

Urban brand awareness and preferences for milk products: An empirical Study on Kolkata Metropolitan

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ABSTRACT

The dairy market has been growing progressively over the years and is now bigger than the other food market but there lies a great state wise inequality in India in terms of consumption pattern of dairy products. Though Kolkata's economy is increasing through sectorial shifts from necessary food to high value foods but in terms of per capita expenditure, Kolkata remain relatively behind. Consumers brand preferences represent a fundamental step in understanding consumer behaviour. A deeper understanding of such preference can help marketers' better design marketing program and build a long term relationship with consumers. This warrants an empirical study for such specific rural pockets to help marketers improve the dynamics of segmentation and marketing mix variables to capitalize their efforts to the fullest in rural markets. The present study was conducted in purposively selected Kolkata Municipality area to explore the rural consumer buying behavior through brand awareness and influence of demographic factors on brand preference. Kolkata Municipality area is divided into 16 borough and each borough consists of several wards. Hence, five boroughs were selected randomly and from each borough two wards were selected randomly. The results indicated that there were no statistical relationships between age, gender, education with dairy products preference. But there was statistical relationship between occupation and gender with the brand preference consumers in the Kolkata metropolitan in West Bengal.

Key words: Brand awareness, Borough, Brand preference, Dairy products, Demography.

INTRODUCTION

As food is basic necessity, the measurement of food consumption is also used as an alternative to income in assessing household well-being. This provides a benchmark for evaluating the welfare programmes. Further, the empirical information on temporal changing in consumption patterns provides an insight into the living conditions of the households and human resources of a country. The significance of milk and milk products in the human diet has been well documented from very inception of human civilization. The consumption pattern analysis for milk and milk products is of great strategic importance in the formulation of development plan in developing economy. There is a growing market for livestock products in India and it is well-documented that consumption patterns have been undergoing significant changes towards high value commodities like fruits and vegetables, milk and milk products, meat and eggs. The high value food commodities share in the total food basket has considerably increased among both rural and urban people. Under different income growth situations, monthly per capita consumption of wheat and rice in 2025 is forecasted to decrease from 4.4 and 5.5 kg, respectively, from their 2004-05 levels of 4.4 and 6.6 kg respectively (Kumar et al., 2011). In milk production India

ranks first, accounting for 18.5 per cent of world milk production, attaining an annual output of 155.5 million tonnes during 2015-16 as compared to 146.3 million tonnes during 2014-15. The per capita accessibility of milk in our country has improved from 176 grams per day in 1990-91 to 337 grams per day by 2015-16. It is more than the world average of 294 grams (Economic Survey 2014-15). This represents a sustained growth in availability of milk and milk products for the growing population. However, the pattern of milk consumption presents spatial and temporal variation due to the differences in the socio-economic aspects, tastes and food habits of people across different agro-climatic regions and variation and its availability in the area. The factors affecting consumer's buying behaviour, while buying the dairy products, the variables include packaging, cost, availability, ingredients, product popularity, product quality, product taste, etc., that influence the choice of a brand of milk and milk products. (Ananda Kumar and Babu., 2014) The required information meant for the study was collected from the primary source. The primary data on various aspects relating to the consumption patterns of the sample households were collected through the personal interview method using suitably designed pre-tested schedule/ questionnaire for the year 2016-2017.

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Statement of problem: The economy has perceived structural and compositional changes in the consumption pattern of rural and urban sectors and across income groups over the last three decades. The transformation is observable within the foodstuff basket in rural and urban areas from cereals to non-cereal items such as fish, meat, egg, fruits, milk and milk products which revealed that consumers have moved towards healthy nutritious items of consumption.

Hypotheses of the Study: The main aim of the study is to test the following hypotheses;

H₁: There is no significant association between selected characteristics i.e. age, gender, occupation of head of household, and education of the respondents and Dairy products preference

MATERIALS AND METHODS

For the present study, Kolkata metro city, the capital of West Bengal was purposively selected as this metropolitan has massive growth of urban population and more concentration of population. Multistage random sampling technique was adopted for the selection of sample household from which the primary data were collected. Kolkata Municipality area is divided into 16 borough and each borough consists of several wards. Hence, 5 boroughs (namely II, VIII, IX, XI, and XIV) were selected randomly and from each borough 2 wards were selected randomly. Further, from each selected ward, two colonies were selected randomly and from each colony ten household were selected. Thus, a sample of 200 households from ten wards was drawn.

