Research on the Application of Cross-Industry Information Education in Agricultural Electronic Commerce

Yang Luo and Xiaohui Wang(✉)

Zhejiang Ocean University, 1 Ocean University S.Rd, Lincheng New District, Zhoushan 316022, Zhejiang, People's Republic of China

Abstract. The current application of cross industry information data mining technology can fully organize and analyze all kinds of information in agricultural e-commerce. In addition, the relevant fields and personnel can use the data mining model to calculate the data information reasonably. In this analysis, we can make targeted marketing plan according to the behavior characteristics of agricultural products. This paper analyzes the application of cross industry data mining in agricultural e-commerce.

Keywords: Cross-industry data mining · Agricultural products · e-commerce · Data acquisition

1 Introduction

At present, cross-industry data mining is a very important mainstream data mining. First used in finance, health insurance, marketing and retail. However, under the background of the rapid development of the Internet at this stage, the marketing process of agricultural products has been further developed through e-commerce, and the way of marketing has changed. For its formation of various data information, the value of in-depth mining.

2 Application Base of E-commerce Website CRISP-DM Agricultural Products

The effective application of data mining technology to business can effectively solve many technical problems, such as database marketing, customer group division, background analysis and so on. During the development of Internet technology, its information technology presents interactive attributes, and a large amount of data information is stored in the Web page, or there is a database established. In the current use of information, people need to take different technical means to extract the corresponding information internal information. For the e-commerce website of agricultural products, in the process of customer operation, will leave a lot of information data, at the same time by the website comprehensive collection [1]. As shown in Table 1. For this reason, we need to

M. A. Jan and F. Khan (Eds.): BigIoT-EDU 2021, LNICST 392, pp. 599–606, 2021.
https://doi.org/10.1007/978-3-030-87903-7_72

use a special way to dig into the documents in the Web and some valuable information in network activities. After processing and analyzing these information effectively, a large amount of valuable information can be obtained. Below is the CRISP-DM process.

Table 1. CRISP-DM process

Process	Process 1	Process 2	Process 3	Process 4	Process 5	Process 6
Content	Business understanding	Data understanding	Data preparation	Modeling	Assessment	Deployment

Besides analyzing the information in the database, the e-commerce of agricultural products in the process of development, its website also has various types of customer groups, brokers, growers information, with the help of the above information, can be very good application of CRISP-DM technology. After mining cross-industry data, we can analyze the problem of customer loss in detail, and evaluate the credit of customers. After realizing these functions, the network marketing of agricultural products can be realized on the basis of the structure of farmers' actual purchase habits, so as to optimize and adjust the existing websites. Let the user in the process of browsing the website has a high degree of comfort. In the current understanding of customer consumption habits, can be very good sales information adjustment, in order to carry out precision marketing. Only when we fully understand the actual needs of users can we carry out targeted marketing services and make users produce a certain consumption viscosity. In addition, we can make good use of the results of data mining, optimize and adjust the current website, and further improve the operation level of e-commerce website.

3 Preparation of Application CRISP-DM for E-commerce Websites on Agricultural Products

3.1 Basic Data from a Business Perspective

In the development of e-commerce, its essence is that it has always been a business type. E-commerce is based on the carrier of network. In the analysis of e-commerce, it is necessary to collect and organize all kinds of data information in electronic website in detail. In general, in the operation of e-commerce websites, it can be basically divided into two different types of information data, namely, traffic and volume. The main content of the inspection of the number of visits is to investigate the situation of a customer visiting many times or the same customer, and to analyze the degree and depth of the visit. In terms of turnover, users analyze the consumption habits and the internal relationship between products in the process of purchasing product combination [2, 3]. Agricultural e-commerce is similar to other types of websites and has obvious commercial attributes.

3.2 Data Acquisition Pathways

In the current process of data mining, the e-commerce data under various paths are analyzed in detail, and the source of e-commerce data is mainly in the e-commerce web

page, such as click flow, results, research and competitive data these four different data types.

For example, click stream data is all the information data types formed in the operation of agricultural e-commerce website, which can record the user's website access behavior in detail. In the result data, the sales of agricultural products in the website to achieve data records. Therefore, in the data mining behavior of agricultural products e-commerce, the result data is the main mining object.

