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A Study on Relationship between Demographic Variable and Branded Milk

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Abstract

The study was designed to investigate the influence of age level of respondents by different dimensions of milk brand. The study covers the population includes 325 consumers from Tamil Nadu, who are all using branded milk. The questionnaires were given to 500 consumers who are all using branded milk. Out of 500 consumers contacted, 325 questionnaires were received with required coverage and details. The participants completed the two sets of self-reported questionnaires, including Background characteristics and variables chosen for this study in order to measure the influence of branded milk are the Salience, performance, Imagery, Judgment, Feelings and Resonance. The collected data were computed and analyzed via Descriptive statistics and one - way ANOVA. The findings of the study were generalized as follows: Statistically significant differences were found in the age level of the respondents by different brand dimensions like Performance, Imagery, feelings and there is no statistically significant difference in dimension Salience and resonance by age level of the respondents. In the end of the study implications and conclusion were provided.

Introduction

Dairying has been inborn in Indian culture for centuries. In terms of employment as well as income generation dairying is very important in the vast field of Animal Husbandary. Dairying cooperatives have improved the standard of living and provided the steady source of income for farmers. Due to the favorable income generation rural areas are transforming into urban areas. Dairy sector in India has developed a lot and India has now become one of the largest producers of Milk and value added products of the world. The current picture 2009 in important dairy region. India is by far single biggest milk producing country. The milk is partly produced by buffalo. India and Brazil have shown a considerable growth in milk production in the last two years. New Zealand also still shows a growth in total production.

Table: 1.2 Milk Production in Important Dairy Regions (Million Tones; Supply to Processors) in 2008 Compared with 2007 and 2006

Countries	Milk prod.2008 (* million tones)	2008 comp. to 2007 (2007=100)	2007 comp. to 2006 (2006=100)
Eu27	134	101	100
India	102	106	104
USA	86	102	102
China	34	95	110
Russia	32	101	103
Brazil	30	108	106
New Zealand	16	108	103
Ukraine	12	96	92
Australia	10	102	91
Argentina	10	105	92

More than 2,445 million people economically active in agriculture in the world, probably 2/3 or even more ¾ of them are wholly or partly dependent on livestock farming .India is endowed with rich flora and fauna and continues to be vital avenue for employment and income generation, especially in rural areas India which has 66% of economically active population, engaged in agriculture derives 31% of gross domestic product GDP from agriculture. The share of livestock product is estimated at 21% of total agricultural sector.

Milk Production in India

1950-17 Million tones
1996-70.8 Million tones
1997-74.3 Million tones
Projected 2020-240 Million tones
Expected to reach -220 to 250 Million tones -2020. India contributes to world milk production rise from 12-15 % and it will increase up to 30 -35 %(year 2020).(Dairy industry profile).

According to technopak analysis there is a higher consumer acceptance and usage of branded milk in Indian consumer market
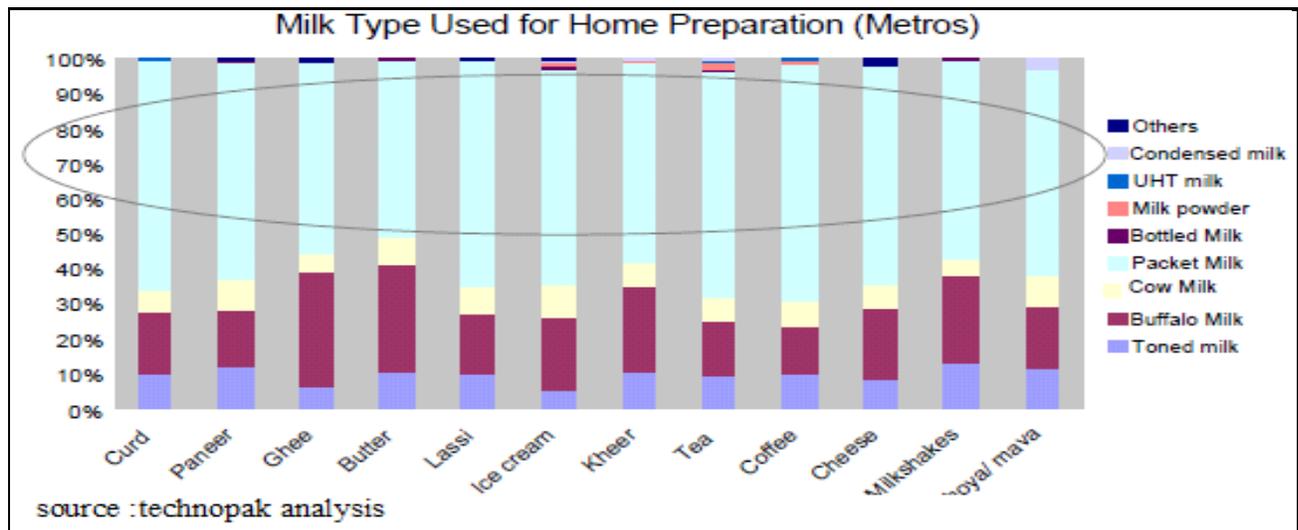
Sahni (2006) Branding can help create a distinct visual impression on the consumer that is instantly identifiable to the brand. Branding will be an important means for product differentiation "50% of the purchases inside hypermarkets are impulse shoppers typically spend only a few seconds to actively compare different products". Shelf life of products can be increased as a result of new and innovative packaging techniques. E.g. In case of milk, aseptic packaging technology can increase the shelf life of milk by 6 months. Branding will also help in utilizing the commodity, for better and efficient costing. New packaging technology can prove to be an effective tool in hedging the risk associated with uncertainties in demand and supply by having a longer holding period for perishable items. Especially in the rural sector in India, the distribution channel is typically long, with the transit time being as high as 1-2 months .Proper packaging can help avoid contamination, not only at the front end, but at every stage of the value chain-especially in case of perishables such as milk, oil, F&G. Hence reducing wastage across the supply chain. While there is likely to be big opportunity in packaging as a result of organized retail growth. None-the less there are several challenges which need to be managed.

