Application of data analysis in product selection of cross-border e-commerce

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Abstract. In order to better understand the relationship between data analysis and cross-border selection, and apply the practical application skills of cross-border selection better. The author sorted out several commonly used analysis tools, analysis the steps and the methods of cross-border e-commerce. This paper mainly introduces the role of cross-border e-commerce product selection and the application of data analysis in cross-border e-commerce product selection. At the same time, this paper also analyzed three techniques of data analysis in cross-border e-commerce product selection. Cross-border selection is the basis of cross-border e-commerce operation. In the process of scientific selection, it is necessary to judge the potential of products through data analysis. Correct selection can not only save time, the most important is to improve the efficiency and effect of product operation. There is still a saying circulating in the cross-border e-commerce industry: seventy percent depend on the selection of products, thirty percent depend on operation.

1 The important role and significance of cross-border e-commerce product selection

For a successful cross-border e-commerce seller, the choice of products is very important. Because products are related to storage and shipping costs, search engine optimization and marketing strategies, pricing strategies and potential profits. Therefore, the product determines the whole business development of a cross-border e-commerce seller. Overall, the role of cross-border e-commerce products selection is mainly manifested in the following aspects:

(1) Cross-border e-commerce product selection can reduce the trouble caused by infringement. Consider the infringement problem in advance when selecting products on Amazon, which can avoid the account being closed due to infringement after the products are put on the shelves.

(2) Good cross-border e-commerce product selection is conducive to store operation. To operate an Amazon store well, it is necessary to have a certain grasp of the market situation and development, which is essential in the selection of products. The better the sales

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volume, the better the product operation will be, the higher the ranking will be, the more traffic will be brought, and a virtuous cycle will be formed, which is definitely beneficial to the operation.

(3) Product selection analysis improves the scientific rationality of marketing activities of cross-border e-commerce enterprises. Product selection analysis collects and collates relevant marketing data, and then makes relevant marketing management decisions. It improves the scientific rationality of marketing activities of cross-border enterprises, makes marketing activities carried out accurately, and points out the direction for the development of cross-border e-commerce.

(4) Products selected by cross-border e-commerce can deeply match audience needs and product experience. Good products can serve the needs of specific consumer groups, and can deeply explore the real needs of people;

(5) Good product selection is conducive to improving after-sales service efficiency. For example, in the early stage of product selection, focusing on customer experience and paying special attention to product quality, customer satisfaction and retention rate will be relatively high in the later stage, thus reducing the return rate of cross-border e-commerce and improving the efficiency of after-sales service.

2 Application of data analysis in product selection of cross-border e-commerce

Every country has its own traditional culture, and everyone has their own lifestyle and consumption habits. How to select products that meet the needs of different buyers is the most fundamental purpose of data analysis in the application of cross-border e-commerce product selection.

2.1 Market selection

Market selection, starting from the website category data, through filtering and comparing all kinds of multidimensional data, to determine the product track. Market data analysis is the analysis of market capacity, market price, market trend, market concentration and other relevant data. Through comprehensive analysis, a large number of scattered market information is formed as a whole, which can judge the supply and demand situation of certain commodities in the market and provide reference for the development of the market in the later period.1

Market capacity analysis is helpful in formulating sales and operational plans and objectives. Industry trend analysis can understand the life cycle state of the industry. Market potential analysis can understand the future development space of the industry.

In the selection, market capacity is a very important indicator. If a product has no market capacity, it will lose the foundation to build. Google Keywords and Google Trends can be used to judge the market trend and market capacity of this product, so as to understand the stage of this product and make better judgments.

2.2 Product selection

Product selection is based on the data of the product itself, through the analysis of the operating data of the existing products on the platform, copy on the shelf.
2.3 Keyword selection

Through keyword information insight into the real needs of buyers, and then to find products to meet the needs.

3 Skills of data analysis in product selection of cross-border e-commerce

There are a variety of techniques for cross-border e-commerce selection, but not all of them are suitable. Sellers can try different selection techniques first, and through trial and error, then find their own selection techniques. Here are some common selection techniques:

3.1 Analysis of negative rating data

Poor review data analysis means to find out customer dissatisfaction mainly by grasping the poor review data of hot selling goods on the platform, and then carry out product improvement or select the supplier's products that can solve customers' pain points. The analysis of bad evaluation data focuses on capturing bad evaluation data, and also pays attention to the analysis of good evaluation data of goods, and analyzes the real demand points and expectations of customers. In other words, bad review data analysis not only finds references from good reviews of products, but also mines useful information from bad reviews. Choose products that can meet customers' pain points, products will naturally get considerable exposure, and sales can start quickly. However, it is not easy to obtain these data. It takes a lot of time to collect and spend a lot of time on data analysis.\(^2\)

When doing data analysis, we can use various data research tools, such as Terapeak, Trendsmamazon, Digital Chief, etc., or we can entrust data analysts to do analysis with data mining tools.

