Research on the Development Status, Problems and Strategies of Agricultural Products E-commerce Live Streaming Platform——Taking "EAST BUY" as an Example

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Abstract: As an emerging business model that supports the high-quality development of agriculture in China, live e-commerce is becoming a significant method for agricultural sales. Agricultural live streaming plays a crucial role in promoting rural revitalization and development, accelerating the transformation and upgrading of agriculture, enhancing the development of rural industries, and increasing farmers' incomes by opening new pathways. However, the live broadcasting of agricultural products currently faces several challenges, including a lack of visibility among in the supply chain concerning, lack of innovation and other issues. Therefore, this paper uses the agricultural live platform "EAST BUY" as a case study to explore the current development status of agricultural e-commerce live, identify existing problems, and propose corresponding strategic recommendations based on the three aspects.

Keywords: Agricultural products live streaming; Supply chain; Agricultural regional public brands

1. Introduction

The year 2024 is a pivotal moment for the implementation of China's 14th Five-Year Plan, representing a significant strategic opportunity to comprehensively advance rural revitalization and establish a digital China. The government explicitly outlined the strategy for rural revitalization in the report from the 20th Party Congress, emphasizing the prioritized development of agriculture and rural areas, the integrated growth of urban and rural regions, and the seamless flow of resources. This strategy aims to robustly promote the revitalization of the countryside across multiple dimensions, including industry, talent, culture, ecology, and organization. In this context, the rapid advancement of Internet technology particularly the deep integration of big data, cloud computing, artificial intelligence, the Internet of Things, and mobile Internet—has created new avenues for the development of rural industries and the enhancement of farmers' incomes. Big data has emerged as a crucial driving force behind rural revitalization. Live e-commerce, as an innovative business model, has demonstrated significant potential in the agricultural product sales sector due to its high interactivity, broad participation, and ability to overcome temporal and spatial limitations. According to New Possibilities for the Countryside: A Casebook for a Better Countryside, by the Rural Economy Research Center of the Ministry of Agriculture and Rural Affairs in collaboration with Tiktok Public Welfare, Shake e-commerce has facilitated the sale of agricultural products and specialties through 4.73 billion orders, averaging 13 million parcels dispatched daily to various locations. The number of agricultural goods merchants in China has surged by 83% year-on-year. This trend indicates that the new business model of live streaming + e-commerce + agriculture is progressively becoming a vital means to transform and upgrade agriculture, streamline the industrial chain, and enhance farmers' incomes.

Live streaming of agricultural products is rapidly developing in China, supported by both the government and state initiatives. However, the current landscape of agricultural product live streaming faces several challenges: it lacks popularity among consumers, constrained by supply chain limitations and suffers from a lack of innovation in the broadcasting approach. The "EAST BUY" in all three areas: it has effectively engaged audiences, supply chain and introduced innovative broadcasting techniques valuable insights for the industry. Therefore, this paper uses "EAST BUY" as a case study to examine the development status, challenges, and strategies of agricultural product live streaming platforms, aiming to offer a reference for the sustainable growth of e-commerce that supports farmers

and enhances agricultural product live streaming.

2. Literature review

2.1 Study on the path of live e-commerce to help farmers

Since 2016, government documents have highlighted the role of the Internet in enhancing the agricultural industry and promoting the sale of agricultural products. There is significant interest in how e-commerce can support agriculture and alleviate poverty. Notable examples of e-commerce-driven poverty alleviation, "Dangshan model" "Qingchuan model" "Longnan model" and other successful e-commerce initiatives have also emerged[1]. Live streaming e-commerce, a model that integrates traditional e-commerce with live broadcasting technology, offers a unique opportunity for revitalizing the rural economy. This approach enhances the rural economy through a multi-dimensional strategy that creates a new business model. It combines the sale of agricultural products with the rural tourism industry and incorporates innovative educational methods to support rural education[2]. Various types of live streaming platforms, such as Taobao's broadcasting program Temu's cooperation, live broadcasting to help farmers have gradually infiltrated the agricultural sales sector through live streaming. These platforms have emerged as a novel form of e-commerce aimed at supporting farmers[3].

