



Article

Improving The Methodology for Assessing The Performance of E-Commerce Stores

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Abstract: This article focuses on improving methodologies for assessing the performance efficiency of e-commerce stores, a critical factor for achieving success and long-term sustainability in a competitive digital market. It explores the need for continuous analysis of internal processes, market conditions, and customer interactions to enhance operational effectiveness, optimize costs, and increase profitability. The study covers key aspects such as financial performance, logistics, marketing strategies, technological advancements, and customer experience. By analyzing customer behavior, market trends, and operational metrics, e-commerce businesses can identify strengths and weaknesses, optimize resource allocation, and strengthen their competitive position. The proposed methodology integrates various performance indicators, including financial, operational, and technological metrics, to provide a comprehensive evaluation framework. A weighted formula is introduced to assess overall efficiency, enabling data-driven strategic decisions. The article also reviews global and local research, highlighting practical tools and methods for real-time monitoring and performance optimization, emphasizing the importance of a holistic approach to e-commerce success.

Keywords: E-commerce, performance efficiency, assessment methodology, customer behavior, market trends, financial analysis, logistics optimization, marketing strategies, technological innovation, real-time monitoring, competitive advantage, customer satisfaction, operational efficiency, strategic decision-making.

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1. Introduction

Evaluating the performance of e-commerce stores is one of the key tasks for achieving success and ensuring long-term sustainability in the modern competitive market. In the context of the rapid development of the digital economy, changing customer needs and the widespread use of technological innovations, e-commerce entities need to constantly analyze their internal processes, external market conditions and customer relations [1]. Through these analyses, stores will be able to identify their strengths and weaknesses, effectively use resources, optimize costs and increase profitability.

The process of assessing the effectiveness of operations covers a wide range of aspects, including the financial condition of the store, the logistics system, marketing strategies, the level of technological development and the customer experience. For example, by analyzing financial indicators, the profit and loss of the store, the effectiveness of investments and the appropriateness of expenses are determined. The assessment of logistics and delivery systems helps to fulfill orders on time and increase customer satisfaction [2]. Also, by introducing technological innovations, stores have the opportunity to provide convenient and fast service to customers while reducing operating

costs. Analyzing customer behavior and experiences is especially important for e-commerce stores. The relationship between customers and the store, their satisfaction level, and loyalty indicators determine the brand's position in the market. By deeply understanding customer needs and offering products and services that meet them, stores can increase their competitiveness. In addition, analyzing external factors, including market trends, competitor actions, and legal requirements, helps stores increase their adaptability to the market [3], [4].

Evaluating the performance of e-commerce stores is necessary not only to improve financial results, but also to improve the overall business strategy. Through this process, stores have the opportunity to optimize their operational processes, reduce costs, increase customer loyalty and create advantages over competitors. Thus, regular evaluation of performance is an important condition for the successful operation and long-term sustainable development of e-commerce stores in modern market conditions. In order to make sound management decisions, it is necessary to have a complete picture of the business situation [5]. E-commerce provides the information necessary to assess the performance of the store, make decisions on pricing policy, product assortment, marketing strategies and other aspects of its activities.

2. Materials and Methods

Studies on the effectiveness of e-commerce stores have been widely studied by scientists from around the world and Uzbekistan. Among Western scientists, Michael D. Johnson and Anders Gustafsson conducted studies on determining customer satisfaction and loyalty, and their work is important in assessing the relationship between e-commerce stores and customers. F. Robert Dwyer and John H. Evans conducted studies on assessing marketing effectiveness and studying customer relationships, which are used in analyzing the marketing strategies of e-commerce stores. Among Uzbek scientists, Boltaboeva GR studied the theoretical and methodological foundations of increasing the effectiveness of using digital technologies in e-commerce. Sh. Karimova also studied ways to increase efficiency through the development of e-commerce infrastructure. Mahkamova Ch.B. and Ismatillayev AA analyzed the effectiveness of using artificial intelligence in trade and e-commerce. These studies are aimed at studying various methods and approaches aimed at increasing the effectiveness of e-commerce stores.

