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Formulation of Agricultural Product Marketing Strategies Based on The Analysis of Customer Value Perception and Demand

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Abstract: Through in-depth analysis of customer needs, this paper aims to provide effective strategies for agricultural products marketing to improve the market share and sales efficiency of agricultural products. Through clear research purpose is to understand customer demand, provide basis for agricultural marketing strategy, and adopts the method of questionnaire and data analysis, for 267 consumer purchase behavior, preferences, expectations and study the quality of agricultural products focus, using Pearson related analysis analyzes the consumer perception value, satisfaction, trust and service quality key dimensions. Through the comparative experiment, compared with the traditional method, the turnover of the customer-centered method has increased by 736,500 yuan, and the consumer marketing strategy is more than 9.59 points. To build the best marketing strategy of an enterprise for customer needs can effectively improve the core competitiveness of the enterprise, in the purpose of providing products that meet customer needs, to achieve their own profit, and then promote the sustainable development of the agricultural products market.

Keywords: Marketing Strategy, Customer Demand, Target Market, Channel Management, Pricing Strategy

1. Introduction

With the development of the economy and the improvement of consumers' living standards, consumers' demand for agricultural products is also becoming more and more diversified.The competition in the agricultural product market is becoming more and more fierce, and traditional marketing strategies can no longer meet the needs of the market.Therefore, the marketing strategy of agricultural products based on customer demand analysis has become a hot topic in research.However, there are still some research gaps in the current research on agricultural product marketing strategies.First of all, most of the existing research focuses on the macro-analysis of the entire agricultural product market, and lacks specific research and in-depth understanding of customer needs.Secondly, the research on the demand characteristics and differentiated needs of different types of customers is not sufficient.Finally, how to formulate targeted marketing strategies based on customer needs, and how to apply these strategies to actual marketing, still needs to be further discussed.To this end, this article will build the best marketing strategy for enterprises based on customer needs to solve existing problems.By taking Enterprise A as an example, the best marketing strategy to meet customer needs is studied.By solving these research problems, it is hoped that it can provide practical strategic guidance for the marketing of agricultural products, help companies better meet customer needs and increase market share.At the same time, it also provides useful reference and reference for subsequent agricultural product marketing research.

2. Literature review

In today's fiercely competitive business environment, understanding and meeting customer needs has become the key to business success. As a core part of enterprise operation, marketing strategy should be formulated based on customer needs to meet their needs（Shoushtari et al., 2023; Danylyshyn et al., 2021）

Alzoubi et al. (2022) discussed the introduction of a marketing strategy based on the application of Beacon technology in enterprises. The technology has had a positive impact on the marketing strategy, which in turn affects customer satisfaction and loyalty. Proximity marketing is the best strategy to replace open innovation, but the overall effect of this research in the field of agricultural products is not good, and it should not be applied to China's national conditions .Based on digital marketing technology, Saura (2021) uses scientific data performance indicators in marketing strategies to improve the problems of data scientific management in digital marketing, and provides help to enterprises, marketers, and non-technical researchers in the use of digital marketing strategies, but the marketing strategy has poor reproducibility and seriously ignores customer needs. There are hidden dangers to the development of enterprises, and the customer turnover rate is high. Li et al. (2022) used differential game theory to construct an emission reduction model for cooperation between government, manufacturing enterprises, and retail enterprises under different power structures. He developed differentiated subsidy schemes to achieve Pareto optimality in supply chain and environmental performance. Fareniuk (2022) applies a marketing portfolio model based on data science and technology to FMCG companies and uses regression analysis to model the market share of packaging, but obtaining high-quality, complete and timely data may be a challenge. At the same time, market share modeling may pay too much attention to the single factor of packaging, ignoring other important factors such as product quality, price, brand image, distribution channels and promotional activities.These factors may also have a significant impact on market share . Sakas et al. (2022) believed that in order to establish a competitive advantage, appropriate digital marketing strategies should be adopted. He developed a predictive simulation model based on network analysis and big data technology to demonstrate the interrelationships between the studied indicators and various optimization strategies.Hidayah et al.(2022) adopted a combination of descriptive and qualitative methods to implement online marketing strategies through social media. He found through experiments that the online marketing strategy carried out in COVID-19 (Corona Virus Disease 2019) is considered

very effective and efficient. Overall, research on marketing strategies for enterprises has achieved certain results, but there is relatively little research on marketing strategies related to customer needs. It cannot better meet customer needs, therefore, this article conducted research on enterprise marketing strategies based on customer needs.

Customer demand is a customer-centric business strategy, with the main goal of better meeting customer needs, improving customer satisfaction and trust, and promoting enterprise development. Adjusting marketing strategies based on customer needs can enhance a company's core competitiveness （Li et al., 2018;Khan et al., 2022）. Timoshenko & John (2022) proposed a machine learning method to promote qualitative analysis by selecting content for effective review, and using convolutional neural networks to filter out non-informative content to generate content that meets customer needs and improves the efficiency of customer demand identification. This will help to better understand customer needs and is conducive to the formulation of product pricing and promotion marketing strategies. According to the distribution of customer demand, Zhao et al.(2021) uses an improved clustering algorithm to determine the number of pre-warehouse construction in the area, and adopts a multi-centered method with the goal of minimum cost to achieve the location of the pre-warehouse of fresh agricultural products. By siting the pre-warehouse of agricultural products, the overall storage cost can be reduced, and it can also help to better understand the audience of one's own products and help companies adjust their marketing strategies. Van et al. (2020) Truong aimed to develop an easy to understand data mining prediction method. He hoped to provide a highly accurate and robust demand forecasting model for remanufactured products, as well as to elucidate the nonlinear effects of online market factors as a means of predicting customer demand. His proposed method can accurately predict product demand and help companies adjust their marketing strategies. Nirmalasari et al. (2022) used qualitative descriptive methods based on the theoretical foundation of applied digital marketing strategies. Application based digital marketing methods can be integrated into enterprises. The best digital marketing strategy can be selected to analyze internal and external factors, effectively improving brand trust and loyalty. Yuldashev (2022) analyzed the actual situation of digitization and remote services, and put forward practical opinions and suggestions on the mechanism for commercial banks to develop services based on marketing strategies to increase their customer base, which can help the formulated marketing strategies better meet customer needs and improve customer satisfaction, thereby driving their own development and improving competitiveness .Gonzalez (2019) believed that customer needs refer to the degree to which customers are satisfied with the products and services provided by the enterprise, and thus designs a service quality system with customer needs as the first input . By analyzing customer preferences in different scenarios, Suo et al. (2021) focused on exploring the mechanism of selecting supply chain members in the integration of unmanned retail terminal resources, and proposes targeted mining and classification methods for key factors. In summary, by studying customer needs, it has been found that they can effectively assist in the construction of marketing strategies for enterprises.

