

Impact of Machine Learning on Detecting Buying Patterns of Consumers to Generalize Future Data

Dr.D.Fennala Agnes Iylin, Assistant Professor of Commerce
Bishop Heber College (Autonomous), Tiruchirappalli.

Abstract

The consumers can be equated to a riddle since it is difficult for the marketer to understand the buying pattern of the customers. They quite often exhibit complex buying patterns that are influencing the cognitive and affective part of the individuals. Consumer buyer behavior is a process involving series of related and sequential stages or activities. The process begins with the discovery and recognition of an unsatisfied need or want. In past few years, consumer buying patterns were identified through surveys, interview schedule and other traditional forms of data collection to gain insights into consumer buying patterns. The ever changing market trends make it difficult for businesses to understand consumer behavior accurately. Internet shopping is the simple answer for occupied life in this day and age. Digital marketing and selling models such as those that use e-commerce allow marketers to gather, synthesize and use customer information and data more easily than traditional methods. Techniques like machine learning gives detailed insight to understand the buying and consumption pattern of consumers. Machine learning used to program computers and equip them to make decisions automatically. Decisions are arrived at by detecting patterns in past data and generalizing such patterns on future data. Machine learning is a great way to gain insights into customer behavior and give them what they want well ahead.

Key words: Internet Shopping, Machine Learning, Buying Patterns

Introduction

Internet shopping is the simple answer for occupied life in this day and age. In the previous decade, there had been a sea change in the method for customers shopping. In spite of buyers' continuation to purchase from a physical store, the customers or purchasers feel exceptionally helpful to internet shopping. Web based shopping spares is an essential time for

present day individuals since they get so bustling that they can't or reluctant to invest a lot of energy in shopping. In contrast to a physical store, every one of the products in online stores depicted through content, with photographs, and with media documents. Numerous online stores will give connects to a lot of additional data about their item. Then again, some online buyers are a daring adventurer, fun searcher, shopping darling, and some are innovation muddler, loathe trusting that the item will transport. Subsequently, online customer conduct (customer activity during looking, purchasing, utilizing items) turned into a contemporary research region for an expanding number of analysts to comprehend this novel nature of web based shopping.

Traditional Customer Analysis

Consumer behavior is influenced by three factors cultural (culture, subculture and social class), social (reference groups, family and social roles and statuses), and personal (age, stage in the life cycle, occupation, economic circumstances, lifestyle, personality and self-concept). Four main psychological processes that affect consumer behavior are motivation, perception, learning and memory. But the ever changing market trends make it difficult for businesses to understand consumer behavior accurately. A detailed insight is needed to understand the buying and consumption pattern of consumers. On-site observation, or research by watching people, gives marketers the chance to observe and learn about consumer purchasing decisions as they are being made. In past few years, consumer buying patterns were identified through surveys, interview schedule and other traditional forms of data collection to gain insights into consumer behavior. Earlier the focus was on the need to acquire customers. The most effective traditional marketing research to understand the tastes and preferences of customers for the product or service were as follows:

1. The customers do not care about the product, they really care about the benefits the product provides. So watching the daily lives and what type of things would make their lives easier was considered important. This helped the marketer to understand better and be more efficient.
2. Instead of surveying customers, conducting of in-depth interviews, using of observation techniques, drawing pictures etc. was focused in conducting research.

3. Concentrating focus groups for their solutions to a current business problem. Even more engaging is to tap into the customer's imagination. Probing to this level of the customers mind points helped to create useful product/service and idea.
4. Listening to customers past selective perceptions and biases. Also asking better and more open questions and focusing more on the customer's problems.

These were the basic approaches to inquire about to comprehend the customers preferences of products or services.

Latest technique of Customer Analysis (Machine Learning)

Marketing of products and services through online gives the ability to target audience based on demography. This allows to concentrate in the customers that truly want to offer the products or services. With demographic targeting, marketer can better target marketing efforts on specific demographic regions. Demographic targeting gives the ability to target specific customers to think that are likely to purchase the product or hire services. Every time someone visits the website and fills in a form, it gives an idea of who the customers really are and to discover important details about them such as age and interests, which better shapes the services to match their needs. Machine learning is probably one of the most commonly discussed topics in the world of technology. In fact most technology companies from start-ups to MNCs have today invested in Artificial Intelligence (AI) and Machine Learning (ML) projects. In past few years, sources of data capture have evolved extensively to give businesses access to enormous volume of data. Companies no longer limit themselves to surveys, questionnaires and other traditional forms of data collection to gain insights into consumer behavior. Smart phones, cookies, drones, sensors and cameras are the modern form of data collection.

The term machine learning was first defined by Arthur Samuel in 1959. According to him 'Machine learning' is the sub-field of computer science that gives computers the ability to learn without being explicitly programmed'. A simple example will be mail spam filters. Mail services such as Google, Yahoo and Hotmail use Machine Learning to detect whether an email falls into the spam category or not. Techniques like machine learning can bring desired results oriented

towards user engagement and revenue generation. In simple words, Machine Learning is a set of techniques used to program computers and equips them to make decisions automatically. Decisions are arrived at by detecting patterns in past data and generalizing such patterns on future data.

Conclusion

The customer satisfaction alone do not guarantee that the customers will repeat the purchases. There is a need to learn that there is more involvement needed with the customers. The buying motives needs to be understood by the marketers. Companies are finding increasingly difficult to “push” products into the market place using traditional approaches. A new approach called machine learning that incorporates revolutionary new findings gives marketers unique access to detect the customers buying patterns. This brings in a new dimension of keeping the effective marketing and sales under the basic aspects like: 1.knowledge of customers 2.Knowledge of how to activate consumer’s behaviour in favor of product purchase. Now with the arrival of machine learning, companies have become more aware of the complex profile of the customers towards future purchase propositions. The marketers enjoy the wide range benefits of internet marketing in promoting products and services online, and it has soon become the leading medium for marketing all over the world.

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