3. Results

Analyzing customer behavior and market trends plays an important role in improving the efficiency of e-commerce stores. This process helps to ensure the competitiveness of the store, provide quality customer service and increase sales. It also creates opportunities to identify the strengths and weaknesses of the store, which is important for making strategic decisions.

Several indicators for assessing the effectiveness of e-commerce stores requires taking into account the importance of these indicators. Such indicators cover various aspects (financial, marketing, operational, technological, etc.). In the overall calculation of effectiveness, it is necessary to organize these indicators and assign a specific weight (importance) to each of them [6].

Each indicator can vary depending on the store's strategy, product type, and market conditions. The total sum of the weights should be equal to 1 (i.e., $(w_1 + w_2 + \dots + w_{16} = 1)$).

Let's assume we have set the following weights:

1. Profit margin (M_f) - $w_1 = 0.15$;
2. Profitability (R) - $w_2 = 0.10$;
3. Average check (Ch_o) - $w_3 = 0.05$;
4. Number of customers (M_s) - $w_4 = 0.10$;
5. Conversion rate (D_k) - $w_5 = 0.10$;
6. Customer loyalty (S_m) - $w_6 = 0.10$;
7. The rate of return of the product (D_q) - $w_7 = 0.05$;
8. Order execution time (T_{bb}) - $w_8 = 0.05$;

9. Logistics efficiency (S_1) - $w_9 = 0.10$;
10. Site performance speed (S_{ws}) - $w_{10} = 0.10$;
11. Safety (S_c) - $w_{11} = 0.10$;
12. User reviews (Sh_f) - $w_{12} = 0.05$;
13. FAQ and customer advisory service (FAQ) - $w_{13} = 0.05$;
14. Customer support service (Q_m) - $w_{14} = 0.05$;
15. Payment methods (U_t) - $w_{15} = 0.05$;
16. Ease of use of the site (O_f) - $w_{16} = 0.05$.

By filling in the formula with these weights, you can calculate the efficiency. By entering the appropriate values for each indicator, you can find the overall efficiency. This formula can be used to determine efficiency and helps in assessing the overall performance of the store, which is important in the process of making strategic decisions.

$$S = (w_1 M_f + w_2 R + w_3 Cho' + w_4 Ms + w_5 D_k + w_6 S_m + w_7 D_q + w_8 T_{bb} + w_9 S_1 + w_{10} S_{ws} + w_{11} S_c + w_{12} Sh_f + w_{13} FAQ + w_{14} Q_m + w_{15} U_t + w_{16} Of_f); \quad (1)$$

If the calculated efficiency is high (for example, 0.8 -1.0), this indicates that the store is achieving high results in all indicators and is successfully conducting its activities. If the efficiency is low (for example, around 0.4 -0.6), this indicates that there are problems in one or more areas of these indicators and indicates the need for improvement. This general formula for determining the efficiency of e-commerce stores allows for a balanced assessment of various aspects of the store and helps determine which areas to focus on to improve the store's efficiency [7].

4. Discussion

E-commerce stores and their adaptation to the needs of commercial enterprises is an urgent task today. The problem of assessing effectiveness is a broad concept in terms of content and can include technical, economic, organizational and other aspects. Therefore, in order to form an e-commerce system in a commercial enterprise and assess its effectiveness, it is necessary to select appropriate criteria, so that it is possible to assess each of their stages and, accordingly, take the necessary measures to direct, develop and improve the project in subsequent actions [8], [9], [10].

The main research areas are strategic approaches in Western countries, consumer behavior and investment climate in the CIS, and infrastructure and legal environment in Uzbekistan. These results allow us to analyze experiences in different countries to assess the competitiveness of e-commerce stores.

