RESEARCH ON THE MARKETING STRATEGY OF DOMESTIC BEAUTY INDUSTRY FROM THE PERSPECTIVE OF DIGITAL ECONOMY

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Abstract: With the rapid development of digital technology, digital economy has become one of the main driving forces for global economic growth. In China, the digital economy has made remarkable achievements. Among them, digital technologies such as e-commerce, social media, big data and artificial intelligence have been widely used in various industries. In this context, the domestic beauty industry has also ushered in unprecedented development opportunities and challenges. From the perspective of digital economy, this study aims to deeply analyze the strategies and practices of domestic beauty brands represented by PROYA in digital marketing, explore their successful factors and development paths, and provide theoretical reference and practical guidance for the future development of domestic beauty brands. Logistic regression model is used to analyze the influencing factors of customer purchase decision, and chi-square test is used to analyze and study PROYA's product categories, so as to study the current situation and future development trend of domestic cosmetics industry under the digital economy. Finally, combined with the conclusions drawn from the model analysis, suggestions and prospects are put forward.
Keywords: Digital economy; Cosmetic industry; Logistic regression analysis; Chi-square test

1 INTRODUCTION

With the vigorous development of the digital economy and the transformation of consumers' lifestyles, the domestic cosmetics industry is undergoing an unprecedented transformation. The popularity of digital technology and the rise of the Internet have completely changed the pattern and operation mode of the traditional cosmetics industry, and promoted the rise and growth of domestic cosmetics brands in the market.

This paper aims to explore the marketing strategy of domestic cosmetics from the perspective of digital economy. In foreign countries, the theory of marketing and brand marketing is relatively perfect and mature. With the development of the Internet, foreign scholars have begun to study network marketing. Philip Kott, a famous marketing management expert, has made a detailed analysis of the traditional 4P marketing theory, and further developed and improved it, and put forward the concept of enterprise marketing management to adapt to the Internet era. Hyeon-Joo[1] studied the impact of marketing 4P on consumers' purchase motivation, satisfaction and loyalty, aiming to analyze the impact of cosmetics marketing mix on consumers' purchase behavior. Syawaluddin[2] used multiple linear regression model and coefficient of determination to study the influence of social media, e-marketing and product quality on the process of purchasing natural cosmetics. Lee[3] analyzed the relationship between consumers' desire to consume cosmetics and the influence of purchase motivation that promotes consumption desire on purchase intention. In recent years, China's domestic makeup industry has flourished and the market scale has continued to expand. Many local brands have successfully won the trust of consumers by continuously improving product quality, strengthening R & D innovation and clever marketing. The rise of online channels and the gradual development of the international market have also given domestic cosmetics a broader space for development. Technological progress, the trend of consumer upgrading and the brand's international development strategy have jointly promoted the prosperity of the domestic cosmetics industry, making it gradually emerge in the global market. However, in the traditional beauty market, the beauty brands of the United States, Japan, South Korea, France and other countries have long monopolized the domestic market. Many foreign beauty brands have established a long history and strong brand awareness in the Chinese market, and have rich experience in market promotion and channel expansion. Through ingenious marketing strategies and sales channels adapted to the Chinese market, they better meet the diversified needs of Chinese consumers. At the same time, the international vision and cross-cultural design of foreign brands have also played an active role in attracting young consumers, keeping them competitive in the Chinese market. Therefore, in the face of the new pattern of digital economy, domestic beauty brands are facing many challenges and competitive pressures. In the field of digital marketing, how to effectively use big data analysis, social media communication, content marketing and other means to enhance brand exposure and influence has become a key issue that domestic beauty brands need to think about and solve.

As a well-known local beauty brand in China, PROYA was founded in 1931. After nearly a century of development, it has become one of the leading brands in China's beauty industry. With a wide range of product lines in the fields of skin care, make-up, personal care and so on, PROYA is committed to providing high-quality, safe and reliable products, which are favored by consumers. At present, PROYA has a total of thousands of products, and has set up business networks in major department stores, cosmetics stores and large supermarket chains. It has successfully established a

multi-brand, multi-type, multi-channel and multi-mode operation system, and its comprehensive strength is in the leading position in the cosmetics industry.

From the perspective of digital economy, this study aims to deeply analyze the strategies and practices of domestic beauty brands represented by PROYA in digital marketing, explore their successful factors and development paths, and provide theoretical reference and practical guidance for the future development of domestic beauty brands. Through the in-depth study of domestic cosmetics marketing strategy, it is expected to inject new vitality and impetus into the innovation and development of the industry.

