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From Dependence to Autonomy: The Rise of the Independent Station Model in Cross-Border E-Commerce, Its Theoretical Challenges and the Restructuring of Trade Intermediary Functions

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Abstract. This paper systematically reviews the core issues, theoretical progress and cutting-edge trends in the research on the independent station model of cross-border e-commerce. The model is breaking the monopoly of traditional third-party platforms, allowing companies to construct global brands, and addressing fundamental issues in international trade theory, including platform dependency and trade intermediation. It consolidates studies from the past five years along three strands - driving forces, theoretical challenges, and intermediary restructuring. Findings reveal that the independent site model emerges from the low technical barrier, high cost of platforms, and the high demand for brand autonomy. Game theory indicates that adopting independent stations is a dominant strategy for enterprises. Economic sociology reveals sellers' shift from platform dependence to operational autonomy, while intermediary functions transform from platform-integrated "black boxes" to unbundled service ecosystems. The research to date is limited due to underdeveloped theory, scant empirical analysis, insufficient dynamic considerations, and little policy analysis. From a theoretical perspective, future research should focus on digital trade intermediary theory, use micro-data, follow firm transitions, and provide policy support. This will establish a theoretical and empirical basis for the restructuring of intermediaries and the internationalization of firms in the digital trade.

Keywords: Cross-border E-Commerce; Independent Station; Platform Dependence; Trade Intermediary; Digital Trade.

1. Introduction

1.1. Research Background

In the wave of the vigorous development of global digital trade, cross-border e-commerce, as a new engine of international trade, is experiencing a profound paradigm shift in its business models. For a long time, the third-party platform model represented by Amazon, Alibaba.com, eBay and others has occupied a dominant position. Under this model, a large number of small and medium-sized foreign trade enterprises are highly dependent on the platform's traffic distribution, transaction rules, payment and logistics systems, forming a classic pattern of "platform dependence".

However, in recent years, the "independent station" model, supported by website-building tools such as Shopify and BigCommerce, with social media and search engines as traffic sources and the DTC (Direct-to-Consumer) model as the core, has risen rapidly and become an unignorable force. From the early practices of Chinese overseas brands such as SHEIN and Anker to numerous small and medium-sized brands building global direct sales channels through Shopify, the independent station model is leading a profound transformation from "channel dependence" to "brand autonomy". Market data shows that the market scale of China's cross-border e-commerce independent stations was only 0.2 trillion yuan in 2016, rose to 0.8 trillion yuan in 2020, the total number of independent stations reached about 200,000 in 2021, and it is expected that the market share will rise from 25% in 2020 to 41% by 2025.

The Amazon “account ban wave” in 2021 became a key turning point, with more than 50,000 Chinese seller accounts being banned and economic losses exceeding 100 billion yuan. The “long-term asymmetric dependence” between platforms and sellers and its risks were fully exposed. This emerging model poses a dual challenge to traditional theories: first, it undermines the universal explanatory power of the “platform dependence theory” which centers on platforms and emphasizes network externalities and competition within a single ecosystem; second, it restructures the intermediary functions of international trade by “unbundling” the traffic, trust, payment, logistics and other services originally integrated and provided by platforms, and reallocating them through the decentralized market, making brand owners themselves the core organizers of international trade and new integrators of intermediary functions.

1.2. Research Significance

In terms of theoretical significance, first, it enriches the interdisciplinary research content of platform economics and international trade theory. By systematically sorting out the revision implications of the independent station model for classic propositions such as “platform dependence”, “fixed export costs” and “trade intermediary functions”, this study promotes the update and expansion of the intermediary theory framework in the era of digital trade. Second, it improves the research methods and perspectives in the field of cross-border e-commerce. Breaking through the limitation that existing research is overly concentrated on game models and SWOT analysis, this study systematically identifies the methodological gaps in micro empirical research and provides a problem coordinate and design reference for subsequent causal inference research.

In terms of practical significance, first, it provides decision-making guidance for the practice of enterprises’ internationalization channel strategies. This study systematically extracts the core advantages and applicable conditions of the independent station model, reveals the synergy logic between platform channels and independent station channels, and helps different types of enterprises formulate differentiated channel combination strategies according to their own capabilities and endowments. Second, it contributes to the improvement and development of the cross-border e-commerce policy system. This study identifies the regulatory vacuums such as cross-border data flow, consumer rights protection and tax compliance under the independent station model, and provides a problem list and theoretical reference for relevant departments to formulate institutional arrangements adapted to the new business form.

2. Literature Review

Research abroad on digital platforms and complementor systems began years prior. Hagiu and Wright analyzed the sources of a platform’s power and the distribution of value in multi-sided markets and highlighted the ability of a platform to lock in complementors [1]. In two-sided markets, Rochet and Tirole addressed the need to find an optimal balance between the requirements of a platform and its users [2]. Jacobides et al. suggested the ecosystem approach to the study of industrial organization [3]. In the context of cross-border e-commerce, Lendle et al. showed that online platforms are able to reduce the geographical barriers to trade [4]. Athey noted the negative effect of the data dominance of platforms on the development of new products [5]. Kumar et al. analyzed the value logic and omnichannel strategy of DTC brands [6]. Foreign research is primarily concerned with the economics of platforms and the governance of ecosystems, and has developed a mature body of research.

