

American Journal of Economics and Business Management

Vol. 9 Issue 6 | **pp.** 658-665 | **ISSN:** 2576-5973
Available online @ https://www.globalresearchnetwork.us/index.php/ajebm

Article

Optimization of Assortment and Stock Policy Based on Abc Analysis in Retail Enterprises

Ergashev Jahongir Bakhodirovich*[1]

1. Doktorant at Samarkand Institute of Economics and Service
*Correspondence: jaxongirergashev727@gmail.com

Abstract: This article examines the issues of improving the efficiency of inventory management and product supply systems in retail enterprises under the conditions of globalization, increasing competition, and rapidly changing consumer demand. The study provides a comprehensive analysis of supply chain processes in retail, identifying key factors affecting their effectiveness. Using the ABC analysis method, products were classified into categories A, B, and C based on their contribution to total sales volume and revenue. The findings indicate that the majority of the enterprise's income is generated by a limited number of high-demand products, while low-turnover items create additional costs and inefficiencies in inventory management. Based on the results, scientifically grounded recommendations were developed to optimize product assortment, improve logistics processes, enhance resource utilization, and increase overall operational efficiency in retail enterprises.

Keywords: retail trade, inventory management, product supply, ABC analysis, assortment management, logistics system, sales efficiency, consumer demand, optimization, Pareto principle.

Citation: Bakhodirovich E. J. Optimization of Assortment and Stock Policy Based on Abc Analysis in Retail Enterprises. American Journal of Economics and Business Management 2026, 9(6), 658-665.

Received: 10th Mar 2026
Revised: 11th Apr 2026
Accepted: 11th May 2026
Published: 24th Jun 2026

Copyright: © 2026 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/)

Introduction

Today, in the context of the acceleration of globalization processes in the world economy, the intensification of competition, and the rapid change in consumer demand, the effective functioning of enterprises largely depends on the level of development of their logistics and supply systems. For retail businesses in particular, the effective organization and management of inventory processes is one of the key factors that not only increases sales, but also fully and timely meets customer needs [1]. The supply chain in retail is a complex and multi-stage process that includes purchasing goods from suppliers, performing transport and logistics operations, storing them in warehouses, managing inventory, and ensuring continuous delivery to retail outlets. Inefficiencies at any stage of these processes can lead to disruptions in the overall supply chain, increased costs, and reduced customer satisfaction [2, 3]. In this regard, the issue of a comprehensive assessment of the activities of commodity supply in retail enterprises and its improvement based on modern optimization approaches is of scientific and practical relevance. The rapid development of the retail network, the diversification of trade formats, and the gradual modernization of the logistics infrastructure, especially in developing economies, including Uzbekistan, require in-depth scientific research in this area [4]. The relevance of this study is also that there is a lack of unified methodological approaches to assessing the effectiveness of product supply activities in retail enterprises, as well as problems with adapting modern optimization methods to local conditions. Therefore, identifying criteria

for assessing supply processes, systematically analyzing existing problems, and developing scientifically based proposals and recommendations for their elimination are important scientific tasks [5, 6].

Literature review

ABC analysis is one of the most widely adopted inventory classification techniques, grounded in the Pareto principle, which suggests that a small proportion of items accounts for a large share of total value. Traditionally, inventory items are categorized into three groups A, B, and C based on their contribution to overall consumption value or revenue. This method allows firms to allocate managerial attention and resources more efficiently by focusing on high-impact items [7].

Early applications of ABC analysis emphasized its operational simplicity; however, scholars increasingly recognized its limitations in dynamic and complex environments. A significant contribution to this debate is provided by Ravinder and Misra who argue that relying solely on monetary value is insufficient in contemporary supply chains characterized by globalization, shorter product life cycles, and volatile demand [8].

