

Analysis of Optimization for the Semi-Hosting Model in Cross-Border E-Commerce Platforms: A Case Study of Temu

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Abstract. In September 2022, Chinese e-commerce giant Pinduoduo ventured into the international arena with the launch of Temu, a cross-border e-commerce platform. Temu aims to swiftly capture the North American market by implementing the concept of "teamwork leading to price reduction," which suggests that the more people buy, the lower the prices go. Additionally, Temu is actively expanding into European and Asian markets. Compared to other cross-border e-commerce platforms, Temu has emerged as a rising star due to its combination of high quality and low prices. Taking Temu as a case study, this article systematically explores the emerging semi-managed model in cross-border e-commerce platforms. It analyzes the concept and basic operational mechanisms of the semi-managed model, discussing its advantages such as cost reduction and merchant attraction. Furthermore, the article also points out potential drawbacks faced by Temu in implementing this model, including low profit margins and communication difficulties. Lastly, corresponding improvement suggestions are proposed.

Keywords: Cross-border e-commerce, semi-hosting model, Temu.

1. Introduction

With the widespread adoption of internet technology and the advancement of globalization, cross-border e-commerce has become an indispensable part of global trade [1,2]. As a highly developed manufacturing nation, China possesses world-leading manufacturing capabilities. Additionally, as one of the largest e-commerce markets in the world, Chinese internet platform companies are actively expanding into overseas markets, seeking paths for international development, and have already achieved significant results in this process.

However, Chinese companies face multiple challenges in building cross-border e-commerce platforms, including high entry barriers, the complexity of operating and promoting overseas stores, the arduous nature of logistics distribution, risks arising from policy uncertainties, and increasingly intense market competition and these issues pose a challenge to the development of the cross-border e-commerce [3-5]. In traditional cross-border e-commerce models, platforms rent online shops to the merchants and provide business support, while merchants are responsible for all operations and sales. This model brings high entry barriers for merchants to enter the cross-border e-commerce industry [3]. Major Chinese cross-border e-commerce platforms have successively launched a full hosting model in response to competition from other platforms. In this model, the platforms undertake the operation and management of the online store and the merchants only need to supply and list goods. Relying on the network traffic, supply chain integration capabilities and operational expertise of the platforms, the full hosting model reduces merchants' operational burdens, integrates the upstream and downstream of the industry chain, and helps platforms capture overseas markets.

Although the full hosting model has a significant positive impact on the cross-border e-commerce industry, it also presents a series of challenges. In the full hosting model, all merchants are required to send their products to the platform's domestic warehouses, from which the platform then handles logistics and distribution based on consumer demand. This process greatly restricts the platform's logistics fulfillment capabilities. As a rising star in cross-border e-commerce, Temu has limited options in logistics and distribution. For product categories with weaker supply capabilities, these issues are exacerbated [6]. The challenges of ensuring timely logistics and managing high logistics costs affect the platform's operations and profitability [6]. Excessive reliance on the platform in the

full hosting model also reduces merchants' bargaining power. Under the circumstances where Temu controls pricing and implements a low-price strategy, merchants' profit margins are severely compressed. In terms of the external environment, in April 2024, the United States adjusted the entry qualifications for the "de minimis" exemption for Chinese goods in cross-border e-commerce. In June, the U.S. further impacted Temu's business by suspending the "de minimis exemption" clearance qualification for six customs brokers. This development had a substantial impact on Temu's operations. Europe is also considering a proposal to abolish the €150 tax-free shopping exemption. Meanwhile, global e-commerce giant Amazon has begun exploring full hosting services by recruiting Chinese suppliers, aims to replicate the model used by Shein and Temu, where goods are shipped directly from China to Western buyers, in an effort to challenge their ability to offer low prices. To address policy changes and competitive challenges, the Temu platform has introduced a semi-hosting model. In this model, Temu shifts from recruiting suppliers based solely in China to recruiting suppliers with warehouses overseas. The costs associated with transportation, warehousing, and last-mile delivery, which were previously borne by the platform, are now covered by the merchants on the platform.

