

Impact of Consumer Behaviour on Super Bazaar using Knowledge Mining: A Conceptual Study

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Abstract—Retailing is one of the largest sectors in the global economy. In India, for a long time the corner grocery store was the only choice available to the consumers. With the increasing demand of the consumers spurred by changing trends, aspiring needs for variety, the traditional retail gave rise to modern retail format. The traditional food and grocery segment has seen the emergence of super bazaars. It is one of the booming business formats of retail. In the super bazaar business, it is very essential to have a clear idea as to how the consumers perceive and respond to the various marketing efforts the super bazaar uses. To achieve better service and quality they depend upon buying behavior of consumers. Knowledge mining is one of the most popular topics in information technology. It concerns with the process of automatically extracting useful information and has the promise of discovering hidden relationships that exist in large datasets. The data is collected from consumers and managers of super bazaar. The data could be statistically analyzed using statistical package for Social Sciences SPSS and mined using knowledge mining techniques like R, Weka, or XLMiner to extract interesting patterns so that users buying behavior could be understood. This paper gives conceptual overview of how knowledge mining could be systematically study buying behavior of consumers related to various form of super bazaar data.

Keywords— Super Bazaar, Knowledge Mining, Consumer, Manager, Buying Behaviour.

I. INTRODUCTION

Retail store is any business enterprise whose sales volume comes primarily from retailing. Retail is final stage of any economic activity. Retail occupies an important place in the world economy. The format of retail is super bazaar which is self service shop offering a wide variety of food and household products organized in aisles. It is larger in size and has wider selection than traditional grocery store. It is usually situated near a residential area in order to be convenient to consumers. Super bazaar is large self-servicing outlet offering products from a variety of categories. [5] Super bazaars mostly sell all type products, both of domestic and foreign origin. They also offer products with different price bands for each section of society.

The consumer is the one who pays to consume goods and services produced. As such, consumers play a vital role in the economic system of a nation. Without consumer demand, producers would lack one of the key motivations to produce to sell to consumers. The consumer also forms part of the chain of distribution. [8].

Consumer behavior study is based on consumer buying behavior, with the consumer playing the three distinct roles of user, payer and buyer. Consumer behavior is volatile and unpredictable. The consumer landscape is changing very

fast. A greater importance is also placed on consumer retention, customer relationship management, personalization and customization. Consumers today see an exciting explosion of choices, new categories and new shopping options and have increasing disposable income to fulfill their aspirations. They are seeking more information to make these choices. Customer satisfaction is critical to successful super bazaar functioning. Satisfaction with a product or service is a construct that requires experience and use of a product or service. [6]. The super bazaars are striving to develop new effective strategies for satisfying the needs and wants of consumers.

A manager plays important role in super bazaar business. In order to properly cater to the needs of customers, a super bazaar must staff an expert, attentive manager. A manager may design store displays and actively engage with customers to inform them of deals and help them find products. Super bazaar manager should provide customer service by greeting and assisting customers, and responding to customer inquiries and complaints. A manager monitor sales activities to ensure that customers receive satisfactory service, quality goods, estimate consumer demand and determine the types and amounts of goods to be sold. A manager should provide excellent customer services for sales growth develop positive shopping experience and ensure customer satisfaction. [7] Using Statistical Package for Social Sciences we can discover customer behavior, customer satisfaction, background and loyalty of the customer. SPSS is a comprehensive and flexible statistical analysis and data management solution. SPSS can take data from any type of file and use them to generate tabulated reports, charts, and plots of distributions and trends, descriptive statistics, and conduct complex statistical analyses. Knowledge mining techniques become important for this knowledge discovery from databases. In recent years, Knowledge mining systems have played pivotal roles in helping organizations to fine tune business goals such as improving customer retention, market penetration, profitability and efficiency. Knowledge mining techniques can also help in identifying various classes of customers and come up with a class based product and pricing approach that may garner better revenue to the management. The advantage of knowledge mining is that it can handle large amounts of data and learn inherent structures and patterns in data. It can generate rules and models that are useful in enabling decisions that can be applied to future cases.