Reinartz says that the challenges faced by businesses in the global and increasingly globalized retail industry are primarily related to supply and occur between companies in other countries. He cited that retail needs that meet the characteristics of specific national markets are crucial to the success of retail businesses [9]. Krasyuk emphasized that another way of innovative development in retail is marketing innovation. Their boundaries are very blurred, such innovations do not have a clear limitation, which has already been said to provide a wide range of opportunities for creating innovations that force any buyer to find his product and profit from what is purchased, while at the same time feeling emotional satisfaction [10].

According to Rijikh's scientific research, marketers must act in the modern conditions of the economy and business development and formulate an effective advertising campaign plan in these conditions in order to manage the constant demand for the goods and services produced by the enterprise [11]. According to Bobkov, the activities of a retail enterprise can be considered as a production process that involves the purchase, processing, storage and sale of relevant products for the purpose of profit. The implementation of this process by one person is a rather complicated process. There is a concept of a one-person company abroad, which, of course, does not correspond to classical ideas, but the presence of many individual entrepreneurs in different countries allows us to consider them as the initial stage of developing a retail business [12].

Issues of inventory management and product assortment optimization are of strategic importance in modern retail systems. As one of the widely used methods in these processes, ABC analysis allows businesses to effectively allocate resources based on their priority level. The theoretical basis of ABC analysis goes back to the Pareto principle, which states that the majority of the total result is due to a limited number of elements [13].

In the international scientific literature, ABC analysis has been widely studied as a tool for optimizing inventory management, logistics, and supply chain systems. However, in recent years, the static nature of this approach has been criticized, and the number of studies aimed at transforming it into more flexible and dynamic models has increased.

There are also studies on ABC analysis in the scientific space of Uzbekistan, which are mainly developed in a practical direction. In particular, a study by Chinberdiyeva analyzed the role of ABC analysis in the allocation of resources based on priorities in grain processing enterprises. The author argues that the focus of production processes should be on high-value A-class resources, which can optimize costs and increase efficiency. This study reveals the potential of ABC analysis in real sector enterprises, but it is mainly based on a traditional, i.e. static model [14].

At the same time, the approach proposed by Eraliyeva, Mukhtarova, and Niyatov reflects an advanced form of ABC analysis. The dynamic ABC model developed by them allows for real-time classification of goods in conditions of variable market demand. This model takes into account the time factor and demand fluctuations, thereby eliminating the biggest limitation of traditional ABC analysis – the problem of staticity. This approach is especially relevant for retail systems, where it helps improve decision-making quality in rapidly changing assortment conditions [15]

The analysis results show that the existing scientific works on ABC analysis in Uzbekistan are mainly formed within the framework of the classical model, and most of them are studied on the example of manufacturing enterprises. In the retail sector, there is a lack of in-depth, comprehensive, and integrated research on the application of ABC analysis. In particular, the integration of ABC analysis with XYZ analysis, taking into account demand uncertainty and seasonality factors, as well as the development of decision-making models based on real-time data, are understudied [16].

In this context, this study aims to optimize the assortment and increase the efficiency of product supply by applying ABC analysis in a retail enterprise, filling an existing scientific gap. The scientific novelty of the study is to deepen the ABC analysis based on practical data, harmonize it with modern management approaches, and develop mechanisms for its application in retail conditions [17].

Overall, while ABC analysis remains an effective management tool, its development is associated with a shift towards dynamic, integrated, and data-driven models, which will be an important area for future research [18].

Research methodology

The study used ABC analysis as enterprise products were classified by degree of relevance. XYZ analysis, on the other hand, aimed at assessing the stability and volatility of demand, was not included in the scope of this study. Since the main objective of the study was to group products by their contribution to the company's profit, ABC analysis was considered sufficient.

The main objective of the study is to assess the state of inventory management in retail enterprises and develop modern approaches to its optimization. To achieve this goal, the tasks are to analyze supply processes, determine their performance indicators, assess existing problems, and develop scientifically based proposals to eliminate them.

