Factors influencing the Consumer Buying Behaviour towards Alternate Forms of Sugar in Tamil Nadu

Abstract

Today's world peoples are more aware about the product they consumed. Consumers are mainly relying on their health conscious. However, people nowadays shifting their consumption towards the traditional forms of sugar as it have better nutritional compounds comparing to the refined forms of sugar. Here sample respondents are taken based on the traceability of value chains of alternate forms of sugar (Jaggery and Khandsari sugar, Coconut sugar and Palm sugar). The study was limited with 150 sample respondents in Erode, Tiruppur, Namakkal and Coimbatore districts of Tamil Nadu where these sugars are transferred with all actors involved in the value chain with the help of markets. Principal Component Analysis used to analyse the major factor to influence thee purchase of sugar. The approximate chi-square statistic (0.774) is also large (>0.50). These factors accounts for 66.43 per cent of variance in the data. The three components that have the eigen value of 6.58, 2.17, 1.20 showed the percentage of variance were 43.87, 14.50, and 8.05 respectively. On the basis of varimax rotation with Kaiser normalisation, three factors have arrived. The major factors influenced highly was Health and convenient factor (Issues in white sugar, taste, traditional sweetener, Health conscious and Quality), Branding (Price, service of the seller, texture, packaging, Colour, market cleaning, non-perishable and popularity) and the other factor influenced in a fewer way. The result of the study concluded that, consumers were mainly oriented about their health conscious and shifting towards traditional based products. Promotional measures taken to promote these kind of sugar and aiming to bring back the traditional forms of sugar with its innovative technology. Packaging may imporved with biodegradable bags .

Aim: Today consumers are shifting towards the traditional forms of sugar as it have better nutritional compounds comparing to the refined forms of sugar. Here sample respondents are taken based on the traceability of value chains of alternate forms of sugar (Jaggery and Khandsari sugar, Coconut sugar and Palm sugar).

Design of the study and Methodology : The study was limited with 150 sample respondents in Erode, Tiruppur, Namakkal and Coimbatore districts of Tamil Nadu where these sugars are transferred with all actors with the help of markets. The data was collected with the help opf of structured interview. The analysis adopted for the study was factor analysis (Principal Component Analysis).

Findings:

- Chi-square statistic (0.774) is also large (>0.50)
- The major factors influenced highly was Health and convenient factor (Issues in white sugar, taste, traditional sweetener, Health conscious and Quality), Branding (Price, service of the seller, texture, packaging, Colour, market cleaning, non-perishable and popularity) and the other factor influenced in a fewer way.

Keywords: Factors, Consumer, Buying Behaviour.

Introduction

Indian food consumption pattern have seen tremendous chain in millennial years with rapid change in people lifestyles. The cooking and utilization design shifts definitely from northern part to southern piece of India (Goyal & Singh, 2007). Today's health conscious consumer tends to think twice while walking down the processed food aisle. Rather than thinking of the convenience of the products, they are now considering the perceived low nutritional quality and negative news stories. The same consumer is laden down by a busier lifestyle and may not have the luxury of time to prepare a fresh meal three times a day. Changing consumption habits with regards to processed foods along with a growing population and social, political and economic forces are driving significant change in the processed food industry on a global scale. Consumer preferences are just another notch in the belt of challenges driving innovation in the sector. Food processing technologies will need to keep this in mind when developing and communicating new innovations. Many are already making use of market intelligence to aid in this, tools that allow them to keep abreast of consumer behaviour and trends analytics allowing them to factor this data into decisions.

Processed foods are a critical component of everyday diets. Although consumers are now opting for fresh or minimally processed foods where possible, they seem to acknowledge the positive aspects of processed foods such as convenience, value and consistency of taste. Even in an industry facing unparalleled calls for innovation, today's fresh-first consumer can understand that it is generally infeasible to by solely fresh, local and organic. Nowadays, the demand for healthier sweeteners in chocolate and foods in general, is increasing. Health issues related to high sugar levels and calories are a major concern (Aidoo et al., 2014; Anton et al., 2010,; Prakash at al., 2008). This situation compels food technologists to seek healthier alternatives for common mono- and/or disaccharides. The research carried out mainly to determine the factors influencing the consumer buying behaviour towards alternate forms of sugar (Jaggery and Khandsari sugar, Palm sugar and Coconut sugar).

Literature Review

Vijayabaskar and Sundaram (2012)showed that ingredient contentand health benefit created the major impact for consumer in decision making to go for ready – to- eat products. Also, most of the consumers felt that products with different ingredients will reduce the weight and make them fit.

