

# Determinants of the Factors Affecting the Customer Satisfaction in Super Market Industry in Sri Lanka

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**Abstract**— customer satisfaction and service quality are crucial factors when defining organizational success. The winning approach in brining success is to serve the best quality to the customers. The current situation requires improvements of customer satisfaction of the supermarket industry of Sri Lanka have come under limelight due to the competition where super markets are trying to gain competitive advantage through the human factor. Excellent customer satisfaction does not only mean higher profits but also acts as a challenge for the employees to perform to their maximum abilities to meet the competition. By serving customers with the best quality products, organizations can maintain and expand their customer base and this will cause an increase in customers' confidence and competitive advantages among the market leaders. This study examines the effects of various factors of the supermarket industry which affects customer satisfaction.

The purpose of the study is to determine the factors affecting customer satisfaction in the super market Industry in Sri Lanka. Learning of this study would help to identify the areas which are need to be improved in order to improve overall customer satisfaction and service quality in order to gain customer satisfaction.

In this research paper, the relevant data were gathered through a self-administered questionnaire from 300 respondents. Univariate descriptive analysis has been carried out. Chi-square test and Fisher's Exact test has been carried out in doing hypothesis testing. Multinomial logistic regression approach has been used in data related to customer satisfaction.

It of great importance to understand how to satisfy customers as it seems to be the key success factor in modern organizations. Service quality, knowledge of the staff, support given by the staff,

recommendations and the attire of the staff variables were significant in the model. The recommendations are given to improve the service quality in order to increase the customer satisfaction which helps the super markets to attract more customers in future.

**Keywords**— Customer satisfaction, Multinomial logistic regression approach, univariate analysis, Super Market Industry

## I. INTRODUCTION

Sweeping the traditional retailing and grocery concept, super markets are emerging with the concept of "Mega Stores" by providing all the goods shopper demands in one store at attractive discounted prices (Stanton 2007). "The emergence of supermarkets, urbanization, income increase, high quality bulk procurement, and increased female participation in labor force have created a new demand pattern, shifting the focus towards continuous supply of high quality, value added products with improved processing, packaging and labeling" (Samarthuga A 2006 15).

Cargills Food City, Keells Super and Arpico are the three leading super market chains of the country and they have started expanding aggressively. Other than these three there are Sunup (Laugfs) super, Sentra, Sathosa and small super markets which are owned by entrepreneurs.

Currently supermarkets contribute to twelve percent of the Sri Lankan economy by providing a unique contribution to the national development. 516 supermarkets are being operated in the country which can be categorized as supermarkets, hypermarkets and convenience stores. Cargills Food City operates 213 supermarkets, Arpico Super Centre functions 10 hyper markets, and Keells super has 48 super markets and the Sathosa

controls a convenience store network of 250 stores. (Sri Lanka's Supermarket Trade to Grow at an unprecedented level | News360.lk)

Super market segment plays a key role in the lives of the people in many ways. Maintaining sustainable supply chain to achieve service quality and customer satisfaction has become overall goal of the super market industry.

## II. LITERATURE REVIEW

Howardell's stated that 'customers want it all and they want it now' (Howardell, 2003). This statement clearly describes the competitive nature of supermarkets. Due to the increasing nature of supermarket industry there are plenty of supermarkets within a selected geographical area. Super markets are located within walking distance which reminds the urgency of maintaining service quality and customer satisfaction. If supermarkets fail to satisfy customers and to deliver quality service then it will automatically shift customers to their competitors (Codrington, 2002). It reveals that super markets are highly depending on the two factors which are called service quality and customer satisfaction. It is apparently difficult to survive in the supermarket industry without satisfying those two key factors.