Analysis and Results

In the course of the study, the ABC analysis method was used to assess the assortment policy of the retail enterprise "Sam Sifat Plus" LLC and determine the profitability of goods. This method allows you to group goods according to their share in total revenue [19].

Based on the results of the analysis, the products in the company's assortment were divided into three main categories:

Category A – 33.3% of products, accounting for 75% of total revenue.

Category B – 37.5% of products, accounting for 20% of total revenue.

Category C – 29.2% of products, accounting for 5% of total revenue.

In order to evaluate the efficiency of the product assortment in a retail enterprise, it is essential to apply analytical tools that allow the classification of goods based on their contribution to overall sales performance. One of the most widely used and effective methods for this purpose is ABC analysis, which enables the identification of key product groups according to their economic significance [20].

The table below presents the results of the ABC analysis conducted on the enterprise’s product assortment. The analysis is based on the total sales volume and the relative share of each product category. Products are ranked in descending order of their contribution to

total revenue and divided into three categories: A (high-value products), B (moderate-value products), and C (low-value products) [21].

This classification helps to clearly identify which product groups generate the majority of income, which serve as supporting elements in the assortment, and which have minimal impact on overall financial performance [22]. Such differentiation is crucial for making effective managerial decisions in inventory management, demand forecasting, and optimization of the supply chain system (Table 1).

Table 1. ABC analysis of "Sam Sifat Plus" LLC.

T/r	Product name	Sales volume mln som	share %	ABC analysis
1	Ready-made food products made from cereals and grains	577,15	7,28	A
2	Fruit and vegetable products	345,81	4,36	A
3	Sugar products	720,21	9,08	A
4	Flour products	180,41	2,27	B
5	Dry fruit products	125,44	1,58	B
6	Dry mixed beverage products (coffee, tea)	183,05	2,31	B
7	Meat and meat products	458.43	5,78	A
8	Processed meat products	291,42	3,67	A
9	Spices and condiments	68,51	0,86	C
10	Non-carbonated cool drinks	177,35	2,23	B
11	Carbonated cool drinks	186,89	2,35	B
12	Office supplies products	39,47	0,49	C
13	Bread and bakery products	92,74	1,17	C
14	Canned food (processed food)	111,66	1,41	B
15	Child care goods	96,43	1,21	B
16	Hygiene products	84,29	1,06	C
17	Cosmetic products	73,86	0,93	C
18	Dry food for children	1538,71	19,41	A
19	Non-food products	229,65	2,89	B
20	Milk and dairy products	1360,38	17,16	A
21	Sunflower oil	671,47	8,47	A
22	Chicken egg	252,93	3,19	B
23	Alcohol products	31,49	0,46	C
24	Tobacco products	26,37	0,38	C
	Jami	7924,12	100	

As part of this study, the ABC analysis method was used to assess the product assortment of a retail enterprise from the perspective of economic efficiency. Based on the results of the analysis, products were divided into three categories - A, B, and C - depending on their sales volume and share [23].

According to the calculations, the total sales volume amounted to 7,924.12 million soms. The largest share of this is occupied by category A products, which form the main part of the company's revenue.

The highest share among category A products:

- Dry food for children – 19.41%
- Milk and dairy products – 17.16%
- Sugar products – 9.08%
- Sunflower oil – 8.47%

- Ready-made food products made from cereals and grains – 7.28%
- Meat and meat products –5,78%

This group accounts for more than 75% of the total sales volume. This result shows that the main income drivers at the enterprise belong precisely to the daily consumption segment of food.

Also, the high share of especially children's food and dairy products indicates the growing consumer demand for healthy eating and quality..

For Class A products, continuous supply, accurate forecasting, and logistics efficiency are key factors that maximize enterprise profits..

Category B products are of medium importance, they:

- Flour products – 2,27%
- Dry mixed beverage products (coffee, tea) – 2,31%
- Carbonated and Non-carbonated cool drinks – 4,55%
- Chicken egg – 3,19%
- Non-food products – 2,89%

This group accounts for approximately 20% of total trade.

