

Factors Influencing Customer Buying Behavior for Vacuum Fried Products in south India

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Abstract - Customers are becoming more conscious about the ill effects of deep fried products and it is widely discussed in the international arena. An alternative to these deep fried products is vacuum fried products which are less in oil content and healthier. This study aims at knowing the buying behavior of vacuum fried products. Willingness to pay for vacuum fried products was studied across South India with a sample size of about 153 respondents. Ordered logistic regression was employed. The principal finding was that customers who are willing to have greater shelf life for their products and those who are concerned about oil in their food are more likely to pay extra for vacuum fried products. This study is the first of its kind to determine the factors influencing the buying behavior of a customer for a new segment called Vacuum Fried food products.

Keywords—vacuum fried products; buying behavior; health benefits

I. INTRODUCTION

The industry in India has witnessed significant development since 1995. Due to the busier and the convenient lifestyle customer preference for packaged food items is increasing. Purchase of snacks is further motivated by the increase in urbanization, rise in working-women population and nuclear families. In order to save time in their busy schedule people are moving towards ready-to-eat food items.

Now with increasing health consciousness, people are looking forward to finding something healthy as well. The next cue is something that is easy and convenient as well as healthy. It is a well-known fact that the oil content in all fried products are considerably high leading to all kinds of health issues. There is study that fried potatoes has cancer causing agents which can lead to skin cancer [1].

An alternative technology called vacuum frying has been found which can improve the quality of fried chips and reduce the oil content [2]. Here the products are fried at low temperature and pressure in the absence of atmospheric air. This enhances reduction in moisture content and reduced oil absorption [3]. According to Mariscal, M., & Bouchon, P the oil content in the vacuum fried chips was much lesser than the traditionally fried products [4].

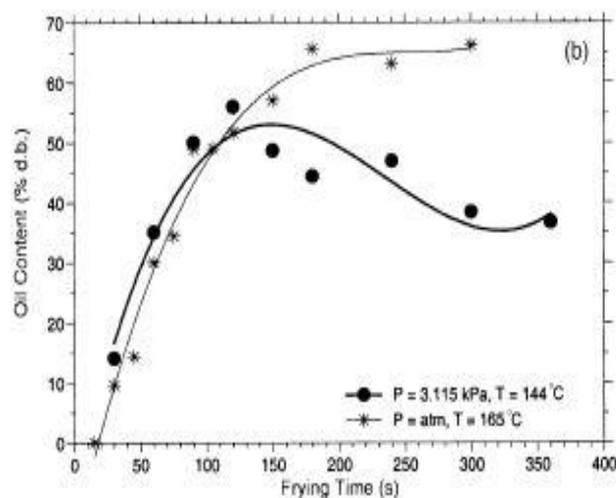


Fig 1: Oil absorption rate in vacuum fried potato chips and atmosphere fried potato chips, frying time vs oil content [5]

In vacuum frying the boiling point of both oil as well as the moisture of the food is low thus enhancing better frying. It also preserves the natural texture taste and aroma of the products even after frying [5].

The subject of consumer buying behavior is vast, particularly when it comes to buying food items. Many factors, attitudes and characteristics define a customer in his/her decision making process, shopping habits and purchasing behavior. Purchase decision is the overall result of all these factors. Moreover, the culture, subculture, social class, family, cultural trends and societal environment have a huge impact over the purchase decision. A better understanding of these decision helps brand managers to develop a strategy to win over the customers.

Since vacuum fried products are new to Indian markets, a study over the willingness of the customers to buy this product will be helpful in launching the product.

II. LITERATURE REVIEW

The study [6] says that few people are willing to pay little extra for food items, when the risk associated with that is less. Nesheim, L infers that people are willing to pay more for organic food for the quality and the health benefits associated with it [7].

Hypothesis

The health attribute “Cholesterol lowering” has a huge impact towards the willingness of the customer to buy the product [8].

H1 People who are concerned about the oil content of the food are likely to buy vacuum fried products

According to a study on effects of expiration dates, consumers gave highest ranking to the shelf life of the products while buying organic food [9]. It was also discussed that the consumers tend to purchase to reduce the aging of the product. A study researched the shelf life is a direct indicator of the quality of the product hence it influences the buying behavior of the customer [10].

