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Literature Review on B2C Cross-border e-commerce Return

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Abstract. Cross-border e-commerce returns are becoming more frequent. Therefore, understanding and studying issues related to cross-border e-commerce returns are of great significance to both retailers and consumers. To gain a deeper understanding of the causes and influencing factors of cross-border e-commerce returns, this paper will conduct an overview study of cross-border e-commerce returns from two aspects, namely, studies related to cross-border e-commerce returns and studies related to inbound e-commerce returns. Through the above overview research, we find that the current research on cross-border e-commerce returns is relatively small and mainly focuses on the research on forward logistics. Therefore, this paper believes that the future research direction should mainly focus on the following aspects: firstly, strengthening the research on cross-border e-commerce returns logistics, especially reverse logistics, in order to improve the efficiency of returns and reduce the cost of returns; secondly, considering the influence of insurance factors in cross-border e-commerce returns, in order to reduce the risk of returns and improve the protection of returns.

Keywords: cross-border e-commerce; product returns; insurance

1. Introduction

With the popularity of the Internet and the progress of information technology, e-commerce has flourished globally. Cross-border e-commerce not only breaks the barriers between countries and makes international trade borderless, but also brings great changes to the world economy and trade [1]. Compared with domestic e-commerce, cross-border e-commerce has unique characteristics, such as longer distance, longer delivery time and higher logistics costs [2]. Cross-border logistics is an important part of cross-border e-commerce. Therefore, the study of cross-border logistics is of great significance and helps to promote the development of the global economy and the integration of trade. The types of cross-border logistics change with the development of cross-border e-commerce, and there are currently four types of logistics: postal parcels, international business and domestic express delivery, dedicated logistics, and overseas warehouses [3]. How to choose fast, safe, reliable and low-cost logistics and transport methods has also become an urgent problem for cross-border e-commerce logistics [4]. The purpose of this paper is to provide new ideas and methods for solving cross-border e-commerce return logistics

problems by combing and studying the current literature related to cross-border e-commerce return logistics. The current research on cross-border e-commerce mainly focuses on forward logistics, which includes the optimal location of overseas warehouses, overseas warehouse management and distribution optimization. And the research on reverse logistics of e-commerce mainly focuses on the return logistics within the country, which mainly includes the factors affecting consumer returns, return policy model, dual-channel returns, and return shipping insurance.

2. Review of relevant research

Some scholars have already reviewed cross-border e-commerce or product returns, e.g. Giuffrida, Maria reviewed the impact of cross-border e-commerce on logistics in China. The role played by other countries in the Greater China region in this complex process is highlighted. and outlines future research directions for CBEC [5]. Abdulla, Ketzenberg et al. [6] describe the state of the literature and practice of returns policy design through a unified conceptual framework, revealing many managerial and theoretical opportunities for future research. Ambilka et al. [7] provides a comprehensive literature in the field of product returns management review that provides a blueprint of existing research for exploring the current state of the body of knowledge. Ahsan and Rahman [8], on the other hand, provide a systematic literature review specifically on e-retail product returns research. The following is the overview framework of this paper:
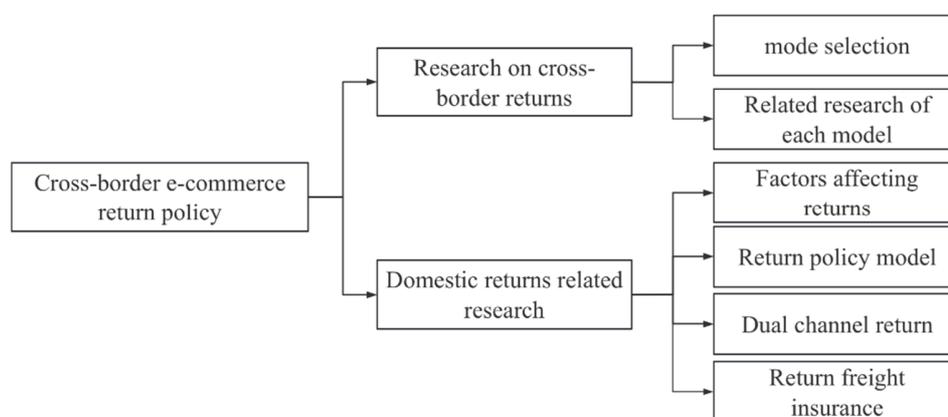