These products are a stable source of income, through which the enterprise expands the assortment and diversifies the needs of customers. Promotion of Category B products through marketing (promotion, discount, location optimization) allows them to be transferred to Category A. Category C includes the following low-priced products:

- Office supplies products – 0,49%
- Tobacco products – 0,38%
- Alcohol products – 0,46%
- Spices and condiments – 0,86%
- Hygiene products and Cosmetic products – 1,99%

Their total share does not exceed 5%..

These products are complementary to the product range and are not considered a primary source of income..

It is necessary to optimize inventory for C-type products, reduce slow-moving goods, and reduce warehouse costs..

Based on the ABC analysis conducted, the following important results were identified:

1. The main part of the company's revenue is generated by a limited number of (A-type) products.
2. There is an imbalance in the assortment - while the share of high-demand products is large, low-turnover products are also stored.
3. The food segment is a strategic priority for the company.
4. The need for a differential approach in the commodity supply system was justified.

Based on the results of the ABC analysis, a Pareto chart was developed for retail businesses.This chart shows the share of products in descending order and clearly shows which products generate the main revenue (Fig 1).

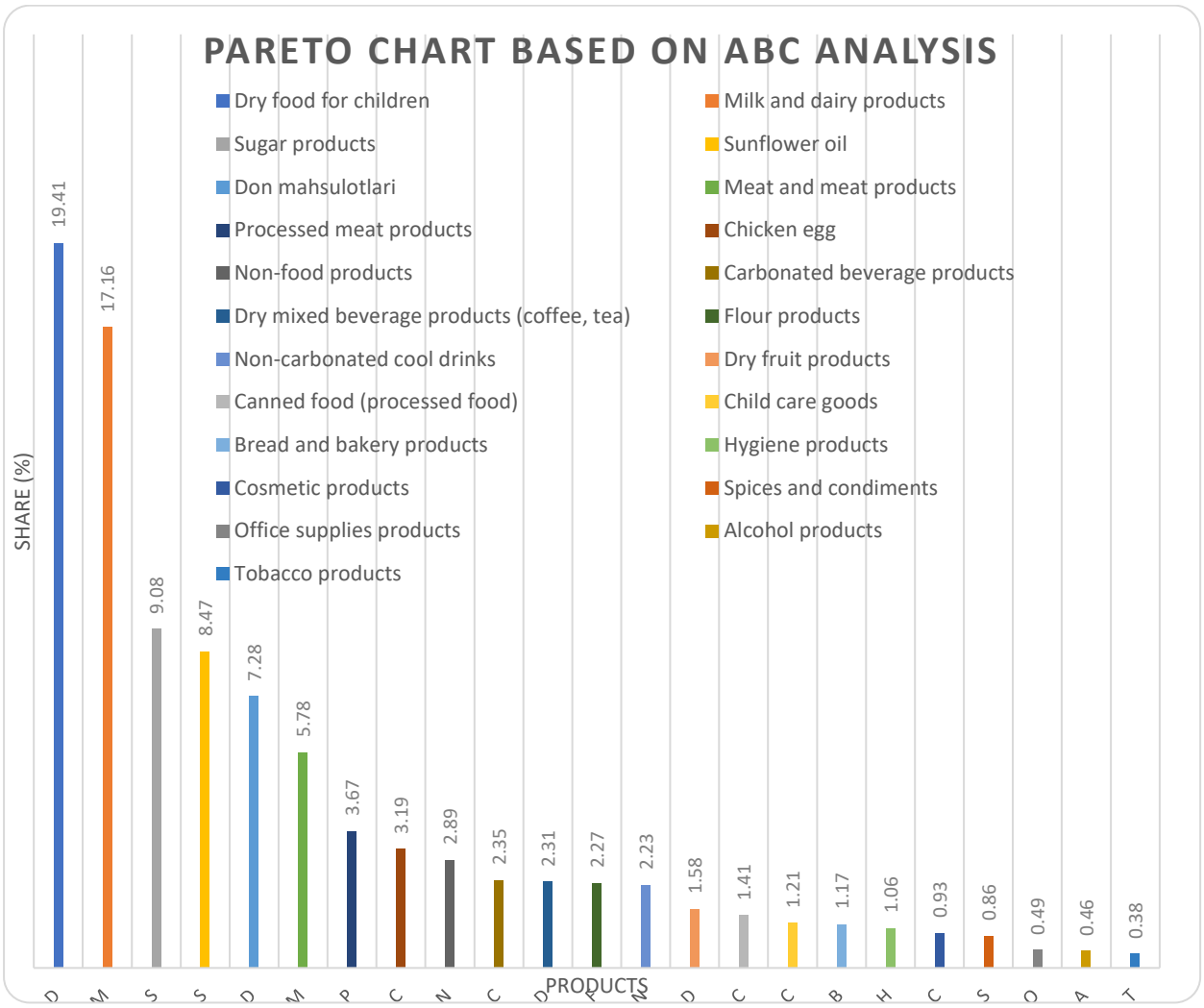


Figure 1. Pareto analysis at Sam Quality Plus LLC retail outlet.

Conclusion

First, the results of the ABC analysis showed that the bulk of the company's revenue is generated by a limited number of products. In particular, goods such as baby food, dairy products, sugar products, and sunflower oil have a high share and form a large part of total sales. This is a practical confirmation of the Pareto principle (80/20 rule), which means that high economic efficiency is achieved through a small number of products. Secondly, it was noted that Category B products are identified as a source of stable income at the middle level, and they play an important role in ensuring the balance of the enterprise's assortment. It was found that these products allow for diversification of consumer needs and can increase their share through marketing tools. Third, it was found that the share of category C products is low, and they are mainly of an auxiliary and complementary nature. The