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Decoding Consumer Perception: A Comprehensive Logistic Regression Analysis Of Pavizham's Brand Equity

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Abstract: In Kerala rice is a staple diet. As per the information from Kalady Rice Millers' Consortium, 40 per cent of the consumers in Kerala prefer branded rice, and out of this Kerala absorbs only 16 per cent, the rest of the branded rice is from outside states like Andhra Pradesh, Tamilnadu and West Bengal. Pavizham Healthier Diet Pvt. Ltd is the largest rice producing company situated in Ernakulam district and marketed their rice under the brand name Pavizham. The closure of one of the Pavizham rice mill at Koovappady village due to loss in the year 2021 has raised concerns about the brand equity of Pavizham rice in the market. In this context this research was conducted to study the consumer perception on brand equity of Pavizham rice by using the statistical tool logistic regression analysis. For the purpose of the primary data collection, a total of 60 consumers were selected from Thrissur municipal corporation area. The respondents were identified based on their recent usage of Pavizham rice, specifically targeting consumers who had used the Pavizham rice at least once in past six months. They were chosen from hyper markets, co-operative supermarket, and from private retail stores based on convenient sampling. The survey was conducted during the month of July 2023 by using structured questionnaire. The data analysed by using percentage analysis, average, index method, ranking method, Cronbach's alpha and ordinal logistic regression analysis. The independent variables such as brand association and brand loyalty were significantly affecting the dependent variable customer satisfaction. The brand awareness, brand image and perceived quality shows a result of insignificant towards customer satisfaction.

Keywords: Brand equity, brand awareness, brand image, brand association, perceived quality, logistic regression, Cronbach's alpha, Pavizham brand.

1. Introduction

Kerala had 1,95,734.15 hectares under paddy in 2021-22, a 4.54 percent decrease from 2020-21. The production of rice decreased to 5,62,097 tonnes from 6,26,888 tonnes the previous year, which shows a decrease of 10.34 percent. (The Hindu, 2023). Rice required by the state (around 80 percent) is mainly coming from other states (GoK, 2022). The rice varieties like Jaya, Surekha, Kuruva, Kranthi, Red rice, Ponni and long grain rice are coming to Kerala rice market from outside states with the brand names of Lalitha and Bell from Andhra Pradesh, Mango and Santhosh from Karnataka, Maharaja and Double Bull from Tamil Nadu and Eastern from Odisha. As per the information from Kalady Rice Millers' Consortium, 40 per cent of the consumers in Kerala prefer branded rice and out of this Kerala absorbs 16 per cent, the rest of the branded rice is from outside states.

Nowadays consumer has various alternative choices to select the rice brands, so the marketers are facing very tough competition to sell their products. While selecting the rice varieties, consumers from southern region of Kerala are more preferring Jaya and Surekha rice which were mainly traded from Andhra Pradesh. Cherumani, Kuruva and Bhodhana which is coming from Bengal have more preference by the consumers from northern part of Kerala (Financial Express, 2017). Ernakulam district stands first with maximum number of modern rice mills in the state followed by Kottayam district, which are producing branded rice (DIC, 2021). In 2017, rice mills started to shut down due to many reasons in Kerala, mainly government raid, loss, and lack of demand (The times of India, 2017). Pavizham Healthier Diet Pvt. Ltd is one of the popular rice producing company situated in Ernakulam district and marketed their rice under the brand name Pavizham. The closure of one of the Pavizham rice mill at Koovappady village due to loss in the year 2021 has raised concerns about the brand equity of Pavizham rice in the market. Consumer perception on brand equity is a major factor that influencing the consumer choices and loyalty in the food industry. Therefore, the present study titled dynamics of consumer perception on brand equity: A case study of Pavizham rice, Kerala was undertaken with the objectives namely, examining the consumption pattern and preference of consumers towards rice brands and evaluating the consumer perception towards brand equity of Pavizham rice brand.

2. Methodology

For the purpose of the primary data collection, a total of 60 (using branded rice) consumers were selected from Thrissur municipal corporation area. Out of these 30 Pavizham brand users selected

purposely and rest of them were other brand users. 20 each from a hyper market, co-operative supermarket, and from a private retail store based on convenient sampling. The survey was conducted during the month of July 2023 by using structured questionnaire. The data analysed by using percentage analysis, average, index method, ranking method, Cronbach's alpha and regression analysis.