2 MODEL CONSTRUCTION

2.1 Analysis of Influencing Factors of Customer Purchase Decision -- Logistic Regression Model

Logistic regression, also known as Logistic regression analysis, is a generalized linear regression analysis model. Binary Logistic regression analysis is a kind of Logistic regression analysis, which is often used in data mining and economic forecasting. Sometimes it is also used to explore the risk factors of disease occurrence, and then calculate the probability of disease occurrence. In order to more effectively quantify and calculate the influencing factors of consumers' purchase of PROYA products, we applied binary logistic regression analysis to quantify the variables.

2.1.1 Single factor analysis of variance

Based on the existing data, six variables that are most likely to affect consumers' purchase of PROYA products are selected: gender, age, city, occupation, average monthly income, and monthly cosmetics expenses. Before analyzing the influencing factors of consumers' purchase of PROYA products, we first need to process the city variables, divide the cities into five city levels according to different regions, and then carry out Logistic single factor regression analysis on the six indicators that affect consumers' purchase of PROYA products.

Table 1 Single Factor Analysis

Factor		Purchase group (n=304)	Non-purchase group (n=108)	χ^2	p-value
Gender	Male	76 (25%)	42 (38.89%)	3.961	0.041
	Female	228 (75%)	66 (61.11%)		
Age	Less than 18 years old	8 (2.63%)	4 (3.7%)	0.851	0.837
	18 to 25 years old	182 (59.87%)	70 (64.81)		
	26 to 35 years old	92 (30.26%)	26 (24.07%)		
	36 to 45 years old	22 (7.24%)	8 (7.41%)		
Occupation	Students	134 (44.08%)	50 (46.3%)	0.640	0.958
	On-the-job personnel	120 (39.47%)	40 (37.04%)		
	Freelancers	40 (13.16%)	16 (14.81%)		
	Self-employed	8 (2.63%)	2 (1.85%)		
	Entrepreneurs	2 (0.66%)	0 (0%)		
Urban hierarchy	First-tier cities	76（25%）	26（24.07%）	4.165	0.384
	New first-tier cities	94（30.92%）	28（25.93%）		
	Second-tier cities	74（24.34%）	28（25.93%）		
	Third-tier cities	40（13.16%）	24（22.22%）		
	Fourth-tier city	20（6.58%）	2（1.85%）		
Monthly average income	Under 3000	114（37.5%）	114（37.5%）	8.985	0.032
	3000-5000	80（26.32%）	80（26.32%）		
	5000-7000	64（21.05%）	64（21.05%）		
	More than 7000	46（15.13%）	46（15.13%）		
Monthly cosmetics expenses	Under 200	104（34.21%）	104（34.21%）	8.566	0.046
	200-500	116（38.16%）	116（38.16%）		
	500-1000	66（21.71%）	66（21.71%）		
	More than 1000	18（5.92%）	18（5.92%）		

Table 1 shows the results of single factor analysis showed that 304 of the 412 consumers who purchased PROYA products were set as the purchase group, and the remaining 108 were set as the non-purchase group. The results of the above table show that there is no significant correlation between age, urban hierarchy, occupation and whether to buy PROYA products (P > 0.05). Consumers with different genders, monthly average income, and monthly cosmetics

expenses had statistically significant differences in purchases (P < 0.05). The statistical results showed that the proportion of female consumers, monthly average income of 3000-5000 yuan, 5000-7000 yuan, more than 7000 yuan, monthly cosmetics expenditure of 200-500 yuan and monthly cosmetics expenditure of 500-1000 yuan in the purchase group was significantly higher than that in the non-purchase group, and the difference was statistically significant (P < 0.05).

2.1.2 Multiple logistic regression

Sex, monthly average income and monthly cosmetics expenses were selected as the influencing factors for purchasing PROYA products. The factors affecting customers' purchase of PROYA products in the single factor analysis were set as independent variables, and the following definitions and assignments were included in the Logistic multivariate regression analysis.

