

Comparative Analysis of Traditional Mass Merchandise and Membership Warehouse Retail Supply Chain Models: Evidence from RT-Mart and Sam's Club

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Abstract. In recent years, China's retail industry has undergone rapid transformation. Against the backdrop of weak growth in mass retail, membership-based retail has achieved counter-trend growth through efficient operational models. The differences in supply chain and operational models between the two formats directly shape the competitive landscape of the retail industry. This article takes RT-Mart and Sam's Club as examples to deeply compare the supply chain models and profit performance of traditional supermarkets and warehouse-style membership stores. This study finds that the two retailers embody the characteristics of two distinct supply chain models: breadth-oriented coverage and depth-oriented efficiency. RT-Mart relies on a massive number of SKUs and distributor channels, with a long supply chain, slow inventory turnover, and high costs. Sam has achieved low loss, high turnover, and high added value through streamlined product selection, global direct procurement, and deep collaboration. Efficiency differences directly lead to profit differentiation, with Sam's leading in scale and profit through membership-based and high gross profit operations, while RT-Mart faces significant pressure under free membership and low gross profit models.

Keywords: Mass Merchandise, Membership Warehouse Retail, Supply Chain Model

1. Introduction

In recent years, China's retail industry has been undergoing comprehensive and in-depth reforms. Against this backdrop of industry-wide reform, the traditional retail sector faces enormous challenges. Traditional mass retail suffers from severe homogenization and outdated supply chain and operational models, which have weakened its growth momentum and continuously reduced its profitability. The original scale expansion model is facing severe challenges [1]. In sharp contrast, membership-based retail, with a paid membership system as its core and an efficient supply chain as its competitive barrier, has rapidly emerged. Such retail formats achieve counter-trend expansion by means of streamlined product selection, high turnover operations, and strong user stickiness, which has become a key direction for industry transformation [2]. There are significant differences

between the two models in terms of business philosophy, profit margins, and supply chain operation performance, which directly lead to the differentiation of enterprise operating efficiency. The collision and development of two business formats make it of great practical significance to conduct comparative research on the supply chain of traditional stores and warehouse stores.

The current academic community has formed a rich research system around retail supply chain optimization, business model evolution, and membership-based business models, providing solid theoretical support for the comparative analysis of traditional retail and membership-based retail. In terms of supply chain efficiency, scholars believe that the traditional supply chain model of supermarkets has certain problems and needs to strengthen innovation and practice in the supply chain [3]. Membership-based retail can significantly reduce costs and improve turnover efficiency by streamlining product selection and deep collaboration with suppliers [4]. Research on the evolution of retail formats confirms that consumption upgrading leads to changes in the demands of the supply chain, and membership-based warehousing stores have become the direction of format innovation with efficient operation [5]. In response to the membership-based operation, Sam's Club has seen a significant increase in the number of members and customer stickiness in recent years. A Sam's Club membership network has been formed in China, laying the foundation for the development of branded membership-based retail [6]. Membership fees have also become an important source of profit for retail enterprises [7]. At the same time, issues such as procurement and logistics collaboration, digital operations, and self-owned brand building are also key dimensions of the competitive differences between the two types of business formats [8].

Existing research has mostly focused on diagnosing problems and optimizing strategies for a single business format. Research on membership-based retail focuses on member value and product competitiveness, with less emphasis on systematically benchmarking traditional hypermarkets and warehouse-style membership stores within a unified framework. Especially lacking in-depth research on the integration and comparison of local representative enterprises such as RT-Mart and Sam's Club from multiple dimensions of supply chain, marketing, and operations. It is difficult to fully reveal the root causes of the differences between the two models, providing clear space for the entry of this article.

2. Introduction to supply chain models of mass retail and membership retail

This study takes RT-Mart and Sam's Club as research objects and analyzes the supply chain models of traditional hypermarkets and warehouse membership stores from four dimensions: procurement logic, supplier collaboration, logistics network, and inventory management [9]. The two models represent the development paths of breadth coverage and depth efficiency in the retail supply chain, and the differences in their operational logic directly determine the cost structure, profitability, and market competitiveness of the enterprise [10]. Firstly, from the perspective of procurement logic, it can be divided into open procurement and direct global selection procurement. RT-Mart adopts open procurement to meet the one-stop shopping needs of mass consumers and pursues full-category coverage. Data indicate that a single RT-Mart store carries more than 100,000 SKUs, and only 30% of its products are sourced through direct procurement. It relies heavily on dealer channels with multiple intermediate tiers, resulting in high operational costs. Its own brand accounts for only 2%. This model has a wide coverage, but the supply chain is long, and the profit margin is limited. Sam's Club adopts a global, curated direct procurement model that focuses on precise product selection to meet the demands of paying members. Sam's Club has only 3500-4000 SKUs in its single store, which is about 1/25 of that of RT-Mart. Direct procurement accounts for over 90% of the total, and the global origin is directly connected. Its single-item procurement volume is 8 times that of

traditional supermarkets, and its bargaining power is outstanding. Its own brand Member's Mark accounts for up to 30%-40%, with significant advantages in cost, quality, and efficiency.

