

An Analysis of Consumers' Buying Behaviour and Its Determinants of Fast Food in Sri Lanka

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Abstract

This study focused to identify the impact of demographic and economic attributes of the consumers that influence on fast food consumption and consumers' buying behaviour in Moratuwa municipal council area which is located in Sri Lanka. Data were collected through a consumer survey with a structured questionnaire conducted in the study area and 100 samples from 50 restaurants were selected randomly. An ordered probit model was carried out to find out the relationships between a selected demographic and economic attributes of consumers such as age, education, gender, civil status, number of family members, distance to the nearest fast food outlet, conscious of health and disease concern on fast food consumption, consumers' perception on convenience of fast food, entertainment, income, employment status, and price opinion about fast food that affect on buying behaviour of the consumers in the fast food restaurants in Sri Lanka. In addition to that, other econometrics techniques such as, descriptive statistics, chi-square test and marginal effects also applied in the data. Frequency of fast food consumption considered as dependent variable which is as an ordinal outcome variable and all other explanatory variables namely demographic and economic attributes of consumers were used as categorical and binary variables in the study. Results from the ordered probit model reveals that, age of the respondent, education level, employment and civil status, distance to the nearest fast food outlet from their home have statistically significant and they are the key determinants in the consumption of fast food. The findings of this study will help for fast food managers to design their marketing strategies which are most suitable to fit with the consumers' attitudes and expectations and their buying behaviour of fast food restaurants in Sri Lanka.

Keywords: fast food restaurants, consumers' attitudes, marginal effects, ordered probit model

1. Introduction

Over the past decades, fast food consumption habits have changed massively in the world and at present busy world and because of both spouses to work outside of the home, most people prefer to consume the fast food in the restaurants or take away food outlets. In addition to the income of the households, with an increasing assent on health concern, nutrition of the foods and atmosphere and changing life styles towards the modernization offers various opportunities for the household to buy and consume fast food products quickly from the modern restaurants. Due to the above reasons the habits towards ready to eat among the consumers have increased the demand for fast food. As like other developing countries, there are significant number of restaurants are being established especially in major cities in Sri Lanka including Moratuwa which is a large suburban city in the South- West coast of the country. At present more than 50 fast food restaurants and takeaway joints are operating in the study area. In this background, it is interesting to know what factors have influenced the people in and around the area to consume more of fast food in the restaurants and there is a need to identify the factors that determine the frequency of fast food consumption in Moratuwa, Sri Lanka.

The objective of this study is to investigate how demographic and economic attributes of the consumers influence on fast food consumption habits and their buying behaviour in Moratuwa, which is located in Sri Lanka.

2. Literature Review

Anita Goyal and N. P. Singh (2007), have examined the consumer perception about fast food in India and they

have found that young Indian has passion for visiting fast food outlets for fun and change but home food their first choice. Consumer characteristics influencing fast food consumption in Turkey was investigated by Cuma Akbay, Gulgun Yildiz Tiriyaki and Aykut Gul (2007) and the results shown that age, income, education, household size, presence of children and other factors significantly influence the fast food consumption behaviour in Turkey. Another study has made by Elizabeth Denney–Wilson, Anthony D. Okely, Louise Hardy, David Crawford and Timothy Dobbins (2009) on influences on consumption of soft drinks and fast foods adolescents in New South Wales and their results proved that over half of the boys and more than one third of the girls reported drinking soft drinks daily, and consumption peaked in grade 8 students in the study area. Iqbal Zafar. M, Saif–ur-Rehman Saif Abbasi, Aysha Chaudhry and Atif Riaz (2009) have examined the consumer behaviour towards fast food Pakistan using 90 customers which were selected randomly and their results suggested that majority of the respondents was young, well educated and economically well off.