E-commerce store performance evaluation is the process of analyzing and evaluating the performance of e-commerce platforms, with the main goal of determining the economic, operational, and customer-oriented efficiency of the store. There are many methods that can be used for this analysis.(Table 1)

Table 1. Methods for evaluating the effectiveness of e-commerce stores

No.	Analysis method	Description	Analysis tool
1.	Financial performance analysis	Estimating the store's revenue, profit, and return on investment	Accounting reports, Google Sheets, Excel
2.	Traffic and conversion analysis	Number of website visitors and their purchase rate	Google Analytics, Yandex Metrica
3.	Customer service metrics	Assessing customer loyalty and satisfaction	Surveys, CRM systems
4.	Marketing effectiveness analysis	Measuring the effectiveness of advertising and marketing campaigns	Google Ads, Meta Ads Manager
5.	Operational efficiency analysis	Quality and speed of order fulfillment	ERP systems, WMS

6.	Technical indicators analysis	Site speed and security analysis	Google PageSpeed Insights, SSL Labs
7.	Competitive analysis	Assessing the store's position in the market	SimilarWeb, SEMrush
8.	Data visualization and reports	Real-time monitoring and analysis of indicators	Google Data Studio, Tableau
9.	A/B testing	Testing the effectiveness of different strategies	Google Optimize, Optimizely
10.	Customer segmentation	Segmenting customers and developing strategies to suit them	HubSpot, Segment

The integrated use of various methods in assessing the effectiveness of e-commerce stores allows for a comprehensive analysis of effectiveness. Each method highlights a specific aspect of the store's activities and serves as a basis for making strategic decisions [11]. Below is an analysis of the main methods widely used in practice, their advantages and limitations:

1. Financial analysis – allows you to identify the most profitable products by evaluating revenue, costs, and profits. However, if customer needs and external factors are not taken into account, the analysis can be one-sided.
2. Traffic and conversion analysis – by measuring the number of visits and the percentage of purchases, problems in the sales process are identified. However, high traffic does not always mean high revenue [12].
3. Working with customers - helps increase loyalty and repeat purchases. At the same time, an individual approach is required.
4. Marketing effectiveness – assessing the effectiveness of different channels helps to optimize the advertising budget. However, incorrectly chosen strategies lead to inefficient spending.
5. Operational efficiency – indicates the level of timely and quality delivery of orders. It can be difficult to fully account for logistics factors.
6. Technical metrics – site loading speed and functionality directly impact user experience. However, this method cannot fully assess the final performance [13].
7. Competitive analysis – allows you to determine your market position and analyze your competitors. However, collecting information takes a lot of time and resources.
8. Visualization and reporting – makes decision-making easier by presenting analytical data in graphical form. However, misinterpretation can lead to incorrect conclusions.
9. A/B testing – compares different options to determine the most effective solution. However, it takes time to see results.
10. Customer segmentation – by grouping customers based on their needs and behavior, specific offers are developed. However, incorrect segmentation can have negative consequences.

Evaluating the effectiveness of e-commerce stores is of great importance in modern economic conditions. In a competitive market, e-commerce entities need scientifically based evaluation systems to effectively manage and optimize their business processes. Therefore, improving the methodology for evaluating effectiveness is one of the urgent issues [14].

Currently, the following main methods are used to evaluate the effectiveness of e-commerce stores:

1. **Financial assessment:** revenue and profit indicators, ROI (return on investment), operating cost efficiency.
2. **Customer experience and marketing effectiveness:** conversion rate, customer loyalty index, user repurchase probability.

3. **Operational efficiency:** speed of order fulfillment, accuracy of logistics processes, stability of it infrastructure.
4. **Innovative technologies and competitiveness:** introduction of ai and big data technologies, flexible pricing policy, automated service systems.

However, each of these methods may have limitations when used separately. Therefore, there is a need to develop a comprehensive approach. Such an approach should include the following:

1. **Improving the KPI (Key Performance Indicators) system** – developing specific evaluation criteria for e-commerce stores.
2. **Real-time monitoring of all processes** – rapid analysis using analytical platforms and AI tools.
3. **Widespread implementation of digital technologies and automation** – ERP systems, ensuring transaction transparency based on blockchain, optimizing warehouse and logistics management.
4. **Customer behavior and market trend analysis** is the identification of consumer demands using Big Data and predictive analytics.
5. **An integrated assessment system** is a combination of financial, marketing, operational, and technological indicators into a single system.