Several studies highlight five important dimensions of service quality in retail sector which have a direct impact on profit. They are Physical aspect, reliability, personal interaction, problem solving and ps. Physical appearance of the store, facility and well managed layout helps to gain competitive edge and to influence customer satisfaction (Dabholkar et al, 1996). According to (Abu 2004) and (Fisher et al, 2006) well figured supermarket layout is easily navigating customers with less search time resulting customer satisfaction which leads to the customer retention. Reliability simply implies keeping promises where supermarket's main intention is to make available products when required (Dabholkar et al (1996). Michel (2001) stated that supermarkets should response customer's problems on time and must handle return items in a correct manner while having continuous system to identify customer related problems on stores. Store policy which includes loyalty programs, credit facilities, operating hours, parking facilities and other additional services have a direct impact on service quality of the

supermarket. According to all these facts it reveals that supermarket with high level of service quality maintain customer satisfaction while poor level of service quality resulting dissatisfied customers.

Therefore supermarkets must highly value loyal customers those who are intentionally choose their stores over their competitors irrespective of the promotions or offerings at the competitor's premises (Levy and Weitz 2001). Understanding of consumer behavior is really complex and comprehensive processes that involve an evaluation of service quality and consumer satisfaction (Cronin et al. 2000). Even though customer satisfaction and service quality have an influence on store loyalty (Bennett and Rundle-Thiele 2004), those two factors are not sufficient to ensure the loyalty (Alonso 2000).

So it is the responsibility of supermarkets to identify what customer wants and deliver it to them with more value which they did not expect, to have loyalty customers forever. Zairi (2000) point out many studies shows repeat purchases and loyalty are two main benefits offered by satisfied customers to the supermarket industry and also they attained to recommend super market to others when they are satisfied with the services Furthermore this statement is sustained by La Barbera & Mazarsky (1983) who also viewed customer satisfaction have an considerable impact on customer repurchase intentions whereas dissatisfaction led customers to discontinuation of purchase. Additionally dissatisfied customers are resulting discontinue purchasing of goods and services and engage in a negative word of mouth (Hoyer & MacInnis, 2001).

Customer's impression on the supermarket will depend on the level of quality service that they provided. Reputation of the supermarket will depend on numerous factors. According to Berman and Evans (2005) overall image of the supermarket is influenced by store location, merchandise and physical attributes, pricing, firm's placing, shopping experience, customer service, target market, promotion tools (such as advertising, public relations, personal selling, sales promotion) and community service. Further he point out that a retailer's image depends heavily on its 'atmosphere' or the psycho-logical feeling a customer gets when in that retail outlet.

### III. METHODOLOGY

In this research paper, the relevant data were gathered through a self-administered questionnaire from 300 respondents.

Descriptive analysis has been carried out to check the relationship between response variable and other explanatory variables.

Hypothesis testing has been carried out using Fisher's exact test as it is more practical for small sample sizes. Due to the difficulty faced in maintaining minimum expected cell count in performing Chi square test, Fisher's exact test has been carried out for some of the variables.

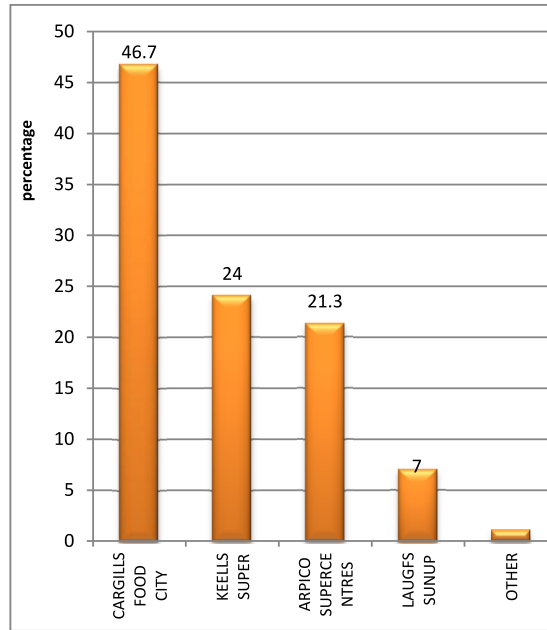
Multinomial logistic regression model has been used to build a statistical model. In doing regression modelling variables has been selected with respect to the significance that they have shown in hypothesis testing. Forward selection method has been used in modelling.