Secondly, from the perspective of supplier relationships, it can be divided into game-oriented management and symbiotic research and development. RT-Mart has a game-like relationship with its suppliers, placing greater emphasis on negotiating prices, payment terms, and entry fees. Financial data for 2025 shows that RT-Mart's accounts payable turnover days reached 67 days, with short-term transactions being the main focus and a lack of joint research and development. Product innovation and supply chain collaboration are weak. Sam has formed a symbiotic R&D relationship with suppliers, opening up member data, jointly developing customized products, and deeply binding upstream and downstream. With large-scale and long-term stable orders, Sam's has significantly improved supplier efficiency and willingness to cooperate, forming stronger supply chain resilience and product differentiation barriers.

Thirdly, from the perspective of logistics network, RT-Mart mainly relies on central distribution centers, with long logistics links and inventory concentrated in stores, resulting in limited efficiency in information collaboration and online fulfillment. The fresh food loss rate is about 3% -5%, and the inventory turnover days are about 60 days. The overall operation is relatively stable, but the efficiency is insufficient. Sam adopts a collaborative model of regional distribution centers and front warehouses, combined with an intelligent warehousing system, to achieve real-time synchronization of inventory, orders, and delivery. Sam's inventory turnover days are only 15-35 days, and the fresh food loss rate can be controlled at around 1.5%. The logistics response is faster, and the turnover efficiency is higher, supporting its efficient operation.

Fourthly, from the perspective of product management, RT-Mart adopts a massive SKU elimination system, relying on a wide variety of products to meet diverse needs. However, the management is complex, inventory pressure is high, and capital occupation is high, which can easily lead to problems such as slow turnover and a high proportion of unsold products. Sam insists on selecting popular SKUs, strictly controlling the quantity of individual products, concentrating resources to create high-repurchasing popular products, and achieving sales-based procurement through precise demand forecasting, significantly reducing inventory, losses, and management costs, forming the main efficiency difference from traditional stores. RT-Mart's supply chain strength lies in coverage, while Sam's supply chain strength lies in efficiency. Overall comparison shows that RT-Mart and Sam's Club represent two different supply chain approaches. The advantage of RT-Mart's supply chain lies in its broad coverage, relying on a full category, a wide layout, and high coverage capabilities to occupy the mass retail market. Its supply chain is long, with multiple links and low efficiency, facing pressure in terms of cost and profit. The advantage of Sam's supply chain lies in its high efficiency. Through direct procurement, selection, collaborative logistics, and deep supplier cooperation, it achieves high turnover, low cost, and strong differentiation, which is more suitable for the current trend of efficient and high-quality development in the retail industry. The game between the two is essentially a competition for supply chain transformation between traditional retail's pursuit of scale coverage and new retail's pursuit of efficiency cultivation.

3. Analysis of operational efficiency and profitability performance

As presented in Table 1, the traditional hypermarket model represented by RT-Mart and the warehouse membership model represented by Sam's Club show significant differences in key indicators of supply chain operations and profitability. This difference directly reflects the essential differences in the supply chain operation logic and profit model between the two. In terms of supply chain indicators, RT-Mart has a single store SKU quantity of over 100000, with full category

coverage as its main operating strategy. However, the proportion of direct procurement is only 30%, and a large number of goods rely on multi-level supply from distributors, which prolongs the supply chain and leads to inventory turnover days reaching 60 days. The loss rate of fresh goods remains at the industry average level of 3% -5%. In 2025, the turnover days of accounts payable will reach 67 days, resulting in low overall operational efficiency of the supply chain and slow turnover of funds. In sharp contrast, Sam's Club adopts a streamlined SKU operation strategy, with only 3500-4000 SKUs per store, and increases the proportion of direct procurement to over 90% through global origin direct connection. The aforementioned measures have significantly shortened intermediate circulation links. Inventory turnover days are only 15 to 35 days, and the fresh food loss rate is controlled at approximately 1.5%. The turnover days for accounts payable are 30-35 days, indicating efficient supply chain operation and outstanding cost control capabilities.