Brand awareness: It is the degree of familiarity among consumers about the life and availability of the product. Brand awareness includes both brand recognition as well as brand recall. Brand recognition is the ability of customer to recognize prior knowledge of when they are asked questions about that brand or when they are shown that specific brand, while brand recall is the potential of customer to recover a brand from his memory when given the product class/category, needs satisfied by that category or buying scenario as a signal.

Brand preference: It is defined as the subjective or individual tastes, as measured by utility, of various bundles of goods. They permit the consumer to rank these bundles of goods according to the levels of utility they give the consumer. Note that preferences are independent of income and prices. Ability to purchase goods does not determine a consumer's likes or dislikes. This is used primarily to mean an option that has the greatest anticipated value among a number of options.

Thus, brand preference is related to brand loyalty; however, brand loyalty is more consistently depicted by the long term repeated purchasing behaviour. Many researchers agree that sought benefits and consumer perception are the main antecedents of brand preferences, which is as follows:

$$BP = \Sigma PA + CP$$

Where,

BP - Brand preferences

PA - Product attributes

CP - Consumer perception (Yang et al., 2002).

A more complex combination to predict brand preferences which is as follows:

$$BP = PU + PP + A + B + \Sigma R (MV)$$

Where,

BP: Brand preferences

PU: Product usage

PP: Purchase patterns

A: Attitude

B: Benefits sought

R: Consumer response

MV: Marketing Variables

Source: O'Connor and Sullivan, (1995)

Chi-square test was done to know the Brand preference and Brand usage of working women about packed food powders. A chi-square distribution is mostly used in the testing of a compliance table with some theoretical model. This involves comparing observed and expected frequencies. Expected frequencies are those which should be observed if the statistic figure values A and B are independent. In order to compare the observed and expected frequencies we produce the chi-square value (χ^2) using the formula:

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \quad (1)$$

where:

χ^2 : the test statistic that asymptotically approaches a chi-square distribution,

O_{ij} : the observed frequency of the ith row and jth column,

E_{ij}: the expected (theoretical) frequency of the ith row and jth column,

This suggestion, which can be written by using probability P, is an assumption/restriction on the use of the chi-square test in contingency tables.

$$P[E_{ij} < 5] \leq 0.2 \wedge E_{ij} > 1$$

If any expected frequencies in 2 by 2 tables are less than 10, but greater than or equal to 5, some authors suggest that Yates' Correction of Continuity should be applied. This is done by subtracting 0.5 from the absolute value of O_{ij} - E_{ij} before squaring. However, the use of Yates' Correction of Continuity is controversial, and is not recommended by all authors (Fisher and Yates, 1974).

$$\chi^2(\text{Yates}) = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - E_{ij}) - 0.5^2}{E_{ij}}$$

If in case of H₀, 95% level of significance with degree of freedom the Chi-square value is more than the

table value. Therefore, Reject the null hypothesis and conclude that there is significant relationship between demographic factors (age, gender, education etc.) and Brand preference.

RESULTS AND DISCUSSION

Demographic profiles of respondents: However, households consuming rasogolla, curd and sweet were found to be 91 per cent (182), 54 per cent(108) and 60.5(121) per cent, respectively. The consumption of ice-cream prepared from milk was found to be in 41.5 (83) per cent households.

A. Milk products preferences

a) Age of respondents versus milk products preferences: The survey result showed that the low age group (<35 years) preferred rasogolla (47.14 per cent) followed by medium age group (35-50 years) and high age groups (>50 years) whereas with the increases of age from low age group (<35 years) to high age groups (>50 years) preferences of curd increases from 29.29 per cent to 31.37 per cent. The result

also shows that percentage preference of butter is negligible for lower age groups and 1.27 per cent for middle age groups.