As the methodology for assessing the effectiveness of e-commerce stores improves, business decisions will be made more informed and the overall effectiveness of stores will increase. Therefore, the introduction of advanced technologies and comprehensive analytical approaches will serve the sustainable development of e-commerce entities. In addition, the introduction of innovative approaches in the field and the study of advanced international experience will also serve to increase efficiency [15].

All of the above methods and techniques, taking into account the advantages and disadvantages of each. We believe that each analysis approach should complement each other so that all aspects of the store — from internal indicators to external factors — are accurately and effectively assessed. (Table 2)

Table 2. Indicators for evaluating the effectiveness of e-commerce stores

N o.	Indicator	Type	Note
1.	Financial	Profit margin	Profit margin measures the profit a store makes from a product or service sold and helps assess its profitability.
2.		Profitability	Pure benefit and expenses between difference , profitability coefficient
3.		Average check	It represents the average amount of money spent on a single purchase.
4.	Marketing	Number of customers	Growth of the customer base of the e-commerce store.
5.		Conversion rate	Converting website visitors into buyers.
6.		Customer loyalty	Customer return and their level of loyalty.
7.		Product return rate	Percentage of goods returned by customers
8.	Operation	Order fulfillment time	Orders acceptance from doing delivery until giving was time
9.		Logistics efficiency	Delivery time and success rate of orders.
10.	Technological (specific indicators of e-commerce)	Site performance speed	Site loading time and user experience .
11.		Security	Protecting online transactions and keeping user data safe.
12.		User reviews	User feedback and comments
13.		FAQ and customer service advice	FAQ section and customer advice speed of service

14.	Customer support service	Multiple communication channels and response speed
15.	Payment methods	Variety and security of payment systems
16.	Ease of use of the site	User-friendliness and intuitive design of the site

Financial indicators electronic commerce of shops efficiency in evaluation main importance has, because they the shop economic status, user expenses, income and general financial stability to determine help this gives indicators following indicators with related to be, their every one the shop to work related important data presented will reach.

1. Profit margin (M_f). This indicator helps to assess the profitability of goods and services. Profit margin measures how much profit a store makes from each item of goods or services sold. In this formula, net profit (F) is divided by the store's revenue (D).

$$M_f = \frac{F}{D}; \quad (2)$$

Indicates that the store is operating efficiently and selling its goods or services at a high profit. It also indicates that the store's pricing policy is successful. If the profit margin is low, it indicates that the store needs to reduce costs, revise prices, or offer new products.

2. Profitability (R). Profitability is the ratio of a store's profit to its revenue. This ratio shows the balance between expenses and revenue. This formula is determined by the ratio of net profit to gross revenue.

$$R = \frac{F_s}{T_y}; \quad (3)$$

Good profitability ratio indicates that the store is being managed effectively and is successful in controlling costs. It also indicates the competitiveness and long-term success of the store. If the profitability is low, this indicator indicates that the store needs to reduce costs or reconsider its marketing and sales strategies.

3. Average check (Ch_o). It represents the average amount of money spent on a single purchase. It is determined by the following formula. Where: T_y is the gross revenue, O_s is the number of sales transactions.

$$Ch_o = \frac{T_y}{O_s} \quad (4)$$

This metric helps determine how much money each customer spends on average per purchase. An increase in the average check indicates that the store is making high-quality sales with customers.

Financial indicators play an important role in ensuring the financial potential and long-term sustainability of the store. Well-analyzed financial indicators indicate the operational efficiency of the store and its market competitiveness. At the same time, they help to implement the necessary changes in the store and develop successful development strategies.

Marketing metrics play an important role in evaluating the effectiveness of e-commerce stores, as they indicate the success of customer relationships, sales processes, and market management. Building successful relationships with customers helps to convert them into regular customers and increase sales. A good marketing strategy involves not only attracting new customers, but also retaining them.

