A Study on Consumer Preference for Milk and Milk Products Marketed by Shivamogga Milk Union Limited

K. M. Santhosha[1], G. M. Gaddi[2] and C. G. Yadava[3]

[1]Department of Agribusiness Management, College of Agriculture, UAS, Dharwad - 580 005
[2]Department of Agricultural Economics, College of Agriculture, UAS, GKVK, Bengaluru - 560 065
[3]Department of Agricultural Economics, College of Horticulture, Koppal, UHS, Bagalkotte - 587 104
e-Mail : santhoshkm347@gmail.com

Authors Contribution

K. M. Santhosha :
Data collection & analysis, manuscript prepration;
G. M. Gaddi :
Supervision & guidance;
C. G. Yadava :
Data analysis.

Corresponding Author :
K. M. Santhosha
Department of Agribusiness Management, College of Agriculture, UAS, Dharwad

Abstract

The present study focuses on consumers' preference for milk and its products with reference to the Shivamogga milk union of Karnataka. The primary data is collected from 45 respondents using simple random sampling through a consumer survey. Descriptive statistics and garrett ranking techniques were employed for the analysis. The main objective of this study was to investigate purchasing behaviors and the factor influencing on the milk and their product. The socioeconomic and demographic characteristics of consumers determine household milk consumption choices. Based on the results, for about 58 per cent of the respondents belong to the middle age section with high school education and female were the major buyers of this product since they are the managing the house and the majority of the respondents were involved in their own business with income of more than 50,000 and they were non-vegetarians with spending capacity of more than 10,000 for food. Most of the respondents prefer the Nandini brand over the other brand; they were buying the product at Nandini retail outlets with more than half liters in a day. The consumer responded that health benefits followed by quality of the product and price of the product are the main factors that influence their purchase. From this, we can conclude that there is a significant relationship between the consumer's preferences for milk products in Shivamogga.

INDIA with a large and young population has a great demographic advantage. The average age of the 125 billion-strong Indian population will be 29 years in 2020, even younger than the 37 years of China and the US. The proportion of the working-age population is likely to increase from approximately 58 per cent in 2001 to more than 64 per cent by 2025, adding about 63.5 million new entrants between 2011 and 2021 with a large number of young persons in the 20-35 years age group. Consumer behavior is that subset of human behavior that is concerned with the decisions and acts of individuals in purchasing and using products. The study on consumer behavior is the study of how individuals decide to spend their available resources on consumption-related items. All marketing starts with the consumer. So the consumer is a very important person to a marketer. A consumer decides what to purchase, for whom to purchase, why to purchase, from where to purchase and how much to purchase. To become a successful marketer, he must know the liking or disliking of the customers. so that he may store the goods or provide the services according to the likings of the consumers. The decision we make concerning our consumption behavior affect the demand for the basic raw materials, the transportation, the banking, the production; they affect the employment of workers and deployment of resources and the success of some industries and failures of others. Therefore, this study becomes significant because this great opportunity will increase

milk production and consumption in India in the future.

The Objective of the Study

1. To find the purchase behaviors of the consumer in the study area

2. To find out the factors influencing consumer preferences for milk and their products in the study area

MATERIAL AND METHODS

The Primary data were used to complete the study. The direct interview method combined with a questionnaire is used to gather the primary data. In the city of Shivamogga, 45 samples were gathered using a random sampling technique. To determine the factor influencing consumer preference, descriptive statistics, such as measurements of central tendency and dispersion and Garrett ranking techniques, have been employed to analyze and interpret the acquired data.

Garrett's Ranking Technique

Garrett's ranking technique was used to analyze the factors influencing the consumer preference towards milk and milk products in the study area. The order of merit given by the consumers was changed into ranks by using the formulae,

$$\text{Per cent position} = \frac{100 * (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for i^{th} items by j^{th} individual

N_j = Number of item ranked by j^{th} individual

The per cent position of each rank was converted into scores by referring to the Garrett table. Then for each factor, the scores of individual respondents were summed up and divided by the total number of respondents for whom scores were gathered. The mean scores for all the factors were ranked; the factors having the highest mean value are considered to be the most important factor and ranked accordingly.

