

# ANALYSIS OF FACTORS INFLUENCING THE CONSUMPTION OF READY-TO-EAT SNACK FOODS IN SOUTH ZONE OF CHENNAI

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## ABSTRACT

*Factors influencing the consumption of ready-to-eat snack foods were analysed through principal component analysis. The data for the study was collected through a well-designed pre-tested interview schedule from 90 respondents in south zone of Chennai. Ten variables were considered as emphasizing factors. The results indicated that the economic factors such as cost saving, quantity and taste are the major influential factors for the consumption of ready-to-eat snack foods in first dimension. In second dimension, habitual factors such as habit, lack of cooking skill and hectic life style are the major influential factors. Convenience factors such as convenience and affordability are the influential factors in third dimension. In fourth dimension, marketing factors such as advertisement and influence of children are the major influential factors among ten variables. The Transparent Market Research (TMR) and the high convenience quotient of ready-to-eat snacks fuels a strong growth for the Ready-to-eat snacks in the market.*

**Keywords:** Convenience factor, Economic factor, Habitual factor, Marketing factor, Principal component analysis, RTE Snack foods, Transparent Market Research (TMR)

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## INTRODUCTION

Ready-to-eat (RTE) foods are a group of food products that are pre-cleaned, precooked, mostly packaged and ready for

consumption without prior preparation or cooking. A properly processed and packaged RTE food should be free of the target food borne pathogen and ready for consumption. Among the ready-to-eat foods, RTE snack foods is a new concept of fast moving life. Its inception to Indian market is very recent. The consumption of RTE food has increased rapidly because of increase in buzzes of professional life. These types of foods are becoming popular because it saves time and labour. This food has extended shelf-life and is available off the market shelves. The changing

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consumption pattern of people has played a vital role in driving the sales for ready-to-eat snack foods across the world (Reddy *et al.*,2014).

Increase in number of retail sector together with increasing demand for snack foods, has supported a robust market growth. A large group of consumers have a typical sense of fondness towards ready-to-eat snack foods. Because of high convenience quotient of RTE snack foods, some people replace their regular food with RTE snack foods. The above mentioned trends are indicative of significant growth of ready-to-eat snack foods in the market. The producers of RTE snack foods should take serious efforts to manufacture new types of snacks that are tastier, healthier and more economical for buying (Margaret *et al.*,2013).

Mechanizing healthy, non - fried and mineral rich snacks have been a challenge in recent items. Consumption of ready-to-eat snacks has been an increasing trend nowadays especially during various occasions, formal and informal gatherings, festivals, etc. The presence of several retailers and local sellers for ready-to-eat snack foods has also engaged in the progress of marketing companies. Intense market research and demand analysis is the need of an hour for the production of RTE snack foods.

There are so many factors influencing the consumers in buying ready-to-eat snack foods. The present study aimed at finding out the most influential factors in the consumption of ready-to-eat snack foods.

## MATERIALS AND METHODS

For the present study, South Zone of Chennai was purposively selected because of high concentration of super markets. The RTE snack foods viz., nuts, chips varieties, popped popcorns, single ingredient snacks, extruded snack products were chosen in this study. The primary data for the present study was collected from 90 respondents with a well-designed pre-tested interview schedule. The variables such as cost saving, quantity, taste, advertisement, influence of children, convenience, affordability, habit, lack of cooking skill and hectic life style were considered for analysis.

### Principal Component Analysis

The sampling adequacy of factors was determined by the Kaiser-Meyer-Olkin (KMO) measure. According to Dziubin and Shirkey (1974), the KMO index in the 0.90s was “marvellous”, in the 0.80s “meritorious”, in the 0.70s “middling”, in the 0.60s “mediocre”, in the 0.50s “miserable” and below 0.50 “unacceptable”.

In order to get the factor loadings, the Principle component analysis method was used. The Principal Component analysis method was followed to extract dimensions and the initial solution was rotated by the Varimax method with Kaiser Normalisation (Dave *et al.*, 2007). The main purpose of adopting Principal component analysis was to know the most important factors that influence the consumption of Ready-to-eat snack foods (Chitrambigai *et al.*,2013a)

The component model is expressed as follows

$$Z_i = a_{i1} X_1 + a_{i2} X_2 + a_{i3} X_3 + \dots + a_{ip} X_p$$

Where  $Z_i$  - Magnitude of the variable

$a_{ip}$  - The factor loading of variable  $i$  on factor  $p$

$X_p$  - The amount of association in magnitude of indicators, the uncorrelated trait

Measure by factor 'p' which is possessed by variable.

$i$  - Factor loading with reference to indicators 1, 2, 3 . . . p

$p$  - A set of common factors (1, 2 . . . p)

$a_{ip} X_p$  - Factor co-efficient or loading of variables  $i$  on factor  $p$

Those principal components whose Eigen values are greater than or equal to one would be retained to determine the number of factors in the present study. While selecting the variables from the various extracted dimensions, greater and positive values from rotated component matrix (Varimax rotation method) was selected from their respective dimensions.

## RESULTS AND DISCUSSION

The technique of Principal component analysis was employed for studying the factors influencing the consumption of Ready-to-eat Snack foods in South Zone of Chennai. Varimax rotation method was employed. The null hypothesis, that the population correlation matrix is an identity matrix, is rejected by the Barlett's test of Sphericity presented in

Table 1. The approximate Chi-Square statistic was 244.26 with 45 degrees of freedom which is highly significant at  $p \leq 0.01$ . The value of the KMO statistic 0.679 was also large indicating the suitability of the collected data for factor analysis.

