, brand association and brand loyalty, ANOVA was used and the outcome is displayed below.

Table 06: Association between Perceived Quality and Customer Satisfaction

Parameters		Sum of Squares	df	Mean Square	F	Sig.
The likelihood that my brand would be functional is very high	Between the groups	11.310	3	3.923	2.642	0.058
	Within the groups	164.35	226	1.462		
The likelihood that my preferred brand is reliable is very high	Between the groups	11.624	3	3.726	2.635	0.054
	Within the groups	159.36	226	1.403		
The quality of my brand is higher in comparison to its competitors	Between the groups	17.526	3	5.624	4.362	0.007*
	Within the groups	152.624	226	1.342		
Buying this brand is risk free	Between the groups	12.415	3	4.062	2.762	0.045**
	Within the groups	162.352	226	1.426		

*Significant at 1% LOS, ** Significance at 5% LOS

Form the above table it is understood that quality of the packaged drinking water bottle is significantly associated with the customer satisfaction, as the value (0.007) is significant at 1% LOS. Similarly, the risk free factor while buying drinking water bottle is also significantly associated with the customer satisfaction, as the value (0.045) is significant at 5% LOS.

Table 07: Association between Brand Association and Customer Satisfaction

Parameters		Sum of Squares	df	Mean Square	F	Sig.
There is a reason to buy my brand over others	Between the groups	16.532	3	5.624	4.635	0.008*
	Within the groups	138.265	226	1.625		
I have a clear image of the type of person who would use my brand	Between the groups	16.632	3	5.517	4.625	0.005*
	Within the groups	136.426	226	1.235		
I trust my preferred brand	Between the groups	14.325	3	6.325	3.625	0.000*
	Within the groups	142.624	226	1.352		

I associate my preferred brand with excellence	Between the groups	16.532	3	6.895	4.852	0.007*
	Within the groups	154.325	226	1.632		
I associate this brand with a good feeling	Between the groups	16.428	3	5.982	4.920	0.003*
	Within the groups	153.627	226	1.826		

*Significant at 1% LOS, ** Significance at 5% LOS

Form the above table it is understood that all five variables of brand association are significantly associated with the customer satisfaction, as the F values of all five variables are statistically significant at 1% LOS. Hence it is concluded that brand association is highly significant with the customer satisfaction.

Table 08: Association between Brand Awareness and Customer Satisfaction

Parameters		Sum of Squares	df	Mean Square	F	Sig.
I can recognize my brand among competing brands	Between the groups	13.420	3	4.472	3.524	0.017**
	Within the groups	139.825	226	1.624		
I am aware of my brand of water bottle	Between the groups	14.623	3	4.862	4.562	0.005*
	Within the groups	138.524	226	1.092		
Some characteristics of my brand come to my mind quickly	Between the groups	13.524	3	4.625	3.658	0.016**
	Within the groups	137.625	226	1.341		
I can quickly recall the symbol or logo of my brand	Between the groups	17.324	3	5.012	4.625	0.004*
	Within the groups	134.325	226	1.234		
My water bottle brand has a personality of its own	Between the groups	18.625	3	6.214	4.021	0.000*
	Within the groups	142.925	226	1.420		
This is the only brand I recall, when needed to make a purchase decision	Between the groups	17.627	3	4.925	3.925	0.000*
	Within the groups	143.520	226	1.381		

*Significant at 1% LOS, ** Significance at 5% LOS

Form the above table it is understood that all six variables of brand awareness are significantly associated with the customer satisfaction, as the F values of all six variables are statistically significant either at 1% or 5% LOS. Hence it is concluded that brand awareness is highly significant with the customer satisfaction.

Table 09: Association between Brand Loyalty and Customer Satisfaction

Parameters		Sum of Squares	df	Mean Square	F	Sig.
If I am going to buy products other than water bottle, I may choose my brand if it makes the product	Between the groups	18.064	3	6.214	4.624	0.008*
	Within the groups	159.624	226	1.439		
I consider myself to be loyal to this water	Between the	17.624	3	6.524	4.352	0.007*

bottle brand	groups					
	Within the groups	158.624	226	1.435		
Compared to other brands that have similar features, I am willing to pay a higher price for my preferred brand	Between the groups	17.627	3	6.350	4.301	0.030**
	Within the groups	158.624	226	1.482		
I will not buy other water bottle brand, if my brand is available for purchase	Between the groups	18.750	3	6.127	4.027	0.021**
	Within the groups	159.024	226	1.400		
I make my purchase selection according to my favourite brand name, regardless of price	Between the groups	17.934	3	6.012	4.621	0.03**
	Within the groups	158.927	226	1.462		

*Significant at 1% LOS, ** Significance at 5% LOS

Form the above table it is understood that all five variables of brand loyalty are significantly associated with the customer satisfaction, as the F values of all five variables are statistically significant either at 1% or 5% LOS. Hence it is concluded that brand loyalty is highly significant with the customer satisfaction.

6. Conclusion

The study primarily intended to test the influence of branded drinking water bottles on its customer satisfaction. In addition to that the present study also assessed the significant relationship between four variables such as brand awareness, brand association, perceived quality and brand loyalty on brand equity of water bottles. From the detailed analysis it is found that customer satisfaction is significantly associated with three dimensions of brand equity such as brand awareness, brand association and brand loyalty. Also it is found and concluded that the four dimensions of brand equity such as perceived quality, brand awareness, brand loyalty and brand association are significantly associated with brand equity of the packaged water bottles.

Hence, it is concluded that the preference of branded water bottles has significantly associated with its customer's satisfaction. The study also recommended the branded water bottle companies to work on its brand equity such as brand awareness, brand association, perceived quality and brand loyalty in order to ensure their customers are satisfied.

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