

Research On the Impact of Cross - Border E - Commerce on Traditional Trade and Optimization Strategies

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Abstract. This research takes a closer look at the disruptive impact of cross border e-commerce (CBEC) on the traditional trade, focusing on the operational strategies of the platforms like Amazon and Alibaba. This study employs a comparative analysis of financial reports and industry publications to assess the impact of CBEC and underscores the significance of understanding these disruptive forces for the future of global commerce. By analysing financial data as well as industry data, this report adds insights regarding the streamlined supply chains by CBEC combined with the use of AI in competitive pricing that have set e-commerce apart from traditional trade and given it a clear advantage over traditional trade. Findings suggests some major market share slippage, as well as higher levels of competition. All firms must digitize, optimize their supply chains, and seek to differentiate themselves from their chief competitors. A conclusion of this study is that for the survival of traditional trade in the global market, it becomes important to integrate digital tools and hybrid models. The study recommends that future research should focus on the regulatory and socio-economic complexities of CBEC to further investigate the regulatory and socio-economic factors affecting this dynamic.

Keywords: Traditional trade; e-commerce; optimization strategies.

1. Introduction

In the face of the rise of digital technology and the ever-growing interconnectivity of the global markets, cross border e-commerce (CBEC) has meteorically rocketed to the top of the international commerce world [1]. Known digital titans, like Amazon and Alibaba, along with regional powerhouses like Taobao and Pinduoduo almost completely dismantled other trade paradigms by cutting cost in supply chains, eliminating intermediary traffics and fostering direct-to-customer transactions. The World Trade Organization notes that the global merchandise trade now stands at \$24.89 trillion dollars in 2022 [2], with CBEC rapidly growing and seizing a portion of this market, especially in consumer goods and small commodities sectors.

To fill these critical gaps, this study investigates these transformations in traditional trade models by Amazon, Alibaba, Taobao, as well as Pinduoduo, through a rather close examination of how they are changing the picture of traditional trade models through three dimensions: market access & expansion, price competition & profitability, and supply chain transformation. In this comparative analysis, industry reports, financial statements, and international trade statistics of authoritative sources like WTO, OECD, UNCTAD, and also platform-specific data will be used in an in-depth analysis. Also, concrete case studies for CBEC's competitive advantage will be used as case studies including Amazon's AI powered fulfilment model and Alibaba's B2B ecosystem.

This study finally tries to fill the ever-existing knowledge gap by conducting a thorough examination of the disruptive influence of CBEC on traditional trade and by proposing actionable optimization strategies. The findings of this research will provide policymakers and business leaders with hybrid trade model building skills to integrate digital and traditional commerce and in general understanding of global trade in a more digitalized and connected economy.

2. Analyzing Market Shifts and Strategic Responses in the Age of Cross-Border E-commerce

2.1. Cross-Border E-commerce and Traditional Trade

Cross Border E-commerce (CBEC) is a paradigm shift in international commerce where goods and services are exchanged across national boundaries [3]. CBEC is a digital platform and technology based at its core to replace business to customer (B2C) transaction without the involvement of traditional intermediaries and eliminating geographical constraints [4]. Data centricity, agility, and scalable operational model are the characteristic traits of this operational model [5]. CBEC in general, provides key mechanisms such as online marketplaces, digital payment systems and sophisticated logistics networks permitting seamless global transactions [6]. Reduction of operational costs, removal of physical storefronts as well as consolidating supply chains have made CBEC platforms offer competitive pricing and expand market reach exponentially.

On the flip side, traditional trade is based on set principles, physical infrastructure, and a distribution network as well as face to face contact. This model, which is historically significant in global economic activity by being wholly dependent on wholesalers, distributors and brick and mortar, has contributed immensely to the exchange of goods and promoted economic growth [7].

Traditional trade continues to be indispensable in the role of a channel of distribution to established industries based on large commodities, industrial equipment, and localized markets [8]. However, traditional trade's present position is being challenged by the fast adoption of digital technologies and the growing consumer preferences of the time in which the preference of consumers is moving towards the accessibility and convenience of CBEC. However, because CBEC has already taken a strong foothold in some sectors, the inherent inefficiencies of traditional trade's supply chains, as well as the higher operational costs, render these sectors less competitive in terms of traditional trade [9]. So, this is an evolving dynamic that requires a critical review on how traditional trade can start to adapt and start to include some kind of digital strategy in order to maintain its relevance in an increasingly interconnected global economy.

2.2. Taobao, Pinduoduo, Amazon, Alibaba: Market Share Dynamics

A limited number of platforms dominate the global cross border e-commerce landscape, different business strategies are used to tap into the market with the aim of capturing and expanding further in the market. Amazon, a leader in that field, leverages its powerful Fulfillment by Amazon (FBA) offering and its state-of-the-art dynamic pricing [10]. This approach has served, and continues to serve, the company well, generating massive turnover; international segment sales totalled \$131 billion in 2023 [11], which speaks to its worldwide presence and operational capacity. They have multiple revenue streams like the cloud computing and the digital media which sustains their profit margin in e-commerce sector and provide a competitive edge.