Another research has done by Bala swamy, Anil Kumar and Srinivasa Rao (2012) have analyzed the buying behaviour of consumers towards instant food products in India and their results suggest that the average per capita purchase and per capita expenditure on instant food products had a positive relationship with income of households. A previous study has done by Vinit Dani and Vanishree Pabalkar (2013) regarding on exploring of consumer behaviour towards fast food industry in Pune and their findings reveals that Indian fast food market is growing at an annual growth rate of 30%-35% and other popular food chain have huge plans of expansion in future. Zeke Bryant (2011) has analyzed on who consumes fast food and why? in USA and his results showed that gender, age and time spent cooking had a significant negative effect on the consumption of fast food while race had a positive influence on it.

3. Methods

To identify how a consumer's fast food consumption behavior is affected by socio-economic and demographic characteristics in Moratuwa municipal council area, primary data through a structured questionnaire comprising of both open ended and close ended questions were collected from all 21 towns in this study area. Further, sample comprised of 120 respondents and out these, 100 samples was selected randomly from 50 restaurants, who gave completed questionnaires.

Different econometrics techniques such as descriptive statistics, chi–square test, ordered probit model and marginal effects were applied in the data analysis. The categorical variable for frequencies of consumption was used as dependent variables and it coded as 0 for never, 1 for once or twice a month, 2 for once a week and 3 for once a day and all other twelve variables were used as explanatory variables in the study. For data analysis, ordered probit regression and marginal effects after estimate the model were applied and addition to that data were analyzed by using other statistical methods especially descriptive statistics and chi- square test. Descriptive statistics are used to describe the basic features of the data set and they provide simple summaries about the sample and the measures. Chi-square test measures the goodness of fit where data are categorized and as a test for the more common contingency table, in which categorization is across two or more dimensions at the nominal or ordinal level. The crosstabs with chi–square are more useful to identify the relationship between categorical and ordinal data and this test is more useful to determine whether or not a particular categorical ordinal variable is an important in the dependent variable.

In sociological research, ordered probit model is often used to relate an ordered outcome dependent variable to a set of dichotomous or categorical independent variables. In this study also, dependent variable that is consumers' frequency of fast food was investigated using ordered probit model and the response regarding the consumption frequency was converted into ordered values from 0 to 3. The model used in the study can be written as:

$$Y = \beta_0 + \beta_1 P + \beta_2 AGE + \beta_3 INC + \beta_4 EDU + \beta_5 ES + \beta_6 G + \beta_7 NFM + \beta_8 CS + \beta_9 DSTNC + \beta_{10} HLTH + \beta_{11} CONV + \beta_{12} ENT + \varepsilon$$

Where:

Y = Frequency of fast food consumption and it is coded as an ordered outcome such as,

= 0 for never

= 1 for once or twice a month

= 2 for once a week

= 3 for once a day

P = price of fast food

= 0 for not affect on consumption decision of fast food

- = 1 for has affect on consumption decision of fast food
- AGE = Age of the household in years
- = 0 for less than 15 year (Kids)
 - = 1 for between 16 and 30 years (Youngsters)
 - = 2 for between 31 and 45 years (Middle aged consumers)
 - = 3 for 46 years and above (Elders)
- INC = Monthly income of the household
- = 0 for less than LKR 15000
 - = 1 for between LKR 15001 and LKR 30000
 - = 2 for between LKR 30001 and LKR 45000
 - = 3 for LKR 45001 and above
- EDU = Educational level of the household
- = 0 for primary education
 - = 1 for secondary education
 - = 2 for higher education
- ES = Employment status
- = 0 for unemployed
 - = 1 for employed
- G = Gender
- = 0 for female
 - = 1 for male
- NFM = Number of family members
- CS = Civil Status
- = 0 for single
 - = 1 for married
- DSTNC= Distance to the nearest fast food outlet from their home (km)
- HLTH = Conscious about health and disease concern
- = 0 for fast food has no harmful on health and disease
 - = 1 for fast food has harmful on health and disease
- CONV = Consumer's perception about convenience
- = 0 for fast food is no convenient
 - = 1 for fast food is convenient
- ENT = Entertainment
- = 0 for eating fast food for entertainment
 - = 1 for eating fast food not entertainment

Marginal effects are more useful to interpret the results of ordered probit model effectively and this effects show how the probabilities of each outcome change with respect to the changes in explanatory variables. The positive marginal effect of a variable indicates the probability of a consumer choosing that particular ranking increases with the particular variable while a negative marginal effect of a variable indicates the probability of a consumer choosing that particular ranking decreases with the particular variable.