Review of Literature

Blattberg et al. (1990) Sales promotion increases the basic value of a product for a limited time and directly stimulates consumer purchasing, selling effectiveness, or the effort of the sales force. It can be used to inform, persuade and remind target customers about the business and its marketing mix, some common types of sales promotion include samples, coupons, sweepstakes, contests, Rebates, premiums, discounts, trail offers, tradeshows. Dominkowski & John (2001) However, this June found over 70,000 people trying to catch one grand prize. The June Dairy month promotion, catch the June bug sponsored by Wisconsin Milk marketing Board. The grand prize in the June Dairy month Sweepstakes. In addition, 50 cheese baskets chock full of premium cheeses produced by Wisconsin master cheese makers were awarded at first prizes. The promotion funded by Wisconsin's dairy farm families' .Sweepstakes was a cornerstone of the project. Consumers could obtain entry forms, in participating grocery stores at special events and through Newspaper insert. Promotion was such a resounding success. Wisconsin milk marketing board said we were able to garner tremendous visibility for Wisconsin dairy products and retailer participation was just great. Brooks (1999) Just in time for back –to –school, the generic milk promotion campaign rolls out "Mug it up

with milk" to retail accounts nationwide McCracken Brooks developed the promotion for the milk processor Education Program and dairy management Inc. Accounts qualify to hold their own local mug it up with milk sweepstakes by running milk feature ads. The more feature ads they run, the more prizes they are eligible to receive prizes consists of Apple i mac computer dollar 1,000 scholarship, Kodak Advantix cameras and dollar 500 cash. Consumers mail entries to each account's specific box at the fulfillment house. Accounts are also eligible to receive Nickelodeon Shipper displays, which contain 300 special edition Nickelodeon magazine inside each issue is an ad announcing the sweepstakes including information on how consumers can enter to win their own milk mustache ad in an upcoming Nickelodeon Magazine and a dollar scholarship each account specific sweepstakes with no extra work by accounts .consumers receive a free copy of the special edition issue with the purchase of two gallons of milk. Manafy & Michelle (2009) the author explains that internet content providers should offer free services in order to entice new users to develop a liking for professional versions .she narrates as a bar tender during the 1980's that taught her about human nature. She says that bar customers are always interested in free drinks(samples) and some customers are even willing to do things they would not normally do just to get free things such as t-shirts .she points out that these people who get free stuff use the same stuff later.

Research Methodology

Objectives of the study
1. To study the influence of age level of the respondents on dimensions of branded milk.

Respondent sample
The questionnaires were given to 500 consumers who are all using branded milk Respondents of the samples where above 18 years using branded milk only. Out of 500 consumers contacted, 325 questionnaires were received with required coverage and details.

Instrumentation
The instruments of this study involved two parts: the first section of the instrument consisted of forced-choice questions about demographic characteristics: gender, marital status, age, occupation, monthly income level. The second section variables chosen for this study in order to measure the influence of branded milk in Indian Retail Markets are taken from branding milk dimension contains of 60 items and characterized into six sub scales : (a) Salience (items 1 to 7), (b) Performance(items 8 to 13), (c)

Imagery (items 14 to 18) ,(d) Judgment (items 19 to 36), (e) Feelings (items 37 to 42), (f) Resonance (items 43 to 60).The milk branding dimension 60 items are evaluated on a five-point Likert scale ranging from 1 to 5 ,using the anchors "5=stronglyagree,4=agree, 3=Neutral, 2=Disagree,1= Strongly disagree".