Alibaba serves the Asian market offering a B2B platform to connect manufacturers with international buyers, eliminating intermediaries and reducing costs [12]. Completely working out of the laissez faire system, Cainiao's logistics network cut down shipping times and trade expenses notably. The Alibaba International Digital Commerce (AIDC) Group recorded a 45 percent year-over-year revenue growth in the three months that ended March 31, 2024 [13]. This expansion is largely fueled by the rapid growth of AliExpress, which showcases the company's focus on direct-to-consumer sales.

Both Taobao and Pinduoduo have shown how agile they are on the Chinese domestic market and have efficiently captured a share. Alibaba's subsidiary Taobao has indeed been dominating the Chinese consumer market by tapping on its considerable user base and range of products available [14]. This has spiked turnover with its ecosystem, integrating a live streaming and social commerce. Its innovative group buying model and its focus on price sensitive consumers have propelled Pinduoduo into becoming a quick user base grower, particularly in rural areas [15]. Their operational

strategies, emphasizing social sharing and direct sourcing from manufacturers, have resulted in substantial market penetration.

All these platforms have increased their market shares through technological innovation, strategic partnerships, as well by data driven decisions. Amazon for customer experience and logistical efficiency [16]; Alibaba for B2B and logistics infrastructure; Taobao and Pinduoduo for social commerce; all helping to explain their sector leadership.

As these platforms continue to evolve, they have redefined the global e-commerce space by continuously updating their services to meet ever changing consumer preferences through technological advancements and have intensified the competition against traditional trade models.

2.3. CBEC Impact on Traditional Trade

The analysis of WTO data and industry specific reports conducted thoroughly shows that CBEC has disrupted traditional trade in a significant proportion. According to UNCATD, while global trade volumes are substantial, sectors including electronics and apparel are seeing no growth and decline [17], directly related to the expansion of CBEC. Traditionally, retailers devoted a great deal of time and effort to building product, branding, pricing and supply chains, and now they have customers identifying developments they have played their part in bringing about. UNCATD reports further confirms the increasing trend of consumers adopting the online shopping for their purchases [18].

Against all of CBEC's economies of scale, Small and Medium-Sized Enterprises (SMEs) are less competitive because of the higher operation and digital infrastructure costs that they experience. Rapidly, sectors of standardized goods are moving online and industries that involve personalized or industrial goods are still stable [19].

Regional disparities are evident. Generally, CBEC shows more pronounced shift towards the developed economies, where the digital infrastructure is quite advanced [20]. On the other hand, traditional trade still represents a major part of the whole economy in developing economies [21]. Therefore, no matter what the economic or technological context is, region specific optimization strategies are thus required.

2.4. Impact of Cross-Border E-commerce on Traditional Trade

CBEC has disrupted international trade by increasing pressure on the prices, consumer preferences, and the demolition of the old distribution network [22]. CBEC's simplified supply chains and direct to consumer models slash operational costs drastically, whereas AI driven dynamic pricing that Amazon models follows drastically forces traditional retailers with higher fixed costs and inability to react to price fluctuations quickly into unfavourable competition, shrinking their profit margins.

The behaviour of the consumer has changed completely towards the convenience offered online and towards the personalized experiences. Alibaba provides a more localized payment and logistics solution to its customers, and Amazon uses AI to recommend products to customers, pushing customers away from the traditional retail [23]. Traditional trade, bound by physical channels and static inventory, struggles to match CBEC's data-driven agility.

Moreover, CBEC disintermediation in the trade ecosystem through models like Alibaba's B2B and Amazon's FBA disrupt the distribution and wholesale channels. By achieving this cost reduction and efficiency gain for CBEC platforms, traditional intermediaries are marginalised, so the trade economy needs to transform on its basis. In sum, global trade is facing a fundamental change due to pressure from AI driven pricing, changes in consumer buying habits and removal of old trade roles [24].

2.5. Optimization Strategies for Traditional Trade

In order to be able to successfully resist the impact of the ubiquitous and revolutionary influence of cross border e-commerce (CBEC), traditional trade enterprises need to strategically optimize through a number of key dimensions and most importantly, under a seamless digital integration, bettering their supply chains efficiency, strategic collaborations, hyperlocalization and via brand

differentiation. This multifaceted approach is not an option, but a given for survival and continuous competitiveness in an ever more digitized global environment [25].

First, the ascendant trajectory of digital transformation necessitates a fundamental shift in how traditional businesses interact with their customers. It is key to provide omni-channel experience at large. It comes with a lot more than just going online, it needs to have strong and practical e-commerce applications which mirror and support the offline experience. Additionally, mobile applications developed using an easy deployment can give customers easy access to products and services. The strategic cultivation and continuous reinvention of a company's social media presence is equally vital in qualifying these platforms from mere players in the marketing department to actively engaging in creating customers, soliciting for feedback and building a community. Moreover, with Customer Relationship Management (CRM) systems and the utilization of bigger data analytics power at their disposal, traditional trade enterprises can gain a better comprehension of individual client inclinations and practices. With this granular insight, CBEC can offer more impactful and persuasive targeting within its marketing campaigns and ensure its intake is streamlined in inventory which minimizes waste and maximizes responsiveness, an aspect central to the ability of CBEC to run data-driven strategies.

