E-COMMERCE MARKETING OF AGRICULTURAL PRODUCTS IN BULGARIA

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Abstract: The Internet economy has become a major theme of economic growth in the 21st century. The Internet and related technologies are leading the rapid development of economy and trade, surpassing traditional business activities and giving full play to their greatest advantages in daily life. The emergence of e-commerce has opened a new era, which "destroys" the traditional mode of operation and has a great impact on the production, operation, and marketing of enterprises. No enterprise or industry can ignore the changes brought by e-commerce.

Keywords: Bulgaria E-Commerce Marketing, Agricultural Products

I. INTRODUCTION

Bulgaria acceded to the European Union (EU) in 2007 and follows EU directives and regulations pertaining to food safety, quality, and standards. This report outlines applicable legislation regarding U.S. food-product exports to Bulgaria, particularly those rules which differ from EU legislation. This report should be read in conjunction with the U.S. Mission to the EU's (USEU) Office of Agricultural Affairs' (OAA) EU FAIRS 2019 report. Additional updates and other relevant information can be found on the FAS Europe's website. New amendments to the Food Law have been considered by the Cabinet since December 2017. For political and other reasons, this legislation was delayed until the middle of 2019. Post expects that the Parliament will renew its work on the Food Law amendments after January 2020. It is likely that the revised Food Law will be discussed in the Parliament along with another new legislation, the Agricultural and Food Supply Chain Act. The Food Law amendments and the Agriculture and Food Supply Chain Act would effectively deepen Bulgaria's harmonization with the EU. Post expects that both laws will be voted by the Parliament by March 2020.

This study proposes[29] an online marketing model of agricultural products based on deep learning crown model (ICM), which uses two-layer automatic coding network to capture samples The labeled sample set is used to extract the classification features of unlabeled training samples; BP is used to adjust the parameters of the whole network, get the best parameters of the loss function, and realize the dynamic classification and prediction of online sales of agricultural products A depth weighted K-means clustering algorithm based on an enhanced depth clustering neural network is proposed to realize telecom customer segmentation This algorithm solves the problem that the traditional K-means algorithm is sensitive to starting the clustering center, further improves the grouping performance, and can be easily extended to large scale data Comparative experiments show that the clustering algorithm is superior to other mainstream clustering algorithms in customer segmentation and can provide strong information support for resource planning operators, which fully shows the practical significance of the system An improved depth

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[29] Hui Yang, Zhuohang Zheng and Chu Sun, 2022/ E-Commerce Marketing Optimization of Agricultural Products Based on Deep Learning and Data Mining Computational Intelligence and Neuroscience Volume 2022, Article ID 6564014, 11 pages https://doi.org/10.1155/2022/6564014

neural network (DNN) model SDNN is proposed in the literature. The parallel calculation based on GPU shows that by establishing the model and implementing the algorithm without affecting the prediction effect, the training time of SDNN prediction model is reduced by about 73.28%, and the efficiency of DNN calculation is further improved

1. **Theoretical Basis**

Deep Learning. The research on online sales prediction of agricultural products involves the application of information science pattern recognition in the field of e-com- merce. As for the research on commodity sales prediction methods, the research at home and abroad is mainly based on the analysis and comprehensive prediction of commodity sales prediction related methods, such as gray theory, artificial neural network, and time series. Such methods have low prediction accuracy when dealing with a large amount of data, and such models usually lack long-term effectiveness and scalability.

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1 year or less 1-3 years over 3 years
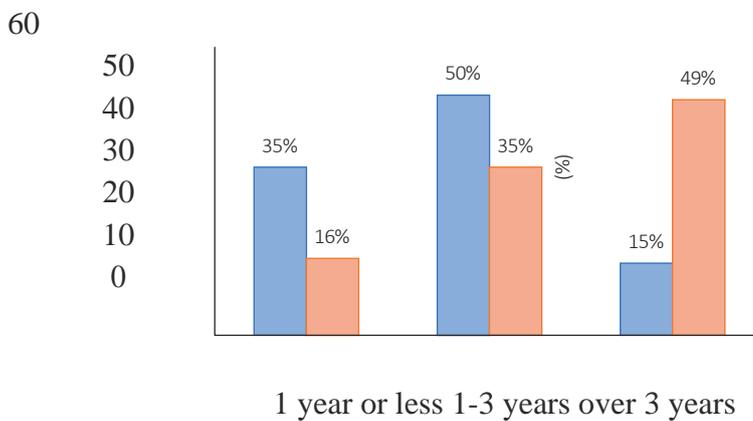
Figure 1: Basic information of Current Situation of E-Commerce Marketing of Agricultural Products