3. Theoretical framework on brand equity

3.1 Brand equity

According to Kotler and Keller (2016), brand equity is the added value that customers place on goods and services. It could be seen in the prices, market share, and profitability that a brand commands, as well as in the thoughts, feelings, and behaviours that consumers have toward it.

3.2 Brand Association

All ideas, feelings, emotions, pictures, experiences, beliefs, attitudes, and other things associated with a brand that are connected to the brand node are collectively referred to as brand associations. (Kotler and Keller, 2016).

3.3 Brand Loyalty

By creating barriers to entry and providing stability and demand certainty for the company, brand loyalty makes it more difficult for competitors to enter the market. Furthermore, because of this, customers might be prepared to pay a premium price typically 20 to 25 percent higher than that of competitors' brands (Keller, 2016).

3.4 Brand awareness

According to Kotler and Keller (2016), brand awareness is the capacity of the customer to identify or recall the brand in enough detail to make a purchase. Brand awareness is defined as the degree to which a consumer can recognize a brand under various circumstances. It is correlated with the strength of the brand node or trace in memory.

3.5 Brand Image

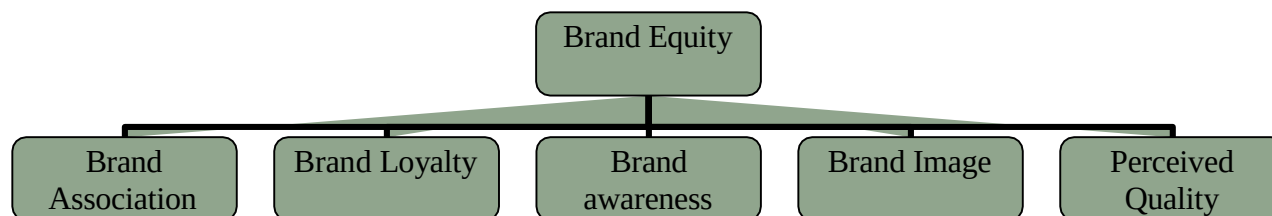
Keller (2013) gives an explanation A brand's image is formed by the associations that

consumers have with it in their memories. Additionally, it makes up one of the two parts of brand knowledge. Positive brand perception increases a brand's ability to withstand adversity and crises.

3.6 Perceived quality

Perceived quality, according to Aaker (1991), is "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose relative to alternatives."

Figure 1 Aaker's model of Brand equity



4. Results and discussion

An examination of the consumption pattern and preference of consumers towards rice brands revealed that half of the respondents were purchasing branded rice only and rest of them preferring loose, unbranded rice along with branded rice. Majority of the consumers were purchasing branded rice on monthly basis. Half of the respondents preferred the rice packet size of 10 Kg. 48 percent of the respondents preferred the popular rice variety called "Jaya" followed by Matta vadi rice. Among the currently using rice varieties, most of them were using branded Matta vadi rice followed by Jaya rice. Majority of the households were consuming 10 to 20 Kg branded rice in a month. The consumers were spending 46 percent of their monthly income as their food expenditure, and it includes an average of eight percent for purchase of branded rice. Majority of the respondents were aware of the rice brands from the family. Majority of the consumers (87 percent) could recall the brand name Pavizham followed by the brand Double horse. 3/4th of the respondents commented that the purchase decision of branded rice was taken by both husband and wife in the family. Half of the respondents using branded rice because of its superior quality followed by convenience. Hyper market was the most preferred store to the respondents to purchase the Pavizham rice followed by margin free super market.

Cronbach's alpha coefficient measures the internal consistency, or reliability, of the survey items. It was used to determine whether a collection of items consistently measures the same characteristic. Cronbach's alpha quantifies the level of agreement on a standardized 0 to 1 scale.

Table 2 predicts that the survey items were satisfied with the internal consistency. That is, how closely related a set of items are as a group. Hence the measure of scale is reliable.

Table 3 shows the result Omnibus test is applied for checking the level of significance. It was carried out by using the statistical program SPSS. For conducting the regression analysis the Omnibus test was carried out to identifying the level of significance. Though the level is satisfied as the test value was 0.000 at 5 percent level of significance, the ordinal logistic regression was followed for the research.