Second, automation is no longer a futuristic concept but an actuality in the realm of supply chain management, which is the way to get to the operational excellence. By adopting intelligent warehousing and great sorting systems, order processing workflows can be streamlined, human error is minimized and fulfilment cycles are fast tracked [26]. A data driven supply chain needs complementing automation to further increase the supply chain agility. With the help of demand forecasting analytics, they can use the forecast to anticipate market fluctuations and adjust inventory levels proactively whereas real time tracking system gives complete visibility of the processes and therefore they can effectively solve problems before they become critical and make their response quicker. One must recognize the shortening of the patience levels among the modern-day customers who are accustomed to the rapid delivery timelines provided by CBEC companies and the traditional trade needs to work on the improvement of their logistics networks to keep pace with the market demands. This can be established through the establishment of strategic partnerships with trusted and effective distribution centres and thoughtfully thinking about overseas distribution centres. Such an investment in the logistical infrastructure can greatly reduce delivery times, enhance shipping costs and thus improve customer's satisfaction, where it bridges a vital gap in competitiveness against CBEC.

Third, for businesses that have been traditional and defensive, it's time to get out of the defensive mode and strike out and join forces with established online platforms if they wish to fully take advantage of the era of cross border e commerce (CBEC). Instead, they should advocate a proactive approach wherein CBEC leaders are looked at as not only competitors, but as potential growth and expansion catalysts. Traditional business can instantly leverage its existing list of product offerings that are not offered in a traditional environment, by listing on prominent marketplaces such as Amazon, Alibaba or their regional equivalent — to have access to a huge, diverse pool of consumers, compared to what independent online venture can attain organically [27]. In addition, this integration enables the use of CBEC giants' advanced and intricate logistics and fulfillment technology architectures that come from several years of continuous operating experience. This could make it easy for robust attributes, such as warehousing and order processing, international shipping and last mile delivery, to help an organization save on its various supply chain operational expenses and improve efficiency. The resulting synergy fosters the emergence of innovative hybrid business models. Featuring these integral traits of traditional businesses, like gnawed-on product knowledge, authentic brand status in particular areas, orchestrated relationships with clients, and the possibility to discover a one of a kind in person encounters – these models poetically combine the digital infrastructure and limitless reach of one of the finest e-commerce platforms with the inherent stalwarts of conventional businesses [28]. This collaborative strategy allows businesses, that are traditionally playing it safe and growing their business using traditional methods, to explore revenue

streams that were altogether unattainable before due to the geographical limitations or market constraints. This makes it possible for the firm to maintain a larger geographical footprint without the prohibitive costs incurred in setting up physical stores in other markets. At the end of the day, though by isolating themselves, traditional businesses lose out on a competitive advantage, not necessarily due to lack of innovation but rather because they fall short in making their product fit users' needs which only an equally distributed ecosystem can accomplish, and to improve businesses' resilience within the dynamic, increasingly digitalized global marketplace. This is not simply about survival; it's about leveraging the strengths of both traditional and digital commerce to create a more robust and expansive future.

Lastly, however, in an environment which is often characterized by CBEC's successful pricing strategies, brand differentiation turns out to be an indispensable element for the long-term success of traditional businesses. These enterprises need to break the mould and do more than just sell products and begin positioning themselves in a way that delivers a compelling and interestingly unique value proposition. It could be highly customized products designed according to the needs of individual customers, the appearance of exclusive and added value services that improve the overall customer experience or the enactment of immersive technology and memorable in-store experiences that cannot be reproduced in the digital realms. This can be done through superb storytelling to the target audience, that touches their hearts and mind, and by creating an active online presence that fosters loyalty and community within the brand [29]. Concentrating on how to build genuine connections with an unambiguously defined niche market will ensure business longevity and resiliency through the target consumers willing to pay higher prices in order to get quality service, and distinctive experiences.

3. Conclusion

Finally, this research proves how CBEC has deeply impacted traditional trade which, ultimately, calls for strategic adaptation. Analysis of the CBEC platform strategies and market data indicate that the efficiency of the CBEC based on digital technologies and streamlined operations is a challenge to the traditional business models. If traditional enterprises want to survive, they must undertake the process of digital transformation and improve their supply chains as well as cultivating a unique brand identity.

The findings emphasize that traditional businesses must integrate online platforms, make use of data analytics and improve their logistical abilities. Future research should analyse the long-term dynamic between CBEC and traditional trade to give a more comprehensive understanding of what will happen in the future in the regulatory landscapes and what could be the behavioural pattern of the consumers. The solution to these complexities will create a sustainable and balanced global trade ecosystem for the business and the policymakers.

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