Big Data and Consumer Behavior: Sustainable Intensification with Reference to Organic Food Industry

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Abstract-　The main purpose of this study is to analyze how consumption behavior can be benefited from the presence of big data. This paper aims at conceptual frame work of changes to the study of consumer behaviour that big data will likely to help organic food industry in sustainable growth.　The focused group is analyzed in two segments: first on socio demographic profile and second on attitudes, perceived consumer effectiveness, health consciousness, intention to purchase and their social influence on the behavior towards organic food products.

Keywords – Big Data, Consumer Behavior, Organic Foods, Purchase Intention, Social Influence

I. INTRODUCTION

Big data analysis is a powerful tool of marketers. As and when the consumer's behaviour pattern changed with advantaged technology it has become a vital role for sales and marketing professionals to understand the market, refining the marketing strategies to improvise decision making.

Big data plays a vital role in determining the behavior of consumers in organic food sector. It is the tool used by the businesses to track and predict consumers shopping pattern. It is a integrated marketing management strategy used to make decisions in the organization in different areas focusing on consumer engagement, consumer retention and loyalty and marketing performance for the optimum utilization of resources.

Big data refers to the dynamic, large and disparate volumes of data being created by people, tools and machines both inside and outside a company. These sets of data are so large and complex that processing requires innovative technology because traditional data management tools cannot perform the task as effective. (Big Data University 2016.)

Data mining is a process used by companies to turn raw data into useful information (Investopedia n.d.). There are many different techniques and approaches to data mining. According to Maheshwari (2015), database is a modeled collection of data that is accessible in many ways. Secondly, data warehouse is an organized store of data from all over the organization, specially designed to help make management decisions. Finally, business intelligence (BI) is an umbrella term that includes a variety of IT applications that are used to analyze an organization's data and communicate the information to relevant users.

1.1 How to start using Big Data

With the available large data and ever increasing need for the organic food products in today's scenario , big data sets generates huge amount of data for the need of the consumers through online purchases, web search, social media activities and geo- connected locations.

Therefore business has to start using data very carefully with planning strategy to implement their goals for the better solutions.

Nowadays big data is used in many different areas from healthcare to military operations. Maheshwari (2013, 354) suggests that in business, regardless of the industry, the main application of big data is the protection and enhancement of customer relationships and customer experience. Therefore, a company has to identify what parts of their interaction with customers could be improved and try to answer the most important questions and solve customers' problems with data solutions.

Data science methods, deployed by Aarhus University researchers, affirm that consumers with an interest in 'organic' products are show no sign of decreasing this preference for less 'artificial' product; moreover, this constituency are buying more and more organic products and they are following an increasingly predictable pattern.

For the study, the Danish researchers collected data relating to the daily shopping habits of some 10,000 households, collected this information over a period of 20 months. The data sets were then subject to big data analysis.

II. Big DataUse in Marketing

Big data brings improvements to marketers by combining structured data when clicking through various websites or posting comments on unstructured data using social Medias. It is helping marketers to deal with quality decision making with the detailing of processes significantly increase with the application of technology. By using big data and technology the both customers and marketers can combine and analyse and discover the hidden pattern in such a way that it interact with the customers helping in purchase decision. The main objective of introducing big data in marketing is to enhance the knowledge of customers and retention of customers for long period.

The Multiple data applications helps in sorting out the customers profile and their interests can be gathered through files like cookies. These cookies collect information about customer's activity on social media and other websites. These website owners having access to these files can create separate sites to interact with these customers. This information gathered can help them in estimating income level, brands, styles, preferred colors, purchase pattern, price range choice of the customers for the better decision making. These big data gathering information about the nature of the customers will lead to the new way for new product search and helps in more accurate decision making process for the marketers..

III. Consumer Behaviour

Consumer behaviour is the study of how individual customers, groups or organizations select, buy, use, and dispose ideas, goods, and services to satisfy their needs and wants. It refers to the actions of the consumers in the marketplace and the underlying motives for those actions.