In today's fiercely competitive market environment, enterprises are gradually realizing that meeting customer needs is the main factor in achieving profit growth and success. The level of customer satisfaction directly affects a company's performance, market share, and brand image. In order to cope with changes in the business environment and meet the growing needs of customers, it is particularly important to develop good business strategies. For enterprises, studying the best marketing strategies based on customer needs is of great significance. By studying it, companies can have a clear understanding of how to meet customer needs and develop effective marketing strategies to enhance their competitive advantage.

The purpose of this research is to bridge the above research gaps, through in-depth analysis of customer needs, formulate agricultural product marketing strategies based on customer needs, and improve the competitiveness of agricultural product market. Specifically, this research will focus on solving the following problems：

1. In-depth understanding of customer needs: Through questionnaires and data analysis, we can deeply explore the characteristics and differentiated needs of different types of customers for agricultural products.

2. Formulate targeted marketing strategies: according to the characteristics of customer needs, formulate personalized marketing strategies to meet the expectations of different types of customers.

3. Strategy implementation and effect evaluation: Apply the formulated marketing strategy to actual marketing, and evaluate and adjust the implementation effect.

3. Research methods

3.1. Customer Demand Survey for Company A's Products

Understanding customer needs is the foundation for meeting customer needs. In order to gain a deeper understanding of customer needs, it is necessary to conduct market research and analyze customer behavior and preferences, as well as the products or services they want(Sokchan et al., 2018;Luo et al., 2023）. Through this approach, enterprises can better understand customer needs and develop marketing strategies that are more responsive to customer needs. Therefore, this article takes Company A as the research object and introduces it to understand the customer's demand for rice products.

Company A Agricultural Products Co., Ltd. was established in 2011 with a registered capital of over 8 million yuan. The company is headquartered in B city and mainly engages in rice processing, production, and sales. Its rice storage capacity can reach 17000 tons. The company builds a team that integrates planting, production, management, operation, and after-sales service through training and recruitment to improve the quality of agricultural products and products. Since its launch, Company A has received strong support from the local government and farmers. Nowadays, the development of business is receiving more attention from all parties. They would uphold the goal of excellence and trust, work together harmoniously, give back to society, and embark on the path of cooperative economic development. In addition, the company has established good relationships with farmers to help them improve their farming methods and promote urban economic development.

The market is progressively seeing a rise in demand for agricultural products as people's focus on nutrition and health has grown.This survey aims to give Enterprise A with a comprehensive understanding of the demand in its agricultural product market as well as focused market strategies and recommendations for product development to boost sales of Enterprise A's agricultural products.In the fierce competition of agricultural products, the ability of sales and marketing teams is even more tested. They need to analyze and mine customer data, classify existing and potential customers, clarify customer goals and market segmentation, in order to discover potential business and discover new customers (Hamzah et al., 2022; Zhang et al., 2020）. In order to better understand the customer needs and satisfaction of agricultural products, Company A conducted a survey of its own customers from March 2022 to October 2022. This article sets some questions. These issues mainly involve how customers understand the products of Company A, the methods of obtaining information about Company A, customer preferences and interests, and the content that customers are most concerned about the products. These questions are usually used in two ways. The first is the company's public platform, mainly for official account users, and the second is offline research. This article adopts anonymous methods by conducting interviews with offline customers or telephone interviews. A total of 280 customers participated in the survey and collected relevant information data in this article.

In order to gain an in-depth understanding of customer needs for agricultural products, a questionnaire containing the following aspects was designed.Quality of agricultural products: Ask customers about the freshness, taste, safety and other requirements of agricultural products. Agricultural product prices: Understand customers' sensitivity to agricultural product prices and their consideration of price factors when making purchase decisions.Purchase channels and convenience: Understand customers' channel selection preferences and convenience needs when purchasing

agricultural products.After-sales service and customer relationship management: Understand customer expectations for after-sales service and the needs of enterprises to establish and maintain customer relationships.In the questionnaire, the Likert Scale was used to measure the customer's evaluation of different factors for quantitative analysis.At the same time, in order to ensure the reliability of the questionnaire, pre-testing was carried out, and the questionnaire was appropriately modified and adjusted based on the feedback results.In terms of representation, this survey aims to reflect the needs and opinions of the majority of consumers. The sample sources are extensive and representative.

During the investigation process, the following management measures were taken：

1. Strictly control the distribution and recycling channels of questionnaires to ensure the authenticity and reliability of data sources.

2. Number management of questionnaires to ensure that each questionnaire can be traced back to the specific respondent.

3. Filter and organize the collected data, exclude invalid and abnormal data, and ensure the accuracy of the data.

4. Conduct statistical analysis of survey results, including descriptive statistics and inferential statistics, in order to gain a deeper understanding of customer needs.

Among them, the public platform is an open platform with low participation restrictions. A total of 150 customers participated and 144 customer data were collected. A total of 130 questionnaires were distributed offline, and 123 customer data were collected. This article collected a total of 267 useful customer data, with a sample recovery rate of 95.36%. It collects useful information for demand analysis from survey questionnaires designed for customer needs, which can help Company A analyze its marketing strategy. The basic information of the respondents is shown in Table 1.

Table 1: Basic information of respondents

Basic information	Attribute	Number of people	Proportion(%)
Gender	Male	121	45.32
	Female	146	54.68
Age	Under 20 years old	30	11.24
	21-30 years old	65	24.34
	31-40 years old	95	35.58
	41-50 years old	24	8.99
	Over 51 years old	53	19.85
Education	Below junior high school	98	36.7
	High school or secondary school	86	32.21
	Undergraduate or junior college	53	19.85
	Graduate student and above	30	11.24
Single purchase consumption amount	Below 50 yuan	120	44.94
	51-100 yuan	80	29.96
	101-150 yuan	30	11.24
	Above 151 yuan	37	13.86
Monthly income	Below 3000 yuan	91	34.08

level	3001 yuan-5000 yuan	76	28.46
	5001 yuan-8000 yuan	66	24.73
	Above 8001 yuan	34	12.73

As shown in Table 1, there are more women than men who purchase products from Company A, mainly concentrated between the ages of 21 and 40, accounting for more than half of the total. For these customers, the single purchase consumption amount is mainly below 50 yuan, accounting for 44.94%. The survey's primary contents are as follows:

1. Consumption trends for agricultural products: Recognize the patterns in consumer demand for agricultural products, including the prospective markets and consumer inclinations for green, organic, and pollution-free products.