1. Number of customers (M_s). The number of customers indicates the breadth of the store's customer base. This indicator, in its own right, reflects the success of marketing and advertising strategies. The growth in the number of customers indicates that marketing activities have been effectively implemented and have been successful in attracting new customers. shows. If the number of customers is decreasing, this indicates the ineffectiveness of advertising and marketing strategies or the strengthening of competitors. In this case, it is necessary to make changes to the strategies. The number of customers can be expressed as a coefficient ranging from 0-1, depending on the level of coverage.

2. Conversion rate (D_k). The conversion rate shows what percentage of users who saw the product on the site actually decided to buy it. This indicator helps to evaluate the user

experience and marketing activities of the site. Here O_s is the number of sales transactions, S_{tb} is the number of visitors to the site.

$$D_k = \frac{O_s}{S_{tb}}; \quad (5)$$

Indicates an effective site design, user-friendly navigation, and an interesting product or service. This means that marketing is successful and successfully attracts customers to make a purchase. If the conversion rate is low, this indicates that the site is inconvenient for users or the presentation of goods/services is not effective. In this case, it is necessary to optimize the design and sales processes on the site.

3. Customer loyalty (S_m). Customer loyalty measures the likelihood of customers choosing a store again and making purchases over the long term. This indicator shows the success in developing ongoing relationships with customers and turning them into loyal customers. Here, S_q is the number of times customers receive sales service for the second or more times, and O_s is the number of sales transactions.

$$S_m = \frac{S_q}{O_s}; \quad (6)$$

High loyalty means that customers are loyal to the store and use the goods or services consistently. This indicates that the store is successful in providing good customer service and strengthening the brand. If the loyalty level is low, it indicates that customers do not trust the brand or are more inclined to look to competitors. In this case, it is necessary to build strong relationships with customers to increase loyalty.

4. Product return rate (D_q). The product return rate assesses what percentage of purchased products are returned by customers. This indicator indicates the quality of the product, the level of customer satisfaction and the effectiveness of sales management processes. Here S_{qm} is the number of returned products, O_s is the number of sales transactions.

$$D_q = \frac{S_{qm}}{O_s}; \quad (7)$$

If the return rate of a product is low, it indicates a high quality of the product and customer satisfaction with the purchase. In this case, the store's products are considered to be in demand, of good quality and satisfactory by customers. This indicates that the marketing strategy is successful and the products are positioned correctly in the market. If the return rate of a product is high, it indicates poor quality or incorrect presentation of the product. Customers may not have received the expected benefit or satisfaction from the product, which leads to their return process. In this case, it is necessary for the store to improve the product, adapt it to the requirements and needs of customers, as well as revise the return policy.

If the number of customers, conversion rate and loyalty rate are high, but the return rate is low - this indicates that the store has an effective marketing strategy, good user experience and strong customer relationships. If these indicators are low, it means that the store needs to reconsider its marketing and sales strategies, optimize the site, improve the goods or services and pay special attention to customers.

Operational metrics are important in assessing the performance of e-commerce stores, as they indicate the efficiency of the store's internal processes, the speed of customer service, and proper logistics management.

1. Order fulfillment time (T_{bb}). Order fulfillment time measures the time between when a customer places an order and when the product is ready to ship. This indicator shows how quickly a store fulfills orders and how quickly it serves customers.

$$\text{Order fulfillment time} = \text{Product shipping time} - \text{Ordering time}; \quad (8)$$

Short order fulfillment time indicates efficient operation of the store, fast system performance, and fast customer service. This increases customer satisfaction and improves the brand's reputation. If the order fulfillment time is long, this indicates that there are problems in the store's logistics or operational processes. This increases customer waiting time and reduces their satisfaction level, as well as leads to a weakening in the

eyes of competitors. After placing an order, it is ideal to prepare and ship it within 1-2 days. At most, shipping within 3-5 days is the maximum time. So, the shipping speed within 1-2 days can be rated as 1, 3-4 days as 0.5, and 5-6 days as 0.