Chinese researchers have focused on cross-border e-commerce independent stations. In this regard, Feng Ping outlined the role of SaaS tools in lowering operational technical barriers [7]. According to Sun Fang and Hu Yuetao, the increasing costs of platforms and governance risk are becoming the most important constraints [8]. Men Hao looked at the concepts of “long-term asymmetric dependence” and “structural autonomy” through the lens of economic sociology [9]. Yang Chuntian discussed the limitations of third-party platforms [10]. Yu Haiyan criticized the dependence on the platform [11]. With respect to channel strategy, there is Xiao Dan's game model [12], as well as the case studies of Men Hao, however, there is a noticeable lack of micro-empirical and causal research.

Focus area deconstruction of Chinese literature reveals emphasis on driving forces, channel games, and brand operations, while foreign literature addresses platform power and governance. Both deal with platform dependence mechanisms and reliance on consumer goods and retail. Shortcomings include: theories lag behind practice (though Men Hao proposes a framework [9]), absence of empirical studies based on micro enterprise data, insufficient dynamic evolution perspectives, absence of policy/regulatory studies (cross-border data, tax compliance), and a lack of research.

3. The Rise of the Independent Station Model: Historical Evolution and Driving Factors

3.1. Historical Evolution: From Marginal Exploration to Mainstream Choice

The development and evolution of the cross-border e-commerce independent station model clearly presents an evolutionary trajectory from marginal exploration to mainstream choice, a process closely related to the changes in the platform power structure, the maturity of technical tools and the awakening of enterprise strategic awareness.

Between 2010 and 2017, researchers and practitioners analyzed how third-party platforms reduced the export barriers faced by SMEs. Lendle et al., in particular, showed that platforms integrate intermediary functions and, thus, reduce the trade barrier of geographical distance [4]. Chinese scholars, on the other hand, viewed these platforms as digital infrastructure and the dependence of enterprises as a given institutional arrangement. In this view, independent platforms were considered to be an option only for a few large enterprises.

During the period 2018 to 2021, there were stricter regulations on these platforms, increased commission fees and intense competition, which led to multiple stakeholder interest conflicts. As Yang Chuntian noted, the growing disadvantages of these platforms led to a large number of SMEs adopting independent platforms, especially following the account suspension crisis on Amazon in 2021 [10].

Since 2022, there has been a clear trend of sellers seeking structural autonomy. Men Hao, using economic sociology as a theoretical background, examined the case for asymmetric dependence on platforms and the evolutionary pathway toward structural autonomy [9]. Independent platforms have now entered the realm of academic research, with their relationship to third-party platforms evolving from substitute to competitive cooperate and symbiotic relationships.

3.2. Analysis of Driving Factors

Based on existing research, the rise of the independent station model is the result of the joint action of three factors: technological empowerment, market pressure and enterprise strategic motivation.

3.2.1. Technological Impetus: Maturity of Website-building Tools and Reduction of Barriers

The maturity of SaaS website-building tools represented by Shopify and BigCommerce has greatly reduced the technical barriers and initial fixed costs of building independent stations. Yang Chuntian pointed out that the website-building method developed based on the SaaS system has become the most commonly used way for small and medium-sized sellers to build independent stations, because the background operation of the website-building system is convenient, no special technical personnel are needed to operate, and the construction system generally cooperates with social platforms, which is more conducive to promotion and drainage [10]. This technological change has made the "construction of independent stations" itself no longer an obstacle, allowing enterprises to shift their strategic focus from "whether to build a station" to "how to operate it".

3.2.2. Market Driver: Rising Platform Operational Costs and Intensified Governance Risks

There is a high consensus in existing research on this point. Yang Chuntian systematically summarized three major drawbacks of third-party platforms: first, serious homogeneous competition, with a large number of sellers pouring in due to low entry barriers [10]; second, platform "official follow-selling" behavior diverting seller traffic; third, opaque platform rules and increased supervision, with sellers facing major uncertain risks such as the "account ban wave". Yu Haiyan also pointed out that one of the core problems facing the current development of China's cross-border e-commerce is precisely "excessive dependence on a small number of platforms" [11]. These factors together constitute a strong driving force for sellers to seek channel diversification.

3.2.3. Strategic Motivation: Demand for Brand Assets and Data Sovereignty

As cross-border e-commerce moves from the stage of "product going global" to "brand going global", enterprises' demand for autonomous brand control has become increasingly strong. Yang Chuntian emphasized that limited by the singleness and homogeneity of the marketing forms, store decoration styles and traffic source channels of third-party platforms, it is difficult for enterprises to tell a good "brand story" to consumers in a more personalized way; while independent stations allow sellers to obtain more customer behavior data, develop these precipitated data for the second time as a basis for formulating and optimizing operational strategies, convert customer traffic into their own private domain traffic, and cultivate buyers' brand loyalty [10]. The research of Dong and Zeng also pointed out that factors such as the sharp decline in the traffic dividend of third-party platforms and the compression of profit margins have prompted sellers to start looking for new growth models [13]. Data from the Brand Center of the China Council for the Promotion of International Trade shows that the annual growth rate of brand search volume of foreign trade enterprises transforming to independent stations is 210%, and customer loyalty has increased to 65%.