2. Needs for packaging agricultural products: Recognize what consumers want from packaging agricultural products in terms of design, information identification, environmental protection, and other criteria. This can help you create more competitive package designs.

3. Price sensitivity of agricultural products: To identify appropriate pricing strategies, find out how sensitive customers are to price fluctuations of agricultural products and how they react to them.

4. Sales channel analysis: This involves looking at the many channels through which agricultural products are sold, such as supermarkets, farmers' markets, e-commerce sites, etc., in order to understand the sales environment and the purchasing patterns of consumers in these channels and to offer information on which to formulate sales strategies.

Customers' perceived value influences not only their propensity to purchase, but also their loyalty and level of satisfaction in the long run. It also establishes whether the service provider's value proposition can be realized, which in turn determines the service provider's ability to survive and grow. In order to accomplish individualized and diverse manufacturing at a reduced cost, it is imperative to address the specific needs of each customer and maintain the flexibility of sales techniques. This article examines pricing, promotion, communication, and other marketing models to gain a more accurate and thorough understanding of the factors influencing Enterprise A consumers' willingness to purchase. It also offers a scientific foundation for developing marketing strategies for key customers. Additionally, provide research hypotheses

A1: The worth of agricultural goods or services influences consumers' propensity to buy.

A2: Consumers' trust in a company or its product influences consumers' propensity to buy.

A3: Customers' satisfaction with a company or its product influences consumers' propensity to buy.

In order to verify the effectiveness of the customer loyalty section in the questionnaire, this article uses statistical product and service solutions (SPSS) to extract useful content from the questionnaire using key points. This article uses the maximum variance method to rotate the axis (Lai et al., 2020; Rudyk et al., 2020）and obtains a total of four factors. They represent four dimensions of customer demand and loyalty, namely customer demand value, service quality, customer satisfaction, and customer trust. This article uses SPSS 25.0 software for Pearson correlation analysis. The Pearson correlation coefficient can be used to measure the relationship between variables (Nie et al., 2022; Chen, 2019）. The specific results are shown in Table 2.

Table 2: Correlation analysis of customer needs

Factor	Customer demand value	Quality of service	Customer satisfaction	Customer trust
Customer demand value	1	0.593**	0.449**	0.386**
Quality of service	0.596**	1	0.608**	0.586**

Customer satisfaction	0.447**	0.593**	1	0.102
Customer trust	0.362**	0.578**	0.404**	1

** indicates significant correlation at the 1% level.

As shown in Table 2, the level of service quality would directly affect the payment structure of A company's agricultural products, thereby affecting changes in customer costs. Most of the influencing factors in Table 2 are significantly correlated at the 1% level. Customer demand value is the measure of the utility of a product or service by consumers after deducting the cost of receiving the product or service after realizing its benefits. The higher the service quality, the higher the perceived quality while maintaining the same price.It can be found that the three hypotheses A1, A2 and A3 are true.

To determine the weight of customer needs, it is assumed that the entire sample is k, and the weights of the four factors are represented by $M_1, M_2 M_3, M_4$. A_{ij} represents the importance rating of the jth customer on the ith factor, and the calculation formula is as follows:

$$M_i = \frac{\sum_{j=1}^{k} A_{ij}}{\sum_{i=1}^{4}\sum_{j=1}^{k} A_{ij}} \quad (i = 1,2,\cdots,4)\ 0 < M_i < 1 (1)$$

The specific approach of the multi index weighted evaluation method is to set each single factor as $F_i (i = 1,2,\cdots,x)$, F_i's weight on satisfaction H as m, and $\sum_i^x M_i = 1$. The rating level for F_i is B_{ij}, $j = (i = 1,2,\cdots,y)$. The calculation formula for H is as follows:

$$H = \frac{i=\sum_{i=1}^{x}\sum_{j=1}^{y} a_{ij} b_{ij} m_{ij}}{\sum_{i=1}^{x}\sum_{j=1}^{y} a_{ij} b_{ij} m_{ij} | \omega_{ij}=1} * 100\% (2)$$

Determining the dimension of consumer demand and developing marketing strategies are aided by the four aspects of customer demand value, service quality, customer satisfaction, and customer trust.The expectations and requirements of customers for goods and services are the primary indicators of the value of consumer demand.Businesses can identify the fundamental demands of consumers for goods or services by analyzing the value of those needs. This understanding aids in the clarification of product positioning when businesses develop marketing strategies to satisfy those needs.Businesses can divide the market into various target groups based on the importance of the needs of their customers when defining their market goals. Then, they can create market strategies that are tailored to the specific needs of each group.The customer's overall assessment of the good or service is known as the quality of service. Through comprehending the client's assessment of the level of service, the company can identify areas for improvement and focus its efforts on those areas.Businesses have the ability to modify their pricing methods in response to service quality.The level of client happiness with goods or services is known as customer satisfaction, and it serves as a crucial foundation for businesses when developing their marketing plans.Based on client satisfaction, businesses can develop appropriate promotional strategies for their promotional operations.Customer trust is the measure of the level of confidence that customers have in the business and serves as the cornerstone for the development of enduring connections between the business and its clients.Businesses must think about how to develop and strengthen consumer trust while developing their marketing strategies.Businesses that give clear, consistent product information can gain the trust of their customers.

In conclusion, identifying the dimension of consumer demand and developing marketing strategies have been significantly influenced by the four aspects of customer demand value, service quality, customer satisfaction, and customer trust.Companies may create targeted marketing strategies, improve market share and customer loyalty, and better understand consumer wants and market trends by thoroughly studying and analyzing these elements.In order to keep a constant competitive advantage in the market, businesses must also constantly modify and enhance their marketing tactics in response to shifts in the consumer and market.

3.2. Company A ’s Marketing Strategy on Customer Needs

3.2.1 Identifying the Target Market

When searching for the best marketing strategy to meet customer needs, this article first needs to determine the target market (Lai et al., 2020; Rudyk et al., 2020）. This includes segmenting the market and selecting segmented markets that are suitable for the characteristics and advantages of the enterprise based on the target market. Understanding the size of the target market and customer needs can help companies develop better marketing strategies. The Porter’s Five Forces model is often used to analyze the basic competitive situation of an industry, which can help companies formulate competitive strategies (Ghasemi et al., 2022; Mohammed & Basri., 2018）.

Based on the analysis of customer needs, Company A should choose the target market that best meets the characteristics of its products and services.When choosing a target market, consider the market size and growth potential, choose a market with a larger market size and growth potential, and a customer group that is highly matched with the company's products and services.At the same time, analyze the competitive situation of the target market and select markets where the competition is relatively small or the company has a competitive advantage.