Cronbach's alpha is a coefficient (a number between 0 and 1) that is used to rate the internal consistency (homogeneity) or the correlation of items in a test. If the test has a strong internal consistency most measurement experts agree that it should show only moderate correlation among items (0.70 to 0.90).The reliability coefficients for the variables chosen for the study should have to be more than 0.70, to consider it as an acceptable value (Nunally, 1978). In this study the Reliability analysis shows that all the factors have shown alpha value greater than 0.7, indicating the evidence of reliability and the overall reliability of the instrument is 0.92. So, the items constituting each variable under study have reasonable internal consistency and shows that all the dimensions of Branded Milk have a positive reliability. The factors and dimensions included for analysis carry a good degree of reliability to support the objectives formulated. All dimensions have got significant relationship to make the real representation of the study. Hence it is concluded that the data collected in this study is highly reliable.

Data analysis

The Statistical Package for the Social Science (SPSS) for Microsoft Windows 16.0 was used to complete the analysis of the collected data. Descriptive statistics , including means, standard deviations were implemented in order to investigate the demographic data, and the influence of branded milk-test, one-way analysis of variance (ANOVA) were used to determine whether any significant relationships exist among respondents. In addition, the .05 level of statistical significance was set at all statistical tests in the present study.

Result of Data analysis

1. To study the significant difference in various dimensions of Branding by the Age level of the respondents

The descriptive table (see below) provides some very useful descriptive statistics the mean, standard deviation for the dependent variables for all the groups and when all groups are combined (Total) and F-value, significance value.

Table: 1.1 Descriptive Statistics

Age level	N	Mean				Standard Deviation				F	Sig
		G1	G2	G3	Total	G1	G2	G3	Total		
Salience	325	3.94	3.91	3.86	3.91	0.624	0.549	0.515	0.57	0.419	0.658
Performance	325	3.72	3.51	3.54	3.6	0.618	0.518	0.478	0.556	4.49	0.012
Imagery	325	3.36	3.15	3.19	3.24	0.767	0.603	0.641	0.683	3.2	0.043
Judgment	325	3.71	3.6	3.67	3.66	0.539	0.495	0.472	0.508	1.45	0.236
Feelings	325	3.68	3.49	3.55	3.58	0.614	0.572	0.58	0.594	3.34	0.037
Resonance	325	3.53	3.41	3.45	3.47	0.504	0.414	0.489	0.469	2.06	0.129

Note: G1-Below 30 yrs, G2-31-50 yrs, G3-above 50 yrs, N –Number of sample size

From the above table we can see that the significance level of Salience is 0.658 ($P = .658$), which is above 0.05 and, therefore, there is no statistically significant difference between salience of branding by age level of respondents, significance level of performance is 0.012(P=.012), which is below 0.05,therefore there is statistically significant difference between performance of branding by age level of the respondents, Significance level of Imagery 0.043(P=.043) which is below 0.05, therefore there is no statistically significant difference between Imagery of branding by age level of the respondents. Significance level of Judgment is 0.236 (P=.236) which is above 0.05 and, therefore, there is no statistically significant difference between Judgment of branding by age level of respondents, significance level of Feelings is .037 (P=.037) which is below 0.05 and, therefore, there is statistically significant difference between Feelings of branding by age level of respondents, Significance level of Resonance is .129 (P=.129) which is above 0.05 and, therefore, there is no statistically significant difference between Resonance of branding by age level of respondents,

Homogeneity of Variances

Test of Homogeneity of Variances shows the result of Levene's Test of Homogeneity of Variance, which tests for similar variances. If the significance value is greater than 0.05 then we have homogeneity of variances. We can see from this that Levene'sF Statistic has a significance value of Salience is .421, Judgment is .275, Feelings is .853, Resonance is .144 and, therefore, the assumption of homogeneity of variance is met. But for Performance is 0.027 which is less than 0.05 this indicates that the variances are heterogeneous which violates a key assumption of the ANOVA Test. What if the Levene's F statistic was significant? This would mean that you do not have similar variances and you will need to refer to the Robust Tests of Equality of Means Table instead of the ANOVA Table.

Post hoc test

Since we rejected the null hypothesis in Performance dimension (we found differences in the means), we should perform a Turkey's W multiple comparison to determine which means are different. Using the previous output, here is how such an analysis might appear.