The semi-hosting model serves as a valuable complement to the full hosting model. It plays a significant role in enhancing platform operational efficiency, reducing operational costs, and aiding Chinese cross-border e-commerce platforms in further expanding into overseas markets and attracting more consumers. Temu's shift from the full hosting model to the semi-hosting model in response to significant challenges in the cross-border e-commerce industry is highly representative. Therefore, this paper uses the Temu platform as a case study to provide an overview of the semi-hosting model's concept and operational mechanisms. It analyzes the model's advantages and potential shortcomings and proposes strategies to address these issues. The aim is to offer insights for future model development for the platform and strategic responses for merchants, achieving a win-win situation for the platform, merchants, and consumers.

2. Overview of Temu's Semi-hosting Model

2.1. Concept of Semi-hosting Model

The semi-hosting model is a service model that lies between the full hosting model and the traditional self-operated cross-border e-commerce model. Under the full hosting model, the platform is responsible for the unified management of resources such as products, after-sales service, and logistics and the merchants only need to focus on product development and manufacturing [3]. In Contrast, under the traditional cross-border e-commerce model, the platform uses its own advantages to provide services such as online shops rental and network traffic support, while the operation of the store is entirely responsible for the merchant. The division of responsibilities between platforms and merchants is clear [7]. In the semi-hosting model, the platform continues to provide services such as marketing activities and after-sales customer support like the full hosting model. However, unlike the full hosting model, the platform opens up aspects such as inventory management, pricing, and logistics, allowing for joint operations with the merchants.

Compared to the full hosting model, the semi-managed model allows merchants to take on some operational tasks on their own according to their own capabilities, and they still benefit from the resources and expertise of the platform. The semi-hosting model is an adjustment of the division of labor between the platform and the merchant

2.2. Operational Mechanism

In the semi-hosting model, the operational mechanisms between the platform and merchants share similarities with both the full hosting model and the traditional cross-border e-commerce model, but there are also distinctions. Specifically, in the Temu platform, the model includes the following aspects.

First, during the inventory preparation stage, merchants no longer need to send samples to the platform for review. Instead, they only need to select and upload products on the platform and provide basic product information. The platform is responsible for completing the product details, and listing the products, and has also added a service to assist with price comparison. Second, during the sales phase, the platform and merchants negotiate the pricing of products, with the final pricing authority residing with the platform. Advertising, promotion, and marketing activities are still managed by the platform. Third, in the logistics phase, under the semi-hosting model, merchants are responsible for inventory management and logistics, and select suitable logistics solutions based on their actual conditions. Fourth, during the after-sales phase, the platform continues to provide a full set of after-sales service solutions and consumer customer support, as shown in table 1.

Table 1. Comparison of rights and responsibilities in different operational models of Temu

		Self-operation model		Full hosting model		Semi-hosting model	
		Platform	Merchants	Platform	Merchants	Platform	Merchants
Phase	Specific steps						
Preparation	Product Selection		√		√		√
	Pricing		√	√		Negotiate, with final pricing authority resting with the platform	
	Supply		√		√		√
Logistics	China domestic logistics		√		√		
	International logistics		√	√			√
	Reverse logistics		√	√			√
Sales & Operations	Store operations		√	√		√	
	Sales support		√	√		√	
	After-sales support		√	√		√	
	Handle customer feedback		√		√		√

2.3. Main Target Group

Temu's semi-hosting model aims to reduce operational costs by shifting logistics responsibilities to merchants. This model focuses on suppliers with inventory located outside China, allowing for direct shipping to buyers. This approach helps avoid tariff risks and shortens delivery times by storing goods closer to the buyers. Moreover, this shift will enable Temu to sell larger and higher-margin products, such as furniture and home appliances, rather than being limited to low-priced small items [8]. At several Temu semi-hosting recruitment events held in China, most participating companies possessed mature supply chain capabilities, channel systems, and cross-border fulfillment strategies. In contrast, purely domestic trade factories and single-channel merchants in the full hosting model represented only a small proportion. From the perspective of merchant types, Temu's semi-hosting model is suitable for most merchants who are interested in developing global markets and already have mature cross-border operations experience. In terms of product categories, the semi-hosting model is particularly well-suited for larger items compared to the full hosting model.