Chi-square value between age groups and Milk products preferences of the respondents is 5.860 which is not significant. Hence, there is no significant association between the age groups of respondents and Milk products preferences.

b) Gender of respondents versus milk products preferences:

Table 3 shows the cross-tabulations of gender and milk products preferences. Results also point out that male respondents had higher preferences for rasogolla (39.18 per cent),butter (0.58 per cent) and ghee (8.77 per cent) than female respondents whereas female respondents were preferred more ice-creams (17.24 per cent) and curd (37.90 per cent) . This finding implies that female household head are more concerned about safety and hygienic conditions.

Chi-square value between gender and Milk products preferences of the respondents was found to be not significant. Hence, there we can conclude that there is no

Table 1 : Household demographic information: Sample average or median.

Parameters	Borough-1	Borough-2	Borough-3	Borough-4	Borough-5
Household size	3	3	4	3	2
Children < 10	1	0	1	1	0
Adults > 60	1	1	1	1	1
Age of household head	36	41	36	40	45
Education of householdhead	Graduates	Higher Secondary	Graduates	Higher Secondary	Higher Secondary

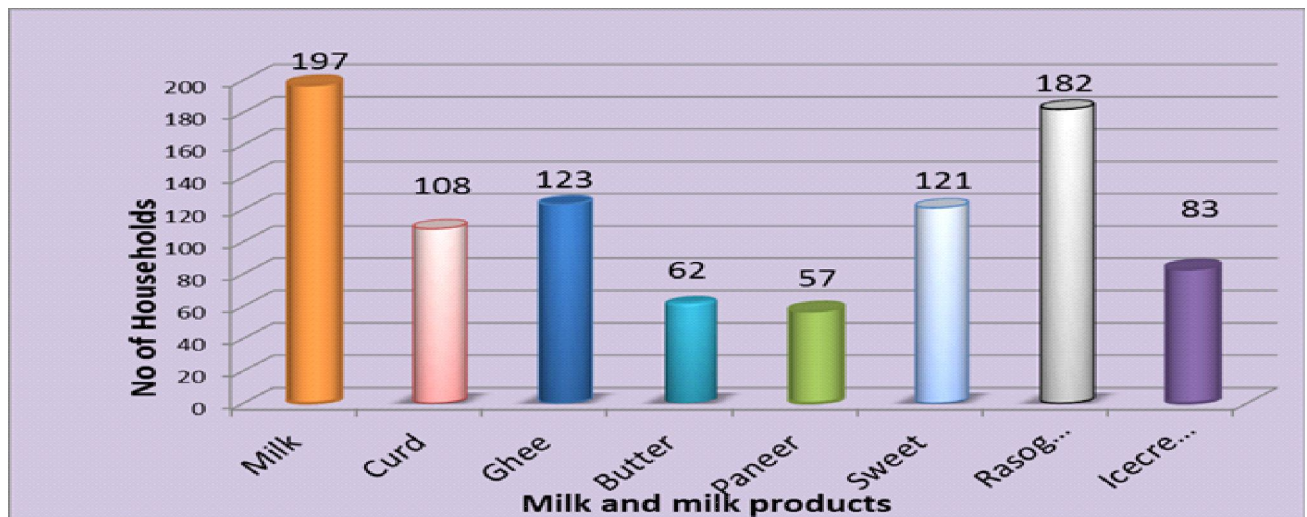


Fig. 1: Sample households' distribution as per consumption of milk and milk products.

Table 2: Distribution of milk product preferences in different age groups.

Age	Milk products						Total
	Rasogolla	Ghee	Curd	Ice-cream	Sweet	Butter	
Low(<35 years)	33(47.14)	4(5.71)	17(24.29)	7(10.00)	9(12.86)	0(0.00)	70(100.00)
Medium(35-50 years)	27(34.18)	6(7.59)	24(30.38)	9(11.39)	12(15.19)	1(1.27)	79(100.00)
High(>50 years)	16(31.37)	5(9.80)	16(31.37)	5(9.80)	9(17.65)	0(0.00)	51(100.0)
Total	76	15	57	21	30	1	200

Chi-square (χ^2) value = 5.8607

Table 3: Distribution of milk product preferences in gender group.