Figure 1: Overview framework of cross-border e-commerce returns

2.1. Research on cross-border returns

2.1.1. Selection of cross-border e-commerce logistics mode and related research

Some scholars have studied different cross-border e-commerce logistics models. Zha et al. [9] studied the information sharing strategy of the platform and the choice of logistics model of the overseas suppliers through a game model based on the CBEC platform. Xu et al. [10] established the Stackelberg model by using the inverse induction method, and then solved for the equilibrium solution and discussed the equilibrium strategy and the nature of equilibrium returns. Ji [11] In order to solve this problem, the particle swarm optimization algorithm is used to solve it by constructing a bi-objective optimization model with minimum total cost and maximum customer satisfaction. However, Guan et al. [12]

argued that in the traditional overseas warehouse siting model, there is a lack of balance between the factors affecting warehouse siting, which leads to low siting satisfaction. Secondly, overseas warehouses are difficult to manage due to the distance and complexity of operations, such as a wide range of products, high demand risk and tax risk cross-border trade leading to overseas warehouses. To solve this problem, Shi et al. [13] proposed a new data-driven approach to manage inventory in overseas warehouses. The results show that this approach is effective in reducing costs and avoiding unhelpful shipments of items to overseas warehouses. In order to reduce the cost of using overseas warehouses, usually some retailers make alliances to jointly come to use overseas warehouses, but how these retailers are allocated becomes a problem. Shi and Wang [14], in order to solve this kind of problem, establishes a joint replenishment model and proposes a cost allocation rule based on co-operative game theory, which proves that joint replenishment helps the alliance to reduce the average cost in the long run. Finally, it is the distribution optimization problem. Zhang [15] proposed a logistics and distribution network optimization model and a multi-objective optimization model for cross-border e-commerce based on overseas warehouses after analyzing the logistics and distribution network structure of cross-border e-commerce.

2.2 Research on domestic returns

2.2.1. Factors affecting return

There is a need to strike a balance between minimizing returns and allowing returns [16]. And there are many factors that lead to customer returns, Xu and Jackson [17] examined the factors affecting customers' loyalty to return channels through empirical analysis. The results showed that there are four main factors, namely, perceived risk, purchase-return channel consistency, price cost and hassle cost, affecting customers' return channel loyalty. And perceived risk has the greatest impact on customer return channel loyalty. D. Lin et al. [18] also used SEM to find out several influencing factors affecting online purchase return behavior. The results of the study show that the willingness to return products has the greatest impact on returns. Followed by the hassle level of return. Lv and Liu [19] also studied to construct a chain mediation model influencing consumers' willingness to return goods online using perceived information overload as the independent variable and consumers' perceived environmental efficacy as the moderating variable. Jeng [20] investigated how the leniency of return policy affects customers' perceived value and customers' purchase intention. The results show that return policy leniency increases customer purchase intention by increasing the perceived value of the return policy. Ülkü and Gürler [21] propose a variant of the classic newsboy model, the newsboy model of the fraudulent return consumer. Chang and Guo [22] examined the effects of retailer's trading ethics and consumer personality on fraudulent returns. The results found that retailers' trading ethics, consumer shopping orientation and relationship tendencies can increase consumers' trust and commitment to retailers and prevent fraudulent returns.

2.2.2. Return policy model

There is no single form of return policy, and several scholars have studied return policies in order for retailers or manufacturers to make better decisions. Returns policy is predicated on whether return service should be offered or not, Cao et al. [23] specifically investigated the optimal online return policy for remanufactured products. By developing several basic theoretical models, it was finally found that firms should offer online return services when

the unit residual value of the returned product is low; alternatively, it is disadvantageous for firms to offer return services if consumers have strong satisfaction with the new product. In the case of providing return service, Su [24] has developed a model of consumer return policy. In the model, the consumer decides whether to make a purchase or not and then decides whether to return the goods or not, while the retailer decides the price, quantity, and refund amount. A strategy for coordinating the supply chain in the presence of consumer returns is also proposed. In the case of firms in a competitive environment, Zhao et al. [25] investigated the realistic competition problem of price and promised delivery date decisions between two e-commerce firms when product returns are considered. After modelling the returns function, the results show that the firm with a lower returns rate or lower returns sensitivity always has a higher price and a shorter committed delivery period. And when competitors' return rate increases, it is not necessarily a good thing for the firm. And in the cross-border e-commerce environment, Wang [2] studies how retailers can choose the best cross-border e-commerce logistics model when considering returns. And three cross-border e-commerce logistics models are constructed. Retailers who want to eliminate or reduce the rate of product returns can adjust the delivery period under each cross-border e-commerce logistics model with different product sourcing and prices, tariffs, postage, and operating costs.