3. The Advantages of Temu's Semi-hosting Model

With the development of cross-border e-commerce, sellers' dependence on platforms has gradually increased. Many platforms introduced the full hosting model around 2022. In this model, on one hand, the platform takes on most of the operational activities that would normally be the responsibility of merchants in a self-operated model, thereby reducing the merchants' operational burden. On the other hand, the platform's advantages in network traffic and algorithms can also drive an increase in merchant sales [3]. However, this model also has certain drawbacks. Due to the platform's dominance, merchants' bargaining power and autonomy are significantly reduced. Furthermore, Temu actively reduces the profit margin of merchants in its pricing to meet their ultra-low-price strategy, which poses a considerable threat to merchants' business operations. Additionally, Temu has notable shortcomings in international logistics. During the peak e-commerce season, Temu usually suffers from overcrowded warehouses or operational inefficiencies in the full hosting model. This not only increases the platform's supply chain costs but also results in delayed fulfillment due to slow logistics turnover, leading to a decrease in user trust [9].

The semi-hosting model addresses a series of pain points present in the full hosting model, it reallocates responsibilities and rights in the operational and logistics process, provides merchants with greater autonomy in logistics. It reduce the logistics costs and increases merchants' engagement and enthusiasm. For the platform, returning logistics responsibilities to merchants helps to enhance logistics efficiency by relying on the merchants' logistics networks. Additionally, shorter logistics distances enable the platform to attract merchants dealing in larger products. Enhanced logistics timeliness can also draw more users who demand efficient logistics experiences.

3.1. Reduce the Cost for Both the Platform and the Merchants

In the full hosting model, the platform has complete control over pricing. Temu aggressively lowers product prices to the lowest in the category, which significantly compresses merchants' profit margins. Due to the platform's shortcomings in international logistics, Temu faces high logistics costs, impacting its profitability. With the introduction of the semi-hosting model, merchants gain the power to negotiate pricing with the platform, making it easier to secure more favorable prices. Additionally, by outsourcing logistics tasks to capable merchants who have overseas warehouses and can ship directly from overseas, the platform reduces logistics costs and can better manage tariff risks.

3.2. Attach More Merchants and Enrich the Category

The full hosting model is not suitable for merchants with a need for autonomous operations. This limitation negatively affects the platform's ability to introduce a wide range of products and its long-term development. Additionally, the longer logistics distances and high tariffs associated with large products in the cross-border process deter merchants who sell such items from joining. The semi-hosting model can attract more experienced merchants with overseas warehouses, especially those dealing in large, high-value products. This has a positive impact on Temu's growth phase by enriching the variety of products available on the platform.

3.3. Select High Quality Merchants and Improve User Experience

Temu has established strict penalties for logistics speed and product quality as part of its platform upgrade, with fines reaching up to five times the product price. This approach aligns with the transition to the semi-hosting model. Merchants lacking quality management and warehousing capabilities, who want to maintain low prices while avoiding platform penalties, will find it challenging to continue operating under the semi-hosting model. Temu also promises that if sellers choose the semi-hosting model, their products will be placed in the most prominent positions on the platform to help with promotion. By selecting more high-quality merchants to serve users, Temu aims to provide a better experience in terms of product quality and logistics speed, thereby attracting more users [9].

4. The Potential Disadvantages of Temu's Semi-hosting Model

Although Temu's semi-hosting model has significant positive effects, its potential drawbacks and shortcomings cannot be ignored. Addressing these issues will be a challenge that Temu will face moving forward with its semi-hosting model.

First, the issue of profit margins needs to be considered. Although the semi-hosting model allows merchants to negotiate pricing with the platform, the final pricing authority still resides with the platform. Given Temu's core strategy of extremely low pricing, and in the face of other cross-border e-commerce platforms like AliExpress that delegate pricing authority to merchants under their semi-hosting models, Temu's challenge will be to balance pricing in a way that attracts more sellers while maintaining its pricing strategy.

Second, high communication costs are a concern. In the semi-hosting model, the platform and merchants each handle different responsibilities, requiring more efficient information communication in areas such as order processing and inventory management. Unlike the full hosting model, failure to manage coordination well in the semi-hosting model can lead to inefficiencies and misunderstandings [10]. For instance, there have been cases where merchants did not upload logistics information within 48 hours, leading Temu to classify it as false logistics and resulting in user complaints.

Third, the high qualification requirements of merchants is a potential problem. In Temu's semi-hosting model, merchants are responsible for more tasks, including inventory management and logistics fulfillment, which is more demanding on them. Merchants with insufficient qualifications may either exit Temu's semi-hosting model or struggle to maintain good operations, negatively impacting user experience [9]. If a significant number of such merchants exit the market, the target users accumulated by these merchants may also leave the platform, leading to user attrition and a decline in Temu's platform reputation.