presence of excess stocks of these products can lead to an increase in the company's costs. Therefore, there is a need to optimize them. Fourth, on the basis of the results of the study, the need to apply a differential approach to the management of commodity supply and assortment at the enterprise was justified. This makes it possible to effectively use resources, reduce costs and increase overall sales efficiency, As a result of the research conducted during the study, the following proposals and recommendations were developed to improve the economic efficiency of trade activities in enterprises and analyze financial indicators.

1. For category A products, it is recommended to establish a continuous supply system, optimize inventory levels, and implement demand forecasting mechanisms. Since

these products are the main source of enterprise revenue, they must be constantly monitored.

2.It is necessary to strengthen marketing strategies for B-category products, in particular, to increase their sales volume and expand their potential to be transferred to A-category products by using promotions, discounts, and visual merchandising methods.

3.For category C products, it is recommended to reduce warehouse costs by optimizing the assortment, reducing or minimizing slow-moving products. In some cases, they can also be considered for removal from the assortment.

4.It is advisable for the enterprise to regularly (monthly or quarterly) conduct ABC analysis and implement a system of making decisions based on the results.

5.To improve the effectiveness of the analysis, it is recommended to integrate ABC analysis with XYZ analysis. This takes into account not only the profitability of products, but also the stability of demand.

REFERENCES

[1] R. Ramanathan, "ABC inventory classification with multiple criteria using weighted linear optimization," *Computers & Operations Research*, vol. 33, no. 3, pp. 695–700, Mar. 2006.

[2] H. V. Ravinder and R. B. Misra, "ABC analysis for inventory management: Bridging the gap between research and classroom," *American Journal of Business Education*, vol. 7, no. 3, pp. 257–264, 2014.

[3] W. Reinartz *et al.*, "Retailing innovations in a globalizing retail market environment," *Journal of Retailing*, vol. 87, pp. S53–S66, 2011.

[4] I. A. Krasyuk, V. V. Bakharev, and Y. Y. Medvedeva, "Innovative Solutions in Retail Trade," *Innovative Economy: Prospects for Development and Improvement*, no. 3(21), 2017.

