

## **Marketing of Milk and Milk products through Vending Machines**

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### **Abstract**

In the wake of Corona virus no sector left free from the impact of Covid. Indian dairy industry is no different. Despite strong demand for basic foods like dairy products amid the corona virus pandemic, the dairy supply chain has seen a bunch of disruptions that are preventing dairy farmers from getting their products to market.

Mass closures of restaurants and schools have forced a sudden shift from those wholesale food-service markets to retail grocery stores, creating logistical and packaging nightmares for plants processing milk, butter and cheese. Trucking companies that haul dairy products are scrambling to get enough drivers as some who fear the virus have stopped working. And sales to major dairy export markets have dried up as the food-service sector largely shuts down globally- American Market - REUTERS

The dairy industry's woes signal broader problems in the global food supply chain, according to farmers, agricultural economists and food distributors. The dairy business got hit harder and earlier than other agricultural commodities because the products are highly perishable - milk can't be frozen, like meat, or stuck in a silo, like grain.

In the context Covid, Ecommerce and vending machines to certain extent serving the purpose. It is in this context a survey has been undertaken with a prime objective to capture the perception of the consumers on the usage of vending machines to serve the milk products.

Key words: Marketing – Dairy products – Consumers – perception – usage – satisfaction

### **Introduction**

Indian dairy industry is predicting that it will see a flat revenue growth in the current financial year. In the past decade or so the Indian dairy industry is grown beyond the leaps and bounds. The prediction is based on weak sales of an array of value-added products like- ice cream, cheese, butter and other products derived of milk according to a report of Crisil NSE – 0.05 %. Trade report shows that the industry has logged a 10% compound annual growth rate in the past decade.

Use of value added products will generate one third revenue in the milk industry.

Because of the lock down complete closures of hotels, restaurants, various types of hostels, educational institutions right from schools to universities have forced a sudden shift from those wholesale food-service markets to retail grocery stores, creating logistical and packaging nightmares for plants processing milk, butter, cheese and derivatives of milk.

### **Objective**

In this context a survey has been undertaken with a prime objective to assess the consumer location, age and awareness towards use of vending machines to cater the milk and milk products.

**Review of literature**

An extensive literature on Cooperative milk society, Socio economic impact, Marketing of dairy products is reviewed on the marketing of milk and milk derivatives but could not find handful exclusive reviews on use of vending machines in marketing the milk and milk products. The studies of Rawal and Vikas (2001), Basu and Chakraborty (2008), kaur (2010) identified and discussed about undemocratic functioning of cooperatives and how their functioning becoming an impediment for the development of Cooperative dairies. Gautam kakaty and MoromiGogoi (2001), Kamakar KG and Banerjee GD (2006), Mandeep Singh and Joshi. A.S (2008) identified the socio-economic indicators and their role and impact on marketing of dairy products.

**Methodology**

The survey is planned with the help of a well structured, pilot tested questionnaire representing objectives of the survey. The questionnaire is framed in Google form and conveniently shared to 325 respondents through social media whatsapp. However, only 309 questionnaires stood valid for further analysis. Basic statistical testes namely Cronbach’s alpha, Frequency distribution tables, Chi-square tests are applied.

**Data analysis**

The developed questionnaire undergone Cronbach’s Alpha for testing its reliability and the value is given below:

<b>Reliability Statistics</b>	
Cronbach's Alpha	No. of Items
.788	28

**Cronbach’s Alpha:** The value was calculated for the questionnaire administrated in order to determine the reliability of the data where the alpha value is greater than .70 is the recommended level. For this study, Cronbach’s Alpha value is calculated as .788 for 308 samples which indicates that the data having relatively higher internal consistency.

**Location, Age group of the customer and Awareness of Vending machine:**

				Yes	No
				Row Total	Row Total
				N %	N %
Location (Place of residence)	Urban	Age	< 21 years	77.5%	22.5%
			22 to 28 years	81.5%	18.5%
			29 to 35 years	73.1%	26.9%
			36 to 41 years	40.0%	60.0%
			42 to 49 years	66.7%	33.3%
			50 years and above	33.3%	66.7%
	Rural	Age	< 21 years	52.9%	47.1%

			22 to 28 years	71.2%	28.8%
			29 to 35 years	50.0%	50.0%
			36 to 41 years	87.5%	12.5%
			42 to 49 years	75.0%	25.0%
			50 years and above	25.0%	75.0%
	Semi-Urban	Age	< 21 years	37.5%	62.5%
			22 to 28 years	55.6%	44.4%
			29 to 35 years	60.0%	40.0%
			36 to 41 years	100.0%	0.0%
			42 to 49 years	0.0%	100.0%
		50 years and above	0.0%	0.0%	

Source: field survey

From the above table, one can analyze that which Age group and location of the customers are aware of vending machine. Also, the analysis shows that the assumption that urban people will be first exposed of any new machine is partly correct where the results proved that semi-urban and rural people are also aware about the vending machines. In particular in the age group between 36 to 41 years at semi urban there is cent percent awareness about the vending machines.

### To find the relationships between variables

#### #1. Gender of the customer and Awareness of vending machines:

Gender		Yes	No	Total
Female	Count	78	46	124
	% within Gender	62.9%	37.1%	100.0%
Male	Count	114	68	182
	% within Gender	62.6%	37.4%	100.0%

From the above table, one can notice that more or less both the Male and Female customers are aware of vending machines. On other hand statistics shows that among the respondents more male respondents are aware irrespective of the location and age.

This result is with respect to the sample, question arises that can we generalize these results can these results be applied to any similar customers for we make use of Chi – Square tests for Independence of attributes, as follows

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.002 <sup>a</sup>	1	.962
Continuity Correction <sup>b</sup>	0.000	1	1.000
Likelihood Ratio	.002	1	.962
Fisher's Exact Test			
Linear-by-Linear Association	.002	1	.962
N of Valid Cases	306		

**H<sub>0</sub>:** There is no relationship between Gender of the customer and Awareness of vending machine or sample results cannot be attributed to the population

**H<sub>1</sub>:** There is relationship between Gender of the customer and Awareness of vending machine or Sample Results can be attributed to the population.

Accept H<sub>0</sub> at 5% level of significance when significant value is more than 0.05, which indicates that sample results, cannot be attributed to the population.

### **Discussion and Outcome:**

The analysis displayed that customers irrespective of the gender are aware about use of vending machines for various products but in specific about the milk and milk related products. Off the questionnaire in the unstructured interview most of the customers said they are aware about soft drinks, coffee and tea beverages vending machines. The overall analysis shows that in any age group urban people comparatively have high awareness about the vending machine. There is no considerable difference in the level of awareness between male and female. Therefore, based on the survey results it may be inferred that as most of the people have awareness about the vending machines but does not have much awareness about milk and related products awareness program may be organized through public and social media to the public to get familiarize with the usage of the vending machine wherein a person may be employed for some time at vending machine to assist the customer to operate the machine. Over a period of time when customer get familiarize with the operations of Vending machines assistance services may be stopped. Therefore, by and large marketing of milk and milk related products may be marketed through vending machines in Hyderabad market.

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