4. Results and Discussions

In Table 1, results of the descriptive statistics of each variable were analyzed and it displaced in the table as below.

Table 1. Results of descriptive statistics

Variables	Mean	Standard deviation
Independent variables		
Price	.74	.441
Age	1.32	.815
Income	1.58	1.273
Level of Education	1.56	.538
Employment status	.73	.446
Number of family members	4.30	1.521
Civil status	.40	.492
Distance in Km	2.06	2.033
Health concerns	.89	.314
Convenience	.91	.288
Entertainment	.58	.496
Gender	.49	.502
Dependent variable		
Frequency of fast food consumption	1.34	0.685

Source: Survey data, 2014.

The above table shows that mean of the dependent variable that is frequency of fast food consumption is 1.34 indicates that the respondents who are living in the study area on average their preference to go to the fast food restaurants considered as once or twice month. The average age group of respondents was in between 16 years to 30 years, while the average income was in between LKR 16,000 and LKR 30,000. The average number of family members per respondent was roughly 4 and the average distance from the home to the fast food restaurant can be seen as 2Kilo Meters. The frequency fast food consumption behavior was displaced in the charts below and according to that, 48%, of the respondents consumed fast food once or twice a month, while surprisingly only 2% of the respondents consumed fast food on a daily basis. The 10% of the respondents never consumed fast food while 40% of them were consumed once a week from the restaurants in the study area.

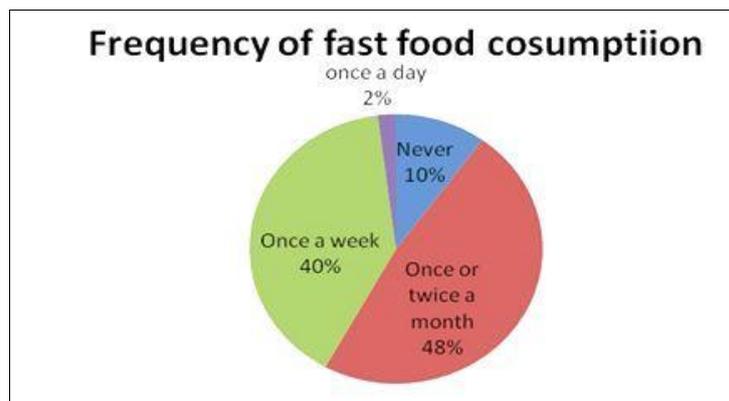


Figure 1. Frequency of fast food consumption

Source: Survey data, 2014.

The Table 2 presents the frequency of fast food consumption among the demographic and economic variables of the consumers and their relationship was analyzed by using the Chi-square test.

Table 2. Results of Chi-square test for selected variables

Variable	Frequency of fast food consumption				χ^2	sig
	Never	Once or twice a month	Once a week	Once a day		
Age					37.63	0.00*
Less than 15	0	20%	60%	20%		
16-30	10%	40%	50%	0		
31-45	22.2%	66.7%	11.1%	0		
46 and above	0	83.3%	16.7%	0		
Level of Education					12.11	0.059**
Primary Education	50%	50%	0	0		
Secondary Education	5%	37.5%	52.5%	5%		
Higher Education	12%	55.2%	32.8%	0		
Civil Status					8.75	0.033**
Married	15%	60%	25%	0%		
Single	6.7%	40%	50%	3.3%		
Price					8.069	0.045**
Yes	10.8%	52.7%	36.5%	0%		
No	7.7%	34.6%	50%	7.7%		

Source: Survey data, 2014.