2.2 Research on optimization and upgrading of agricultural live marketing model

Early agricultural e-commerce models primarily include the O2O model, the Internet community model, and the information-integrated service intermediary model[4] . Live streaming with goods has emerged as a new mode of e-commerce in recent years. It can be classified according to the type of anchor into three categories: origin live, live, and official live.[5], according to various platform carriers, such as Temu, Taobao, JD, and other transactional platforms, live marketing is also prevalent on entertainment platforms like Kwai and Tictok. The new model of agricultural e-commerce, which combines "agricultural products + live streaming," facilitates the transformation and upgrading of agriculture through instant interaction and intuitive displays. This approach effectively converts potential customers and demonstrates the positive impact of digital technology in integrating traditional agriculture[6]. To effectively utilize   products + live, scholars have suggested establishing a long-term regulatory mechanism, enhancing content marketing to differentiate live broadcasts, and optimizing the supply chain system to foster multi-party cooperation, among other strategies to maximize its effectiveness.[5-7].

2.3 Research on the influencing factors affecting the willingness to buy agricultural products

The influence of female anchors and those with official status on the growth of fresh produce e-commerce is more pronounced[8]. The professionalism and interactivity of the anchor characteristics positively influence consumer trust, which, in turn, enhances consumers' willingness to purchase agricultural products[9]. The number of anchor fans, audience likes, live products, and the duration of live broadcasts all have a significant positive impact on sales[10]. The visibility, expression, and shopping guidance provided in the live streaming context all contribute to enhancing customer immersion, sense of presence, and consumer trust[11], and the live streaming of the scene during the picking process, along with the real-time display of product information, aligns with consumers' goals of completing their shopping. This approach is more likely to capture consumers' interest and encourage purchases[8]. Knowledge-driven live streaming events, on the other hand, impact the sales of fresh produce by facilitating knowledge transfer, providing content-rich interactive experiences, and fostering trust in the host[12].

2.4 Research on agricultural supply chain

The current supply chain for products + live streaming can be categorized into two modes: the direct supply mode from the origin and the processing and storage mode from the origin[13], With the integration of live streaming e-commerce, a live streaming component has been incorporated into the agricultural supply chain, which typically consists of the   side - live streaming side - platform side - consumer side. of the agricultural supply chain[14]. In comparison to traditional agricultural e-commerce models, live broadcast e-commerce primarily enhances the integration of the agricultural supply chain through its attraction and brand effects[15]. Consequently, Hua Yongjian suggests implementing

measures to construct the supply chain in a reverse direction, focusing on digitalization, flexibility, flattening, and three dimensionality. These measures include strengthening the digital sharing of information across the entire chain, utilizing big data to predict demand, establishing a robust ecosystem for professional division of labor and cooperation, and improving the supporting services of the supply chain[13].

At present, research on live agricultural product marketing primarily focuses on the pathways that assist farmers, the live marketing model, factors influencing live agricultural products, and the role of live streaming in the supply chain. The subject matter is relatively narrow, with limited discussion on the diverse range of agricultural products involved in live streaming. Additionally, as live e-commerce emerges as a new business model, it is reshaping the traditional e-commerce perspective of goods, and field. long-term sustainable development, it is essential to implement comprehensive strategies that address all three aspects: people, goods, and field.

3. The current situation and problems of the development of agricultural live streaming platform

However, the live streaming of agricultural products faces several challenges, including insufficient regulation, quality issues, significant content homogenization, and inadequate supply chain infrastructure. These factors hinder the healthy and sustainable development of live streaming in the agricultural sector. The industry chain of live agricultural product e-commerce encompasses various components, including platforms, users, anchors, supply chains, and brands. Compared to traditional e-commerce, this industry chain involves a greater number of participants, while the supply chain has become more streamlined. This reconfiguration alters the traditional e-commerce perspective of the relationships among these three elements. The core objective is to enhance business activities and marketing efforts to achieve higher efficiency, lower costs, and greater value by redefining the interactions between people, goods and field.[16].