4. The Challenges of the Independent Station Model to Traditional Theories

4.1. Challenges to the Platform Dependence Theory

The rise of the independent station model poses a substantive challenge to the classic explanatory framework centered on third-party platforms, and existing research is responding from multiple theoretical perspectives.

The emergence of the independent station model has effectively challenged the traditional approach of viewing third-party platforms, and current research has responded from various angles. As described in traditional platform economics, the network effects and economies of scale lead to a lock-in effect and dependence of users on the platform. Men Hao characterizes this situation as "long-term asymmetric dependence", the structural cause of sellers' quest for autonomy, and empirically demonstrates that sellers can alter such dependence through strategic means and attain niche upgrading which effectively shifts the market structure to a networked transaction system [9].

Furthermore, the independent station model can to a certain extent counter the network effects of the platform by constructing brand loyalty, completely retaining user data, and increasing the likelihood of repeat purchases. Li et al. also apply game theory to show that the platform's commission rate influences firms' strategic decisions regarding independent stations, and that the expansion of independent station channels is a superior strategic move for businesses when operating under the constraints of a platform [14].

4.2. Rethinking the Theories of Minimum Efficient Scale and the Internationalization of Small and Medium-Sized Enterprises

The traditional heterogeneous firm trade theory emphasizes that there are significant fixed entry costs in the export market, and only the most productive enterprises can cross the threshold [15]. The rise of the independent station model poses an implicit challenge to this proposition. Yang Chuntian clearly pointed out that the concentration of overseas e-commerce platforms is relatively low. For example, the CR5 of top American e-commerce companies has only increased from 39% to 55% in a decade, and the decentralized industry competition pattern is more favorable for independent stations of small and medium-sized sellers with relatively weak comprehensive strength [10]. At the same time, Nielsen data shows that the average proportion of private labels in the global retail market is 16.5%, and it is as high as 18%-45% in European and American countries, with overseas consumers having a higher acceptance and recognition of private labels.

Yang Chen focused on the practical dilemmas faced by small and medium-sized foreign trade enterprises in the process of transforming from platforms such as Amazon to independent stations in his research, and found that talent shortage, unclear operation system and weak brand awareness are the main obstacles restricting the transformation of small and medium-sized enterprises [16]. These evidences together suggest that the independent station model may be reshaping the minimum efficient scale conditions for the internationalization of small and medium-sized enterprises, and the "enterprise heterogeneity" proposition of traditional trade theory needs to be re-examined in the digital age.

5. The Restructuring of International Trade Intermediary Functions by the Independent Station Model

The profound theoretical implication of the independent station model lies in its fundamental transformation of the organizational and value distribution patterns of international trade intermediation. Traditional third-party platforms homogenously aggregate fragmented trade intermediary functions to reduce transaction costs of cross-border deals, but this cross-functional consolidation enhances the platform's capacity for capture. By separating intermediary functions, the independent station model achieves "unbundling" [9, 10], as well as an ecosystem of professional service providers. This highlights the transition of brand owners from platform-dependent sellers to core intermediary integrators [9, 13], and also research on major platforms that further shows the evolution of platform roles, as well as enhanced resistance capacity of foreign trade system [17].

This model gives brands more pricing power and the ability to keep sales profit, but it also passes traffic with all of its associated costs (building trust, technical issues) and risks back to them. Challenges include high technical barriers, rising marketing costs, an imperfect supporting ecosystem [10, 11], talent shortages and compliance issues in independent stations, all of which reflect the simultaneous rise of the benefits and risks that came with a new pattern of value distribution.

6. Conclusion

This paper systematically sorts out the existing achievements and cutting-edge trends in the research field of the cross-border e-commerce independent station model. The scholars have a basic consensus on its top three drivers: technology empowerment, cost pressure and autonomous demand. Meanwhile, relevant studies have clarified its expansion logic, sellers' identity transformation and reshaping effect on SMEs' internationalization, formed an analytical framework for intermediary function restructuring. However, this review identifies clear research gaps: research lags behind practice with insufficient empirical evidence, its impact on core traditional trade theories remains underexplored, and a lack of micro-data and policy research limits theoretical application to institutional design.

Based on the above analysis, future studies can be conducted in three directions: First, in terms of constructing theories, one can develop a systematic framework of "digital trade intermediary function unbundling and restructuring” and be specific about micro-mechanism relating to unbundling, organizational attributes of brand owners as integrators, and reshaping value fragmentation at different levels; second, in terms of research, one can strive to surpass empirical methodological limitations by means of cross-database integration of independent station and customs data, enterprise large-scale surveys as well as tracking of typical enterprises’ trajectories; and third, in terms of offering policy studies, one can engage in data sovereignty, cross-border consumer dispute resolution, and VAT compliance in the context of independent station model, offering systematic comparative institutional analysis and international rule anchoring.

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