Fourth, the issue of insufficient merchant autonomy arises. In Temu's semi-hosting model, merchants are given autonomy only in logistics, while operational aspects are still controlled by Temu. For merchants with a need for greater operational autonomy, particularly established cross-border brands like Anker Global and Dreame, the model may lack appeal over time. This could lead to various conflicts between these merchants and the platform during the operational process.

5. Recommendation for Temu's Semi-hosting Model

5.1. Reasonable Pricing Strategy to Maintain a Certain Profit Margin

In the semi-hosting model, the platform should set prices reasonably to ensure that merchants have a sufficient profit margin and attract more merchants to join. The platform should publicly disclose the minimum pricing standards for different product categories and the pricing situation for similar products. Before finalizing the pricing, the platform should engage in thorough negotiations with merchants and only set the price with their consent. For key products, the platform can also offer appropriate subsidies to maintain its low-price strategy. Additionally, merchants should be granted oversight rights on pricing, and if deliberate underpricing is detected, merchants should be compensated accordingly.

5.2. Establish an Effective Communication and Feedback Mechanism

The semi-hosting model puts significant demands on the communication and coordination between the platform and merchants. The platform should establish clear service level agreements that define the responsibilities and response times for both the platform and merchants. To achieve data synchronization and coordination, the platform should implement an integrated information management system, introduce automated processes, and provide transparent process tracking. Regular coordination and training sessions should be organized, and a feedback mechanism should be established to continuously optimize communication and coordination efficiency.

For the three major issues most complained about by merchants—after-sales rates, semi-hosting deposits and centralized fine deductions—Temu needs to provide systematic solutions. While adhering to core principles, the platform should make certain concessions to merchants. For instance, regarding deposits, Temu could allow merchants to pay the deposit after a trial operation period. In terms of after-sales refunds, the platform should grant merchants some level of review authority and negotiating power with the platform and users.

5.3. Formulate and Improve the Merchant Qualification Audit Mechanism

The authorization for the semi-hosting model should not be based solely on whether merchants have overseas warehouses or other hardware conditions. It should also evaluate merchants' capabilities in logistics delivery, fulfillment, and inventory management. The platform should establish reasonable merchant qualification review criteria. For merchants intending to adopt the semi-hosting model, once their qualifications are approved, the platform should enhance supervision during subsequent operations to ensure that the merchants' operational standards are maintained or improved. For merchants with insufficient qualifications, the platform should provide relevant improvement suggestions.

5.4. Adopt the Mode of Combination of Semi-hosting Model and Full Hosting Model

While the semi-hosting model positively impacts reducing logistics costs and increasing merchant autonomy and engagement, it may be challenging for merchants with insufficient self-operation capabilities, such as purely domestic factories and single-channel merchants from the full hosting model. To prevent losing these types of merchants, the platform should recommend different models based on the merchants' characteristics. For strong and professionally operated merchants, the platform should offer the semi-hosting model to leverage their robust service levels. For those with weaker operational capabilities, it is advisable to continue using the full hosting model for their operations.

5.5. Give Certain Customized Services

Different cross-border e-commerce platforms implement the semi-hosting model in various ways, and one drawback of the Temu model is that it grants merchants limited autonomy in operations. Since merchants have diverse needs, some may have strong operational capabilities and a desire for greater autonomy. Temu should tailor the granted rights according to the specific capabilities and intentions of the merchants. Temu should provide customized services to the merchants according to their requirements. It is important for Temu to supervise the merchants in order to ensure high standard operations.

6. Conclusion

This paper comprehensively analyses the concept and operational mechanisms of the semi-hosting model and uses Temu as a case study to explore its characteristics, advantages and disadvantages. It proposes some feasible suggestions to address potential shortcomings. The study indicates that the semi-hosting model offers benefits such as cost reduction, increased merchant engagement, and improved logistics quality. However, it also presents potential issues, including considerations for profit margins and communication challenges. To address these shortcomings, Temu needs to design strategies to ensure profitability and enhance service levels. As an emerging and popular service model, the semi-hosting model requires ongoing development and refinement in practice, it will have a significant impact on the cross-border e-commerce landscape.

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