H2 People who are concerned about the shelf life of the products are likely to buy vacuum fried products

A study found that people have more inclination towards organic food because of the health benefits associated with that. The consumption of organic food was influenced by the safety and the health benefits associated with it [11].

H3 People who consider organic food as healthy are likely to buy vacuum fried chips

H4 People who are ready to travel extra distance for healthy food are likely to buy vacuum fried products

In general, women seem to show more interest than men towards healthy food [12] [13]. Women are responsible for the purchase of groceries and they are more aware about the nutritional aspects of the food products than men. A study on organic food says that the concern towards healthy food and the tendency to spend more for healthy food increases with increase in income level [14].

H5 Female population is more likely to buy vacuum fried products

H6 People are likely to buy vacuum fried products with increasing annual income

III. CONCEPTUAL MODEL

This study recommends the factors that are likely to influence the customers when they buy vacuum fried chips when they are introduced in the market.

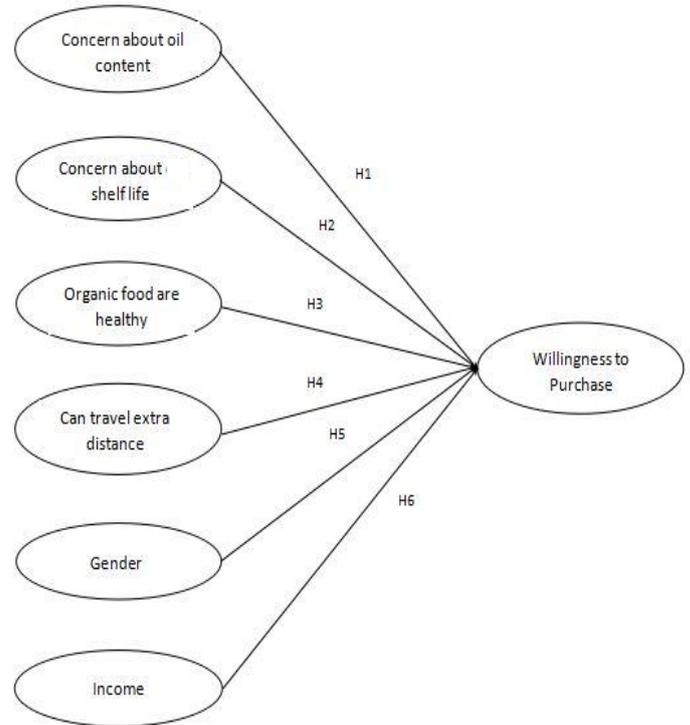


Fig 2: Conceptual model

IV. RESEARCH METHODOLOGY

a) Participants:

A total of 153 responses was recorded from people in south India. Quota sampling was employed to get a homogeneous spread of demographics from the targeted place.

b) Questionnaire Development:

A questionnaire was developed and floated across online portal. It began with asking about the awareness of the vacuum fried products amongst people. It was followed by the factors that they look for while buying a fried products and giving a general awareness about the vacuum fried products. Few information about the food labeling was asked followed by personal details like age, gender, income and place of residence.

c) Measures:

The respondents were asked about the importance of each factors while they buy fried products. A five point semantic

scale ranging very unimportant to very important was used to assess this. Then few attitude related questions with respect to their concern towards their health and willingness to buy healthy products were asked. Then few demographics like age, income, place of residence and gender were also recorded.

d) *Data description:*

The sample consists of 153 responses from people of various age and income residing in south India.

TABLE 1: DESCRIPTION OF SAMPLE ACROSS INCOME AND GENDER

Income(Rupee/annum)	Female	Male
No Income	44	26
Up to 2 lakhs	3	5
2 to 5 lakhs	22	32
more than 5 lakhs	2	19
Total	71	82

e) *Empirical model:*

The following model was used to test the hypothesis

$$WTB = \beta_1 + \beta_2IF1 + \beta_3IF2 + \beta_4IF3 + \beta_5IF4 + \beta_6IF5 + \beta_7IF6 + \beta_8IF7 + \beta_9IF8 + \beta_{10}IF9 + \beta_{11}IF10 + \beta_{12}IF11 + \beta_{13}Age + \beta_{14}Gen + \beta_{15}Inc + U$$