At present, agricultural product Company A mainly engages in traditional green rice breeding, production, and marketing work, and its current competitors are roughly divided into the following two categories: the first category is agricultural leading enterprises with abundant resources in the local and surrounding areas. This type of enterprise is very similar to the production and operation of Company A, with severe product homogenization. The biggest difference between the second type of competitive enterprises and Company A is the structure of sales and production. The sales model of this type of enterprise is not only wholesale product model, but also agricultural supermarket docking model and e-commerce sales model. This not only enables enterprises to have the ability to deeply process products, but also to achieve low to mid-range sales of agricultural products. Generally speaking, the second type of enterprise is more mature and has business management and risk prevention capabilities. The main competitors of Company A in the market are shown in Table 3.

Table 3: Statistical table of major competitors in Company A’s market

Name of products	Company	Unit price (yuan/kg)	Packaging specifications
Selenium-enriched rice	X enterprise	37.2	5 kg (bag), gift box
Scented rice	Trade efficient company	10.6	5 kg (bag), gift box
Green organic rice	Y food sales department	30.7	5 kg (bag), gift box
Tribute rice	Cooperation	15.1	5 kg (bag), gift box
Old redmi	Self-employed entrepreneur/businessman	7.6	5 kg (bag), gift box

In order to achieve market leadership, Company A must define its target market by taking into account its competitors.The rivals of Enterprise A were examined, as indicated in Table 3, in order to learn about their market share, product attributes, pricing schemes, sales channels, and other details.Company A can comprehend the competitive environment of the market, as well as its place and potential within it, by doing competitor analysis.When doing a competition analysis, Company A must focus particularly on the shortcomings of rivals.These flaws could be inadequate product features, poor service quality, exorbitant costs, or a negative brand reputation.In order to create a more focused target market strategy, Company A might locate possibilities for differentiated competition by identifying the shortcomings of its competitors..

Company A has two options for identifying its target market: using competitor analysis and weakness identification, it can select one of the following approaches.

1. Steer clear of competitors' strong points: If a competitor has a large advantage in a certain area,

Company A may decide to steer clear of that area and concentrate on market segments that are either underrepresented in or relatively strong relative to competitors.This can increase the likelihood of success and lessen the strain of direct competition with rivals.

2. Go straight up against rivals: Company A may decide to go straight up against rivals if it thinks it is just as strong—or even more so—than them in a certain industry.In order to do this, Company A must devise a more competitive strategy with regard to its offerings in terms of goods, costs, and services, as well as focus on setting itself apart from rivals and creating a distinctive brand identity.

3.2.2 Pricing Strategy for Agricultural Products of Company A

Good pricing is one of the main components of the best marketing strategy to meet customer needs (Deshpande, 2018; Feurer et al., 2019）. Enterprises should develop appropriate pricing strategies based on product, business needs, pricing, and competition. Price strategy should not only meet the price needs of customers, but also achieve the company's profit goals. Market prices are also an important factor affecting consumer product choices (Kapoor et al., 2022; Ricardianto et al., 2023）. For organic agriculture, the high or low market prices would inevitably have a certain impact on sales volume. However, it should be noted that low market prices do not necessarily mean that goods are easily sold. For some affluent consumers, they are more concerned about the value of the products they purchase. When the price of green agricultural products is too high or exceeds their value too much, some consumers simply cannot accept it. When the market price is set too low, consumers are prone to doubt the quality of the product. Therefore, the development of green organic agricultural products must first carefully consider various costs, and then consider competitors and market influence to determine the true price of the product.

Based on the customer's personal shopping experience, understanding of the product and market, they would make certain price expectations for the product (Alyouzbaky et al., 2022; Yoon & Soonhee, 2021）. When a company's product is priced higher than expected, customers would not want to purchase the product. When the price of a company's product is lower than the expected price, customers would believe that the product is worth it and is of good quality at a reasonable price. They are more inclined to purchase and recommend the product to those around them. This method of evaluating value is based on the perspective of customer needs, where perception determines the corresponding value. This article selected 20 customers and conducted a survey on the prices of different specifications of rice products from Company A. The psychological expected prices of customers were compared with the actual prices, as shown in Table 4.

Table 4: Customer psychological expectations for enterprise product pricing

Variety	Category	Customer psychological expected price	Actual selling price (yuan)
Rice (50 kg)	Family luxury outfit	280-300 yuan for 15 people, 310-380 yuan for 5 people	309
Rice (20 kg)	Family wear	110-150 yuan for 12 people, 80-120 yuan for 8 people	118
Rice (5 kg)	Lite	20-30 yuan for 14 people, 25-35 yuan for 6 people	29.9
Rice (1 kg)	Share pack	4-6 yuan for 5 people, 5-8 yuan for 15 people	5.99
Rice (500g)	Gift box	2-3 yuan for 10 people, 2.5-4 yuan for 10 people	3.2

The pricing process of green agricultural products in Agricultural Company A is a phased pricing system. It is not simply using a certain standard price to set product prices, but also integrating various markets, customer needs, and other aspects to use reasonable pricing strategies to price products. Firstly, from the perspective of production costs, green agricultural products have high requirements in many aspects compared to general products. These requirements would cause an increase in the cost of organic agricultural products, leading to an increase in the pricing of green organic agricultural products.

In addition, after the production of products, enterprises must allocate all the cost expenses related to green packaging, green circulation management, etc., to the total production cost of the enterprise.

3.2.3 Promotion and Promotion Activities

Promotion activities aim to promote products and attract customers (Yasa et al., 2020; Sari et al., 2018）. Enterprises can enhance product awareness and customer awareness through various advertising, promotional activities, and social media. Meanwhile, using a combination of online and offline advertising as a promotional method can increase customer purchasing desire, increase sales revenue, and better meet customer needs through product services. At the same time, it can play the role of new media, focus on the integration of raw material rough processing and drying of rice products, introduce new advertising models, and introduce Tiktok in the promotion and production. It takes this as an opportunity to record and broadcast the material selection and rough processing process, expand the product perspective, and record and report the processing process of the selected product (Purwanti et al., 2023; Purnama, et al., 2023）. This can showcase the main raw materials and process flow of the enterprise, which is beneficial for the enterprise to further deepen and strengthen the agricultural product industry.

This paper uses WeChat official account, microblog and other network tools to build a bridge between enterprises and customers, and continues to promote important product information, new products, preferential activities and other soft messages to customers (Wuisan et al., 2023; Christalin et al., 2022）This article utilizes online communication tools to provide personalized guidance to customers in real-time, achieving zero time difference and zero distance. It can actively guide customers to have product purchasing ideas or actually purchase the product in stores or websites. Company A has also established one-on-one communication with customers. This not only displays products and publishes promotional plans through online stores, but also communicates with customers online. On the platform, customers can request products and their actual situation, and then customer service personnel can recommend products based on customer needs and conduct full process tracking and communication, carry out customized business, and do their best to meet customer needs.