Jain *et al.*, (2013) showed that nutritional label influence the consumer in purchase decision and considered taste as “neither most important nor not important”. Consumer considered that nutritional labelling details help them to make better choices. Further, it helps to identify easily and understood information on product labels.

Anjum*et al.*, (2014) revealed that of consumers were aware about the companies providing some voluntary details on their products like FSSAI license number etc. On the whole it was found that most of the customers were not aware of the mandatory and voluntary labeling.

Sivathanu (2015) revealed about the consumer preferred to buy organic food, as they perceived that these food products were safe and health, nutritious and environmental friendly. However, research also investigated that consumer with high income class group preferred organic based food products. Finally, the research helps to implement the suitable marketing strategies to promote the product in a market for various groups of consumers in the society.

Baka et al. (2016) revealed that consumers purchasing brown sugar were partially influenced by service of the seller, market cleaning and customer vocation. Further results revealed that, brown sugar market share can be improved for people with upper-middle economic class if brown sugar producers can improve and maintain the quality and appearance of brown sugar commodity that can enter the modern market to international markets.

Hadi et al. (2020) revealed about that the major attributes as the consumer preferred were taste followed by health and Price to purchase MSME industries of food and beverage. Physical look attribute was considered as the third attribute preferred by the consumers followed by texture and aroma respectively.

Melvoic et al. (2020) revealed that price and promotion were the highest impact in accepting organic food products and consumer purchasing decisions. However, organic food products have premium prices and promotion measures had role in educating consumers about environmental, health and other benefits involved in organic production to inform consumers about product availability and its offer in the market. Finally, concluded that consumers were lack of information about organic production concept and organic food products.

From the above literature depicting about major factors like health conscious and environmental friendly products and also shifting natural form of products in day to day life consumption

Methodology

The study was conducted in the cities like Coimbatore,Tiruppur, Erode and Namakkal where the alternate forms of sugar value chain. The data were collected through well-structured interview schedule and information was collected the people who purchased alternate forms of sugar. Principal Component Analysis was used to analyse the factors influence the consumer to purchase alternate forms of sugar.

Results and Discussion

Factors influencing the consumer buying behaviour towards alternate forms of sugar

The fifteen purchase variables analysed the importance of consumer buying the alternate forms of sugar. However, all these variables analysed as importance of consumer's selection for their purchase influence. The factors have been arranged based on their ranking as given in Table 1.1.

Table 1.1 Factors Influenced for Purchase - Factor Analysis

S.No	Factors	Mean Score	SD
1.	Price	3.12	1.58
2.	Service of the seller	3.18	1.35
3.	Issues in white sugar	3.64	1.57
4.	Taste	3.66	1.35
5.	Texture	3.49	1.37
6.	Package	3.33	1.35
7.	Traditional sweetener	3.51	1.56
8.	Colour	3.76	1.23
9.	Market cleaning	3.52	1.45
10.	Health conscious	3.88	1.51
11.	Easy availability	3.26	1.24
12.	Quality	3.71	1.37
13.	Non perishable	3.22	1.39
14.	Popularity	3.10	1.37
15.	Others (specify)	2.97	1.39

It could be inferred from the table 1.1 that, health conscious (3.88) was the main factor which influenced the consumers to purchase alternate forms of sugar followed by colour (3.76), quality (3.71), taste (3.66) and issues in white sugar (3.64) respectively. The sixth factor considered to purchase was market cleaning (3.52) followed by traditional sweetener (3.51), texture (3.49), package (3.33), easy availability (3.26), non perishable (3.22) and service of the seller (3.18) respectively. However, thirteen most factor considered to purchase was price (3.12) followed by popularity (3.10) and others (2.97) factors with minimum influence for the consumers.

Hence, to identify the consumers underlying purchase influencing criteria, so as to group them into specific market segment to enable the designing of the appropriate marketing strategy, factor analysis was done using Principal Component Analysis.

Table 1.2KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.774
Bartlett's Test of Sphericity	Approx. Chi-Square	1.274E32
	Df	103
	Sig.	0.000

To have better understanding of the data, factor analysis is conducted. From the table 1.2it is clear that the approximate chi-square statistic is with 103 degrees of freedom which is significant at 0.01 levels. The KMO statistic (0.77) is also large (>0.5). Hence, factor analysis is considered as an appropriate technique for further analysis of data. Hence, the total variance explained by the included variables analysed are presented in Table 1.3.