[5] A. I. Ryzhikh and V. V. Gerasimenko, "Marketing Strategies of Retail Enterprises in the Conditions of Digitalization," *Innovations and Investments*, no. 4, 2022.

[6] A. L. Bobkov, I. V. Denisov, and O. V. Kuchmaeva, "Development of the Organizational Structure of Retail Trade Enterprises (Case of the Czech Republic)," *Statistics and Economics*, no. 3, 2017.

[7] L. R. Chinberdiyeva, "The Role of ABC Analysis in Grain Processing Enterprises," *Innovations in Science and Technologies*, vol. 2, no. 4, pp. 45–52, 2025.

[8] Z. Eraliyeva, E. Muxtorova, and N. Niyatov, "Dynamic ABC Analysis: Inventory Management under Market Volatility," *Technical Science Research in Uzbekistan*, vol. 3, no. 1, pp. 112–120, 2026.

[9] J. B. Ergashev, "Important Aspects of the Experience of Organizing Merchandise Supply for Trade Enterprises in the USA," *Journal of Marketing, Business and Management (JMBM)*, vol. 4, no. 7, Jan. 2026.

[10] N. Sultanbaeva and D. Saydalieva, "ABC–XYZ Analysis of Nootropic Medicines in the Republic of Uzbekistan," *Pharmacy and Pharmacology*, vol. 4, no. 6, 2023.

[11] J. B. Ergashev, "Features of Organizing and Managing Procurement Activities at Enterprises," *Service: Scientific and Practical Journal*, no. 2, 2025.

[12] J. B. Ergashev, "Six Main Stages of the Supply Process," *Scientific and Practical Popular Marketing Journal*, vol. 2, no. 2, 2025.

[13] J. B. Ergashev, "Logistics Approaches to Inventory Management in Enterprises," *Journal of Marketing, Business and Management (JMBM)*, vol. 3, no. 11, Apr. 2025.

[14] J. B. Ergashev, "Main Stages and Problems of Supply Chains in Trading Companies," *Green Economy and Development Journal*, vol. 2, no. 9, 2024.

[15] J. B. Ergashev, "Improving the Effectiveness of Digital Marketing in Small Businesses," *Forum of Young Scientists*, 2023.

[16] J. B. Ergashev, "Marketing Research in the Field of Digital Marketing in Small Business Activities," *Economy and Society*, no. 10(113)-2, 2023.

[17] T. Tilloev and A. Kozimov, "Application of ABC and XYZ Analyses in Warehouse Inventory Management," *Journal of Marketing, Business and Management (JMBM)*, vol. 3, no. 11, Apr. 2025.

[18] U. Umirov and O. Sobirova, "Assessment of Financial Stability and Efficiency in Enterprises," *Economics and Innovative Technologies*, no. 3, pp. 45–52, 2020.

[19] D. H. Kholmamatov, "Modern Methods of Developing Wholesale Trade in Agricultural Products," *Commonwealth Journal of Academic Research*, pp. 8–14, 2022.
[20] D. H. Kholmamatov, "Marketing Issues Related to the Development of Wholesale Trade in B2B in Uzbekistan," *Modern Scientific Challenges and Trends*, pp. 25–33, 2020.
[21] D. H. Kholmamatov, "Current Issues in the Development of Marketing Logistics in Wholesale Trade," *Academic Journal of Digital Economics and Stability*, pp. 13–19, 2021.
[22] D. H. Kholmamatov, "The Role of Marketing Logistics in the Development of Customer Service in Wholesale Trade," in *Proceedings of the International Scientific and Practical Conference 'Science Today: Experience, Traditions, Innovations'*, Vologda, Russia, pp. 12–13, 2021.
[23] D. H. Kholmamatov, "Current Issues of Logistics Services in Wholesale Trade," *Innovations and Investments*, pp. 292–294, 2019.