4. Results and Discussion

4.1. Experimental results of the marketing strategy of customer needs

In the marketing plan for the entire client demand, sample selection is crucial. By analyzing the samples, the general features of Enterprise A's product promotion are deduced. Consequently, it is necessary to adhere to the representative, practicable, scientific, and other aspects of the sample selection concept.There are numerous subsidiaries beneath Enterprise A, which is comparatively substantial. Conducting a full-coverage survey is challenging and time-consuming. In accordance with the sample selection principle, this article collects data by doing research on Enterprise A's head office and field trips in order to get unbiased and accurate sample data.

This article conducts research on customer demand (CD) to adjust the marketing strategy of Company A’s rice products, and conducts a new survey on the customers in Table 1. It mainly conducts surveys on customer satisfaction, and Company A has provided customers with better quality services through changes in product pricing, channel management, and promotions. This article mainly selects 50 customers and scores A company’s marketing strategy adjustments based on customer needs. The score is 1-10 points, and the higher the score, the higher the customer satisfaction. The obtained results can be compared with those before marketing strategy adjustment (i.e. before the experiment), as well as marketing strategy scoring results based on customer perception (CP), user satisfaction (US), and customer value (CV). The specific comparison results are shown in Figure 1.

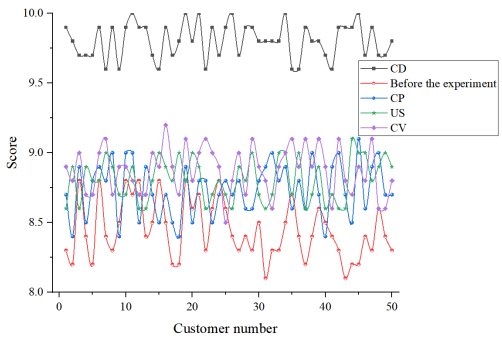

Fig. 1: Customer ratings of marketing strategies under different methods

In Figure 1, the x-axis represents the customer number, and the y-axis represents the scoring value. As shown in Figure 1, this article adjusts the marketing strategy of Company A based on customer needs, and finds that the marketing strategy of Company A based on customer needs is more in line with customer needs. Customer satisfaction is the highest, and the overall score is higher than marketing strategies constructed based on other methods. Among them, the marketing strategy customer ratings studied in this article are above 9.59 points, while the marketing strategy customer ratings based on pre experiment, CP, US, and CV construction are below 8.81 points, 9.11 points, 9.11 points, and 9.21 points. Meanwhile, this article selected 50 customers for scoring. The average customer rating for A company's marketing strategy based on customer needs is 9.8 points, which is 1.3 points, 1.1 points, 1 point, and 0.9 points higher than the pre experiment and the average marketing strategy based on CP, US, and CV, respectively. After using customer needs to adjust marketing strategies, Company A's customer satisfaction improves very quickly, and the difference in customer ratings is also the largest.

Based on customer needs, Company A adjusts its marketing strategy to find the best marketing strategy that suits customers, greatly enhancing its core competitiveness. To better promote the integration of marketing and services, enterprises cannot do without their market strategy. Market strategy is closely related to the ultimate success of enterprises and is an important goal for achieving their success. This article summarized the completion status of the overall marketing strategy goals of Company A for each month from January to December 2022, with numbers numbered from January to December. This article randomly selected three competitors of Company A, and presented their marketing strategies based on CP, US, and CV construction. A survey can be conducted on the completion status of the 2022 corporate strategic goals of these three companies, and the results can be compared with Company A. The specific comparison results are shown in Figure 2.

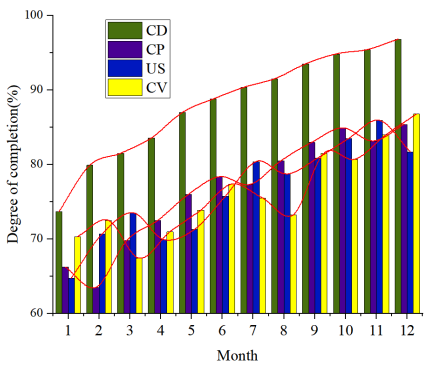

Fig. 2: Comparison of the achievement of corporate strategic goals by marketing strategies constructed using different methods

In Figure 2, the x-axis represents the months from January to December 2022, and the y-axis represents the completion status of the company's strategic goals. A company constructs a marketing strategy based on customer needs, which helps it better achieve its strategic goals for the entire year of

2022. Compared with marketing strategies constructed using other methods, A company's marketing strategy helps achieve its strategic goals more effectively. The completion of strategic goals for Company A from January to December is gradually increasing, with relatively small fluctuations, and is more stable compared to its competitors. The completion rate of Company A's strategic goals was the lowest in January, with only 73.64%, but it is still higher than that of competitors who have constructed marketing strategies based on other methods. The completion rate of A company's strategic goals was the highest in December, with 96.79%, which is 11.42%, 15.1%, and 10.02% higher than that of competitors who build marketing strategies based on CP, US, and CV, respectively.

The main purpose of adjusting marketing strategies for enterprises is still to make profits and provide customers with better quality services to enhance their competitiveness. Enterprise A adjusts its marketing strategy based on customer needs and designs the best marketing strategy for different customer groups. It not only provides high-quality service and products to customers, but also increases its own revenue. Company A mainly produces rice. This article selects four packaging specifications of rice products, including 500g, 1kg, 5kg, and 10kg, and records the revenue of these four specifications of rice from January to October 2022 (after the experiment). The obtained revenue can be compared with the revenue from January to October 2021 before adjusting marketing strategies based on customer needs (before the experiment). The specific comparison results are shown in Figure 3.