Gender	Rasogolla	Ghee	Curd	Ice-cream	Sweet	Butter	Total
Male	67(39.18)	15(8.77)	46(26.90)	16(9.35)	26(15.20)	1(0.58)	171(100.00)
Female	9(31.03)	0(00.0)	11(37.90)	5(17.24)	4(13.79)	0(00.00)	29(100.00)
Total	76	15	57	21	30	1	200

Chi-square (χ^2) value = 5.760

association between the gender groups and milk products preferences

c) Education level of respondents versus milk products preferences:

Results from the Table 4 pointed out those better educated consumers had higher preferences for sweet, butter and curd as compared to less educated consumers. This finding implies that higher educated household head are more concerned about safety and hygienic conditions of milk products. This result is consistent with the prior expectation that consumers with higher education were more likely to consume curd than those of less educated consumers. Education variables indicate that a higher school passed respondent consumed rasogolla about 40. Similarly, a university graduate was about 34.64 % likely to consume rasogolla.

Chi-square value between age groups and milk products preferences of the respondents was 14.61, which was not significant at 0.001; hence, there was no relationship between the variables. It was concluded that there is no association between the education level and milk products preferences.

d) Occupation of respondents versus milk products preferences:

Table 5 show that non-salary group's respondents preferred more Rasogolla (54.83 per cent) and ice-cream (12.44 per cent) than that of respondents belonging to salaried groups whereas respondents of salaried groups

preferred more curd (30.11 per cent) and sweet (16.56 per cent). Both of these two groups preferred butter as a smaller amount.

Chi-square value between age groups and milk products preferences of the respondents was 6.04 which was not significant at 0.001 confidence level. Hence, there is no relationship between the variables. We conclude that there was no association between the occupation of respondents and Milk products preferences.

B. Brand Preferences

Chi-square value between gender and milk products preferences of the respondents was found to be not significant. Hence, there we can conclude that there was no association between the gender groups and milk products preferences

Chi-square value between age groups and milk products preferences of the respondents was 5.54 which was significant at 0.001 confidence level. Hence, there has a relationship between the variables. So, we conclude that there was association between the occupation of respondents and rasogollas brand preferences.

It was inferred from the Fig 2 that most important marketing mix variable which influenced the brand preference was price (40.5.7%), followed by product quality (34) and promotion (16%). Rubaina (2010) conducted a research on the customer preference towards dairy products

Table 4: Distribution of milk product preferences in different education level.

Education Level	Rasogolla	Ghee	Curd	Ice-cream	Sweet	Butter	Total
High School	8(40.00)	3(15.00)	3(15.00)	5(25.00)	15.00)	0(0.00)	20(100.00)
Higher Secondary	15(55.55)	2(7.40)	7(25.92)	1(3.70)	2(7.40)	0(0.00)	27(100.00)
Graduate and above	53(34.64)	10(6.53)	47(30.71)	15(9.80)	27(17.64)	1(0.65)	153(100.00)
Total	76	15	57	21	30	1	200

Chi-square (χ^2) value = 14.61

Table 5: Distribution of milk product preferences in different occupation groups.

Occupational Group	Rasogolla	Ghee	Curd	Ice-cream	Sweet	Butter	Total
Non-salary groups	17(54.83)	2(6.45)	6(19.35)	4(12.44)	2(6.45)	0(0.00)	31(100.00)
Salary groups	59(34.91)	13(7.69)	51(30.11)	17(10.05)	28(16.56)	1(0.59)	169(100.00)
Total	76	15	57	21	30	1	200

Chi-square (χ^2) value = 6.04

Table 6: Distribution of Curd's Brand preferences in gender group.

