CUSTOMER SEGMENTATION -A CASE OF INCREASE IN CUSTOMER SATISFACTION LEVELS WITH SEGMENT-SPECIFIC CUSTOMER SERVICE STRATEGIES

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ABSTRACT

Segmentation plays a pivotal role in deriving customer service strategies which in turn enhances the customer satisfaction levels. While Data mining techniques help the organizations in understanding the behavioural, demographic patterns, Customer relationship management (CRM) strategies help in acquiring new customers and retaining existing profitable customer. CRM further helps in building customer loyalty thereby helping upselling and cross selling of the products -which are useful for expanding the markets and increasing the profit margins of the entities. In our current study and research paper, we have touched upon these aspects for a small retail shop as a case study and suggested a simple model of segmentation and relevant service strategies. We have also studied the effect of segment specific strategies to know if there is an enhancement of customer satisfaction levels and results shared. We conclude saying that based on the study, there is a clear enhancement of over all customer satisfaction and the relevant strategies help the retail outlet for expanding the scope of business.

Key words: Data mining, Customer Segmentation, CRM, Customer Satisfaction.

Cite this Article: Dr. V. Venkata Narayana and Dr. A. Kanaka Durga, Customer Segmentation -A Case of Increase In Customer Satisfaction Levels with Segment-Specific Customer Service Strategies. *International Journal of Computer Engineering & Technology*, 8(6), 2017, pp. 89–94.
http://www.iaeme.com/ijcet/issues.asp?JType=IJCET&VType=8&IType=6

1. INTRODUCTION

Generally organizations choose a product based strategy or customer based strategy to sell the products. The product based strategy aims in selling the mass-based products or commodity which are in common use for most of the customer segments. On the other hand, customer based strategies are based on selling the products made keeping in view-the specific requirements of customers. As they are more and more specialized, the orientation is from product based to customer based and in fact there is a paradigm towards servicing the product requirements to suit customer needs taking top most priority. Potential customer base is divided in to various segments which are in line with company's product and brands and entire strategy is spun around selling the product/brands of the company to its target customer base.

In our current study, we tried to segment the customers of a small retail store in a residential colony and studied the impact of customer segmentation and implementation of segment-specific service strategies to different segments and measured the impact of overall satisfaction levels.

2. LITERATURE REVIEW

Before going for the study of the retail store, we had a thorough survey of the literature on Data mining, customer segmentation, Customer relationship management and customer satisfaction levels., A brief of the literature review is as follows: The data warehouse enables data mining, and it's the key to bringing business intelligence to more varying disciplines and intricate tasks in retail. Mining a data warehouse enables precise insight into trends and analysis as wide and varying by retail discipline as commissions, purchase orders, tender types, cash instruments, market basket analysis, price optimization, and more. Celerant [1]. On the basis of the Recency, Frequency, and Monetary model, customers of the business can be segmented into various meaningful groups using the *k*-means clustering algorithm and decision tree induction, and the main characteristics of the consumers in each segment can be clearly identified. Daquing Chen, Sai Laing Sain, Kun Guo[2]. The inability to discover valuable information hidden in the data prevents the organizations from transforming the data into knowledge. Effective customer relationships require an understanding of what the relationship entails, an ability to provide personalized services, a means for building mutual value and respect and a commitment to the relationship itself. Alex Berson, Stephen Smith, Kurt Thearling [3]. The main objective of segmentation is to separate the objects that are homogenous and heterogenous with external market/consumers. The outcome of the segmentation mainly depends on the knowledge variables, which can be gathered from market, psychographic, regional, life-style, etc., Steenkamp, Jan-beneddict EM and Frenkel [4]. Retailers and direct marketers can use Market Basket Analysis technique of data mining to find product affinities. By identifying the associations between products purchased in point of sale transaction, retailers can develop focused promotion strategies. Segmentation uses position technique. Peacock (1998) [5].Customer satisfaction is measured at individual level, but it is always reported at an aggregate level. Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty. (Farris et al, 2010) [6].