Multiple Comparisons
Performance of the product
Turkey HSD

(I) Age of the respondent	(J) Age of the respondent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
below 30 yrs	31-50 yrs	.209[*]	0.07	0.008	0.04	0.37
	above 50 yrs	0.177	0.08	0.071	-0.01	0.37
31-50 yrs	below 30 yrs	-.209[*]	0.07	0.008	-0.37	-0.04
	above 50 yrs	-0.032	0.08	0.915	-0.22	0.16
above 50 yrs	below 30 yrs	-0.177	0.08	0.071	-0.37	0.01
	31-50 yrs	0.032	0.08	0.915	-0.16	0.22

* The mean difference is significant at the 0.05 level

The above table indicates that significant differences existed among Performance dimension and age level of the respondents. According to the results of the Turkey's W multiple comparison analysis, significant differences existed among the groups of above 50 yrs and below 30 yrs with respect to the age level. This clearly shows that

below 30 yrs are more satisfied with brand of milk because of the purified and the cholesterol content is removed.

Multiple Comparisons for Imagery Dimension

Multiple Comparisons
Image of the product
Turkey HSD

(I) Age of the respondent	(J) Age of the respondent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
below 30 yrs	31-50 yrs	.218*	0.086	0.031	0.02	0.42
	above 50 yrs	0.175	0.099	0.183	-0.06	0.41
31-50 yrs	below 30 yrs	-.218*	0.086	0.031	-0.42	-0.02
	above 50 yrs	-0.043	0.098	0.898	-0.28	0.19
above 50 yrs	below 30 yrs	-0.175	0.099	0.183	-0.41	0.06
	31-50 yrs	0.043	0.098	0.898	-0.19	0.28

* The mean difference is significant at the 0.05 level

Multiple Comparisons
Feelings of the Customer towards the Product
Turkey HSD

(I) Age of the respondent	(J) Age of the respondent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
below 30 yrs	31-50 yrs	.191*	0.075	0.03	0.01	0.37
	above 50 yrs	0	0.086	0.293	-0.07	0.33
31-50 yrs	below 30 yrs	-.191*	0.075	0.03	-0.37	-0.01
	above 50 yrs	-0	0.086	0.751	-0.26	0.14
above 50 yrs	below 30 yrs	-0	0.086	0.293	-0.33	0.07
	31-50 yrs	0	0.086	0.751	-0.14	0.26

* The mean difference is significant at the 0.05 level

The above table indicates that significant differences existed among Imagery dimension and age level of the respondents. According to the results of the Turkey's W multiple comparison analysis, significant differences existed among the groups of 31-50 yrs and below 30 yrs with respect to the age level. This shows that below 30 yrs are highly attached with brand of milk among three groups.

Multiple Comparisons for Imagery Dimension
Since we rejected the null hypothesis in Feeling dimension (we found differences in the means), we should perform a Turkey's W multiple comparison to determine which means are different. Using the previous output, here is how such an analysis might appear.

The above table indicates that significant differences existed among Feeling dimension and age level of the respondents. According to the results of the Turkey's W multiple comparison analysis, significant differences existed among the groups of 31-50 yrs and below 30 yrs with respect to the age level.

Since we rejected the null hypothesis in Imagery dimension (we found differences in the means), we should perform a Turkey's W multiple comparison to determine which means are different. Using the previous output, here is how such an analysis might appear.

This shows that below 30 yrs are more satisfied with quality of brand milk, high creditability towards producers and they consider their brand as more superior than other brand of milk among three groups.

Findings and Discussions

With reference to the objective in this study, the findings and discussions were summarized as follows:

1. Statistically significant differences existed among Performance dimension and age level of the respondents. According to the results of the Turkey's W multiple comparison analysis, significant differences existed among the groups of above 50 yrs and below 30 yrs with respect to the age level. This shows that below 30 yrs are more satisfied with brand of milk because of the purified and the cholesterol content is removed.

2. Statistically significant differences existed among Imagery dimension and age level of the respondents. According to the results of the Turkey's W multiple

comparison analysis, significant differences existed among the groups of 31-50 yrs and below 30 yrs with respect to the age level. This shows that below 30 yrs are highly attached with brand of milk among three groups.

3. Significant differences existed among Feeling dimension and age level of the respondents. According to the results of the Turkey's W multiple comparison analysis, significant differences existed among the groups of 31-50 yrs and below 30 yrs with respect to the age level. This shows that below 30 yrs are more satisfied with quality of brand milk, high creditability towards producers and they consider their brand as more superior than other brand of milk among three groups.

Conclusion

The findings derived from the current study may suggest some pedagogical implications. After analysis we found that small differences exist in the age group that implies the different age groups prefer or opinion differs on purchase of branded milk. It created a curiosity to us to find out which age class really differing on the opinions. By the help of Post hoc we found out that the age group less than 30 differ the opinion among other class. It may be cost due to the excess media influence on this age group. It strongly confirms in future also the value for brand in the milk segment will sustain.

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