Leveraging Overseas Crowd-sourcing Resources in the Foreign Trade Industry: Opportunities, Challenges, and Supply Chain Management Considerations

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Abstract. This study examines the use of overseas crowdsourcing resources in the foreign trade sector to boost efficiency and reduce costs in the post-pandemic era. We evaluate potential opportunities and challenges in sales order management, logistics, and online dispute settlement, all while considering the effects of crowdsourcing partnerships on the management of the supply chain. Foreign trade companies can improve their operations and utilize the potential of a globally applicable crowdsourcing resource application system to meet the needs of the post-epidemic period.

Keywords: Crowd-sourcing; Supply Chain Management; Foreign Trade

1. Introduction

1.1 Background
In recent years, technology, the global economy, and consumer tastes have all contributed to a period of fast change in the international commerce sector [6]. The COVID-19 pandemic has hastened these changes, stressing the need for enhanced productivity, flexibility, and robustness in the business sector [7]. Companies engaged in international commerce are increasingly being challenged to adapt to the complexity of a post-pandemic environment by adopting novel solutions and operating under novel business models.

1.2 Objectives
This research focuses on sales order administration, logistics, and online dispute resolution in its examination of the advantages and disadvantages of utilizing overseas crowdsourcing resources in international trade. In addition, using the research of Devece et al. and Li et al. [1, 3], we will examine the supply chain management aspects of these crowdsourcing partnerships. This study aims to provide a comprehensive analysis of the opportunities and challenges associated with the use of offshore crowdsourcing resources, as well as the supply chain management factors that need to be considered before businesses can put this plan into action in reaction to unexpected global crises.

1.3 Research Methodology
Existing studies on the concepts and models of crowdsourcing, their implementation across various industries, and the supply chain management aspects of crowdsourcing relationships were meticulously examined in an exhaustive literature review. This analysis offered a profound understanding of the intricacies, advantages, and potential disadvantages of employing crowdsourced resources within the foreign trade domain, ultimately leading to the formulation of strategic recommendations.

2. Literature Review

2.1 Crowd-sourcing: Concepts, Models, and Applications
Crowd-sourcing is an open distribution model based on internet platforms, where tasks are outsourced to non-specific groups with the help of a mature mobile internet platform [3]. Diverse crowdsourcing models, including contest-based, collaborative, and microtask-based approaches, have emerged, each with its own distinct characteristics and applicability to various industries [14]. E-commerce, logistics, and even conflict resolution are a few domains in which crowdsourcing has proven useful. Due to the emergence of crowdsourcing [9, 13], online retailers can now offer their consumers a broader selection of products and services [8]. Crowdsourced delivery services provide a new, flexible, and inexpensive solution to last-mile delivery issues in logistics [5]. The use of crowdsourcing platforms has resulted in increased...
accessibility and efficiency in conflict resolution [9]. The international commerce sector may save money and operate more efficiently if it utilizes crowdsourcing from other countries.

2.2 Supply Chain Management in Crowdsourcing

To successfully deploy crowdsourcing projects in international trade, supply chain management is crucial [2]. Companies may boost operations and responsiveness to shifts in the global market by coordinating and integrating supply-chain resources [7]. The selection and evaluation of crowdsourced employees is a component of crowdsourcing supply chain management [14]. Foreign trade companies must thoroughly evaluate the skills, experience, and expertise of prospective employees to ensure their contribution to the supply chain. This process may include evaluating worker portfolios, conducting interviews, or utilizing performance metrics to evaluate the quality of work delivered by crowd-sourced workers. The ability to effectively communicate and work together is another crucial part of supply chain management through crowdsourcing [11]. Since crowdsourced employees are often located in different physical locations, it is imperative that businesses set up reliable methods of communication and cooperation to ensure the efficient transfer of data and materials [13]. Management of the supply chain includes monitoring and regulating the performance of crowdsourced employees [10]. This includes establishing explicit performance expectations, establishing key performance indicators (KPIs), and routinely evaluating the progress and quality of the work produced by crowd-sourced workers. By closely monitoring the performance of crowdsourced employees, businesses can identify areas for improvement and provide targeted feedback to improve worker performance and supply chain efficiency as a whole. In addition, supply chain management in crowdsourcing should take risk management strategies into account [14]. This involves identifying potential risks associated with crowdsourcing, such as the preservation of intellectual property, data security, and worker dependability, and instituting proactive measures to mitigate these risks.

3. Opportunities and Challenges in Foreign Trade Crowd-sourcing

3.1 Opportunities

3.1.1 Innovation and Knowledge Creation

Overseas crowd-sourcing resources can foster innovation and knowledge creation in foreign trade companies [4]. New ideas, goods, and services may be developed through crowd-sourcing activities, which in turn can increase a company's competitive edge in the global market [4]. Furthermore, crowd-sourcing systems may let teams work together even if they're in different locations, allowing for greater cross-departmental communication and the sharing of best practices [7]. By sharing knowledge and experiences, we may generate novel approaches to the difficult problems that arise in international commerce [6].