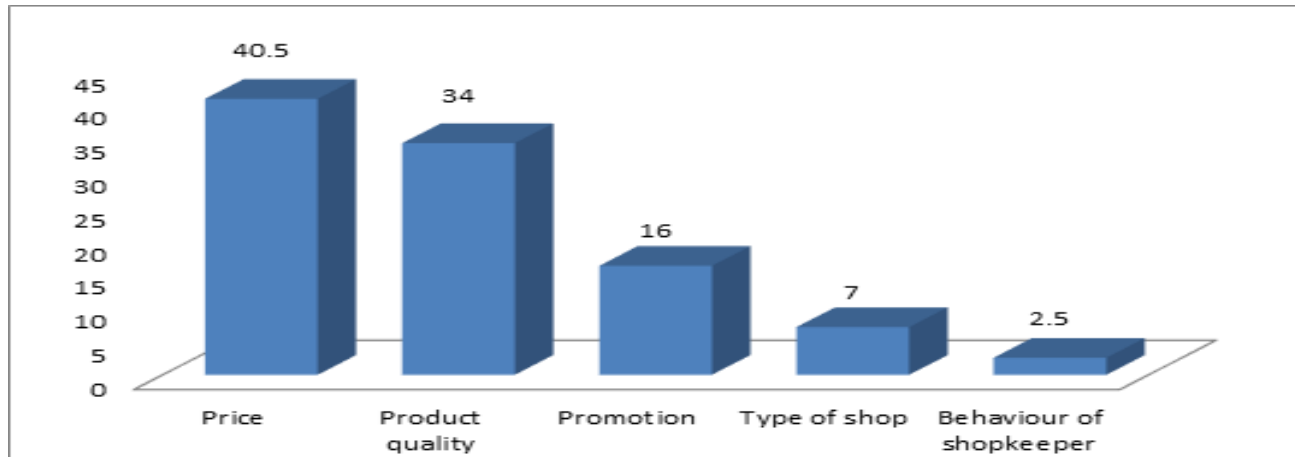
Gender	Amul	Danone dahi	Mother Dairy	Govind	Local Brand	Total
Male	67(39.18)	15(8.77)	46(26.90)	16(9.35)	27(15.78)	171(100.00)
Female	9(31.03)	0(00.0)	11(37.90)	5(17.24)	4(13.79)	29(100.00)
Total	76	15	57	21	31	200

Chi-square (χ^2) value = 5.560

Table 7: Distribution of Rasogolla's brand preferences in different occupation groups.

Occupational Group	K.C Das	Haldiram's	Ganguram's	Lalji's	Heeralal's	Total
Non-salary groups	19(61.28)	6(19.35)	4(12.44)	2(6.45)	0(0.00)	31(100.00)
Salary groups	72(42.60)	51(30.11)	17(10.05)	28(16.56)	1(0.59)	169(100.00)
Total	91	57	21	30	1	200

Chi-square (χ^2) value = 5.54

**Fig. 2:** Influence of marketing-Mix variables on brand preference

to identify the customer's preference towards dairy products and to know about the factors which influence the selection of different brands of dairy products. The study revealed that the company should make survey to know the expectations of the consumers and produce that product in the manner so as to attract more customers towards their brand and advertisement can be done through mass media to increase sales and to educate customers about the product.

CONCLUSION

Understanding the customer mind is important for the survival and growth of the company by way of attracting and selling the products to them. It is noted that people earn less prefers dahi that is showing equal importance in the survey. Competition is inevitable for dairy products especially packaged milk. Branded milk like dahi and

rasogolla needs to maintain its existing quality and type of distribution channels. K.C Das rasogolla brand needs to correct its pricing strategies by comparing with other rasogollas brand. Mother dairy dahi brand needs to improve their distribution strategies and advertising methods. Local market dahi brand needs to concentrate on taste and design of the package. This study recommends several points for future research. Brand and consumer preferences may not be fully explained with the dimensions used in this study. Consequently, deeply examining the dimensions of brand and consumer preferences would be an important contribution and a potential topic for future research. Many respondents feel the price of dairy products is too high than other brands. If the dairy companies take necessary steps to satisfy their consumers, it creates invariant place in mind of consumers.

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