RESULTS AND DISCUSSION

Socio-Economic Information of Consumers of Milk and Milk Products in the Study Area

The information on socio-economic characteristics of respondents like age, literacy level, gender, family size, occupation, food habit, monthly income and amount spent on food, family size were collected, analyzed and the results are presented in Table 1 as well as in Fig. 1.

TABLE 1

Socio-economic profile of consumers of milk and milk products in the study area

Particulars	Consumers	
	No.	Percent to the total
A. Age (Years)		
1. Upto 30	12	26.67
2. 30 - 50	26	57.78
4. Above 50	7	15.55
Total	45	100.00
B. Literacy level		
1. Highschool	15	33.33
2. PUC	14	31.11
3. Under-graduation	13	28.89
4. Post-graduation	2	4.44
5. Ph.D.	1	2.22
Total	45	100.00
C. Gender		
1. Female	33	73.33
2. Male	12	26.67
Total	45	100.00
D. Occupation		
1. Agriculture	9	20.00
2. Government job	6	13.33
3. Own business	23	51.11
4. Homemaker	3	6.67
5. Student	4	8.89
Total	45	100.00
E. Food habit		
1. Vegetarian	12	26.67
2. Non-vegetarian	33	73.33
Total	45	100.00

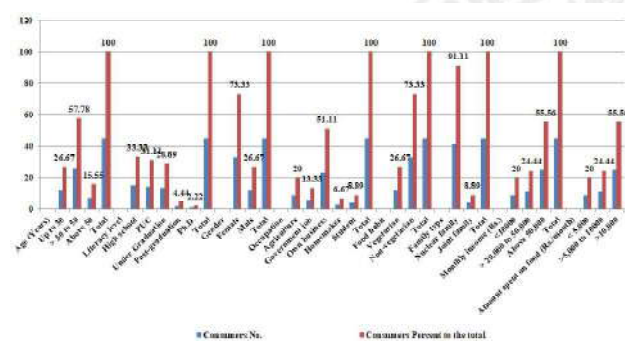| Particulars	Consumers	
	No.	Percent to the total
F. Family type		
1. Nuclear family	41	91.11
2. Joint family	4	8.89
Total	45	100.00
G. Monthly income (Rs.)		
1. <10000	9	20.00
2. 20,000 to 50,000	11	24.44
3. Above 50,000	25	55.56
Total	45	100.00
H. Amount spent on food (Rs./month)		
1. <5,000	9	20.00
2. 5,000 to10000	11	24.44
3. >10,000	25	55.56

Fig. 1: Socio-economic profile of consumers of milk and milk products in the study area

Age : It could be observed from the results presented in Table 1 that among total respondents, a relatively more proportion (57.77 %) of respondents were middle-aged (30-50 years) followed by 26.66 per cent in the young age group (up to 30 years) older age consumers (> 50 years), who accounted for 15.55 per cent. Amongst the consumers, the majority belong to the middle age group (between 30-50 years) compared to other age groups in the study area indicating relatively more involvement of these aged groups than youth and older age group consumers in decision making related to purchase of milk and milk products.

Literacy level : The educational background of the respondents has greater implications in the dairy milk market and the rising number of educated people would increase the demand for dairy milk/dairy

products, due to awareness about the health benefits of milk and milk products. Education is a crucial input for development as it enables a person to understand his surroundings and environment in particular and to acquire information for promotion. Education is considered an important explanatory variable in milk purchase as it involves an understanding of nutritional knowledge and dietary fat intake. Table 1 also gives information on the literacy level of respondents. In the study area, a relatively more proportion of respondents had completed High school education (one-third) followed by the pre-university level of education (31.11%), graduation (28.89%). Two respondents were postgraduates and one person was a Ph.D. holder.