3.3 Data Mining Content

In the current network log, there is a lot of information content. However, for the current e-commerce data analysis behavior, because a lot of data can not be directly analyzed and processed, it is necessary to be able to exchange and process this type of data information in advance. In order to process, mining potential information value. In addition, it is necessary to synchronize the data mining of individual data sets.

4 Application of CRISP-DM of E-commerce Website for Agricultural Products

4.1 Projections of User Purchase Behavior

In the actual data mining, it is necessary to establish the prediction model of the user's purchase behavior. In the use of the model, the decision tree model is basically used, which can be well based on rule division to ensure the classification of data and good prediction. In the agricultural products e-commerce website, the user needs to confirm the order information in the formed payment interface. For the establishment of this model, the user's consumption behavior can be well predicted and analyzed. CART, CHAID and other calculation formulas are basically used in the analysis of decision tree model. At present, the C5.0 model analysis is mainly used in the data mining of agricultural products. In this way, in the process of model analysis, it can effectively act in the big data set.

After establishing the C5.0 model, it is necessary to select the internal information gain rate effectively. In addition, the maximum information gain is also needed to realize the sample split analysis of the field. However, it should be noted that before applying this model algorithm, it is also necessary to ensure that the access record analysis in the network log can guarantee that a single access behavior contains only one record entry. In addition, we also need to let users access the web page, reference web page, web page top-level directory, and so on, need to carry out separate modeling analysis. However, in the behavior of user ordering determination, and the low frequency of use of payment interface, the balance of variables is needed in modeling.

4.2 Accurate Agricultural Delivery

In the process of accurate marketing of agricultural products, the establishment of its model mainly uses clustering analysis algorithm, which can scientifically and reasonably

divide the purchase behavior of users. In the actual calculation, several agricultural products can be calculated well for each cluster formed. After applying the C5.0 decision tree model, its clustering function can be effectively based on the actual behavior of users visiting the website, as the information entropy of the calculation link, so as to realize the classification of users. In addition, according to the way of accessing users, we can analyze their access behavior scientifically and reasonably [4–6]. After the model is established, it can effectively provide some products of interest to users according to the design of user's access page. For example, for some farmers to recommend some chemical fertilizers and pesticides, so that the formation of precision marketing behavior.

4.3 Humanized Web Page Recommendation Model

In the current construction of agricultural products website, we need to effectively analyze the user's actual usage habits, search habits and user's access records. And for these three aspects, the collection of variables to ensure that in the process of C5.0 model modeling, users can achieve customary clustering analysis. As shown in Fig. 1. After establishing a reasonable model, users can push accurately after successful access to three different pages. In addition, in the actual analysis process, can make good use of the value of various depths in the data, for the user's page personalized design, to ensure in the marketing process, Can realize the scope of marketing and the depth of the promotion [7–9]. This marketing method can also tap some potential consumers and push some information about agricultural products.

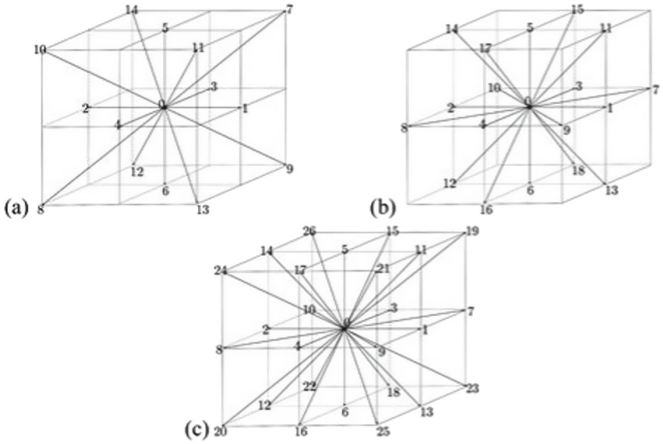

Fig. 1. Simulation of CRISP-DM of e-commerce website for agricultural products

Problems in the selection of teaching materials in Colleges and Universities.

At present, the selection of teaching materials in Colleges and universities is fundamentally the problem of how teachers choose teaching materials. The main reasons for teachers' inability to select suitable teaching materials are that the responsibility of teaching material management is not fully implemented and there is not enough information support for teaching material selection and evaluation.