In the principal component analysis, all the first four components in the initial solution had Eigen values over one which accounted for about 79.34 per cent of the observed variation in the consumer perception on factors influencing the buying behaviour. (Chitrambigai *et al.*,2013b). The variance explained in the absolute value shows a decreasing trend from first dimension to the fourth dimension and varied from 28.01 to 14.43 percent which is given in Table 2. About ten components were considered for analysis and the result was presented in Table 3.

### First dimension

This dimension explained 28.01 percent variations. Out of ten variables, three variables cost saving (0.919), quantity (0.797) and taste (0.678) showed higher factor loadings on first dimension which were considered as economic factor. This shows that the consumers would like to buy more quantity of ready-to-eat snack foods with fewer prices and also with good taste (Ansari *et al.*,2012). This shows that the consumers prefer economically feasible snack foods.

### Second dimension

This dimension explained 20.16 percent variations. Variables such as habit (0.522), lack of cooking skill (0.923) and hectic life style (0.914) have higher factor

**Table 1.KMO and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.679
Approx. Chi-Square		244.258
Bartlett's Test of Sphericity	df	45
	Sig.	.000

**Table 2.Total variance explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.801	28.007	28.007	2.374	23.741	23.741
2	2.017	20.168	48.176	2.052	20.522	44.264
3	1.673	16.733	64.909	1.787	17.873	62.137
4	1.443	14.434	79.343	1.721	17.207	79.343
5	.605	6.046	85.389			
6	.509	5.089	90.478			
7	.345	3.455	93.933			
8	.243	2.429	96.362			
9	.191	1.910	98.273			
10	.173	1.727	100.000			

Extraction Method: Principal Component Analysis.

loadings in the second dimension and were considered as Habitual factor. The consumers prefer this ready-to-eat snack foods because of their habit of eating snacks and also they don't have enough time to prepare meals because of their hectic life style. Consumers also are showing growing preferences for foods that be eaten on the move like snacks. The urban lifestyle lends itself to the 'snacking and grazing' consumption behaviour (Choi,2022).

### Third dimension

This dimension explained 16.73 percent variations. Convenience (0.923) and affordability (0.831) were having higher factor loadings in third dimension and are considered as convenience factor. As consumers are increasingly moving to a more cosmopolitan lifestyle, snack foods that are easily portable and affordable have become their choice

**Table 3. Analysis of factors influencing the consumption of ready-to-eat snack foods**

Attributes	Component			
	1	2	3	4
<b>Economic Factor</b>				
Cost saving	0.919			
Quantity	0.797			
Taste	0.678			
<b>Habitual Factor</b>				
Habit		0.522		
Lack of cooking skill		0.923		
Hectic lifestyle		0.914		
<b>Convenience Factor</b>				
Convenience			0.923	
Affordability			0.831	
<b>Marketing Factor</b>				
Advertisements				0.914
Influence of children				0.909

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

of buying. Indian people prefer to go in for RTE snack foods because of convenience and affordability amidst their working culture.

**Fourth dimension**

This dimension explained 14.43 percent variations. Advertisements (0.914) and Influence of children (0.909) were the variables which showed high factor loadings among the ten variables in fourth dimension and are considered as marketing factor. The role of mass media in bringing the familiarity of ready-to-eat snack products through advertisements grabs the attention of consumers and also attracts the children which influence them to buy ready-to-eat snack foods.

The principal component analysis of the factors influencing the consumption of Ready-to-eat snack foods showed that the economic factor was the major influencing factor with Eigen value 2.801 presented in Table 2, followed by habitual factor with Eigen value 2.017 and convenience factor with Eigen value 1.673 and marketing factor with Eigen value 1.443.

The socio-economic characteristics of the respondents such as Gender, Age, Education, Occupation, Income, Family type were studied and are given in Table 4. It was observed that most of the respondents are males between the age group of 18 and 30

**Table 4. Socio-economic characteristics of sample respondents**

Characteristics	Number of Respondents	Percentage
<b>Gender</b>		
a. Male	55	61.1
b. Female	35	38.9
<b>Age</b>		
a. Below 18	12	13.3
b. 18-30	34	37.8
c. 30-50	27	30.0
d. Above 50	17	18.9
<b>Education</b>		
a. SSLC /HSC	16	17.8
b. Diploma	24	26.7
c. Degree (UG)	38	42.2
d. Postgraduate	12	13.3
<b>Occupation</b>		
a. Unemployed /Home maker	4	4.4
b. Employed in Govt. sector	14	15.6
c. Employed in Private sector	37	41.1
d. Own business	23	25.6
e. Others	12	13.3
<b>Income</b>		
a. Rs .0-8,999	19	21.1
b. Rs. 9,000-19,999	28	31.1
c. Rs. 20,000 - 99,999	32	35.6
d. More than Rs.1 Lakh	11	12.2
<b>Family Type</b>		
a. Joint Family	41	45.6
b. Nuclear family	59	65.6

years belongs to nuclear type family (Sinaiet al.,2021). The majority of the respondents preferring RTE snack foods are degree holders, employed in private sector earning a monthly income between Rs.20,000/- and Rs. 99,000/-. The results revealed that nuclear type households, corporate lifestyle, convenience, taste etc., influence the youngsters to prefer RTE snack foods (Vilela et al.,2020)

### CONCLUSION

The study on factors influencing the consumption of ready-to-eat snack foods were indicated that the economic factor is the major influential factor for the consumption of Ready-to-eat snack foods followed by habitual factor, convenience factors and marketing factor. To reduce stress and improve work-life balance, a high majority of Indians are seeking time-saving products and services in an attempt to maximize leisure time. The need to meet taste and convenience needs is fuelling the growth of RTE snacks in an increasingly time-pressed Indian society.

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