

The Influence of Big Data on Purchasing Behavior

Rui Tang

Hefei No.1 High School, Hefei, Anhui, China
Corresponding author. Email: gaoming@cas-harbour.org

ABSTRACT

At present, with the improvement of people's quality of life, people's consumption level also rises, and they buy more and more products. In the purchase behavior, consumers will have different purchase intentions under different circumstances, thus affecting the sales of products. This paper aims to analyze the formation mechanism of consumers' purchase intention based on big data environment. It highlights all aspects of big data, including the value of data, the privacy of data mining, and the quality of data filtering. Through SOR model and data substitution analysis, merchants can analyze this aspect to formulate sales strategies for different customers.

Keywords: *Big data, purchase behavior, marketing strategy, SOR model*

1. INTRODUCTION

Big data has become the new frontier for innovation. Its impact on management theory and practice has been widely acknowledged. The explosion of digital information, which is known as the "big data" era, is threatening the boundaries between consumers and businesses. This new competitive advantage will be created through the use of big data and its related technologies. Big data has profound impact on management theory and practice. Most of the studies analyzed are focused on consumers and their behavior [1].

How do companies use Big Data to guide the consumer? What will the consumer's variations be like in the era of Big Data? In the era of "big data" has become the background of today's e-commerce development. Big data, which can extract useful information and knowledge hidden from a large number of fuzzy data, has been applied to enterprise management. In the big data technology industry, the development of cloud fast data mining is prominent, and many enterprises apply it to their own marketing systems. For consumers, the study of big data can help them find their favorite products more quickly and make better purchasing strategies. Thus, analyzing the impact mechanism of "big data" on consumer purchasing intention is a meaningful research question [2].

2. CONSUMER BEHAVIOR CHARACTERISTICS IN "BIG DATA" ERA

Big data era of e-commerce is not the mass marketing. Instead, it provides the personalized marketing of big data. Consumer behavior over traditional e-commerce, main show the following several characteristics.

2.1. Network Shopping Demand Innovation and Personalized

According to the hierarchy of needs theory, lower-level consumers are satisfied, while the higher-level consumers are demanding more. Due to the rise of Internet shopping, businesses need to step up their game in terms of delivering an online shopping experience that is satisfying and unique. It can be seen that big data drives the personalized marketing of e-commerce, and consumers' demand for innovation and personalized services is also increasing [3].

2.2. Network Shopping Requires High Standardization

Due to the increasing number of consumers who shop online, the scrutiny of personal information security and privacy issues has become more important. This issue has become the main factor that influences the trust of online merchants [5].

2.3. Emphasis Shopping Experience

The e-commerce model simplifies the process of shopping by allowing consumers to browse the latest information about the product they want without having to go to a physical store. However, this model does not offer the same advantages as the traditional method of buying [2].

Consumers increase their desire for goods, and their desire for favored goods enhance the usage requirements. Hence, shopping experience in the era of big data has become the focus of consumer concern.

3. THE RESEARCH OF CUSTOMER PURCHASE INTENTION BASED ON THE "BIG DATA"

3.1. Positive Impact of "Big Data" Bring

For consumer, the use of data segmentation has always been focused on the customer's needs, but the real needs of consumers are often hidden and complex. This is why it is important to analyze the real needs of business users. Traditional consumer segments are typically based on geographic, demographic, and/or "big data" characteristics. With the advent of digital marketing, these features can be easily integrated into a person's lifestyle.

Then, Big data allows enterprises to create micro-markets based on the needs and interests of the individual consumers [3]. From the attitude of the client's, big data real-time personalization and multi-source, rapid multi-format complete comparative capability makes facts series, collation, analysis, feedback, the reaction can be executed in an immediately, accurate delineation user groups for the organization anytime, everywhere, which meet the actual needs of purchasers and capability call for, stimulate consumption. In the questionnaire about the influential factors of big data on consumers' online shopping behaviors, it is found that in the era of big data, consumers hold a reserved attitude towards the recommendation mechanism of big data. Among 262 people, 36 percent of them neither dislike nor like it. Still, nearly 60 percent of customers think online shopping is extremely helpful [8].

For e-commerce platforms and sellers, big data has become an integral part of modern life, and its arrival has raised the concerns of various industries, such as e-commerce. Through the use of data mining technology, it is possible to generate and distribute relevant information to users at the right time and place. The recommendation system helps consumers gather more detailed and accurate information about a product or service, which enables them to make more informed decisions. It also helps them reduce the perception

deviation of various brands. Due to the rapid development of Internet, virtual shopping has become more and more prosperous. In order to stimulate the consumer's desire to buy, virtual goods need to meet the emotional needs of the individual, active participation of autonomy and other factors will stimulate consumer desire to buy the product [2].