Note. Data included are the cross tabs within the various categories and *, and** indicate the significance level at 1% and 5% respectively.

The above results suggest that frequency of fast food consumption is significantly associated with age of the respondents, education, civil status and attitudes about the price of fast food. Among the age group, young consumers who are belonged to less than 15 years more visits and more likely to consume (60%) fast food than middle aged consumers who are belong to between 31 and 45 years. The households that never consumed fast food are less likely (10%) belonged to the aged between 16 to 30 years while never consumed fast food for middle aged people have more percentage (22.2%) proved that the youngsters have more interested to eat fast food than middle aged people. Similarly, consumers with secondary education are more likely to consume on the basis of once a week than higher educated people proved that higher educated people have more concern on health aspect than secondary education type of people. Single person has high frequently to consume fast food than married person suggests that consumers who live as single are the main customers in the restaurants. The consumers who feel price of fast food is an important to consume has less likely to consume on the basis of once a week than the consumers who feel price is not an important.

Ordered probit model was estimated to determine the factors on frequency of fast food consumption behavior for fast food restaurants and the results were presented in Table 3.

Table 3. Estimated results of the ordered probit model

Variables	Coefficients	Standard errors	z	P> z
P	-.426	.349	-1.22	0.221
AGE	-.440	.225	-1.96	0.050**
INC	.240	.155	1.55	0.122
EDU	-.539	.281	-1.92	0.055**
ES	1.305	.370	-3.52	0.000*
NFM	-.098	.099	0.99	0.324
CS	-1.098	.429	-2.56	0.010*
DSTNC	.160	.072	2.22	0.027**
HLTH	.660	.472	1.40	0.162
CONV	.482	.451	1.07	0.286
ENT	-.552	.389	-1.42	0.155
GEN	-.191	.342	-0.56	0.577
Cut1	-3.014	1.036		
Cut2	-1.170	1.010		
Cut3	1.526	1.048		

Source: Survey data, 2014.

Note. *and ** indicate the significance level at 1%, and 5% respectively.

Results of the socio-economic and demographic variables are guided to identify the consumers who are likely to be most interested in fast food consumption behavior. According to the table 3, coefficients for price (P), income (INC), number of family members (NFM), attitudes about health concern on food (HLTH), convenient (CONV), entertainment (ENT), and gender (GEN) did not have significant impact on fast food consumption while coefficients for age (AGE), education level (EDU), employment status (ES), civil status (CS) and distance (DSTNC) have statistical significance and they are the important determinants of fast food consumption.

Age of the respondents have negative sign shows that as age increases, the consumers have less probability to go to the restaurants and compare with elderly people, young generation prefers to go more visits to restaurants. Similarly other variables such as, education level, number of family members and civil status also negatively impact on frequency of past food consumption behaviour of the consumers. It means that as the above variables were increases, they have less probability to go the food restaurants and their buying behaviour from the restaurants also less in the study area.

On the other hand, coefficients for employment status and distance have statistically positive impact on fast food consumption show that when these variables are increase, the probability for frequency of fast food consumption also will increase. Cut 1, cut 2 and cut 3 refer to the intercepts of the dependent variable and it has four orders and three dummy variables hence there will be only three intercepts. The variable civil status has negative sign reveals that a person who is married has less likely to consume the fast food from restaurants than single person. Further, the variable for distance has positive sign proves that the customers who are living far away from the restaurants have less visit and thus less interested to consume the fast food than others who are living closer to the restaurants.

The marginal effects give insights into how the explanatory variables shift the probability of frequency of fast food purchasing behaviour between the four ordinal levels and these effects were measured after estimated ordered probit model. The results of marginal effects for fast food purchasing behaviour were display in the Table 4.