"EAST BUY" as a self-managed platform for live sales of agricultural products, accounted for over 70% of its sales in the agricultural products category in 2023. The total trade in goods exceeded 1.2 billion. In terms of sales, traffic, and popularity, of agricultural products. Therefore, this paper uses Oriental Selection as a case study to compare the successful trajectory of "EAST BUY" from the lens of people, goods and field, to explore the challenges faced by agricultural live sales platforms.

3.1 Lack of popularity and professionalism in "people".

3.1.1 Low professionalism of the anchor with goods

Agricultural product live streaming features five types of participants: farmers, officials, netizens, celebrities, and full-time anchors from enterprises or brands. In contrast to other forms of live streaming, many anchors in agricultural product live streaming lack professional knowledge in agriculture or live streaming techniques. This deficiency poses a significant constraint on the growth of agricultural product live streaming. These anchors often struggle with the platform's operational mechanisms, making it difficult for them to effectively communicate product information to consumers, address purchasing inquiries, and create innovative, differentiated live streaming content. "EAST BUY" is transformed from the education sector, employs anchors who are neither professional presenters nor agricultural experts. However, they possess a diverse range of knowledge and strong language and logical skills. For instance, Dong Yuhui can seamlessly switch between Chinese and English to explain products and share the stories behind them. By leveraging a unique combination of cultural knowledge, and live product demonstrations, content that captivates viewers. Unlike the typical style of product promotion, which relies on limited-time offers and other stimuli, anchors of "EAST BUY" use language and tone to vividly depict scenes, craft romantic imagery, and provide higher emotional value. This approach fosters a strong emotional connection with the audience, ultimately driving consumer engagement and sales[17].

3.1.2 Lack of professional live streaming team

The development of e-commerce for agricultural products relies heavily on a substantial pool of e-commerce professionals. Successful live streaming of agricultural products depends not only on the expertise of the host but also on the comprehensive processes behind the scenes, including product processing, packaging, logistics, and after-sales services. Currently, the scale of training for agricultural live streaming talent is relatively limited, with most individuals operating independently and lacking professional guidance. Additionally, supporting facilities and policies are insufficient, leading to

inconsistent quality in live streaming, delayed logistics, and inadequate after-sales service. This situation hinders the formation of a professional team capable of adapting to the rapid growth of agricultural e-commerce and meeting market demands. In contrast, "EAST BUY" is a proprietary platform, in addition to its live streaming team, boasts a professional behind-the-scenes team responsible for operations, equipment management, product selection, delivery, and after-sales support. This comprehensive approach ensures that the self-owned products maintain stability and control throughout the research and development, production, manufacturing, logistics, delivery, and customer service processes, earning recognition and trust from consumers.

3.2 Supply chains are constrained

3.2.1 The quality of agricultural products is difficult to guarantee.

In the live broadcast process, consumers cannot directly touch or taste the products, so their perception of product quality relies heavily on the descriptions and displays provided by the host. Consequently, their understanding of product quality is influenced by these representations. High quality is crucial for building consumer trust, enhancing brand image, and reducing after-sales costs. However, the current live broadcasts of agricultural products face several challenges, including spoilage, pesticide residues, and other food safety concerns. Additionally, issues such as exaggerated marketing claims, discrepancies between advertised and actual products, unclear product features, severe homogenization, and inadequate after-sales service persist. At the product level, "EAST BUY" as a pioneer of self-owned brands in live e-commerce, emphasizes high-quality, cost-effective products with excellent value. Their popular offerings include grilled sausages and fruit corn. To date, they have launched over 400 self-managed products and continue to expand their product categories. The integration of tourism + special selection the differentiation of agricultural products. The company has also invested ten million dollars to expand its self-managed grilled sausage factory, aiming to strengthen the production and research and development of its self-managed products, as well as improve product quality.