XLMiner is the only comprehensive knowledge mining and forecasting add-in for Excel, with neural nets, classification and regression trees, logistic regression, linear regression,

Bayes classifier, K-nearest neighbors, discriminant analysis, association rules, clustering, principal components, exponential smoothing and ARIMA models. It also offers rich charting facilities for rapid data exploration and visualization. XLMiner has special features to sample data from external SQL databases and the Microsoft PowerPivot in-memory database. It also includes utilities for data partitioning, missing data handling, binning, categorical data transformation.[9] Hence, aim of the present study is to analyze the consumer behavior using knowledge mining taking into consideration managers and customers opinion to have positive effect on sales of super bazaar business.

II. REVIEW OF LITERATURE

The present study is based on following review:

Ankush Nagarwar, Ankit Kaldate and Arpit Mankar (2011), in their article entitled “Factors Affecting Consumer Satisfaction – an empirical study from some departmental stores in Mumbai” stated that customer satisfaction is the key factor in knowing the success of any department store or business for which the researchers have studied the various factors like wise merchandise factors, ambience factors and service factors which affects customer satisfaction for the departmental stores in Mumbai.

James Cho, Gregory S Ching, Thai-Ha Luong (2014), their article entitled “Impulse buying behavior of Vietnamese consumers in supermarket setting” depict that, The goal of this paper is to identify factors affecting consumer impulse buying behaviors at supermarkets in Vietnam. Impulse buying portrays purchases that shopper makes without any intention planned before shopping trip. This study attempts to analyze the impact of various variables extracted from internal, external, demographics, social perspectives on consumer impulse buying behavior. This consumer behavior is on a great rise due to pricing strategies, store characteristics, situational factors and promotional activities.

Ibrahim Cil (2012), in their article titled “Consumption universes based supermarket layout through association rule mining and multidimensional scaling” proposes the success depends on its ability in understanding consumers' behaviors. Analysis of transaction data is the key for taking advantage of these new opportunities, which enables supermarkets to understand and predict customer behavior, has become a crucial technique for effective decision-making and strategy formation.

Kyeong Kim, Jae Kyeong Kim, Qiu Yi Chen (2012), in their article titled “A product network analysis for extending the market basket analysis” suggest two kinds of product networks, market basket networks and co-purchased product networks. Two networks are comparatively evaluated to analyze the topological characteristics and the structure of those networks it is used in personalized services, such as cross selling, up selling, and personalized product display utilizes the deep relation between products.

III. STATEMENT OF PROBLEM

Super bazaars face tremendous competition within the industry. Their competition mainly based on service pattern, quality, and customer expectation. Most of the super

bazaars are far away from advantageous position because they are not able to identify the gap between customer expectation and perception of services. If they are unable to identify the gaps effectively super bazaars will not sustained in this stiff competition.

IV. OBJECTIVES OF RESEARCH

1. To study new patterns in super bazaar industry as noticed by different customers and managers.
2. To study the pattern of data to know the consumer buying behavior.
3. To identify different knowledge mining techniques that evaluates consumer buying behavior.
4. To recommend some guidelines to ensure quality services of super bazaars in Western Maharashtra.

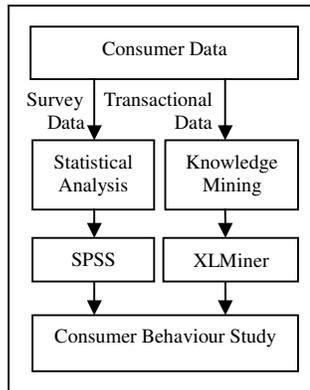
V. SCOPE OF RESEARCH

As retailing industry is very large, the study is focused only on super bazaar. Further, the aim of the research is to study super bazaar practices from Western Maharashtra. The researcher has identified various super bazaars from five districts Pune, Kolhapur, Satara, Sangli, and Solapur of Western Maharashtra.