Table 1. Comparison of two models

Comparative dimension	RT-Mart-Mass Retail	Sam's Club - membership-based retail	Differential expression
procurement channels	Relying on multi-level supply from distributors	Global direct procurement, factory direct supply	RT-Mart has a longer supply chain and higher intermediate costs
SKU Strategy	Massive SKUs, full category coverage	Simplify SKUs and focus on popular products	Sam has lower management costs and higher turnover efficiency
Inventory turnover days	60 days	20-30 days	Sam's turnover speed is about 2-3 times that of RT-Mart
Fresh loss rate	3%-5%	1%-2%	Sam's loss is significantly lower
Accounts payable turnover days	67days	30-45 days	Sam's fund utilization efficiency is higher
Overall efficiency of the supply chain	Overall operational efficiency is low	Efficient turnover and strong collaboration	Sam's supply chain has stronger competitiveness

At the level of profit indicators, the difference in profit scale and profitability between the two models is also very significant. By 2025, RT-Mart will achieve a revenue of 71.552 billion yuan, with an average annual sales revenue of only 150-200 million yuan per store. The comprehensive gross profit margin remains at 20% -22%, with only 2% of sales coming from self-owned brands. The main source of profit relies on the price difference between the purchase and sale of goods. Due to significant market price competition, profit margins continue to be under pressure. Sam's Club China's sales in 2025 will reach 140 billion yuan. The average annual sales revenue of a single store is as high as 2.2 billion yuan, and benchmark stores have exceeded 3.67 billion yuan, with a comprehensive gross profit margin increased to 25%-30%. Sam's Club's private label Member's Mark accounts for 30%-40% of its total sales, driven by its efficient supply chain and membership-based business model. Sam's Club has achieved dual leadership in both revenue scale and profitability, with its overall profitability stability and sustainability far surpassing those of RT-Mart.

4. Analysis of the advantages, disadvantages, and causes of the supply chain model

4.1. Advantages of the supply chain model

The advantages of RT-Mart are mainly reflected in its market coverage and localization adaptability. First, it boasts a dense offline network of more than 400 stores across China, covering most first-tier, second-tier, and lower-tier markets with a solid offline traffic foundation. Secondly, China's retail

market has been deeply cultivated for a long time. The commodity structure is in line with local consumption habits. The proportion of fresh, grain, and oil and other rigid demand categories is high, and it has strong adaptability to the consumption differences in different regions. Finally, RT-Mart implements a no-threshold, free membership system to achieve full customer coverage, a wide audience, and there are no consumer barriers.

The advantages of Sam's Club are concentrated in two aspects: the membership system and supply chain efficiency. At the user operation level, the 260 yuan/year paid membership system has built a high-end customer base with high stickiness. In 2025, the number of paid members will exceed 10.7 million, the membership renewal rate will reach 92%, and the membership income will contribute stable and considerable profits. At the supply chain level, Sam relies on global direct procurement and SKU streamlining strategies to form an efficient operation system. Private brand members' mark accounts for 30%-40%, creating barriers to differentiated goods. In terms of profit performance, Sam's profit model is highly anti-cyclical. From 2023 to 2025, sales continued to grow against the trend, and profit stability was significantly better than the traditional retail model.

4.2. Limitations of the supply chain model

The disadvantages of RT-Mart mainly stem from insufficient supply chain efficiency and weak product differentiation. The proportion of direct mining is low, and it relies too much on dealer channels, resulting in long supply chain links, high costs, and low inventory turnover efficiency. Inventory turnover days reached 60 days, and the fresh loss rate was at a high level in the industry. At the commodity level, private brands accounted for only 2%, lacking exclusive differentiated commodities, highly coincident with the competition of similar supermarkets. The free membership system cannot lock in the main customer base. User loyalty is low, and the unit price of customers is low. In terms of profitability, the comprehensive gross profit margin is only 20% - 22%, and the gross profit will continue to decline from 2023 to 2025, with significant profit pressure.

The disadvantages of Sam's Club mainly arise from limited market coverage and a high consumption threshold. The membership fee of 260 yuan/year and the high unit price of 200-300 yuan limit its audience to high-end families, and its coverage of mass consumers is insufficient. The layout of stores is concentrated in the first and second-tier cities, with only 63 stores in the country, and the coverage of the sinking market is insufficient. Commodities are sold in large packages and in bulk, which cannot be applied to single and small family consumer groups, and there are limitations in consumption scenarios.

4.3. Analysis of the causes of the supply chain model

First, external environmental factors drive the differentiation of the two models. The trend of consumption segmentation in the retail market constitutes the external cause of format divergence. With the increase of the middle class and the increasing demand for commodity quality and shopping efficiency, warehouse membership stores have more powerful advantages. Mass just needed consumption still occupies the mainstream market, which is also an important reason for the survival of traditional supermarkets. At the same time, the digital transformation of the retail industry has accelerated, and the efficient supply chain and digital warehouse distribution system have improved the competitiveness of the industry, which has further widened the gap between the two models in operational efficiency and profitability.