Gender : Among the respondents, female respondents (73.33%) were more than male respondents (26.67%) as represented in Table 1 This indicated that the females form the major customer segment who actively participates in buying the milk and milk products. Generally, women play a very important role in decision making in the family where they take up the responsibility of maintaining the good health of the family members

Occupation : The occupation pattern of respondents in the study area revealed that 20 per cent of Government sector and 6.66 per cent of the respondents had their own business. However, more than fifty per cent of respondents were homemakers as also could be seen from the dominance of females in the total sample and the remaining about nine per cent of respondents were students (Table 4). Thus the majority of the respondents were women and were homemakers. This may be due to the reason that women were restricted to work as homemaker than working outside the home. Only 20 per cent of purchaser-consumers were agriculturists and the remaining consumers consist of salary earners, students and owned businesses but the majority consisted of housewives.

Food habit : Among the respondents, the majority of them were non-vegetarians (73.33%) and vegetarians accounted for the remaining 26.67 per cent (Table 4).

This may be attributed to the fact that eating non-vegetarian foods have countless health benefits as they are an excellent source of protein, healthy fat, vitamins and minerals including all the essential amino acids which the body requires for better growth and functioning. With the changing education level, consumers can get to know about all these benefits of eating non-vegetarian foods and hence also dominated in the consumption category of dairy products.

Family Size : With regard to the family size, majority lived in nuclear families (91.11%) consisting of less than four members, while only a small proportion of them (8.88%) were living in joint families with more than five members (Table 1). The dominance of the nuclear family *i.e.,* consisting of four or less than four members could be attributed to increased social awareness of family planning and the efforts made by the Government to check the population growth. The better literacy among the respondents also influenced them to incline towards small families. It is also true that the families in the villages are on the verge of disintegration because of urban influence. Further, the present trend in the society is to have a small family so that they could concentrate and provide better health, nutrition and quality education to their family.

Monthly household income : With respect to household income level, it was observed that a relatively lesser proportion of (20%) of the respondents had an income of less than Rs. 20,000 per month and one-fourth of them belonged to the monthly income range of Rs.20,000 - 50,000 and more than 55 per cent of the respondents had more than Rs.50,000 monthly income. Therefore with an increase in the income, there will be an increase in the purchasing power of the family and try to discover more new availabilities in the market and try to purchase the better and more nutritious food and dairy products. This fact is depicted in the dominance of the high income group category in the consumers of milk and milk products as respondents in the present study.

Amount spent on food : It could be observed from the results presented in a table that 20 per cent of the families were spending less than Rs.5,000 on food and only 24.44 per cent of respondents spent Rs.5,000 to 10,001 and a majority of them (>55%) were spending more than Rs.10,000 for food in the study area, but per cent income spent on food decreased with the increase in the income and this trend followed the Engel's law of family expenditure. The lower absolute income spent by the respondents was attributable to nuclear families and lower income levels of the respondents.

Purchase Behavior of Milk and Milk Products Consumers in the Study Area

The preferred brands of milk and milk products, the place of purchase, frequency of purchase and quantity of purchase were analyzed and presented in Table 2.