Good customer service attitude, short web response time, and website interface have attracted consumers' attention to ensure that customers will not have "running orders." If consumers are familiar with a brand, they will continue to pay attention to the brand. If there is a demand, the brand will be the first choice, and consumers will conditionally look for the brand and buy it. As shown in Figure 1, the number of search clicks is directly proportional to the number of followers, and the total click-through rate of each promotion and the con- version rate of concerned brands will also increase. Therefore, companies with a large number of collections may not conduct multiple transactions for customers. The survey shows that some consumers will continue to browse stores after collecting goods. If they find products with lower prices, more discounts, and better evaluation, they will give up collecting and focus on another product.

Second, after investigation, the problems of agricultural products existing in rural e-commerce mainly include the high price of agricultural products, poor quality of agricultural products, low brand awareness of agricultural products, few types of agricultural products, and insufficient after-sales service level. Among them, the survey proportion of low quality of agricultural products and low brand awareness of agricultural products ranks first and second, as

listed in Table 3. It can be seen that in the process of e-commerce of agricultural products, the quality and brand of e-agricultural products are now the most prominent problems.

Through the survey, it is found that the 330 rural e-commerce stores surveyed rely on the e-commerce marketing income of agricultural products every year.

2. Problems in E-Commerce Marketing of Agricultural Products.

The survey found that rural online stores often have some problems that are unfavorable to the e-commerce
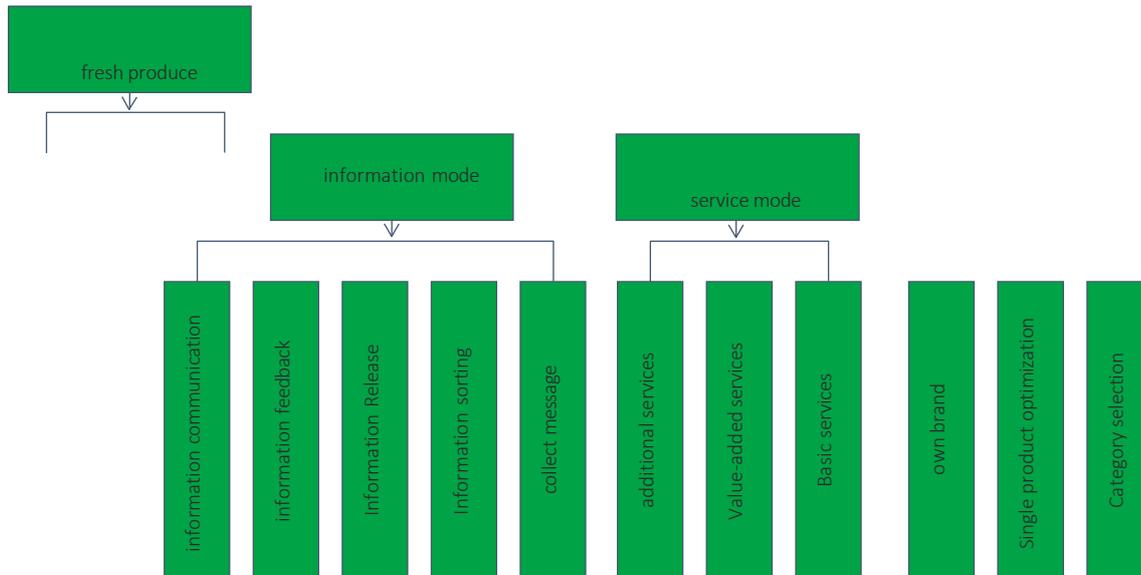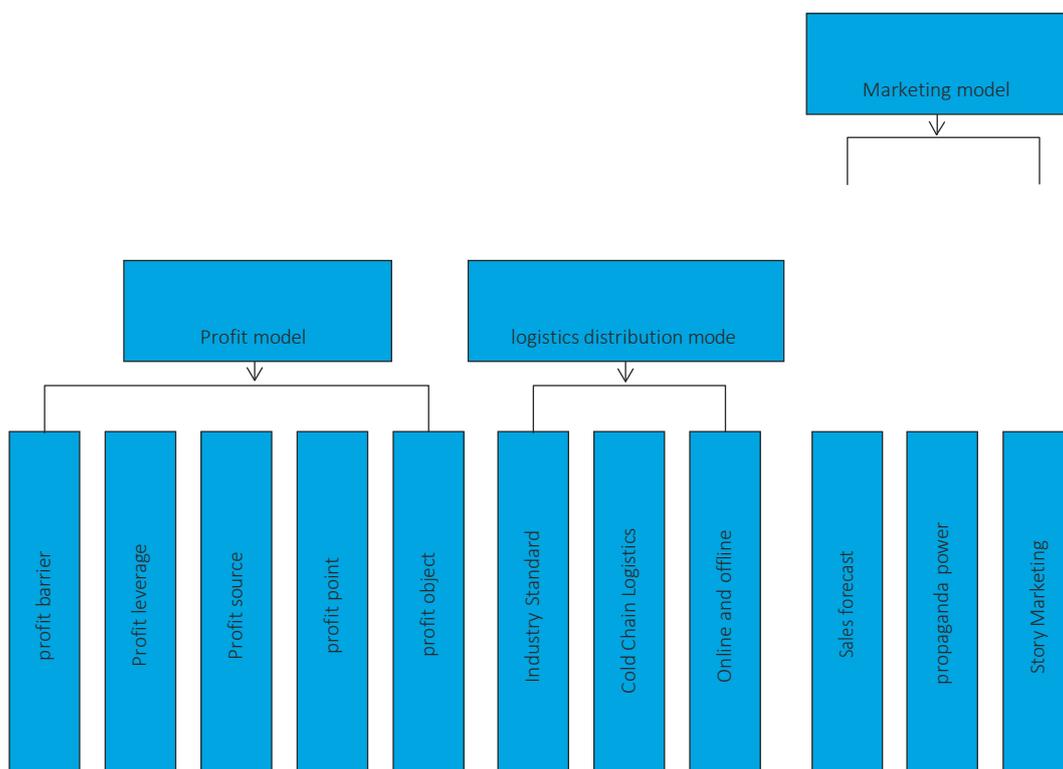