Where,

- WTB = Willingness to buy Vacuum fried product
- IF1 = Ready to travel extra distance for healthy food
- IF2 = Ready to visit several stores
- IF3 = Concerned about food safety
- IF4 = Shelf life of the product
- IF5 = Concerned about the oil content in the food
- IF6 = Concerned about cancer causing agent
- IF7 = Food label influence
- IF8 = Pressure from family
- IF9 = Food purchase has an impact on the status
- IF10 = Perception that healthy food is a symbol of high life style
- IF11 = Perception on organic food as healthy
- Age = Age of the respondent
- Gen = Gender of the respondent
- Inc = Income of the respondent
- U = Error term

Ordered logistics regression was used to estimate the model. This was chosen because the willingness to buy vacuum fried chips was measured on a 5-point scale ranging from 1 to 5, which corresponds to “Least likely” to “Very likely”. The results of ordered logistic regression is given in table 2.

V. RESULTS AND DISCUSSION

There are several factors that influences the buying behavior of the customers according to the model. Along with these control variables like age and income of the customers are also found to have an impact on the buying behavior of the customers.

TABLE 2: RESULTS OF THE REGRESSION MODEL

Independent variables	Odds Ratio	P value	Coefficient
Ready to travel extra distance	1.650702	0.05	0.9904727
Ready to visit several stores	0.7692268	0.29	0.47226
Concerned about food safety	0.7672359	0.32	0.4573343
Importance for shelf life	0.977641	0.92	0.6367988
Concerned about oil content	1.812756	0.00	1.234576
Concerned about cancer	0.6056087	0.19	0.2865951
Willing to buy for longer shelf life	8.89853	0.00	5.342028
Food label influence	1.255477	0.15	0.9215695
Pressure from family	0.9058224	0.57	0.6456534
Food purchase impacts status	1.159825	0.40	0.8218986
Healthy food indicates high lifestyle	0.7509226	0.19	0.4907548
Organic food is more healthy	1.456141	0.07	0.9690596
Age	1.336367	0.31	0.7645539
Gender	2.034382	0.08	0.9156751
Income	1.413454	0.07	0.971256

People who are willing to buy products with higher shelf life are almost 9 times more likely to pay for vacuum fried products at 1% level of significance. Also from the table, people who are concerned about oil in food stuff, are twice likely to be willing to pay for vacuum fried products at 1% level of significance. Customers who have high annual income are 1.4 times more likely to have the willingness to pay for vacuum fried products. This is significant at 5% level of significance. People who are willing to travel extra distance to buy healthy food products are 1.5 times more likely to pay extra for vacuum fried products. People who believe that organic food healthier are 1.4 times more likely to pay extra for vacuum fried products. This is significant at 10% level of significance. Controlling for the age, the females are twice more likely to pay for Vacuum fried products than males at 10% level of significance.

VI. CONCLUSION

With the changing consumer attitude and westernization, the consumers are now very likely to consume unhealthy food. It is high time people are realizing that they need to pay attention

to what they are consuming. At the same time the busy life they are leading they are unable to pay attention to these things.

Vacuum fried product is one alternative for the traditionally fried products with less oil content. This is considered to be healthy compared to the traditionally fried chip and several products like apple, pineapple, mango and more can be fried using this vacuum-frying technique.

This study aimed at finding out the factors influencing the buying behavior of the consumers towards fried products. It was found that people are more inclined to the shelf life and the oil content of product. Vacuum fried products have comparatively less oil content and hence longer shelf life and people are willing to buy this for the same. Moreover it was found that women are more willing to buy this than men and the willingness to buy this increases with increasing income. This research can be thus helpful for small firms that are planning to set up vacuum fryers for manufacturing healthy chips.

VII. LIMITATIONS AND FUTURE SCOPE

The research is first of its kind and any sole decisions cannot be concluded only with this study. Moreover due to time constraint the research is limited to respondents from south India. The study can be further extended by doing an extensive survey across India and also by checking for more variable which can impact buying behavior of consumers.

VIII. REFERENCES

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