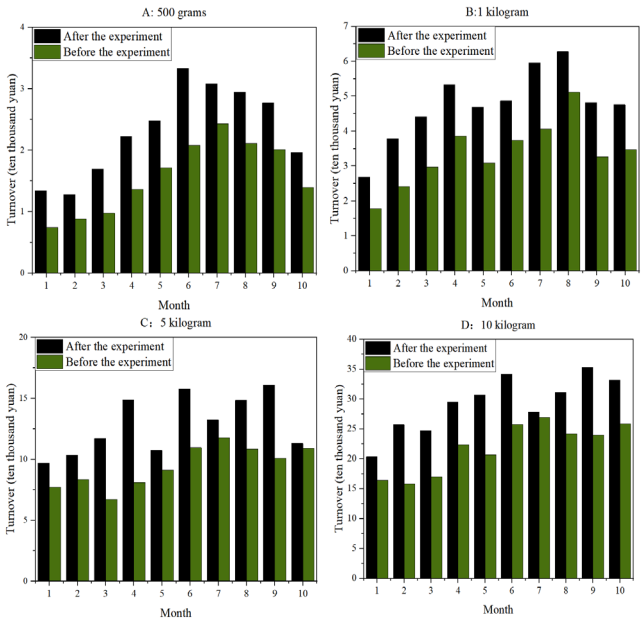

Fig. 3: Comparison of different product specifications before and after experimental adjustment of Enterprise A's marketing strategy

Figure 3A: 500 grams

Figure 3B: 1 kilogram

Figure 3C: 5 kilograms

Figure 3D: 10 kilograms

In Figure 3, the x-axis represents the month, and the y-axis represents the turnover. As shown in Figure 3, after adjusting its marketing strategy based on customer needs, Company A's monthly revenue for rice products of different specifications was higher than before the experiment. As shown in Figure 3A, for a rice product with a specification of 500 grams, the total revenue after the experiment is 230900 yuan. The turnover before the experiment is 156800 yuan, but after the experiment, it is 74100

yuan higher than before. As shown in Figure 3B, for the rice product with a specification of 1 kilogram, the revenue in January after the experiment is the lowest, only 26900 yuan, but it is still 9100 yuan higher than before the experiment. As shown in Figure 3C, for the rice product with a specification of 5 kilograms, the highest turnover is in July before the experiment, with 117600 yuan, but it is still 14600 yuan lower than after the experiment. As shown in Figure 3D, for a 10 kilogram rice product, the total revenue after the experiment is 2.9246 million yuan. The turnover before the experiment is 2.1881 million yuan, and after the experiment, it is 736500 yuan higher than before.

Through the above experimental analysis, Company A can better understand customer needs and behavior patterns.This understanding can help companies predict market trends more accurately and develop products and services that are more in line with customer expectations.The marketing strategy based on customer needs enables companies to more accurately locate and meet the target market, so as to stand out in the competitive market environment.By providing products and services that meet customer needs, companies can build brand loyalty and increase market share.At the same time, it helps companies to provide products and services that are more in line with customer expectations, thereby enhancing customer satisfaction and loyalty.Satisfied customers are more likely to become loyal customers, bringing continuous business growth to the company.

4.2. Discussion

Customer demand shows a diversified, individualized development trend in the agriculture products market of today. This is further supported by an examination of 267 legitimate customer records. In contrast to the conventional marketing approach, the contemporary marketing strategy for agricultural products places greater focus on comprehending and meeting the demands of the client. When compared to earlier research, it is discovered that early agricultural product marketing tactics focused less on the actual demands of customers and more on the attributes of the product itself, such as taste and freshness. But as consumer behavior continues to change and research becomes more comprehensive, more academics and businesses are realizing that satisfying consumer requirements is essential to enhancing the market competitiveness of agricultural products.

This study examines the needs of customers in the buying process with regard to convenience, after-sales service, environmental protection, and sustainability, in addition to the quality, price, brand, and other characteristics of agricultural products. This improves our comprehension of the demands of our customers and serves as a foundation for creating marketing plans that are more precise. This study posits that the agricultural goods marketing strategy, which caters to client wants, is the optimal approach for future development in terms of marketing strategy. This necessitates that businesses not only have a thorough understanding of the demands of their clients, but also create customized marketing plans based on their unique requirements. For instance, pricing and quality client groups may benefit from price promotion strategies, and product quality can be better publicized and promoted. Furthermore, the importance of customer experience and service is growing in addition to the product itself. To guarantee customer satisfaction throughout the entire process, businesses should monitor how customers feel about their experiences across the entire buying process, from pre-sales counseling to after-sales support to ongoing relationship management.

As a result of empirical research, this article concludes that agricultural product marketing tactics based on customer demand analysis are effective. Subsequent research endeavors may delve deeper into the application of this tactic in additional agricultural product domains, and persistently refine and enhance marketing approaches in response to evolving market conditions. At the same time, businesses should always work to gain a deeper understanding of the needs and expectations of their customers in order to gain a consistent advantage in the fiercely competitive market.

With the development of the market economy and the diversification of consumer needs, in-depth research on customer value perception and needs has become an important basis for marketing strategy formulation.Especially in the agricultural product market, due to the particularity of the product itself, it is particularly important to grasp the needs of consumers.1.In-depth understanding of consumer

needs.Through the investigation and analysis of consumers' value perception and needs, we can gain a deeper understanding of consumers' purchasing motivations, preferences and expectations.This helps companies to clarify the target market and pinpoint product positioning, so as to formulate a more accurate marketing strategy.2.Optimize product portfolio and pricing strategy.Based on the understanding of consumer needs, companies can optimize their product portfolio and provide products that are more in line with market needs.At the same time, by analyzing the price sensitivity of consumers, companies can formulate more competitive pricing strategies.3.Improve market competitiveness With the intensification of competition in the agricultural product market, marketing strategies based on the analysis of customer value perception and demand help enterprises improve market competitiveness.Through the analysis of the advantages and disadvantages of competitors, companies can identify their own shortcomings and improve them, while giving full play to their own advantages and building distinctive brands.

5. Conclusions

By using the theory of customer demand to study the product strategy, price strategy and promotion strategy of enterprise agricultural products, focus on improving the core competitiveness of different levels of agricultural products, so as to make the business develop faster. At the same time, by speeding up the promotion of new agricultural products, carrying out promotional activities, consolidating sales channels and other ways to improve the business performance of the enterprise, reduce customer costs, to meet the psychological perception of customer price, so as to improve the marketing turnover of the enterprise. In a fast-growing market, agile customer-centered marketing is a necessary condition for gaining a competitive advantage.This study provides empirical evidence for how the analysis of consumer demand from production costs to psychological pricing expectations can provide target segmentation options for the pricing, channel and promotion combination design of agricultural enterprises.The comprehensive strategy has significantly increased revenue and customer satisfaction.

Despite the importance of agricultural marketing strategies based on customer needs analysis, some limitations of the current study remain. The following are several main limitations: 1. Limitations of sample size: The current study is mainly based on limited sample data, and may not fully reflect the customer needs of the entire agricultural product market. Future studies could expand the sample size to improve the study representativeness and accuracy.2. Limitation of data acquisition: When collecting customer data, there may be problems such as incomplete data acquisition and low data quality. This may affect the accuracy and reliability of the study. Future studies could employ more advanced data collection methods and techniques to improve the quality and reliability of the data.