Goodness of fit test and Pseudo R-square test has been carried out for model diagnoses to detect the adequacy of the model.

Likelihood ratio test has been used in checking the significance of the explanatory variables in the model and Odds ratio has been used in interpreting the model. In statistics, a likelihood ratio test is used to link the fit of two models. Omnibus test is a statistical test that is designed to distinguish any of a broad range of departures from a specific null hypothesis.

### IV. ANALYSIS AND INTERPRETATION

As per the result obtained, out of 300 respondents 46.7 percent are Cargills Food city customers where 24 percent use Keells super while 21.3 percent shopped Arpico super centers. Only 7 percent of respondents visit Laugf sun up. Remaining 1 percent of people responded as other super market consumers.



**Figure 1 : Preferences percentage for Super markets in Colombo district**

Below hypotheses has been checked using Fisher's exact test;

Ho: overall customer satisfaction of supermarket is independent from the  $i^{\text{th}}$  variable

H1: overall customer satisfaction is depending on the  $i^{\text{th}}$  variable

**Table 1. Results of Hypothesis testing**

i	Variable name	Test statistic	p- value
1.	Staff appears to know about the products	83.536	.000
2.	Individual attention	69.854	.000
3.	Availability of products	62.456	.000
4.	Reputation	58.367	.000
5.	Recommend the supermarket	53.286	.000
6.	Competitive prices	48.57	.000
7.	Overall service quality	45.568	.000
8.	Fresh vegetables and fruits	37.403	.000
9.	Appropriate info on sales promotions	37.314	.000
10.	Staff always helpful	30.101	.000
11.	Products are appropriately displayed	29.867	.000
12.	Punctual info on sales promotions	29.714	.000
13.	Sell quality products	26.802	.000

14.	Own brands are of high quality	25.09	0.001
15.	Staff has knowledge to guide	24.644	0.001
16.	Convenient location	24.54	0.001
17.	Vehicle parking facilities	24.37	0.001
18.	Super market	24.069	0.001
19.	Occupation	23.384	0.001
20.	Frequent promotions and discounts	21.993	0.001
21.	Age	20.554	0.002
22.	Staff is well dressed	20.128	0.001
23.	A broad assortment of products offered	19.661	0.006
24.	Layout helps to choose products	18.872	0.01
25.	Cleanliness	17.449	0.005
26.	Gross household income	17.071	0.007
27.	Convenient operating hours	15.72	0.028
28.	Suggestion box	15.039	0.042
29.	Politeness of staff	14.092	0.056
30.	Waiting time at cashiers	14.047	0.006
31.	Delivery services	14.003	0.055
32.	Prices clearly stated	13.956	0.052
33.	Fresh fish and meat	13.935	0.053
34.	Membership cards	12.854	0.078
35.	Customers equally treated	11.727	0.129
36.	Provide aftersales support	11.493	0.05
37.	Frequency of visits	10.301	0.403
38.	Special attention for children	10.148	0.227
39.	Gender	8.483	0.014
40.	Marital status	6.143	0.047

According to the analysis between Overall customer satisfaction and explanatory variables, all most all variables except special attention given to children, frequency of visits, equally treating customers, and offering membership cards are highly significant. It can be concluded that, all explanatory variables except above stated are highly correlated with overall customer satisfaction and above overall customer satisfaction is independent from the above mentioned variables.

Based on the results of hypothesis testing advanced statistical model has been fitted using multinomial logistic regression approach.