It is assigned as follows Table 2:

Table 2 Variable Assignment

Variable	Influencing Factors	Variable Assignment
X_1	Gender	Male = 1; Female = 2
X_2	Monthly average income	'Under 3000' = 1;'3000-5000' = 2;'5000-7000' = 3;'more than 7000' = 4
X_3	Monthly cosmetics expenses	'Under 200' = 1;'200-500' = 2;'500-1000' = 3;'more than 1000' = 4
Y	Purchase experience	No = 0; yes = 1

Multivariate Logistic regression analysis was performed to screen out the influencing factors that affect consumers' purchase of PROYA products, and the following Table 3:

Table 3 The Recommended Fonts

Variable		β	SE	χ^2	P	OR	95% CI Value	
							Lower Limit	Upper Limit
Gender	Female	0.952	0.624	5.328	0.027	2.592	1.763	8.810
Monthly average income	3000-5000	0.318	0.618	4.265	0.047	1.088	1.017	2.442
	5000-7000	0.082	0.649	4.016	0.038	1.786	1.304	3.878
	More than 7000	0.007	0.658	5.094	0.049	1.993	1.274	3.603
Monthly cosmetics expenses	200-500	0.062	0.789	4.036	0.037	1.064	1.027	5.001
	500-1000	0.631	0.777	4.659	0.017	1.880	1.410	8.625
	More than 1000	0.882	0.816	5.169	0.028	2.417	1.488	11.965

According to the further analysis of the above table, it is concluded that women's purchase of PROYA products is about 2.6 times that of men (OR = 2.592). The main reason is that PROYA products are mainly for women's makeup products. In our daily life, men rarely buy cosmetics, and many men buy cosmetics for their girlfriends or mothers. Consumers with an average monthly income of 3000-5000 yuan buy PROYA products about 1.1 times that of less than 3000 yuan (OR = 1.088). Consumers with an average monthly income of 5000-7000 yuan per month to buy PROYA products is about 1.8 times that of 3000 yuan or less (OR = 1.786); consumers with an average monthly income of more than 7000 yuan buy PROYA products about 2.0 times that of less than 3000 yuan (OR = 1.993). Consumers who spend 200-500 yuan per month on cosmetics are about 1.1 times more likely to buy PROYA products than those who spend less than 200 yuan (OR = 1.064); consumers who spend 500-1000 yuan per month on cosmetics to buy PROYA products is about 1.9 times that of 200 yuan or less (OR = 1.880); consumers who spend more than 1,000 yuan per month on cosmetics buy PROYA products about 2.4 times as much as those who spend less than 200 yuan (OR = 2.417). The main reason is that PROYA products are mid-to-high-end products. Consumers with high monthly average income will be more inclined to buy PROYA, while consumers with low monthly average income will tend to choose brands with low prices.

2.2 Product Category Analysis--Chi Square Test

Different products have different effects, and different ages have different skin states. Consumers will choose products according to their own skin states when buying PROYA products. Therefore, age has a certain relationship with the types of products purchased by consumers. At the same time, at different ages, we are engaged in different occupations,

so the occupation and the types of products purchased by consumers also have a certain relationship. Next, we will explore the relationship between age, occupation and PROYA's product categories.

2.2.1 Age and product categories

Before exploring the relationship between age and PROYA product categories, we first need to conduct a chi-square test to determine the relationship between the two, and get the following Table 4:

Table 4 Chi-square Test

	Value	Degree of freedom	Asymptotically significant
Pearson chi-square	58.579	18	0.000
Number of effective cases	898		

From the above chi-square test analysis table, the chi-square value is 58.579, and the p value is 0.000 less than 0.05, indicating that there is a significant correlation between age and product type variables[4]. The following correspondence analysis is performed to obtain the corresponding correspondence diagram as follows:
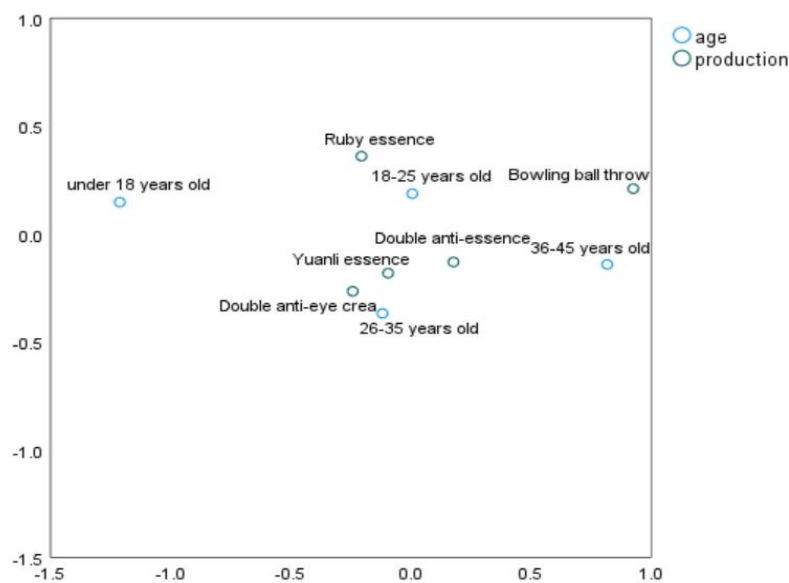