References

Alyouzbaky, Bassam A., Rasha Duraid Hanna, and Sahm Hazim Najeeb. (2022), The effect of information overload, and social media fatigue on online consumers purchasing decisions: the mediating role of technostress and information anxiety, *Journal of Logistics, Informatics and Service Science*, Vol. 12, 195-220. DOI: 10.33168/JSMS.2022.0209.

Alzoubi, Haitham, Alshurideh, M., Kurdi, B., Akour, I., Aziz, R. (2022), Does BLE technology contribute towards improving marketing strategies, customers' satisfaction and loyalty? The role of open innovation, *International Journal of Data and Network Science*, Vol. 6, No. 2, 449-460. DOI: 10.5267/j.ijdns.2021.12.009.

Budiharso, Teguh. (2022), Porter's Five Forces: Evaluating Education Management Practices in the Postgraduate Program of UIN RM Said Surakarta, Indonesia, *Journal of Social Studies Education Research*, Vol. 13, No. 1, 164-192. https://www.learntechlib.org/p/222865/.

Chen, Ting-Yu. (2019), Multiple criteria decision analysis under complex uncertainty: a Pearson-like correlation-based Pythagorean fuzzy compromise approach, *International Journal of Intelligent*

Systems, Vol. 34, No. 1, 114-151. https://doi.org/10.1002/int.22045.

Danylyshyn, Bohdan, Olshanska, O., Zabaldina, Y., Mazurets, R., Khlopiak, S., Pivnova, L. (2021), Designing a marketing strategy for the development of industrial tourism in the region, *Journal of Optimization in Industrial Engineering 14. Special Issue*, Vol. 1, No. 8. https://doi.org/10.22094/joie.2020.677809.

Deshpande, D. S. S. (2018), Various pricing strategies: A review, *Journal of Business and Management*, Vol. 20, No. 2, 75-79. DOI: 10.9790/487X-2002087579 .

Fareniuk, Y. (2022), Marketing strategy optimization in FMCG market, *Bulletin of Taras Shev chenko National University of Kyiv. Economics*, Vol. 2, No. 219, 49-57. DOI:https://doi.org/10.17721/1728-2667.2022/219-2/6.

Feurer, Sven, Monika C. Schuhmacher, and Sabine Kuester. (2019), How pricing teams develop effective pricing strategies for new products, *Journal of Product Innovation Management*, Vol. 36, No. 1, 66-86. https://doi.org/10.1111/jpim.12444.

Ghasemi, Gh, H. Rafiee, and E. Mehrparvar Hosseini. (2022), Iran's Export Competitiveness in the Supply Chain of Tomato Paste in the Target Markets, *Journal of Agricultural Economics and Development*, Vol. 35, No. 4, 406-397. https://doi.org/10.22067/jead.2021.71505.1065.

Gonzalez, Marvin E. (2019), Improving customer satisfaction of a healthcare facility: reading the customers' needs, *Benchmarking: An International Journal*, Vol. 26, No. 3, 854-870. https://doi.org/10.1108/BIJ-01-2017-0007.

Hamzah, Muhammad Luthfi, Rahmi Fitria Rahmadhani, and Astri Ayu Purwati. (2022), An Integration of Webqual 4.0, Importance Performance Analysis and Customer Satisfaction Index on E-Campus, *Journal of System and Management Sciences*, Vol. 12, No. 3, 25-50. DOI:10.33168/JSMS.2022.0302.

Hidayah, Beta Nur, Safitri, G. S. D., Rochmah, S., Ferdiansyah, M. B., & Kustiningsih, N. (2022), Optimization of Online Marketing Strategies in The Middle of The Covid-19 Pandemic in Improving MSME's Sales, *INTERNATIONAL JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND SOCIAL SCIENCE (IJEMBIS)*, Vol. 2, No. 3, 449-459. DOI: https://doi.org/10.59889/ijembis.v2i3.82.

Juliana, Jaya Putu Eka, and Yuliarmi Ni Nyoman. (2019), Factors influencing competitiveness of small and medium industry of Bali: Porter's five forces analysis, *Russian Journal of Agricultural and Socio-Economic Sciences*, Vol. 89, No. 5, 45-54. DO1 10.18551/rjoas.2019-05.06.

Kapoor, A., Patel, V. S., Sharma, A., & Mohapatra, A. (2022). Centralized and decentralized pricing strategies for optimal scheduling of electric vehicles. *IEEE Transactions on Smart Grid,* Vol. 3, No. 13, 182-187, 2234-2244.DOI: 10.1109/TSG.2022.3141261.

Khan, Rizwan Ullah, Salamzadeh, Y., Iqbal, Q., & Yang, S. (2022), The impact of customer relationship management and company reputation on customer loyalty: The mediating role of customer satisfaction, *Journal of Relationship Marketing*, Vol. 21, No. 1, 1-26. https://doi.org/10.1080/15332667.2020.1840904.

Lai, Han, Liao, H., Wen, Z., Zavadskas, E. K., & Al-Barakati, A. (2020), An improved CoCoSo method with a maximum variance optimization model for cloud service provider selection, *Engineering Economics*, Vol. 31, No. 4, 411-424. DOI：10.5755/j01.ee.31.4.24990.

Li, Lei, Chi, T., Hao, T., & Yu, T. (2018), Customer demand analysis of the electronic commerce supply chain using Big Data, *Annals of Operations Research*, Vol. 26, No. 8, 113-128. https://doi.org/10.1007/s10479-016-2342-x.

Li, Nan, Deng, M., Mou, H., Tang, D., Fang, Z., Zhou, Q. (2022), Government participation in supply

chain low-carbon technology R&D and green marketing strategy optimization, *Sustainability*, Vol. 14, No. 14, 8342. https://doi.org/10.3390/su14148342.

Luo Jian, Tang Jiafu, Yu Qingya, & Wu Zhiqiao. (2023), Discovery of the division of O2O takeaway business districts and the distribution law of customer demand, *Chinese Management Science*, Vol. 31, No. 3, 58-68. doi: 10.16381/j.cnki.issn1003-207x.2022.0385.

Mohammed, Abdulalem, and Basri Rashid. (2018), A conceptual model of corporate social responsibility dimensions, brand image, and customer satisfaction in Malaysian hotel industry, *Kasetsart Journal of social sciences*, Vol. 39, No. 2, 358-364. https://doi.org/10.1016/j.kjss.2018.04.001.