**Table 2. model fitting information**

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
	Intercept Only	318.313		
	147.022	171.291	20	.000

**Table 3. Pseudo R square for the fitted model**

Cox and Snell	.435
Nagelkerke	.526
McFadden	.326

**Table 4. likelihood ratio test**

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	1.470E <sup>23</sup>	.000	0	.
Staff knowledge	199.419	52.397	4	.000
recommend	196.108	49.086	4	.000
help	158.077	11.055	4	.026
attire	168.864	21.842	4	.000
Service quality	159.476	12.454	4	.014

**Table 5. parameter estimates for satisfied group**

description	B	Std. error	Wald	df	Sig
Intercept	4.305	1.345	10.254	1	.001
Staff knowledge=1	-1.612	.699	5.313	1	.021
Staff knowledge=2	34.454	.468	5.420E3	1	.000
Staff knowledge=3	0 <sup>b</sup>	.	.	0	.
Recommendation=1	-21.199	446.313	.000	1	.993
Recommendation=2	-4.169	.777	28.789	1	.000
Recommendation=3	0 <sup>b</sup>	.	.	0	.
Help=1	-2.411	1.062	5.156	1	.023
Help=2	-.967	1.127	.736	1	.391
Help=3	0 <sup>b</sup>	.	.	0	.
Attire=1	.079	2.052	.001	1	.969
Attire=2	37.640	556.323	.000	1	.995
Attire=3	0 <sup>b</sup>	.	.	0	.
Service quality=1	1.641	.951	2.977	1	.084
Service quality=2	-.356	.943	.142	1	.706
Service quality=3	0 <sup>b</sup>	.	.	0	.

**Table 6. parameter estimates for neutral group**

description	B	Std. error	Wald	df	Sig
Intercept	3.031	1.326	5.226	1	.022
Staff knowledge=1	.519	.714	.527	1	.468
Staff knowledge=2	34.845	.000	.	1	.
Staff knowledge=3	0 <sup>b</sup>	.	.	0	.
Recommendation=1	-18.723	2446.313	.000	1	.994
Recommendation=2	-2.316	.705	10.794	1	.001
Recommendation=3	0 <sup>b</sup>	.	.	0	.
Help=1	-2.556	1.055	5.873	1	.015
Help=2	-1.528	1.112	1.889	1	.169
Help=3	0 <sup>b</sup>	.	.	0	.
Attire=1	20.506	.000	.	1	.
Attire=2	35.554	6556.323	.000	1	.996
Attire=3	0 <sup>b</sup>	.	.	0	.
Service quality=1	1.007	.902	1.247	1	.264
Service quality=2	-.127	.870	.021	1	.884
Service quality=3	0 <sup>b</sup>	.	.	0	.

According to the table 2, in this analysis p-value of the model chi square is less than 0.05. Hypothesis of the model is as stated below.

**H<sub>0</sub>:** There is no difference between the model without independent variables and the model with independent variables

**H<sub>1</sub>:** There exist difference between the model without independent variables and the model with independent variables

As the test is significant, the existence of a relationship between the independent variables and the dependent variable was supported.

Fitted model can be stated as follows for the satisfied group;

$\text{Log}(p1/p3) = 4.305 - 1.612 (\text{Staff knowledge} = 1) + 34.454 (\text{staff knowledge} = 2) - 21.199 (\text{recommended} = 1) - 4.169 (\text{recommended} = 2) - 2.411 (\text{help} = 1) - 0.967 (\text{help} = 2) + 0.079 (\text{attire} = 1) + 37.640 (\text{attire} = 2) + 1.641 (\text{service quality} = 1) - 0.356 (\text{service quality} = 2)$

Fitted model can be stated as follows for the neutral group;

$\text{Log}(p2/p3) = 3.031 - 0.519 (\text{Staff knowledge} = 1) + 34.845 (\text{staff knowledge} = 2) - 18.723 (\text{recommended} = 1) - 2.316 (\text{recommended} = 2) - 2.556 (\text{help} = 1) - 1.528 (\text{help} = 2) - 20.506 (\text{attire} = 1) + 35.554 (\text{attire} = 2) + 1.007 (\text{service quality} = 1) - 0.127 (\text{service quality} = 2)$

Model can be interpreted as follows;

When compared to customers those who are satisfied about the knowledge of the staff;

-Satisfaction levels of customers those who said staff knowledge is at satisfactory level is more likely to be satisfied about supermarkets.

-Satisfaction level of customers those who said staff knowledge is at dissatisfactory level is less likely to be satisfied about supermarkets.