Figure 1 Correspondence Diagram of Age and Product Category

Figure 1 shows that consumers under the age of 18 hardly buy PROYA products and are not very interested in them. The main reason is that the people under the age of 18 are basically in high school. For students, the college entrance examination is the most important. All the time spent on learning, there is little time to understand cosmetics and dress up yourself. Consumers aged 18-25 and 26-35 mainly buy ruby essence, Yuanli essence, double-antibody essence, double-antibody eye cream and have great interest in these types. The main reason is that most of these people are in the era of university, graduate or work. More and more consumers will pay attention to their skin condition. Makeup can improve skin appearance, modify facial features, make people feel more confident, and help to cope with various social occasions and challenges. Consumers aged 36-45 tend to buy bowling throws or are very interested in such products.

2.2.2 Occupation and product categories

Before exploring the relationship between occupation and PROYA's product categories, we first need to conduct a chi-square test to determine the relationship between the two, and get the following:

Table 5 Chi-square Test

	Value	Degree of freedom	Asymptotically significant
Pearson chi-square	52.157	24	0.000
Number of effective cases	898		

Table 5 shows that the chi-square value is 52.157, and the p value is 0.000 less than 0.05, indicating that there is a significant correlation between occupation and product type variables. The following correspondence analysis is carried out, and the corresponding correspondence diagram is as follows:
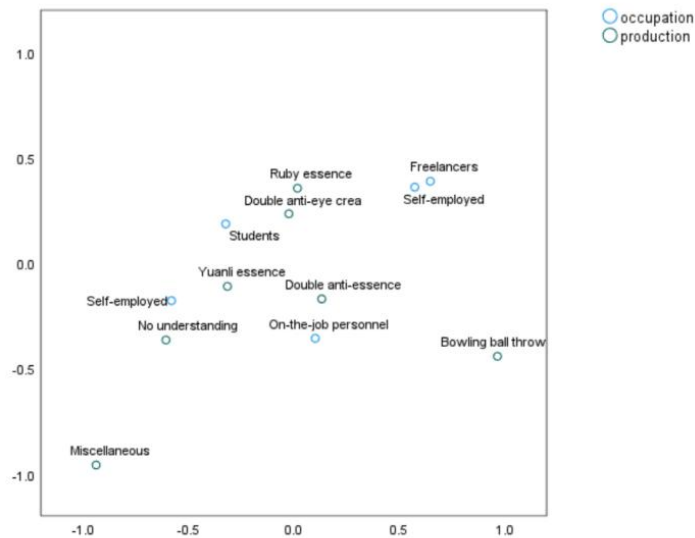
Figure 2 Occupation and Product Category Corresponding Diagram

Figure 2 shows that students mainly buy double-anti-eye cream and have great interest in it. The main reason is that students are heavy in their studies and often study late into the night. The double-antibody eye cream mainly improves the dark yellow around the eyes, contains the same formula of the double-antibody series, and adds ingredients to brighten the skin around the eyes. It helps to improve many eye problems such as dark eyes, blister eyes, dry lines and fine lines. Therefore, double-anti-eye cream is very popular among students. For on-the-job personnel, the working environment of different occupations is different, which will affect our skin condition. The indoor office crowd will be better than the outdoor office crowd in the skin condition. When choosing the product category, the main purchase is the double-antibody essence. Of course, some people choose to buy the source essence and the ruby essence and have interest. For entrepreneurs, the entrepreneurial stage is very hard, there is little time to understand cosmetics, and most of the entrepreneurial male population, they often choose to repair the source of the series of essence. Bowling throw is mainly used for deep moisturizing, repairing skin, improving skin discomfort symptoms such as redness. Long-term use can improve skin lock water, repair damaged lipid barrier, and strengthen and toughen skin. Although this product is also suitable for some of our people, it is not very popular due to the better effect and more efficacy of other essences.