Marketers expect that by understanding what causes the consumers to buy particular goods and services, they will be able to determine—which products are needed in the marketplace, which are obsolete, and how best to present the goods to the consumers. The marketers also always look for emerging trends that suggest new marketing opportunities.

Consumer buying behaviour is influenced by few major factors such as,

      a.   Cultural

      b.   Social

      c.   Personal

      d.   Psychological

These factors cannot be directly controlled by the marketers, but understanding of marketing mix strategies can be developed to analyse preferences to the target audience.

Before purchasing any product, the consumer goes through a decision process in the following five stages:

Stage1: Problem recognition

Stage 2: Information Search

Stage 3: Evaluation of alternatives

Stage 4: Purchase decision

Stage 5: Post purchase behaviour

This above stages of the consumer behaviour has been developed by marketing scholars before purchasing any product. It is not necessary that each and every time the consumer has to pass on all the stages before purchasing. They may skip or reverse some stages. But however it somehow influences the consumer high involvement for new purchases.

The stages are:

1. Problem Recognition starts when need arises which in turn triggers both internal and external stimuli. Internal stimuli can be hunger, thirst, which stimulate your need to eat or drink.

2. Information Search

    a. Receptive information about the product

    b. Active information - looking for word of mouth, friends, reading material, online , visiting shops, advertisements, public sources etc. A successful information search will lead to various alternatives and choices which evoke them to evaluate.

3. Evaluation of Alternatives-- Consumers are trying to pay most attention that delivers the benefits from the alternatives. Evaluation often reflects beliefs and attitudes in buying behavior. He may now decide whether he wants or does not want.

4. Purchase Decision - Choosing from the alternatives includes product attributes such as product, label, brand, package, method of purchase etc.

5. Post Purchase Behavior - Marketer must monitor post purchase behaviour outcome: satisfied or dissatisfied.

V. Big Data and consumer Behaviour of Organic Food Products for Sustainable Growth

Both primary and secondary research is conducted by TechSci Research gives a list of organic food manufacturers and suppliers in India analyses that most of Indian organic food markets are using bottom up approach, where manufacturers value for product categories such as Organic beverages, Organic Cereal and Food Grains, Poulty and Dairy, Organic Spices and Pulses , Organic Processed Foods, Organic Fruits and Vegetables for the purchase decision. According to TechSci Research the external validation can be done through analyzing past sales data of respective manufacturers to arrive at the overall market size. They relay on the data bases sourced from secondary data such as company annual reports, World Bank, industry magazines, Government databases, news dailies, credible paid databases, Ministry of Agriculture & Farmers Welfare, Ministry of Statistics & Programme Implementation, Department of Animal Husbandry, Dairying & Fisheries, APEDA, National Program on Organic Production, , proprietary database, white papers and investor presentations for the sustainable growth.

The economic development leading to excessive demand for products matched with insufficient supply of products therefore greater usage of fertilizers to get bumper crops to match the demand. Excessive use of fertilizer resulted in fall in health conditions negatively effecting economic growth. The emerging concept of Big data is a new challenge which is convenience and quick information or firsthand information to the industry to relay on networking for increase their performance. This will likely to help them in post purchase evaluation and minimise the cost on advertising campaign..

VI. Conclusion

Organic farming was a technique developed to reduce the usage of fertilizers and grow agricultural products in hygienic manner withdrawing the use of fertilizers altogether. This new form of farming gained momentum as it resulted in improved productivity of its consumers.

The market for organic products has started to grow in India although its reach is limited. Efficient allocation of organic products between the rural and urban areas would result in an overall improvement in health conditions minimising health hazards. An in depth study into the marketing of these products to the remotest places of the country in cost effective manner would ensure the overall efficient economic growth of the country.   As per CAGR report organic food market is likely to grow over 23% by 2023, with the support of government policies supporting towards organic farming.

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