2. *Logistics efficiency (S_l)*. Logistics efficiency assesses the ability of a store to deliver goods to customers on time, with high quality and at minimal cost. This indicator helps to assess the effectiveness of delivery processes, warehouse management, transportation systems and supplier relations. Here, S_{my} is the number of successful, i.e. on-time and undamaged deliveries, ΣL is the total number of deliveries.

$$S_l = \frac{S_{my}}{\Sigma L}; \quad (9)$$

High logistics efficiency ensures timely and accurate delivery, optimizing costs, which increases customer loyalty and encourages them to make repeat purchases. Low efficiency indicates delays, incorrect location or transportation problems, which reduce service quality and reduce competitiveness. Fast order fulfillment and high logistics efficiency indicate that the operational processes in the store are working efficiently and that customers are receiving quality service. If the order fulfillment time is long or logistics efficiency is low, this indicates the need to improve the system.

Technological indicators play an important role in assessing the effectiveness of e-commerce stores, as they indicate the technical aspects of the store's online platform and its success in creating user convenience. When assessing the effectiveness of an e-commerce store, its specific characteristics should also be taken into account. These indicators are specific to the network, and other networks do not have such features.

1. **Site performance speed (S_{ws})**. A fast website improves user experience. A fast page load time (2-3 seconds) keeps users from having to wait long, increasing conversions. If the time between loading and page loading is long, this increases the bounce rate. A slow page load time reduces customer satisfaction and weakens the store's competitiveness. A high page load time (2-3 seconds) is rated as 1, an average page load time (5-6 seconds) is rated as 0.5, and a low page load time (>10 seconds) is rated as 0.

2. **Security (S_e)**. Site security ensures the protection of users' personal data and transactions. This includes measures such as the **https** protocol, **SSL** certificate, secure payment systems and user authentication. Security is also aimed at protecting against cyberattacks and data theft. It is possible to establish a rating of the level of security in the form of a coefficient, where the level of protection can be entered as low - 0, medium - 0.5, and high - 1.

3. **User Reviews (S_{hr})**. User reviews and comments provide valuable information about a store's products, services, and customer experience. The average rating and number of reviews indicate effectiveness. A rating of 4 or higher indicates high quality, while a rating below 3 indicates problems with the store. Positive reviews indicate a good customer experience, while negative reviews help identify problems and indicate the need to take action to resolve them. The average rating, positive, and negative reviews can be assigned a coefficient in the range of 0-1.

4. **FAQ and customer service (FAQ)**. FAQ section and customer service the speed of service reflects the efficiency of the store. If the help is provided quickly and accurately, this indicates high quality. Responses should be provided within 24 hours, complete and accurate. Delays create a negative experience for customers. If customers are highly satisfied with the service (above 85 percent), this increases efficiency. This indicator can also be defined as a coefficient between 0-1.

5. **Customer Support (Q_m)**. The effectiveness of customer support is provided by phone, email or chat. Multiple communication channels (phone, chat, email) create convenience for customers, and speed of service is important. Providing assistance within 5 minutes indicates high efficiency. If the customer satisfaction level is above 90 percent, this confirms the quality of the service. The indicator can be set as a coefficient in the range of 0-1.

6. Payment methods (U_i). The variety and security of payment systems creates convenience for customers and increases the efficiency of the store. Multiple payment options (bank cards, e-wallets, cash) are convenient for customers, while secure payment systems (e.g. SSL encryption) provide a reliable experience. The indicator can be set to a coefficient between 0-1, depending on the level of security.

7. Ease of Use (O_i). The user-friendliness and intuitive design of the site simplify the shopping process. Simple navigation and the ability to work on mobile devices attract users and ensure their return to the store. Complex sites can create difficulties for users. This indicator can also be set to a coefficient in the range of 0-1.

These indicators, it is possible to assess the overall efficiency of the store, while at the same time evaluating each factor separately and taking the necessary measures for optimization.