Nie, Tiancheng, Zhou, C., Pan, J., Wen, Z., Yang, F., & Jia, R. (2022), Study on the occurrence of rare earth elements in coal refuse based on sequential chemical extraction and pearson correlation analysis, *Mining, Metallurgy & Exploration*, Vol. 39, No. 2, 669-678. https://doi.org/10.1007/s42461-022-00542-y.

Nirmalasari, Leli, Alwiyah, A., Sunarya, P. A., & Panjaitan, A. S. (2022), A digital marketing strategy based on applications to rise customer satisfaction, *International Journal of Cyber and IT Service Management*, Vol. 2, No. 2, 139-145. DOI:https://doi.org/10.34306/ijcitsm.v2i2.110.

Purnama, I., Ericca, S., Hafni, L., Purba, J. O., & Tjahjana, D. J. S. (2023). Promotion Strategies, Distribution, and Product Variations on Offline and Online Purchase Decisions at Aneka Salim Group Pekanbaru. *Interconnection: An Economic Perspective Horizon,* Vol. 1, No. 1, 51-58. http://firstcierapublisher.com/index.php/interconnection/article/view/15.

Purwanti, A., Reza, A., Musa, U., Nurhadi, Z. F., & Triyadi, A. (2023). NEW MEDIA AS INTERNET MARKETING COMMUNICATIONS IN RETAIL COMPANY. *JIM UPB (Jurnal Ilmiah Manajemen Universitas Putera Batam),* Vol. 1, No. 11, 95-104.DOI: https://doi.org/10.33884/jimupb.v11i1.6613.

Ricardianto, P., Yanto, T., Wardhono, D., Fachrial, P., Sari, M., Suryobuwono, A., ... & Endri, E. (2023). The impact of service quality, ticket price policy and passenger trust on airport train passenger loyalty. *Uncertain Supply Chain Management*, Vol. 1, No. 11, 307-318.DOI: 10.5267/j.uscm.2022.9.012.

Rudyk, Andrii V., Semenov, A. O., Kryvinska, N., Semenova, O. O., Kvasnikov, V. P., & Safonyk, A. P. (2020), Strapdown inertial navigation systems for positioning mobile robots—MEMS gyroscopes random errors analysis using Allan variance method., *Sensors,* Vol. 20, No. 17, 4841. https://doi.org/10.3390/s20174841.

Sakas, Damianos P., Reklitis, D. P., Trivellas, P., Vassilakis, C., & Terzi, M. C. (2022), The effects of logistics websites' technical factors on the optimization of digital marketing strategies and corporate brand name, *Processes*, Vol. 10, NO. 5, 892-897. https://doi.org/10.3390/pr10050892.

Sari, Indra, Maseleno, A., Satria, F., & Muslihudin, M. (2018), Application model of k-means clustering: insights into promotion strategy of vocational high school, *International Journal of Engineering & Technology,* Vol. 7, No. 27, 182-187. DOI:10.14419/ijet.v7i2.11491.

Saura, Jose Ramon. (2021), Using data sciences in digital marketing: Framework, methods, and performance metrics, *Journal of Innovation & Knowledge*, Vol. 6, No. 2, 92-102. DOI：10.1016/j.jik.2020.08.001.

Shoushtari, Farzaneh, Bashir, E., Hassankhani, S., Rezvanjou, S. (2023), Optimization in Marketing Enhancing Efficiency and Effectiveness, *International journal of industrial engineering and operational research*, Vol. 5, No. 2, 12-23.

Sokchan, Suy, R., Chhay, L., & Choun, C. (2018), Customer satisfaction and service quality in the marketing practice: Study on literature review, *Asian Themes in Social Sciences Research*, Vol. 1, No.

1, 21-27. https://doi.org/10.33094/journal.139.2018.11.21.27.

Suo Lisai, Yao Jianming, and Zhou Jiahui. (2021), Research on the integration and optimization of supply chain resources for unmanned retail terminals based on customer needs and preferences, *Chinese Management Science*, Vol. 29, No. 10, 84-95. doi: 10.16381/j.cnki.issn1003-207x.2019.0092.

Timoshenko, Artem, and John R. Hauser. (2019), Identifying customer needs from user-generated content, *Marketing Science*, Vol. 38, No. 1, 1-20. https://doi.org/10.1287/mksc.2018.1123.https://doi.org/10.1287/mksc.2018.1123.

Van Nguyen, Truong, Zhou, L., Chong, A. Y. L., Li, B., & Pu, X. (2020), Predicting customer demand for remanufactured products: A data-mining approach, *European Journal of Operational Research*, Vol. 281, No. 3, 543-558. https://doi.org/10.1016/j.ejor.2019.08.015.

Wuisan, D. S., & Handra, T. (2023). Maximizing online marketing strategy with digital advertising. *Startupreneur Business Digital (SABDA Journal),* Vol. 1, No. 2,, 22-30.https://doi.org/10.33050/sabda.v2i1.275.

Yasa, N., Giantari, I. G. A. K., Setini, M., & Rahmayanti, P. J. M. S. L. (2020), The role of competitive advantage in mediating the effect of promotional strategy on marketing performance, *Management Science Letters*, Vol. 10, No. 12, 2845-2848. DOI: 10.5267/j.msl.2020.4.024.

Yoon, Jiyoung, and Soonhee Joung. (2021), Environmental self-identity and purchasing ecofriendly products, *Journal of Logistics, Informatics and Service Science*, Vol. 8, No. 1, 82-99. DOI:10.33168/LISS.2021.0106.

Yuldashev, Jamshid Abrarovich. (2022), Mechanisms of Customer Attraction Based on Marketing Strategies in Commercial Banks, EUROPEAN *JOURNAL OF BUSINESS STARTUPS AND OPEN SOCIETY*, Vol. 2, No. 10, 25-32. http://www.inovatus.es/index.php/ejbsos/article/view/1313.

Christalin Nelson, S., Tapan Kumar, M., Prakash G.L. (2022), A Novel Optimized LSTM Networks for Traffic Prediction in VANET, *Journal of System and Management Sciences*, Vol. 12, No. 1, 461-479. DOI: 10.33168/JSMS.2022.0130

Zhang, Lin Lin, and H. Kim. (2020), The influence of financial service characteristics on use intention through customer satisfaction with mobile fintech, *Journal of System and Management Sciences*, Vol. 10, No. 2, 82-94. DOI:10.33168/JSMS.2020.0206.

Zhao Zhenqiang, Zhang Litao, Wang Wenzhao, & Wang Bo. (2021), Research on the location of pre-warehouses for fresh agricultural products based on the distribution of customer demand, *Computer applications and software*, Vol. 38, No. 10, 107-113. DOI：10.3969/j.issn.1000386x.2021.10.017.