Figure 2: Basic layer operation strategy.

Figure 3: Core layer operation strategy.

3. Relevant Competent Authorities

The Ministry of Agriculture and Foods (MinAg) controls imports of food products for human consumption, animal feed/ingredients and live animals not intended for direct human consumption through the BFSA. Food safety is the responsibility of BFSA, which coordinates the food and feed chain control. BFSA remains the competent authority on official control on all food imports, exports, and manufacturing with the exception of bottled water (mineral, spring, and table water). The BFSA website lists all relevant regulations, documents, certificates, tariffs, registers, and any other information, including links to the EU regulations.

Since 2016, the Risk Assessment Center has operated as an independent agency under direct supervision of the MinAg. It is responsible for risk assessment and management and works directly with the European Food Safety Agency.

Country of Origin Labeling (COOL)

In the EU, COOL is mandatory for beef, pork, poultry, veal meat, sheep and goat meat, fruit and vegetables, eggs, wine, honey, olive oil, fishery and aquaculture products, and EU-certified organic products. In Bulgaria, COOL, per the current Food Law, is mandatory for almost all food products.

On May 29, 2018, the EC published Implementing Regulation 2018/775, which introduces mandatory dual-origin labeling when a country of origin is given or visually implied on the label of a food product but the origin is not the same as that of its primary ingredient. See USEU GAIN report "Commission Briefing on New Origin Labeling Rules". Detailed information on COOL is provided in the USEU GAIN report "The EU's Country of Origin Labeling Policy" and on the FAS/USEU website as well as on FoodDrink Europe (EU Food and d Drink Industry Confederation) Guidance on the Origin Indication of the Primary Ingredient (2019).

Language Requirements

Article 15 of FIC regulation 1169/2011 stipulates that the mandatory information should be provided in "a language easily understood by the consumers of the Member States where the food is marketed." Bulgarian is the official language in Bulgaria.

The currently debated Food Law in Bulgaria is likely to have more detailed requirements regarding translations of mandatory labeling information and how the labels in Bulgarian (usually as stickers) should be placed on the product in order to make the mandatory original label visible. Specific rules on the use of stickers to provide mandatory labeling information are not included in FIC regulation 1169/2011. According to the EC's FAQs on the Application of Regulation 1169/2011 document, "labels should not be easily removable so as to jeopardize the availability or the accessibility of the mandatory food information to the consumer."

Trademarks

In the EU, trademarks can be registered at the national, regional or EU level. Commission Implementing Regulation 2018/626 sets out detailed rules on application procedures. Commission Delegated Regulation 2018/625 sets out procedural rules on opposition and revocation of EU trademarks. Trademarks registered at the national level are protected in the respective

state. Applications for registering under the Community Trademark Register must be submitted to the Patent Office of Bulgaria (see contact information below under Annex I).