At the same time, real-time data enables faster decision-making. This helps to maintain competitiveness and quickly meet customer needs. Real-time monitoring of indicators creates a clear picture of the performance of e-commerce stores and helps to identify shortcomings in a timely manner. By monitoring data in real-time, various problems (for example, technical failures or delivery delays) are quickly identified and measures are taken to eliminate them. By monitoring customer behavior and their experience on the site in real time, it is possible to improve the customer experience. This increases customer satisfaction.(Table 3)

Table 3. Software tools for real-time monitoring of e-commerce store performance

No.	Software tool	Field of use	Integration options	Advantages
1.	Google BigQuery + Looker Studio	Real-time analytics, user behavior	Google Analytics 4, Hotjar, SEMrush, ShipStation, Snowflake, Cloudflare	Full integration with Google services, large-scale data processing
2.	Microsoft Power BI	Sales, customer analysis, marketing, financial monitoring	Google Analytics, Shopify, NetSuite ERP, Snowflake, Cloudflare	Powerful visualization, extensive integration with various systems
3.	Tableau	Big Data Analysis and Visualization	Google BigQuery, Snowflake, Amazon Redshift, Riskified, Signifyd	Dynamic dashboards, AI-based analytics capabilities
4.	NetSuite ERP	Sales, logistics, warehouse, financial process management	Shopify, ShipStation, Route4Me, Power BI, Tableau	Complete business management through an ERP system
5.	Apache Superset	Open source BI and analytics	Google BigQuery, PostgreSQL, Amazon Redshift	Free, suitable for working with large amounts of data

Real-time monitoring allows you to optimize operational processes. This improves order fulfillment times, logistics costs, and other operational indicators. By monitoring the effectiveness of marketing campaigns and product sales in real time, you can quickly optimize them and increase sales. By making strategic decisions based on real-time data, you can increase the overall efficiency of e-commerce stores. By monitoring customer behavior and improving service in accordance with their needs, you can increase customer loyalty. Real-time monitoring allows you to identify various risks and eliminate them. This helps to keep the business stable.

5. Conclusion

Customer behavior and market trends are essential when determining the performance indicators of e-commerce stores. This process consists of several key steps, including:

1. Customer behavior analysis. Customer behavior analysis aims to identify the purchasing habits and online behavior of users visiting a site. In this process, it is important to pay attention to the following aspects:

- a. **Web analytics:** Using Google Analytics or other analytics tools, users are tracked when they visit a site, how long they stay on pages, what products they are interested in, and what actions they take. This information helps determine the user's path through the site and the paths to successful conversions.
- b. **Most Viewed Products.** The most viewed or added products on the site indicate which products are most in demand by customers.
- c. **User surveys.** Feedback from customers can help you understand their needs and their relationship with the brand. Surveys and feedback can help you find out what products customers are interested in and what offers they are looking for.
- d. **Customer satisfaction.** It is necessary to analyze what experience customers have in the online store, what opinions they have about the products, and what kind of service they are satisfied with.
- e. **User movement maps.** Tools like Hotjar or Crazy Egg can be used to analyze users' movements across a site, determine where they spend the most time, and which pages or products they interact with the most.
- f. **Conversion funnel.** Analyze the obstacles at each stage of the purchase process. It allows you to identify which stages on the site are losing users and improve the process based on this.

2. Monitoring market trends. By monitoring market trends, e-commerce stores can adapt their strategies. To successfully implement this process, it is necessary to pay attention to the following:

- a. **Competitor research.** Analyze the strategies of other similar brands and competitors in the market. This includes studying their pricing policies, product ranges, and marketing tactics. This can help you optimize your own strategies.
- b. **Product differentiation.** It is necessary to determine how products or services should be differentiated in order to stand out from competitors.
- c. **Identifying trends in social media.** Monitoring customer interest in the brand and trends on social media, studying user opinions and discussions. In mind this allows you to determine in which areas the brand is growing and which products customers are interested in.
- d. **Sales volume and growth rates.** Analyzing sales volume and its growth rates means determining what changes have occurred, especially during certain periods of the year. By identifying these trends, it is possible to optimize production and supply chains.
- e. **Market segmentation.** The process of dividing customer groups and analyzing the buying habits of each segment.
- f. **New technologies.** To monitor technological changes in the market and use new technologies to remain competitive.

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