3.2.2 Lack of brand awareness

Agricultural product marketing is not only a means of sales but also a process of branding and establishing consumer trust. Agricultural branding has gradually become a crucial factor in enhancing the competitiveness of agricultural products in the market, promoting structural reform on the agricultural supply side, and increasing farmers' income. Currently, brand awareness of agricultural products is weak; the product offerings are complex, the characteristics of the product brand image are not prominent, the scientific and technological content is low, and the added value of the products is minimal. Additionally, the homogenization of products and packaging makes it difficult for agricultural products to achieve a strong brand effect. "EAST BUY" has private flow and supply chain capabilities, along with favorable branding conditions. Its intrinsic cultural attributes and unique content enhance its brand communication value. By opting for self-managed products instead of agency products and focusing on high-quality, cost-effective offerings, further strengthens its brand positioning.

3.2.3 Insufficient supply chain informationization, low-organization degree and weak resource integration ability

Although the supply chain for agricultural products in live e-commerce can facilitate integration, the current supply chain still faces several challenges during this process. These challenges include a low degree of standardization for agricultural products, inadequate organization within the supply chain, and lagging agricultural logistics and informatization infrastructure [15]. As a result, information barriers persist, leading to asymmetric information among supply chain participants and a lack of transparency. These issues contribute to unstable product quality and low overall efficiency within the supply chain. The supply chain model of "EAST BUY" has a specialized team is tasked with research and development, testing, product selection, warehousing, logistics, and production supervision throughout the industry chain. SF is responsible for warehousing and distribution services, while JD Logistics provides integrated supply chain solutions that encompass logistics and distribution networks across the country. This high level of organization from the industrial chain to each link in the supply chain not only enhances supply chain capacity but also reduces costs and improves efficiency.

3.3 Lack of innovation in the "field"

3.3.1 Lack of professional live agricultural products platforms

The agricultural products live streaming platform encompasses not only technical support platforms such as Jittery, Taobao, and Kwai, but also organizations that provide e-commerce services for agricultural products. Live streaming for agricultural products often arises from spontaneous personal behavior, where anchors create content to promote and sell goods. This process typically operates as an independent unit within the live platform. The same individual may handle everything from anchoring to product selection, delivery, and after-sales service. However, this model often lacks professional technical support, team collaboration, service management, and content quality. For example, "EAST BUY" is a live streaming platform dedicated to agricultural products. It excels in incubating and managing anchors at both the live and content levels. The platform effectively manages live content tone and field control, leveraging stronger business resources and investment promotion capabilities. Additionally, it demonstrates robust supply chain management skills in areas such as product selection, quality control, logistics, and after-sales service.

3.3.2 Single live scene and lack of content

The term not only the live platform but also the live scene and environment. Video technology enhances e-commerce live streaming by creating a personalized virtual shopping space that transforms the shopping experience into an immersive replicates the offline shopping experience, including product displays, introductions, and interactive promotions, thereby providing remote shoppers with a of presence and encouraging deeper consumer engagement. Currently, the agricultural live scene is overly simplistic, often relying on original ecological settings that may not be visually appealing. The lack of aesthetic beauty in the live background diminishes the visual impact of agricultural live streams and can lead to consumer fatigue. To address this, "EAST BUY" aims to enhance cultural tourism through a live broadcasting format that showcases the unique characteristics of selected products. This approach seeks to diversify the live experience, providing a greater sense of originality and authenticity.In May, it total sales of 130 million yuan through its live streaming of Shanxi specialties, which included local agricultural and cultural tourism products. This initiative successfully merges branding with tourism and agriculture, creating a unique model of "tourism-type shopping".