3.2 Selection combination analysis

Selection combination analysis method means to select products through the thinking of product combination. That is to say, when the sellers of newly opened stores establish product lines, it is suggested that the stores set up three product combinations: core model, popular model and normal product.

<table>
<thead>
<tr>
<th>Product type</th>
<th>Core product</th>
<th>Explosive product</th>
<th>Normal product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination ratio</td>
<td>20%</td>
<td>10%</td>
<td>70%</td>
</tr>
<tr>
<td>Product characteristics</td>
<td>High quality, niche, high price, high profit, low sales</td>
<td>Hot commodity, low cost, low price, low profit, high conversion rate, high sales</td>
<td>Cost-effective, moderate price/profit/sales</td>
</tr>
<tr>
<td>Product action</td>
<td>Represent the product image and characteristics, used to enhance the brand image</td>
<td>Store drainage</td>
<td>Regular sales</td>
</tr>
<tr>
<td>Corresponding commodity</td>
<td>The Best product in the store</td>
<td>Clearance style, old style, popular new style</td>
<td>Products normally sold</td>
</tr>
</tbody>
</table>

Table 1. Product Portfolio Analysis.

Planning 20% of core products to achieve high profit; Planning 10% of explosive products to obtain traffic; Plan 70% normal products to coordinate sales. Products should be selected according to the needs of different target customers, not all the products in the
same price segment and the same quality, a certain price and quality ladder can produce more orders.

3.3 Google trend analysis method

Google trend analysis method refers to the use of Google's data analysis tools to analyze the external industry information and internal business information, and dig out valuable information as a reference for product selection.

Through these search data, we can check the popularity and search trend of a certain keyword within a certain time range, so as to understand our market, audience information and future marketing direction and other relevant information. Google Trends Analysis analyzes the cyclical characteristics of categories by Google Trends tool, finds the search popularity and keywords of categories by Keyword Spy tool, obtains the sales information of products on the shelf by Google Analytics tool, analyzes which products are selling well, and the overall sales rate.

Google Trend analysis should look at the overall data and changing trend of the industry, the sales situation of various brands in the industry, the sales and distribution of categories, the sales data and price of a single product, as well as the sales data (traffic, conversion rate, bounce rate, customer price, etc.) of at least 3 core stores and major competitors in the industry. In addition, Google Trends emphasizes gaining experience from both successful and unsuccessful products and gradually becoming an expert in product selection.

Type in a search term or topic on the search page and hit Enter to get the Google Trends Index for that term from 2004 to date. The number of accurate searches divided by the average number of searches at a given time ranges from 0 to 100, with higher numbers being hotter). You can also set comparison items for him, up to five keywords at a time.

The keyword research function can play the following roles: to understand the performance of keywords in different countries, different cities and different times; Understand key words, the main market of the product; Understand the topics related to the keywords to further understand the characteristics of the audience; Compare the performance of different keywords in the same country and at the same time; Use specific searches for more insight.

3.4 Seller Sprite analysis

Seller Sprite is an Amazon seller tool SAAS software, based on big data and artificial intelligence technology, to help Amazon sellers discover the blue Ocean market, create potential products, etc.

The Seller Sprite is a data interface for querying Google trends in real time. It supports both web and shopping modes, supports historical trends in the last 5 years, and can be used in China without climbing the wall.

The Seller Sprite features 3 modules and 16 tools. You can choose products, optimize keywords, research the market and analyze competitive products. It achieves one-click acquisition of detailed product data, one-click generation of 16+ dimension market analysis report and one-click mining of all relevant keywords of the target market. One click download product reviews, QA, main image and other functions.

4 Conclusion

Reasonable analysis tools, steps and methods can help us choose products better. Proper selection can not only save time, but most importantly, reduce detours in the operation of
cross-border e-commerce enterprises and improve the operation efficiency and effect of products. Therefore, we must do a good job of data analysis before cross-border operation.

Project source 1: General project of Sichuan Private Education Association, "Research on the Reform and Construction of Applied Curriculum in Private colleges and Universities: Taking Cross-border E-commerce as an example", Sichuan Civil Education Association [2022] No.4, project number: MBXH22YB40;

Project source 2: General project of Sichuan Education Development Research Center, "Research on Applied Curriculum Reform of Private Colleges based on OBE Education Concept and Blended Teaching Mode", Sichuan Education Development Research Center [2021] No.65, project number: CJF21065

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