3. OBJECTIVES OF THE STUDY

The objectives of the study are as follow:

To find out the significance of Customer segmentation in arriving at segment specific service strategies and to assess the impact of customer satisfaction against the pre -and post segmentation service strategy levels. The case study for a small owner-maintained outlet and their customer/consumer base is taken for the purpose.

3.1. Hypotheses

H1 (0): Segmentation has no influence on deriving customer service strategies and all customers of the retail store can be serviced with a unified service strategy for attaining the same margins.

H1(a): Segmentation has a high influence in deriving customer service strategies and segment specific strategies help in attaining a higher margin than a unified strategy.

H2 (0): Segment specific service strategies do not improve the overall customer satisfaction levels.

H2 (a): Segment specific service strategies result in over all increase of customer satisfaction levels.

3.2. Research Design

We had a thorough study of the literature available on Segmentation, CRM and customer satisfaction. Primary data was collected from the customers visiting the retail outlet. (for the purpose of confidentiality -details of the location and store are not shared). Customer base of the retail outlet has been segmented and studied for deriving segment specific strategies.

3.3. Data Collection

3.3.1. Primary Source The data was collected directly from respondents with the help of structured questionnaires. As per the store owner, around 500 customers visit and transact in a day, the peak business hours being 6 to 8am and 7 to 9pm. A random convenience sample of around 50 customers were chosen in line with the peak and normal business hours and questionnaire feedback collected from them. Based on the data, we could get the classification of Single, Joint family, Retired persons and daily wage earners who regularly visit and the frequency of their buying pattern viz daily, once a week, once a month or as and when required. We could also segment them based on the average monthly income.

3.3.2. Secondary Source The secondary data was collected from internet and references such as magazines, Journals etc.

4. DATA ANALYSIS

Customers have been segmented based on the Margin-Cost matrix. Accordingly based on the depth of profit margin (Low, Medium and High) and intensity of Cost to service the segment (Low Cost, Medium cost and High cost to serve) nine customer segments emerged out. The details of the segments and the service strategies are as follows: 1) Hi-Los: They are the customers who yield a high margin to the store and at a low cost to serve them (since they do not need any additional cost viz credit/delivery cost etc). They are the numero uno customers to be serviced and the strategy is to maintain high relationship management with them. 2) Hi-MEs: They are customers with High margins but with medium cost to serve. They are the second most priority customer segments to be serviced and to maintain relationships. 3) Hi-His: They yield high margins but the cost to service them are also high. But despite a higher cost so service they are preferred to the other six segments in view of the profit margins. 4) ME-Los: They are the 4th priority segment to be serviced, since they yield medium margins but with a low cost to service. 5) ME-MEs are with medium margins but with a medium cost to service them. They are the fifth most priority of the segment on service aspects and CRM aspects. 6):ME-HI s: They are the segment with medium profit but with very high cost and hence occupy the sixty priorities on service and CRM aspects. 7) LO-Los 8) LO-MEs and 9) LO-His These are the last three segments of customers the store discards any priority or may not consider servicing them. Alternatively, the store can play cool with seven and eight

segments but they can ignore the last segment where the margins is very low and cost to service is very high.

Cost to Serve	HIGH	LO-HI s (9)	ME-HI s (6)	HI-HI s (3)
	MED	LO-ME s (8)	ME-ME s (5)	HI-ME s (2)
	LOW	LO-LO s (7)	ME-LO s (4)	HI-LO s (1)
		LOW	MED	HIGH
		Profit Margin		

Figure 1 Customer Segmentation Matrix-of the Outlet

The Model of customer segmentation is better explained with the following values of the selling price at Rs.100/- Illustration -When Selling Price of a Product is Rs.100/-		
Range	Profit (%)	Cost to serve (% on profit)
High	30	10
Medium	20	5
Low	10	1

Figure 2 Illustration case for a Product with SP Rs.100/-

With the above selling price and margin % and Cost to serve as a % of the margin, the Margin-Cost matrix explains the 9 categories of Customer Segments as follows:

Cost to Serve	HIGH	P=10 C=1 (Net=9) (9)	P=20 C=2 (Net=18) (6)	P=30 C=3 (Net=27) (3)
	MED	P=10 C=0.5 (Net=9.5) (8)	P=20 C=1 (Net=19) (5)	P=30 C=1.5 (Net-28.5) (2)
	LOW	P=10 C=0.1 (Net=9.9) (7)	P=20 C=0.2 Net=19.8) (4)	P=30 C=0.3 (Net=29.7) (1)
		LOW	MED	HIGH
		Profit Margin		

We have also analysed the customer satisfaction scores of the same set of consumers before the outlet started servicing them with a segment specific strategy and after. The results are as follows:

The sum of the Customer satisfaction level of the sample of 50 customers before segmentation and before segment specific customer service strategy is 208. Mean =4.16 and Std Dev= 1.63. The values for customer satisfaction after segmentation and relevant service strategy are: Sum of the satisfaction scores 334, mean = 6.68 and Std Dev= 1.40.

The inference of the data on Minitab are as follows:

Paired T test for CS- after and CS-before:

N Mean St Dev SE Mean

Cust Satisfaction-after: 50 6.68 1.406 0.199

Cust Satisfaction-before: 50 4.16 1.633 0.231

Difference= mu (Cust Satisfaction-after) – mu (Cust satisfaction-before)

Estimate for difference: 2.520, 95% CI for difference: (2.138, 2.902)

T-Test of mean difference=0 (VS not=0): T-Value=13.26 P-Value=0.000,

5. HYPOTHESIS TESTING

Based on the study and analysis of data /test statistic, the Hypotheses are tested and results shared.

Hypothesis 1: From the data we found the average profit margin per customer before segmentation is Rs.10/-.Post segmentation, if we assume the outlet choses to serve even five customers per segment in each of the first five segments alone, the average profit comes to Rs.24.8/- (Rs.148.5+ Rs.142.5+ Rs.135+ Rs.99+Rs.95/25 customers) (Incremental increase in margin /customer is Rs.15/-apx)

Hence H1 (0): Segmentation has no influence on deriving customer service strategies and all customers of the retail store can be serviced with a unified service strategy for attaining the same margins. Is rejected and the alternate hypothesis that H1(a): Segmentation has a high influence in deriving customer service strategies and segment specific strategies help in attaining a higher margin than a unified strategy is accepted.

Hypothesis 2

It is evident that there is a significant improvement in the overall customer satisfaction levels after segmentation and segment specific service strategy is implemented. Hence Null hypothesis that

H2 (0): Segment specific service strategies do not improve the overall customer satisfaction levels is rejected and the alternate Hypothesis that H2 (a): Segment specific service strategies result in over all increase of customer satisfaction levels is accepted.

P-Value $\leq\alpha$: The difference between the means is statistically significant – (Reject H_0)

P-Value $>\alpha$: The difference between the means is statistically significant – (Fail to Reject H_0)

In our result, since the P-value is 0.000 which is less than the significance level of 0.05, the decision is to reject the null hypothesis and conclude that the satisfaction levels are enhanced by the segment specific customer service strategies.

6. RESEARCH FINDINGS AND CONCLUSIONS

From the study and research findings it is evident that the null hypotheses in both H1 and H2 are rejected and the alternate hypotheses are accepted. Therefore we conclude that there is a significance incremental profit margins per customer when customers are segmented properly and segment specific service strategies are implemented. It is also concluded that the overall customer satisfaction levels increases when customers are segmented and segment specific service strategies are practised based on the tremendous improvement of mean value of satisfaction levels after segmentation (paired t test).

7. CONCLUSIONS

The contribution of this paper is that the proposed Model of segmenting the customers based on the Margin-Cost to serve matrix is beneficial to the small retail stores. This is a simple model and the scope of this is confined to small business entity.

8. RECOMMENDATION FOR MARKETERS

It is important to note that Segmentation is a very powerful tool and is the basis for various other marketing initiatives viz, Customer Service strategies, Customer profitability, Customer relationship Management etc. As the Organization grows, there is a further scope to add more components to the model viz Supply Chain and CRM elements and further research can focus on building these components.

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