Table 4. Results of marginal effects

Variables	Prob ^a (0)	Prob(1)	Prob(2)	Prob (3)
P*	0.0435	0.1630	-0.2033	-0.0032
AGE	0.0357	0.1017	-0.1361	-0.0013
INC	-0.0313	-0.0892	0.1194	0.0011
EDU	0.0843	0.2403	-0.3215	-0.0031
ES*	0.0977	0.4088	0.4867	-0.0198
NFM	-0.0101	-0.0287	0.0385	0.0003
CS*	0.1832	0.2974	-0.4745	-0.0061
DSTNC	-0.0182	-0.0520	0.0696	0.0006
HLTH*	-0.1523	-0.1468	0.2976	0.0015
CONV*	-0.0878	-0.1241	0.2107	0.0011
ENT*	0.0273	0.0806	-0.1068	-0.0011
G*	-0.0107	-0.0307	0.0410	0.0004

Note. (*) probability is for discrete change of dummy variable from 0 to 1.

(^a) "0" represents never, "1" represents once or twice a month, "2" represents once a week and "3" represent at least once a day.

Source: Survey data, 2014.

One of the economic factors such as opinion about the impact of price on purchasing decision (P) has a positive relationship with the frequencies of probability for never and once or twice a month while it has negative relationship with the other two frequencies. It shows that the consumers who are more concern on price to consume the fast food, they have 4.35% of more probability to never consume while 16.3% of more probability to consume the fast food on the basis of once or twice a month. On the other hand, a consumer who is considered the price of fast food to consume it has 20.3% and 0.32% of less probability to purchase the fast food from the restaurants respectively. The marginal effects of age have positive relationship with the probability of never and once or twice a month while it has negative associated with other two frequencies of the consumption. This reveals that, an increase in age has positively associated with an increasing probability for the frequencies of consumption of never and once or twice a month while it has negatively associated with the probability of once a week and at least once a day visits to the restaurants. As household income increases the probability of

purchasing the food in the category of never and once or twice a month will reduce by 3.13% and 8.92% respectively while frequencies of other categories increase. Probability of fast food consumption increases with education on the basis of never and once or twice a month while it reduces on the basis of once a week and at least once a day.

Civil status (CS) which is a dummy variable given zero for single and 1 for married has positive relations with the first two categories while it has negative relations with other two categories show that the consumers who are single had 47.45% and 0.61% of lower probability for the frequencies of once a week and at least once a day while 18.32% and 29.74% of higher probability of being not consuming the fast food from the restaurants in the study area. Regarding to the health concern which is also a dummy variable indicates that the consumers who have more concern on their healthy life, they had less probability for higher frequency that is at least once a week and nearly 15% probability of being not consuming the fast food. The demographic variables such as gender (G) are also helpful in profiling consumer who is likely to be most interested in the purchasing of fast food. According to that, relatively male consumers have little bit more interested on fast food consumption on the basis of higher frequency than female consumers. Consumers' attitudes towards perception about convenience and entertainment and the distance between the restaurants and consumers' residential places also impact on the purchasing behaviour of fast food consumption in the study area.

5. Conclusions

Today's world, the people are increasing the consumption for their different varieties of food due to the convenience and socio economic factors they prefer to take them from the restaurants and the rapid advancement in the food industry can be attributed to the growth in technology which also gave way to fast food. The study proved that 48% of the respondents in the sample consumed fast food at once or twice a month, while surprisingly only 2% of the respondents consumed fast food on a daily basis. But only 10% of them never consumed their fast food while 40% of them were consumed once a week from the restaurants in the study area. Overall, the results of the ordered probit model suggests that a person who has employed have more likely to consume the fast food from the restaurants while the consumer who are not married has more probability to visit the restaurants in the study area. Also age of the consumer, education level and distance between the restaurants and home also major determinants of consumers' buying behaviour from the restaurants in Sri Lanka. An overall results and findings may help to design the marketing strategies and policies to improve their business who are involved in fast food industry and they can promote their market share in Sri Lanka.

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