Second, internal corporate strategies lead to operational divergence. The two firms adopt distinctly different development strategies. RT-Mart follows the popular and people-friendly line,

aiming at freshness, cheapness, comfort, and convenience, achieves low prices through large-scale procurement and efficient supply chain, covers daily life needs, and penetrates the masses by relying on stores all over the country. Sam mainly meets the needs of middle-class consumption, uses membership to screen users, and improves the unit price and repurchase rate of customers by selecting SKUs, large packaging, and differentiated commodities, emphasizing direct procurement from the source. Its profits mainly come from membership fees rather than commodity price differences.

5. Conclusion

The results indicate that mass retail and membership-based retail differ significantly in supply chain structure, operational efficiency, and profitability. Mass retail relies on multi-tier dealer supply, diverse product categories, and wide coverage, yet it features long supply chains, slow inventory and capital turnover, an industry-average fresh food loss rate, and low overall operational efficiency. By streamlining SKU, direct procurement, direct supply, and efficient logistics, membership retail significantly improves turnover efficiency, reduces commodity consumption, and has higher efficiency in the use of funds. The differentiation of the two models stems from the different market positioning, customer demand, and operational logic. Mass retail focuses on scale and coverage, and membership retail focuses on efficiency and precision services. On the whole, the two models have applicable scenarios and are not substitutes for each other. Traditional retail enterprises should shorten the supply chain, optimize the commodity structure, and reduce the turnover cost. Membership retail should conform to local consumption habits, and the two should integrate the advantages of scale and efficiency to better adapt to market changes.

The main contribution of this study is to compare mass retail and membership-based retail across the dimensions of supply chain, marketing, and operations. Based on the actual business performance, it makes up for the lack of comparison between the two types of formats in the existing research, and enriches the content of comparative research on retail formats. The research conclusions help enterprises clearly identify their own advantages and disadvantages, provide practical reference for the transformation of traditional retail and the localization of membership retail, and also provide cases and analysis ideas for follow-up scholars to carry out relevant research. This paper only selects a single sample of enterprises for analysis, and does not cover the differences between enterprises in different regions and scales. Future research can expand the scope of cases, increase cross-cyclical data comparison, combine consumption trend changes with the application of digital technology, carry out more comprehensive quantitative analysis and cross-format integration research.

Authors contribution

All the authors contributed equally and their names were listed in alphabetical order.

References

- [1] Ren, X.P. (2025) The Dilemma and Breaking Path of the Traditional Real Retail Industry. *National Circulation Economy*, (23), 13-16.
- [2] Zhang, Q., Li, G., Bai, Z. et al. (2026) Membership-Based Price Welfare Strategies in Retail Platforms: Coupons Versus Discounts. *Managerial and Decision Economics*, 47(3), 779-802.
- [3] Wu, A.P., Wu, Z.Z. and Wu, J.L. (2024) The Current Situation and Countermeasures of Traditional Supermarket Supply Chain Management under the Background of New Retail. *National Circulation Economy*, (23), 4-7.

- [4] Wang, Y.T. (2025) On the Localization Path of Membership Retail in China from the Perspective of Cost Leadership — Taking Sam's Club as an Example. *International Business Accounting*, (21), 59-61.
- [5] Zhang, H., Jiang, W., Mu, J. et al. (2025) Optimizing Supply Chain Financial Strategies Based on Data Elements in China's Retail Industry: Towards Sustainable Development. *Sustainability*, 17(5), 2207.
- [6] Mamun, H.A.M.D., Zakaria, N.M., Ahmed, R. et al. (2018) On the Transformation of Enterprise Operation Mode in the Era of Cross-border E-commerce: Taking Sam's Club as an Example. *Ind Eng Manage*, 7(239), 2169-0316.
- [7] Liu, W.G. and Cao, X.Y. (2021) Can Paid Membership Become a Profit Model for Domestic Retail Enterprises — An Analysis Based on Supply Chain Control. *Business Economic Research*, (7), 84-86.
- [8] Sun, G., Cavusoglu, H. and Raghunathan, S. (2024) Strategic Implications of Online Retail Platforms' Membership-Based Free Shipping Programs. *Information Systems Research*, 35(2), 673-685.
- [9] Winata, M. and Ellitan, L. (2023) The Effectiveness of Technology Development towards Walmart's Sustainability Supply Chain Management. *J-CEKI: Jurnal Cendekia Ilmiah*, 2(2), 224-248.
- [10] Li, Q.J., Chen, Y. and Ran, Y. (2026) Knowledge and Key Factors Driving Successful Market Acquisition of Shopping Apps: Market Strategies in China. *Journal of Innovation & Knowledge*, 15, 100984.