3 CONCLUSION

3.1 Research Conclusions

3.1.1 Influencing factors of customer purchase decision
Through Logistic regression analysis, the risk factors that affect consumers' purchase of PROYA products are gender, average monthly income, and monthly cosmetics expenses. It is found that female consumers buy PROYA products about 2.6 times that of men; consumers with an average monthly income of 3000-5000 yuan, 5000-7000 yuan and more than 7000 yuan purchase PROYA products at 1.1 times, 1.8 times, and 2.0 times, respectively, below 3000 yuan. Consumers who spend 200-500 yuan, 500-1000 yuan and more than 1,000 yuan per month on cosmetics buy PROYA products 1.1 times, 1.9 times, and 2.4 times as much as those who spend less than 200 yuan.
3.1.2 The product range of PROYA
Through the analysis of product types, it can be seen that there is a correlation between age, occupation and PROYA product types. Consumers under the age of 18 almost do not buy PROYA products and are not very interested in them. 18-25 years old and 26-35 years old students and in-service personnel mainly buy ruby essence, source power essence, double anti essence, double anti eye cream these products and have great interest in these kinds; consumers aged 36-45 tend to buy bowling throws; for entrepreneurs, they often choose the essence of the source of the repair series.

3.2 Suggestion and Prospect

3.2.1 Suggestion
Strategies to cope with market changes. PROYA Company should continue to pay attention to market dynamics, understand changes in consumer demand, and grasp the development trend of the industry. Through market research, the company can better understand market demand and provide a basis for product development and market strategy formulation[5]. According to market changes, PROYA should adjust its product strategy in time, including product line update, product quality improvement and product pricing optimization. At the same time, the company should also pay attention to the application of new technologies, through technological innovation to enhance the competitiveness of

products. In the face of market changes, PROYA needs to continue to expand its sales channels, including online and offline channels. Through diversified sales channels, the company can cover a wider range of consumer groups and increase market share.

Optimize customer service experience. Improve the professional ability of the customer service team, and regularly provide product knowledge, communication skills and customer service attitude training for the customer service team to ensure that they have professional and efficient service capabilities. In order to meet the needs of different consumers, PROYA can provide customer service support through various channels such as telephone, email, online customer service, and social media to ensure that consumers can get help quickly and easily, establish an efficient customer service process, and ensure that consumers' consultations and problems can be quickly responded to and resolved. Encourage consumers to provide feedback, understand consumers' evaluation of customer service through satisfaction surveys, online evaluations, etc., and make corresponding improvements based on feedback.

Improve brand awareness. Use social media platforms for extensive and accurate brand promotion, which can include publishing new developments about products, sharing skin care knowledge and skills, interacting with consumers, holding online activities, etc. In cooperation with influential online celebrities, bloggers, stars, etc., they can endorse or recommend PROYA's products. Through their fan effect, they can expand brand exposure and improve brand awareness. Advertisements are placed on major media platforms, including television, the Internet, outdoors, etc., so that more potential consumers can understand the PROYA brand. At the same time, we should pay attention to the innovation and attractiveness of advertising content to attract target consumers.

Optimize sales channel. For offline sales channels, optimize offline experience, and provide high-quality shopping experience in physical stores, such as professional product consulting, skin testing, makeup service, etc., so that consumers can feel the professionalism and intimate service of the PROYA brand. For online sales channels, PROYA can optimize online stores and improve user experience[6]. For example, optimizing store page design, improving page loading speed, and improving shopping process. In addition, it can also strengthen the construction of customer service team, improve the response speed and service quality of customer service, so that consumers can feel better service in the shopping process.

3.2.2 Prospect

The domestic cosmetics brand has made significant development and progress in the past few years, but the road ahead is still full of challenges and opportunities. Domestic cosmetics brands need to continue to strengthen brand building and positioning, enhance brand awareness and reputation. Through the unique brand story, high-quality product experience and innovative marketing strategy, establish their own brand image and establish a deep emotional connection with consumers. With the increasing diversification of consumer demand for cosmetics, domestic cosmetics brands need to continuously innovate and optimize products to meet the personalized needs of consumers. Strengthen product research and development, improve product quality and technical content, is the key to enhance brand competitiveness. At the same time, it is necessary to actively expand online and offline channels to improve the coverage and accessibility of products. It is also necessary to continuously innovate marketing strategies and use new marketing methods such as social media and live delivery to interact and communicate with consumers more deeply[7].

In short, domestic cosmetics brands need to constantly innovate, optimize products, expand channels, practice the concept of green environmental protection and actively expand the international market in the future development, so as to enhance brand competitiveness and market position. At the same time, it is also necessary to maintain a keen insight into market changes and consumer demand, adjust strategies in a timely manner, seize opportunities, and meet challenges.

COMPETING INTERESTS

The author have no relevant financial or non-financial interests to disclose.

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