Table 1.3 Total Variance Explained by the Included Variables

S.No	**Initial Eigen values**			**Extraction Sums of Squared Loadings**		
	Total	**Percentage of Variance**	**Cumulative Percentage**	**Total**	**Percentage of Variance**	**Cumulative Percentage**
1	6.580	43.870	43.870	6.580	43.870	43.870
2	2.175	14.503	58.373	2.175	14.503	58.373
3	1.208	8.057	66.429	1.208	8.057	66.429
4	1.144	7.625	74.054			
5	.866	5.775	79.829			
6	.724	4.826	84.655			
7	.573	3.822	88.477			
8	.374	2.492	90.970			
9	.328	2.188	93.158			
10	.296	1.971	95.129			
11	.225	1.498	96.627			
12	.171	1.139	97.766			
13	.162	1.080	98.846			
14	.102	.677	99.523			
15	.072	.477	100.00			

Extraction Method: Principal Component Analysis.

It was found from the table 1.3 that,three factors are explaining about 66.43 percent of the variance. Eigen valueabove one is considered. The three components that have the eigen value of 6.58, 2.17, 1.20 showed the percentage of variance were 43.87, 14.50, and 8.05 respectively. The component matrix formed is shown in Table 1.4.

Table 1.4Component Matrix

S.No	Factors	1	2	3
1.	Price	.506	.545	.341
2.	Service of the seller	.408	.638	.000
3.	Issues in white sugar	.598	-.496	.222
4.	Taste	.710	-.386	.203
5.	Texture	.799	.256	-.199
6.	Package	.837	.237	-.092
7.	Traditional sweetener	.766	-.374	.119
8.	Colour	.745	.179	.081
9.	Market cleaning	.591	.550	.319
10.	Health conscious	.780	--.414	-.089
11.	Easy availability	.677	-.116	.034
12.	Quality	.773	-.350	.064
13.	Non perishable	.686	.127	.012
14.	Popularity	.572	.120	-.287
15.	Others (specify)	-.064	.378	.858

Extraction Method: Principal Component Analysis.

It could be revealed from the table 1.4that, cross loadings were arrived. To get the meaningful conclusion, rotation of components were done using varimax rotation with kaiser normalization. The rotated component matrix is presented in the Table 1.5

Table 1.5Rotated Component Matrix

S.No	Factors	1	2	3
1.	Price	-.019	**.807**	-.132
2.	Service of the seller	-.073	**.721**	.220
3.	Issues in white sugar	**.807**	-.028	.033
4.	Taste	**.822**	.127	.052

5.	Texture	.410	**.751**	.101
6.	Package	.476	**.734**	-.007
7.	Traditional sweetener	**.838**	.195	-.022
8.	Colour	.480	**.588**	.135
9.	Market cleaning	.193	**.692**	.488
10.	Health conscious	**.826**	.229	-.231
11.	Easy availability	**.595**	.345	-.012
12.	Quality	**.816**	.231	-.065
13.	Non perishable	.450	**.530**	.052
14.	Popularity	.300	**.531**	.230
15.	Others (specify)	.082	.004	**.936**

Extraction Method: Principal Component Analysis.Rotation Method: Varimax with Kaiser Normalization.

It could be concluded from the table 1.5 that, on the basis of varimax rotation with kaiser normalisation, three factors have emerged. Each factor was constituted of all those variables that have factor loadings greater than or equal to 0.5. The identified variables with each factor are named and represented in the Table 1.6.

Table 1.6 Factors and Qualities - Mean and Standard Deviation

Factor	% variance	Qualities	Mean	SD
1. Health and convenient	43.870	Issues in white sugar	3.18	1.35
		Taste	3.64	1.57
		Traditional Sweetener	3.51	3.51
		Health conscious	1.56	1.56
		Quality	3.88	3.88
		Easy Availability	3.26	1.24
2. Branding	14.503	Price	3.12	3.12
		Service of the seller	1.58	1.58
		Texture	3.18	1.34
		Package	3.33	1.34
		Colour	3.76	1.24
		Market cleaning	3.52	1.44
		Non perishable	3.22	1.39
		Popularity	3.10	1.37

3. Others	8.057	Other factors	2.97	1.39

The table 1.6 represents the three factors. Factor one is labelled as health and convenient as it comprised of three items such as issues in white sugar, taster, traditional sweetener, health conscious and quality. Factor two is labelled as branding as it consisted of price, service of the seller, texture, package, colour, market cleaning, non perishable and popularity. Factor three is labelled asOthers (Convenient, etc). All the three factors are important as they have items which were rated important mean score around three.

Conclusion

Hence, the above qualities are important for consumer switch to the alternate forms of sugar. These analysis helps the producers to produce based on the consumer preferred qualities at right place at right time. However consumers were aware about the product they consume but still not learn about the details of the product. Consumers should have deep knowledge about the product.

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