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An Empirical Comparison of Brand Switching Behaviour of Rural and Urban Consumer: A Markovian Approach

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Abstract: The main purpose of this study is to measure the brand switching behaviour of rural and urban consumer. The different consumers choose the different brands of a product class at discrete time points due to the changing of the tests, changing the purchasing decisions of consumers explaining the patterns of choice. So, a discrete time, two state, first order Markov process viz. brand loyal model and last purchase model is used. The heterogeneity of the consumer buying behaviour is also measured using heterogeneity index. The recency effect of the consumer is also evaluated using recency index. The staple good viz. Edible oil and Tea are considered to observe the brand switching behavior of rural and urban consumer. The study focus that for the product edible oil, urban consumer has a tendency to stay with the most popular brand and the consumers of other brands generally switches to the most popular brand than the rural consumer. For the product tea, first two consecutive purchase occasions, the consumer of rural and urban consumer has tendency to move towards the most popular brand. The heterogeneity index executed that the urban consumer are more homogeneous in buying the same brand than the rural consumer.
Keywords: Marketing models, consumer behavior, stochastic process, beta distribution

I. INTRODUCTION

In marketing research, the study of repeatedly purchased, low priced products or one of frequent switching among the brand of different product class. This phenomenon is known as brand switching or multi brand buying. Since the different consumers choose the different brands of a product class at different time points by explain the changing tastes, changing the purchasing decisions of consumers explaining the patterns of choice. However, the consumer choices are past history dependent. McAlister and Pessemier (1982) identify such patterns brand loyalty and variety seeking behaviour. These phenomena were first introduced into stochastic models by Jeuland (1979) (brand loyalty) and by McAlister (1982) and Trivadi, Bass and Rao (1994) (Variety Seeking behavior). Guadagni and Little (1983) propose a model of choice probabilities depends on the whole history of consumer choices.

Lipstein (1959) tried to apply a first order Markov model of brand choice of consumer. Kuehn (1962) also get used to the linear learning models of brand choice behaviour. The work of Kuehn on linear learning models leads Frank (1962) to the development of an alternative learning model. His approach postulated Bernoulli model for each household but assumed that the brand choice probabilities for different households were likely to differ from one to another. Morisson (1965) suggest a compound Bernoulli model which is same as proposed by Frank. The advantage of Bernoulli model proposed by Morrison model is that it lends itself for a much better statistical analysis. The compound Markov model allows for the first order behaviour and compound Bernoulli models allows for zero order behaviour. Massy (1966), applied the approach followed by Frank to the Markov model in order to test for population heterogeneity effects.

Howard (1963) postulated a Markov model where transition probabilities are related to the time the last purchased occurred. Telsert (1963) developed a Markov model in which the parameters are functions of marketing variables. Lipstein (1965) developed Markov model in which the matrices are estimated from data covering two different time periods.

Many marketing researchers have proposed stochastic models for analyzing the multi brand purchasing behaviour of households for frequently purchased products. Kahn *et al.* (1986) formulated a first order Markovian model for consumer purchasing behavior and inter purchase times are independently and identically distributed (i.i.d) exponential random variables. Jain and Niu (1994) Ehrenberg (1965) proposed a Markov brand switching model of first order.

II. OBJECTIVE OF THE STUDY

The main objective of the study is to explore the brand switching behaviour of rural and urban consumers. Since rural and urban consumers differ in their purchasing capacity, culture and markets differ in the availability of products. So, their brand switching behaviour is supposed to differ due to the dynamic change of market place.

To understand the brand switching behaviour of rural and urban consumer, some convenience goods with special reference to the staple goods viz. edible oil and tea is considered for the study. The objective of this paper is to compare the brand switching behaviour of rural and urban consumer using Markov model.

III. SAMPLING SCHEME

The area from which the data is collected is Cachar district of south Assam, India. The district covers an area of 3786 square kilometres with 273694 households according to 2001 census. Out of which 21575 households are located in urban area and the rest are rurally located. Since the study involves both rural and urban customers, so a sample of households of size 194 from urban area and 196 from rural area are selected. The sample size is calculated with 95 % confidence level and a confidence interval of 5 %.

The sampling is performed separately for rural and urban area. In the said district there are 1009 villages. From which 51 villages were selected i.e. one out of every twenty village. From the selected 51 villages, a total of 196 households are selected randomly, in such a way that the number of household selected from each village remains proportional to the number of households in that village. There are only two towns in the district which are divided into 28 and 10 municipal wards respectively. From each of the wards, households are selected randomly taking the total number of households selected from urban area to 194. In this case as well, the number of households selected from each of the municipal wards is proportional to the