TABLE 2

Purchase behavior of milk consumers in the study area

| Particulars	Consumers	
	No.	Per cent to the total
A. Source / brand of milk		
1. Nandini	28	62.22
2. Heritage	07	15.56
3. Unbranded	10	22.22
Total	45	100.00
B. Preference of shop for purchasing		
1. Retail shop	08	17.78
2. SHIMUL Retail outlet	22	48.89
3. Door delivery	15	33.33
Total	45	100.00
C. Frequency of purchase		
1. Once in a day	29	64.44
2. Twice a day	16	35.56
Total	45	100.00
D. Quantity purchased (Liters / day)		
1. <1/2	20	44.44
2. 1/2-1	12	26.67
3. >1 [Includes bulk buyers quantity ranging from 15 liters to 20 litres)	13	28.89
Total	45	100
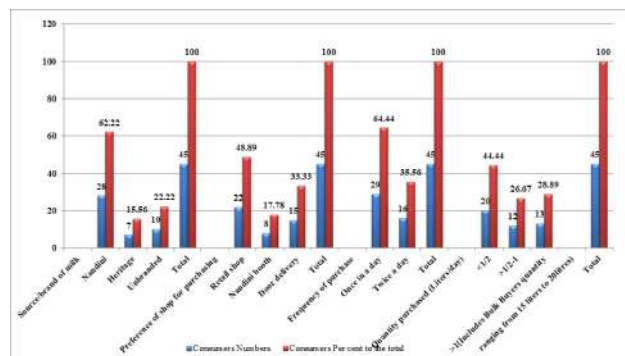
Fig. 2: Purchase behaviour of milk consumers in the study area

The purchase behavior of milk and milk product consumers in the study area reveals that among 45 respondents, 62.22 per cent preferred the Nandini brand, 15.56 per cent preferred the Heritage brand, and 22 per cent of them purchased local milk (unbranded milk) from vendors (Table 1). as well as in Fig 2. It could be also observed from the table that most of the branded milk consumers (18%) were preferred to purchase milk from retail shops, 48 per cent of them purchased from SHIMUL retail outlet and one-third of them preferred door delivery as they included bulk buyers like hotels, hostels, retailers, etc. While analyzing the frequency of purchase of milk, nearly two-thirds of respondents bought milk once a day, remaining respondents bought milk twice a day. As regards, quantity purchased, more than forty four per cent of consumers buy less than half a liter of milk and about 27 per cent of consumers buy half a liter to one liter of milk and Twenty nine per cent of consumers purchase more than one liter of milk, which included even the bulk purchasers like hotels, hostels, a retail seller of milk, etc. the results was aligned with Akhila and Boopathi, 2015.

Nandini was preferred by the majority of consumers because of the products' variants available in the market based on their milk fat and milk solids-not-fat (SNF) contents. Different types of milk variants included double toned milk, toned milk, standardized milk, cow milk, buffalo milk, full cream milk and skim milk. Milk was regularly consumed daily and its shelf-life was low, consumers purchased it every day either once or twice a day based on the required quantity. Quantity preferred to purchase by consumers was largely determined by the family size and income level of households. The emerging trend in the family size in India is a nuclear family with one or two children and this may be the reason for purchasing a lower quantity of milk at different intervals. The results are aligned with Akhila and Boopathi, 2015 and Krishna Das *et al.,* 2016.

Nandini milk consumers preferred to buy in Nandini booths because the price of Nandini milk was cheaper in booths but a higher price for the same product in retail shops. There are plenty of Nandini milk parlors inconvenient places as they work based on a franchise model. The majority of consumers bought half to one liter of milk since they buy milk daily and the quantity they purchased was enough for one day.

Dairy Products Purchase from SHIMUL Retail Outlets

In the study area, consumer responded that the pasteurized raw milk has high demand followed by the flavored milk, butter milk, ice-cream, ghee, paneer, khoa and other products (Table 3). Hence, the SHIMUL must concentrated more on raw milk rather than value added products in order to get the competitive advantage in the study area then only they will get the more profit than other brand like Heritage.

Here number of sample is 22 because only 22 respondents buy the milk and its products from the

TABLE 3

Dairy products purchase from SHIMUL retail outlets (n = 22)

Products	Consumer response	
Fluid milk (Pasteurize draw milk)	08	(36.36)
Flavored milk	04	(18.18)
Buttermilk	03	(13.63)
Ice cream	02	(9.09)
Ghee	02	(9.09)
Paneer	01	(4.54)
Khoa	01	(4.54)
Other products	01	(4.54)
Total	22	(100)

Note : Figures in parentheses indicate percentage to respective total

SHIMUL retail outlets. These results is aligned with Savitha, 2017.