How are businesses leveraging big data? Now there are a lot of big data analysis software in the market to help sellers analyze. They can let merchants know what consumers are looking at and buying through data collection and analysis. Data helps with marketing optimization, not only by helping salespeople on the front end to better target sales and presentations, but also by helping businesses quickly adapt products and services. For example, big data will divide customers into many groups and look at the customers' characteristics of each group in detail. The most classic user model is R (recent purchase time), F (frequency) and M (amount spent). The three dimensions map the quadrants of the nine squares to understand the distribution and characteristics of your highest value customers and help you make decisions. At the same time, through the operation of highly active core users, it can save marketing costs and improve conversion rates.

3.2. Negative Impact of "Big Data" Bring

Due to the rise of Big Data, the need for data privacy and security is unavoidable. The data collected by consumers will get through all the aspects of the future. People tend to ignore the effect of data integration on the penetration of privacy. Cyber space is often filled with various types of data sources, such as storage devices, social networks, e-mail, and sensors. The increasing number of these sources inevitably increases the risk of data leakage. In addition, relying on the Internet's rapid development to gather large amounts of sensitive information increases the risk of unauthorized access. Faced with a massive volume of data, it is hard to ensure that the integrity and objectivity of the data are maintained [5].

The big data in a website is mainly composed of the product description, which includes text, images, and dynamic description. Due to the large amount of data in a website, its manipulation and fraudulent activities can affect the confidence of the consumers. While data mining and analysis of big data bring business value, it also allows hackers to attack. By studying the various characteristics of big data, such as social networking, e-commerce, e-mail, telephone, micro-blogging and home address and other information, they can gather more useful information to prepare for their next attack. Just because of the drawbacks of the era of large data, led to mistrust of part of the online shopping customers, according to the questionnaire, there are 61 users

generally believe that online shopping is the quality of the product and have been tricked into risk, only fourteen percent of users satisfied with the online shopping goods generally, and in a very sensitive personal privacy, with twenty-one percent of the customer to confirm their privacy was leaked, Most of the rest don't remember much but do. All of these show the negative impact of big data on online shopping in some aspects [8].

3.3. The SOR model on Consumer Purchase Intention

The SOR model was first introduced in 1974 by Mehrabian and Russell. It states that an individual's emotional state can affect their response to environmental stimuli.

Eroglu's introduction of the SOR model has sparked interest in this field. The model is a study of the effect of a subsidy on a consumer's willingness to shop for goods and services. According to previous research, and the above analysis of the mechanism of "big data" on consumer purchase intention to establish a customer purchase intention model based on "big data". An advanced model is based on the big data and SOR model with customers purchase intention, explaining how big data impact on customer purchase intention [4].

The effect of big data on the purchase of a network is mainly focused on two aspects: the positive impact it can provide to consumers and the risk it can cause [6].

4. CONCLUSION

Electricity sellers collect consumer information through the established feedback system to form initial consumer data. In the process of online shopping, consumers' consultation, order placement and needs provide a lot of reference for merchants. Through the analysis of these data, merchants can understand each consumer's information more clearly and comprehensively. Only in this way can the target market be refined. Meanwhile, the market can be more targeted. Merchants can realize one-to-one or personalized marketing based on the analysis database and meet customer needs, thus increasing customer share and satisfaction. Electrical contractor should provide the necessary products and services according to the consumers' needs. The objective is to provide the best possible products and services that meet the consumers' expectations. Enterprises should take the necessary steps to ensure that their consumers' personal information is safe. This ensures that their rights and interests are protected while improving their own reputation.

REFERENCES

- [1] McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big data: the management revolution. *Harvard business review*, 90(10), 60-68.
- [2] Hilbert, M. (2016). Big data for development: A review of promises and challenges. *Development Policy Review*, 34(1), 135-174.
- [3] Zhou, S., Qiao, Z., Du, Q., Wang, G. A., Fan, W., & Yan, X. (2018). Measuring customer agility from online reviews using big data text analytics. *Journal of Management Information Systems*, 35(2), 510-539.
- [4] Buckley, P. G. (1991). An SOR model of the purchase of an item in a store. *ACR North American Advances*.
- [5] Wang, Z., & Yu, Q. (2015). Privacy trust crisis of personal data in China in the era of Big Data: The survey and countermeasures. *Computer Law & Security Review*, 31(6), 782-792.
- [6] Gatautis, R., Vitkauskaitė, E., Gadeikiene, A., & Piligrimiene, Z. (2016). Gamification as a mean of driving online consumer behaviour: SOR model perspective. *Engineering Economics*, 27(1), 90-97.
- [7] Guo, K., Liang, Z., Tang, Y., & Chi, T. (2018). SOR: An optimized semantic ontology retrieval algorithm for heterogeneous multimedia big data. *Journal of computational science*, 28, 455-465.
- [8] Questionnaire on the Influential Factors of Big Data on Consumers' Online Shopping Behavior, <https://www.wjx.cn/report/4566279.aspx>.