Table 1 shows the overall evaluation on the consumer perception towards brand equity of Pavizham rice brand and it results a resigned response except the variable brand image.

For the further evaluation the consumer satisfaction was denoted as dependent variable and the dimensions of brand equity were kept as independent variable.

Table 1 Consumer satisfaction

Dimensions	Composite score	Score index	Interpretation
Brand awareness	563	75	Resigned
Brand image	1089	81	Moderately agree
Brand loyalty	587	65	Resigned
Perceived quality	563	75	Resigned
Brand association	787	75	Resigned

Table 2 Cronbach's alpha (α) reliability analysis.

Variables	Cronbach's Alpha (α)
1 Customer satisfaction	0.935
2 Brand awareness	0.841
3 Brand image	0.937
4 Brand loyalty	0.882
5 Brand association	0.918
6 Perceived quality	0.929

*by using R programming language

Table 3 Omnibus Test^a

Likelihood Ratio Chi-Square	df	Sig.
29.179	5	.000

The result from McFadden ordinal logistic regression analysis (Table 4) was showed a 59.2 percent influence of brand equity and their variables on the consumer satisfaction.

Table 5 shows that the independent variables such as brand association and brand loyalty were significantly affecting the dependent variable customer satisfaction. The brand association shows a positive relationship with consumer satisfaction, and its odds ratio is greater than one.

It means that its 1 unit change is more likely to increase the consumer satisfaction with 25.341 units.

Likewise, one unit change in the brand loyalty will affect with 5.284 unit change in the consumer satisfaction (Dada,2021). Remaining independent variables like brand awareness, brand image and perceived quality was insignificant with respect to consumer satisfaction.

Table 4 Pseudo R-Square

Cox and Snell	.698
Nagelkerke	.804
McFadden	.592

*Link function: Logit. **by using SPSS

Table 5 Parameter Estimates on ordinal logistic regression

Parameter		B	Std. Error	Interval		Hypothesis Test			Exp(B)/ Odds ratio	95% Wald Confidence Interval for Exp(B)	
				Lower	Upper	Wald Chi- Square	df	Sig.		Lower	Upper
Threshold	C*	23.18	7.70	8.07	38.28	9.05	1.00	0.00	11611830688.80	3210.57	41997099878133800.00
	C**	28.28	8.74	11.15	45.41	10.47	1.00	0.00	1914312171893.20	69678.93	52592525977689700000.00
Brand association		3.23	1.44	0.40	6.06	5.01	1.00	0.03	25.34	1.49	429.77
Brand loyal		1.67	0.82	0.06	3.27	4.13	1.00	0.04	5.28	1.06	26.31
Brand awareness		-1.22	1.01	-3.20	0.77	1.44	1.00	0.23	0.30	0.04	2.16
Brand image		1.25	0.89	-0.49	2.99	1.98	1.00	0.16	3.48	0.61	19.78
Perceived quality		1.92	1.00	-0.05	3.89	3.66	1.00	0.06	6.81	0.95	48.66
(Scale)		1 _a									

#95% Wald Confidence

C*-Customer satisfaction=3

C**-Customer satisfaction=4

5. Conclusion

It can be concluded that the results on the dimensions of brand equity driven by the Pavizham rice consumers was resigned except brand image. The superior quality expectation formed by the promotional strategies of the rice brand leads to the consumer dissatisfaction after their actual consumption. Majority of the consumers were brand switchers; the company should project the USP of the brand and brand sticking strategies can be adopted.

By using the ordinal logistic regression, the study revealed that while brand association and brand loyalty significantly influence consumer satisfaction with Pavizham rice, brand awareness, perceived quality and brand image do not have a significant impact. This indicates that consumer's satisfaction is more closely tied to their personal connection and loyalty to the brand rather general awareness, perceived quality or image. So, the company need to strengthen the brand by focusing on the loyalty programs, targeted marketing campaigns etc. they need to maintain the product consistency and feedback mechanism. The transparency and consistent communication with the consumers also important as well.

By prioritizing brand association and loyalty, Pavizham brand can enhance consumer satisfaction and maintain its market position even when other factors like brand awareness, perceived quality and brand image are less influential.

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