5 Problems in the Selection of Teaching Materials in Colleges and Universities

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5.1 The Implementation of the Responsibility of Teaching Material Management

There are some problems in the implementation of textbook management responsibility, such as the national macro management function and the local and school management.

Since the reform and opening up, the state has explored the management mechanism of teaching materials, from the teaching material management mechanism dominated by the plan to the teaching material management system under the central macro management, and then to the three-level system under the macro management, gradually clarifying the management responsibilities of all levels [10–13]. We will introduce various rules and regulations for the compilation, examination and selection of teaching materials in Colleges and universities, promote the construction of teaching materials classification by taking engineering teaching materials as a breakthrough point, and implement the bibliographic system. In 2017, the Ministry of education set up the Teaching Materials Bureau. In 2019, the management measures emphasizes the three-level management system, and emphasizes that "the Party committee of colleges and universities is responsible for the teaching materials work of the University". The state attaches great importance to the management mechanism of university teaching materials, improves the quality of university teaching materials, and brings prosperity to the publication of university teaching materials.

Fig. 2. Textbook management

However, the implementation of the National Textbook Policy is not in place in local and universities. As shown in Fig. 2. From the organizational point of view, local and university teaching material management institutions are weak.

5.2 Textbook Management Responsibility

There are some problems in the implementation of textbook management responsibility, such as the national macro management function and the local and school management. Since the reform and opening up, the state has explored the management mechanism of teaching materials, from the teaching material management mechanism dominated by the plan to the teaching material management system under the central macro management, and then to the three-level management system under the macro management, gradually clarifying the management responsibilities of all levels. We should promote the compilation and review of teaching materials, and introduce the rules and regulations for the selection of teaching materials. In 2017, the Ministry of education set up the Teaching Materials Bureau. the management measures emphasizes the three-level management system, and emphasizes that "the Party committee of colleges and universities is responsible for the teaching materials work of the University". As shown in Fig. 3. The state attaches great importance to the management mechanism of university teaching materials, improves the quality of university teaching materials, and brings prosperity to the publication of university teaching materials. However, the implementation of the National Textbook Policy is not in place in local and universities [14–16]. From the organizational point of view, local and university teaching material management institutions are weak.

Fig. 3. Quality management process model

5.3 Highlight the Operator's Own Advantages

In the design of responsibility distribution system, responsibility distribution is carried out according to the advantages of operators in each link. Educational administration department is the Department in charge of educational administration and construction in Colleges and universities. It is at the core of the system and plays the role of communication, coordination and management. In the relationship with teachers, because it belongs to the management department of textbook selection, we can formulate relevant systems to regulate or reward teachers' textbook selection behavior. To guide the teacher's teaching material selection behavior macroscopically or microcosmically. In the relationship with the supplier, there is no management relationship between the supplier and the supplier, but it can sign a contract with the supplier to ensure that the supplier provides teaching material services (including teaching material information, teaching material distribution, etc.) in strict accordance with the contract and supplies high-quality teaching materials. The advantage of suppliers is that they can obtain the publication information and authoritative evaluation information of teaching materials at a lower cost, and organize large-scale teaching material exhibitions and promotion meetings. Based on the fact that many textbook publishers have settled in MOOC platform, it is also the responsibility of suppliers to provide feedback information of MOOC platform students on the use of textbooks [17–20]. The main task of teachers is to use teaching materials to prepare lessons and organize teaching. The effective implementation of the responsibilities of educational administration departments and the timely provision of textbook information by suppliers can save a lot of time for teachers to choose textbooks and make them put more energy in the process of textbook research and teaching. The main responsibility of students is to feed back the use information of teaching materials, because the big data analysis technology of MOOC platform can obtain effective evaluation information of students' teaching materials by capturing the learning situation of students' teaching materials in real time.

6 Summary

To sum up, in the analysis of this paper, this paper mainly expounds the value and practical application of cross-industry data mining technology in the development of agricultural products e-commerce. After the application of this technology, the accurate marketing of agricultural products is realized effectively, the development of electronic commerce of agricultural products is greatly promoted, and more economic benefits are created.

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