Factors Influencing Consumer Preference towards Milk and Milk Products on the SHIMUL

The important attributes influencing the consumer purchase of milk and milk products were analyzed using Garrett's ranking technique. In this technique, the order of merit given by the consumers was changed into ranks. The per cent position of each rank was converted into scores by referring to the Garrett table. Then for each factor, the scores of individual respondents were summed up and divided by the total number of respondents for whom scores were gathered. The mean scores for all the factors were ranked; the factors having the highest mean value were considered to be the most important factor and ranked accordingly which is also represented in the Fig. 3
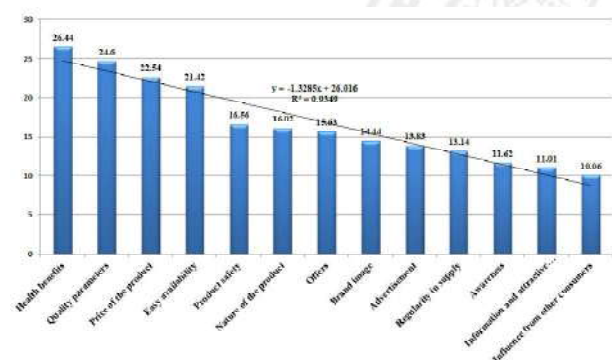

Fig. 3: Factors influencing the consumer preference towards different brands of milk and milk products

Order of merit given by the consumers was changed into ranks. The per cent position of each rank was converted into scores by referring to the Garrett table. Then for each factor, the scores of individual respondents were summed up and divided by the total number of respondents for whom scores were gathered. The mean scores for all the factors were ranked; the factors having the highest mean value were considered to be the most important factor and ranked accordingly which is also represented in the Fig. 3.

The factors influencing the consumer preference towards milk and milk products are presented in Table 4. The results clearly indicated that the major factors influencing the consumer preference towards milk and

milk products were health benefits, quality, price and easy availability. It is observed that rural consumers were less influenced by other factors like brand image, advertisement, influence from others and awareness. Increased literacy rates and the health awareness programmes had made the consumers more health conscious, quality conscious and price sensitive.

The factors like product nature, safety and brand image had a moderate influence on consumers as they were more product specific and brand conscious due to their high exposure to mass media. On the other hand, they were least influenced by attractive packing and other consumers. As milk and milk products were consumed regularly, the consumers neither cared about the packaging style nor other consumers' opinions. This result is aligned with Abdullahi *et al.*, 2014 and Trung *et al.,* 2014.

Consumers were more fond of homemade curd and buttermilk. Hence, Milk Union has to make an effort to capture this segment of customers by launching a special drive to promote the value added Products. Nandini brand of the Union was the most preferred

TABLE 4

Factors in fluencing the consumer preference towards different brands of milk and milk products in the study area (n=45)

Factors	Garrett's Values	
	Mean score	Rank
Health benefits	26.44	I
Quality parameters	24.60	II
Price of the product	22.54	III
Easy availability	21.42	IV
Product safety	16.56	V
Nature of the product	16.02	VI
Offers	15.63	VII
Brand image	14.44	VIII
Advertisement	13.83	IX
Regularity in supply	13.14	X
Awareness	11.62	XI
Information and attractive packing	11.01	XII
Influence from other consumers	10.06	XIII

brand in various milk and milk products in the study area. The important attributes influencing the consumer purchase behavior of milk and milk products included the health benefits of milk, quality parameter, price advantage and easy availability. Hence, Milk Union has to concentrate on these factors.

The popularity of milk based products like paneer, ice cream, yogurt, etc., are gaining acceptance from the consumers in rural regions also. Hence, the companies / stakeholders in the business of milk and milk products should concentrate on value added products like paneer, ice cream, and yogurt for a good turnover and profitability. As this study gives some important insights on the consumer behaviour, the stakeholder has to consider this before taking any decision.

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The Mysore Journal of Agricultural Sciences