VI. RESEARCH METHODOLOGY

The study is based both on primary and secondary data. The primary data was collected from customers and managers directly with help of questionnaire. Secondary data were collected from super bazaar websites, internet, various journals etc. In order to achieve the objectives of the study, a well structured questionnaire was developed. The questionnaire was finalized after conducting pilot survey among 10 super bazaars from Western Maharashtra. On the basis of experience of the pilot survey, some of the questions were refined with a view to ensuring a correctness of the responses and included in the final questionnaire. The questionnaire was used to collect data from customer and managers. The questionnaire was personally administered among the customers and managers of super bazaar to study the buying behavior of consumers. The sample was selected among 48 super bazaars from Western Maharashtra. The sample size was selected as 207 managers and 480 consumers for the proposed study of research. This comprising sample of super bazaars, managers and consumers. The researcher has decided to select the sample using convenience sampling and simple random sampling technique. A convenience sampling technique is used to select respondents because customers and managers are scattered in various super bazaar across the Western Maharashtra region which makes it very difficult to contact each of them individually. The collected data were tabulated and analyzed with the help of SPSS. The statistical tools used for analysis include percentage, weighted average mean, Standard deviation and ANOVA. On the basis of analysis and interpretation of data, conclusions could be drawn. XLMiner knowledge mining tool is used to extract knowledge hidden in the pattern of data.

VII. A MODEL FOR CONSUMER BEHAVIOUR STUDY



The model for consumer behaviour study takes consumer data. This data is survey data and transactional data. The survey data is collected through questionnaire was statistically analysed using popular statistical technique SPSS. The transactional is data collected from various super bazaar databases will be mined using knowledge mining tool XLMiner. The resultant data is used to study behaviour of consumer.

VIII. CONCLUSION

The proposed study will help super bazaar owners to have a deeper understanding of customer purchase sequence, patterns and trends over time. This study will be beneficial for customer identification, customer attraction, customer retention, customer development and to study buying characteristics of customers in super bazaars. Further, this study can provide baseline information on the recent status of business practices in super bazaar business. Also, this study will help to bring about demographic study of urban and rural consumers. Knowledge mining tool is studied for effective decision making in super bazaars. It will help increase the profit of super bazaars. Adopting a knowledge mining based business will create foundation for improved business efficiency. Therefore proposed knowledge mining tool will enable super bazaar business for achieving greater heights both horizontally and vertically. Further, this proposed study will prove beneficial for future researchers.

IX. LIMITATIONS OF STUDY

1. The study has focused only on selected super bazaars and do not consider other super bazaars in Indian market due to inadequacy of data, time and resources.
2. It was a challenge to find more customers and managers as they scattered in different places.

X. FUTURE RESEARCH

The research overview presented in this paper will be updated by surveying more customers and managers that will give important results to the super bazaar owners. There is good scope that customer and managers from other parts of the Maharashtra could be include in the same sample to

make it more representative of the Maharashtra population. It is also possible to use different knowledge mining tools to study consumer buying behavior taking into consideration managers and consumers opinion. Further, this proposed study will prove beneficial and helpful for prospective researchers.

XI. REFERENCES

- [1] Ankush Nagarwar, Ankit Kaldate and Arpit Mankar, "Factors Affecting Consumer Satisfaction – an empirical study from some departmental stores in Mumbai", Institute of Management and Computer Sciences, Thane.
- [2] James Cho, Gregory S Ching, Thai-Ha Luong, "Impulse buying behavior of Vietnamese consumers in supermarket setting", International Journal of Research Studies in Management, Vol 3, No 2, 2014.
- [3] Ibrahim Cil, "Consumption universes based supermarket layout through association rule mining and multidimensional scaling", Expert Systems with Applications, Volume 39, Issue 10, PP.8611-8625, August 2012.
- [4] Hyea Kyeong Kim, Jae Kyeong Kim, Qiu Yi Chen, "A product network analysis for extending the market basket analysis," Expert Systems with Applications, Volume 39, Issue 8, PP.7403-7410, June 2012.
- [5] Prafulla Sudame, Brijesh Sivathanu, "Challenges Affecting the Organized Retail Sector," A Journal of Economics and Management Vol.2 Issue 8 August 2013.
- [6] Joan L. Anderson, Laura D. Jolly, Ann E. Fairhurst, "Customer relationship management in retailing," A content analysis of retail trade journals of Retailing and Consumer Services, Volume 14, Issue 6, PP. 394-399, November 2007.
- [7] <http://www.greatsamples.com/Job-Responsibilities/Grocery-Manager-Responsibilities.html>
- [8] <http://en.wikipedia.org/wiki/Consumer>
- [9] <http://www.solver.com/xlminer-pro-0>