A trade mark can be registered also at the EU-level as a "Community Trade Mark" at the

Office for Harmonization in the Internal Market. A Community Trade Mark gives the owner protection in all EU Member States with one single registration. Additional information on EU

trade mark criteria can be found on the EC's website and the previous OAA Sofia's FAIRS Narrative 2018 report for more information

Designation of Origin and Protected GIs

Some food product names considered as generic terms in the United States (*e.g.* feta, parmesan) are protected under EU law. In July 2018, the EC presented a proposal on EU accession to the "Geneva Act of the Lisbon Agreement on Appellations of Origin and Geographical Indications." Membership would allow the EU to force protection of all its GIs among all contracting parties to the Lisbon Agreement.

For more information see USEU GAIN report "EU Prepares to Join Lisbon Agreement on Geographical Indications".

CONCLUSIONS

The main conclusions of the report are several:

➢ The rapid development of e-commerce has affected various social industries, from traditional electronic products and clothing to daily necessities and food. At present, more and more industries are affected by the Internet, and the depth of the impact is becoming greater and greater.

➢ At the same time, the state is also gradually increasing its support for e-commerce of agricultural products. Fresh green products and delicious food from all over the country can be delivered to the door through the e-commerce platform. The con- venience of e-commerce of agricultural products can stimulate consumers to consume and further increase the sales of rural online stores.

➢ This study takes the data of rural online stores in a county as the research object, adopts the methods of literature retrieval, case analysis, problem investigation, and data analysis, and puts forward an optimization scheme of e-commerce agricultural products marketing based on relevant theories, in combination with in-depth learning and data mining technology, thus it will be helpful to e-commerce agricultural product marketers.

REFERENCES

[1] S. H. Alsamhi, O. Ma, M. S. Ansari, and Q. Meng, "Greening internet of things for greener and smarter cities: a survey and future prospects," Telecommunication Systems, vol. 72, no. 4, pp. 609–632, 2019.

[2] Z. Huang and M. Benyoucef, "From e-commerce to social commerce: a close look at design features," Electronic Com- merce Research and Applications, vol. 12, no. 4, pp. 246–259, 2013.

[3] Bulgarian Association of Food and Beverage Industries

[4] A. V. Barenji, W. M. Wang, Z. Li, and D. A. Guerra Zubiaga, "Intelligent E-commerce logistics platform using hybrid agent based approach," Transportation Research Part E: Logistics and Transportation Review, vol. 126, no. 1, pp. 15–31, 2019.

[5] Bulgarian Association for Modern Trade

[6] X. Xu, C. L. Munson, and S. Zeng, "The impact of e-service offerings on the demand of online customers," International Journal of Production Economics, vol. 184, pp. 231–244, 2017.

[7] J. Wang, S. Yang, and Y. Wang, "The crawling and analysis of agricultural products big data based on jsoup," in Proceedings of the 12th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD), pp. 1197–1202, IEEE, Zhang- jiajie, China, August 2015.

[8] H. Xu, K. Li, and G. Fan, "Novel model of e-commerce marketing based on big data analysis and processing," in Proceedings of the 2017 International Conference on Computer Network, Electronic and Automation (ICCNEA), pp. 80–84, IEEE, Xi'an, China, September 2017.

[9] X. Meng, "Studying on construction programs of the platform of agricultural E-commerce," in Proceedings of the Workshop on Intelligent Information Technology Application (IITA 2007), pp. 354–357, Zhang Jiajia, China, December 2009.

[10] N. Coombs, "What is an algorithm? Financial regulation in the era of high-frequency trading," Economy and Society, vol. 45, no. 2, pp. 278–302, 2016.

[11] G. Ilieva, T. Yankova, and S. Klisarova, "Big data based system model of electronic commerce," Trakia Journal of Science, vol. 13, pp. 407–413, 2015.

[12] Sarov, A. (2019).KNOWLEDGE OF THE ECONOMIC EFFECT OF BIOLOGICAL METHODS APPLICATION IN AGRICULTURE. INTERNATIONAL Scientific Agricultural Symposium „Agrosym 2019" (10) (Jahorina) Book of Proceedings [Elektronski izvor] / X International Scientific Agriculture Symposium „Agrosym 2019", Jahorina, October 03 - 06, 2019; [editor in chief Dušan Kovačević]. - East Sarajevo: Faculty of Agriculture, 2019 Način pristupa (URL): Регистар. ISBN 978-99976-787-2-0, pp.- 1123 - 1128.