3.1.2 Cost Savings and Operational Efficiency

Foreign trade companies can achieve significant cost savings and operational efficiency through the integration of global crowdsourcing resources [7]. Businesses can save money on the expensive costs associated with employing full-time employees by outsourcing their work [5]. The ability to locate employees on demand also enables more efficient resource allocation, resulting in additional cost savings. In addition, crowdsourcing from other nations may enable businesses to maintain 24-hour operations and promptly respond to fluctuations in market demand [6] by assisting them in overcoming labor constraints and time zone issues.

3.2 Challenges

3.2.1 Intellectual Property and Confidentiality

The use of offshore crowdsourcing resources raises questions regarding intellectual property and data privacy [14]. To secure their intellectual property and maintain the confidentiality of sensitive information, businesses must establish explicit contracts and standards with crowdsourcing personnel [7]. This may necessitate the use of confidentiality agreements, non-compete clauses, and secure communication and data storage methods [8]. Protecting a company's intellectual property and other confidential information is crucial for maintaining a competitive advantage and avoiding legal trouble.

3.2.2 Establishing Credibility and Lasting Relationships

If you use a crowdsourcing platform to engage individuals from another country, it may be difficult to establish trust and long-lasting relationships with your staff. To get the most out of their crowdsourced workforce, businesses must take the time to establish trusting relationships, keep lines of communication open, and offer sufficient incentives and support [7]. Creating a positive work environment in which everyone is regarded with respect and appreciation is one method to achieve this [5]. Businesses can increase the profitability and sustainability of their crowdsourcing endeavors by nurturing trust and long-term relationships, resulting in a more reliable workforce [11].

4. Crowdsourcing Supply Chain Strategies in the Context of Foreign Trade

Crowdsourcing supply chain techniques in the context of international commerce has been broken down into four main co-operation approaches [1]. These methods are reflective of the ever-changing partnerships and
cooperative efforts of the supply chain’s numerous participants in response to the unique demands and advantages of global commerce.

4.1 Internal collaboration followed by internal rivalry (Dual Strategy)
In the initial phases of development, foreign trade organizations may adopt a dual strategy that initially emphasizes internal cooperation, followed by internal competition [8]. Cooperative crowdsourcing involves the division of tasks among internal actors, who collaboratively work on different aspects of a project [12]. Competitive crowdsourcing, on the other hand, entails selecting the most optimal solutions from multiple alternatives submitted by participants [13]. This dual strategy provides flexibility and adaptability, though it may result in reduced specialization within the supply chain.

4.2 Integrated Internal Strategy (Single Strategy)
As international trade organizations move towards a more internally integrated strategy, they adopt a single cooperative strategy for the entire supply chain [10]. This involves coordinating the efforts of diverse segments, such as research and development, manufacturing, and distribution, to optimise and enhance innovative solutions that address the complexities of international commerce [11]. In order for supply chain actors to successfully implement this unified strategy, they need complementary talents and effective cooperation mechanisms.

4.3 External Competition Followed by Internal Cooperation (Dual Strategy)
During the external openness phase, foreign trade companies first engage in competitive innovation and design operations, leveraging external crowdsourcing resources [12]. After identifying the most promising proposals, organisations refine and enhance these solutions through internal collaborative integration [7]. This dual strategy combines external competitive crowdsourcing with internal cooperative crowdsourcing, fostering a competitive collaboration environment that can generate innovative and effective solutions for foreign trade operations [14].

4.4 External Competition Followed by External Cooperation (Dual Strategy)
In the external platform phase, foreign trade companies increasingly manage massive online crowdsourcing participants while leveraging internet platforms [5]. As these organizations deepen their engagement with online participants, competitive crowdsourcing gradually becomes the dominant strategy [12]. This strategy enables companies to resolve increasingly complex product designs and collaborate via crowdsourcing, even when working with geographically and culturally diverse participants. This dual strategy, involving initial external competition followed by external cooperation, is expected to become the primary mode of operation for crowdsourcing supply chain management in foreign trade.

5. Summary
Utilizing crowdsourced resources in international trade could substantially enhance supply chain management and business output. Businesses can effectively use crowdsourcing resources to enhance operations and adapt to a changing global market if they carefully consider and aggressively address the associated issues. It would be fascinating to examine the impact of new technologies such as artificial intelligence and blockchain on the utility of crowdsourcing in the context of international commerce, as well as the specific strategies and best practices for integrating crowdsourcing resources into supply chains.

References
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