2.2.3. Dual channel returns policy
Dual-channel supply chain refers to online channel and offline channel, online channel refers to e-commerce trade activities through the Internet, the online purchasing channel which is sold directly by manufacturers, and offline channel refers to the trade channel which is used to sell products through shops, brick and mortar shops, and the supply chain system consisting of two channels is called dual-channel supply chain.

A number of scholars have studied the return service under dual channel, whether dual channel leads to better results, to address this question, Batarfi et al. [26] developed a mathematical model to examine the effect of different return strategies before and after the adoption of dual channel on the behaviour of the supply chain system. The results of the study show that the more generous the return policy, the higher the demand, the higher the selling price, and the higher the overall profit in the single-channel versus dual-channel strategy. And the adoption of dual-channel strategy is more beneficial to the supply chain. Liu, Sun et al. [27] analyzed the impact of different return policies and return rates on the profitability and channel pricing of dual-channel retailers. The findings suggest that when customer sensitivity to pricing is large and return rates are low, both retailers and manufacturers should be opposed to contracting to handle returned products. Secondly, how online and offline return strategies should co-operate in a dual channel is also an issue, Jin et al. [28] investigated retailers' strategic decisions to adopt the BORP model from a competitive perspective. Radhi and Zhang [29] study and compare four different return strategies under a dual-channel with simultaneous offerings of both same-channel and cross-channel returns. G. Li et al. [30] examined the strategic effects of return policies in a dual-channel supply chain. The results show that for vendors, a full refund policy for both channels is preferred when the return rate is low.

2.3.1. Research on return freight insurance
E-commerce has a high sales volume along with a high return rate. However, the main reason for returns is not product defects [31,45]. In order to reduce the negative impact of

return costs and promote sales, return shipping insurance has been widely used. However, there are still many questions about return shipping insurance that have not been explored, such as whether merchants should provide shipping insurance services and who should pay for return shipping insurance. In order to solve these problems, a number of scholars have studied it. Ren et al. [32] found that retailers should provide a money-back guarantee when the residual value of the product is greater than or equal to zero. Li et al. [33] found that return freight insurance is complementary to partial return policy and that it is better to use return freight insurance strategy when the price of return freight insurance is relatively small; As for the question of who should pay for the shipping insurance, Zhang et al. [34] uses evolutionary game theory to explore the dynamic evolution of the return-insurance and cross-channel return decisions between offline vendors and consumers in live broadcasting. Lin et al. [35] developed a consumer utility-based analytical model to study retailers' optimal pricing decisions and the value of return-freight insurance. It was found that retailers who purchase return shipping insurance for consumers do not necessarily charge higher prices.

3. Conclusion and future research direction
Nowadays, more scholars specialize in the study of a certain mode, especially the overseas warehouse mode. As for the research on product returns, scholars pay more attention to the factors affecting returns, return policies, dual-channel returns, and insurance. It can be seen from past articles that most of the factors affecting returns are related to consumers, such as consumer perceived value and consumer experience preference. There are also many types of return policies, such as online return models, return models in competitive environments, and so on. For dual-channel returns, some studies have proved that dual-channel can show more advantages compared with single-channel, so more scholars tend to do some research on dual-channel, for example, how to assign tasks to the two channels in dual-channel. As for the insurance issue, most of the scholars mainly study the freight insurance, but through their research, the freight insurance is not always beneficial, as well as the freight insurance is not always needed to be purchased by the retailers. Through these articles we find that few studies consider both forward and reverse logistics when choosing a cross-border logistics model. Therefore, this paper considers the following future research directions for cross-border e-commerce return logistics:
(1) study the multiple modes of cross-border e-commerce return logistics under different conditions;
(2) consider the insurance element into the cross-border e-commerce return logistics.

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