When compared to the customers those who are recommending supermarkets;

-Satisfaction level of customers those who neither recommended nor not recommended are less likely to be satisfied about supermarkets.

-Satisfaction levels of customers those who not recommended supermarkets are less likely to be satisfied about supermarkets.

When compared to the customers those who are satisfied about the support given by the staff;

-Satisfaction level of customers those who are neutral about the support given by the staff are less likely to be satisfied about the supermarkets.

-Satisfaction level of customers those who said dissatisfied about the support given by the staff are less likely to be satisfied about the supermarkets.

When compared to the customers those who are satisfied about the attire of the staff;

-Satisfaction level of customers those who are neutral about the attire of the staff are less likely to be satisfied about the supermarkets.

-Satisfaction level of customers those who said dissatisfied about the attire of the staff are less likely to be satisfied about the supermarkets.

When compared to the customers those who are satisfied about the service quality;

-Satisfaction level of customers those who are neutral about the service quality are less likely to be satisfied about the supermarkets.

-Satisfaction level of customers those who are dissatisfied about the service are less likely to be satisfied about the supermarkets.

## V. GENERAL DISCUSSION AND CONCLUSIONS

According to the Pearson chi square test for association and Fisher's exact test for association, some of the explanatory factors were identified as significant and proved there is a relationship between customer satisfaction and those explanatory variables. Convenient location, individual attention on customers, staff knowledge about the products, availability of desired products, reputation of the super market, competitive prices of goods, service quality, fresh vegetables and fruits offered by super market, providing appropriate information on sales promotion, helpful staff, appropriately displaying products on shelves, give punctual information on sales promotion, sell quality products, offer high quality of own brands, vehicle parking facilities, cleanliness, available broad assortment of products, convenient operating hours, handling customer complaint in efficient manner, frequent promotions, attire of the staff (well dressed), age, income and occupation of the respondents and layout of the supermarkets are identified as significant factors.

Multinomial logistic regression model has identified five factors which are highly significant namely

"staff knowledge about the products and guide people, attire of the staff, helpful staff, service quality and recommendation or the positive word of mouth about the super market".

Recommendation is the positive word of mouth. According to the results recommendation has a significant impact on the overall customer satisfaction. If one customer recommend his/her preferred super market to his/her friend it indicates the loyalty and their satisfaction towards the super market. Bad word of mouth leads to the loss of the business. There for super markets must ensure to keep promises to their customers for sustainable future

Staff knowledge about the products, their attire (well-dressed staff) and helpfulness of staff are also most significant factors that affect to the customer satisfaction. These factors indicate the standard of the supermarket which people are highly concern. Staff needs to be educated about the products as well as the good manners to attract customers in professional way. Now a day's customers are more interested in looking user friendly environment for shopping purposes. It helps customers to save their valuable time. But staff should not be annoying to customers. Most of the respondents stated in questionnaires staff appears annoying to customers due to their over helpfulness and also some staff members force customers to buy products according to staff guidance. Therefor super markets need to be considering these factors when training their employees.

The research findings depict that, service quality, availability of products, price tags are clearly indicates, provide appropriate and punctual information on sales promotions, availability of parking facilities, good reputation, cleanliness, convenient location and operation hours, Staff knowledge about the products, their attire (well-dressed staff) and helpfulness of staff and recommendation are the most significant.

However layout of the super market, after sales support, delivery services, special attention for children (game zones), and freshness of meats, and fish, membership cards, waiting time, gender, marital status, income and operating hours may either have no direct impact upon the customer satisfaction which need to be found out by future research work.

Finally the research study supported to outline the pros and cons of super markets for consumers, for industry and for the country in a detailed manner. Customers are the most benefitted segment from the super markets. Due to convenient operating hours customers are able to save their valuable time. They do not want to keep separate time for shopping with this concept. It allows them to shop even after their works. And also prices offered by super markets are affordable for middleclass people too. Earlier there had been a period which super markets were limited to high class people. But with the changes of the industry that concept also has been changed by providing opportunity to each and every one.

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