4. Strategy Research

4.1 Improve the professionalism and influence of anchors

4.1.1 Improve the professionalism of anchors and enhance their moral and legal awareness.

Consumers in the e-commerce live streaming environment transition from active consumption to passive consumption. In active consumption, the search and selection process is a lengthy brand engagement journey. However, in passive consumption, factors such as the popularity and charisma of the host, their professionalism, credibility, interactivity, and sense of presence encourage viewers to watch the live stream and stimulate their intention[9,19-20]. Anchors must possess a comprehensive knowledge base to fully understand the product. They should have strong communication skills to convey information about the product logically and clearly. Additionally, anchors need to enhance their interaction with consumers to establish an emotional connection. It is also essential for them to comply with relevant laws and regulations to ensure the smooth operation of live streaming and to clarify the legal boundaries to promote the healthy development of the industry.

4.1.2 Build a platform for live streaming talent development

Online celebrity endorsements and product consistency can enhance consumer attitudes toward products by fostering stronger emotionally motivated reasoning[21], the current phenomenon of over-reliance on government officials, online influencers, and celebrities in the field of agricultural product live streaming, combined with the industry's standardized access thresholds, has created significant challenges for the professionalism and innovation of agricultural live streaming. To promote the sustainable development of agricultural live streaming, it is crucial to establish a synergistic mechanism involving schools, government, and enterprises. Through the school-government-enterprise alliance, which focuses on supporting returning entrepreneurs, college students, rural youth, and professional e-commerce training organizations, the company employs a diversified teaching model that combines "theory + practice" and "online + offline" approaches. The diversified teaching model of

+ practice + offline to systematically instruct students in the fundamental skills of live streaming, broadcasting strategies, practical exercises, data analysis, and optimization, among other core competencies. This approach aims to establish a new talent training platform for the economy and a professional live streaming team that connects the government, new farmers, and enterprises, thereby creating a comprehensive chain of   products, networks, and stores.

4.1.3 Dialect Culture Integration and Storytelling Marketing

The successful model of "EAST BUY"demonstrates that the live broadcast of agricultural products should prioritize knowledge empowerment and linguistic innovation, achieving specialization and differentiation through the avenue of interest-based e-commerce. The key lies in accurately identifying the characteristics and distinctions of the products. Research indicates that spatial presence can elicit positive dialect effects; thus, when promoting highly representative local products, the use of local dialects can significantly enhance consumers' willingness to purchase[22]. To ensure the professionalism of live broadcast content, broadcasters can skillfully integrate local dialects and cultural resources. By leveraging the affinity and uniqueness of these dialects, they can attract consumer interest while reducing the psychological distance to local agricultural products. This approach not only promotes and preserves regional culture but also serves as a vital strategy for enhancing the competitiveness of live broadcasts through differentiation. Additionally, it contributes to the preservation of traditional handicrafts, the production of rural foods, and the daily life of the countryside. By delving into the interesting stories of rural history, culture, and characters, broadcasters can showcase the unique charm of rural areas while simultaneously enhancing the interactivity and authenticity of their broadcasts, thereby establishing an emotional connection with the audience.

4.2 Supply chain optimization

4.2.1 Strengthen quality control to improve product quality

Agricultural product quality and safety are crucial components of food safety and play a vital role in transforming agricultural development and advancing agricultural modernization. Currently, agricultural products lack a genuine offline shopping experience, which means that consumer perceptions of product quality rely heavily on the anchor's presentation and description. Therefore, anchors should provide honest and detailed explanations of the products to avoid exaggerated claims that may not align with consumer expectations. To ensure consistency in product quality between online and offline sales, agricultural producers must enhance standardization, adopt green production practices, maintain stable quality control, and offer timely after-sales service. Furthermore, it is essential to strictly adhere to relevant laws and regulations to guarantee food safety.

4.2.2 Strengthen brand awareness and build geographical indication agricultural products and regional public brands

Branding is essential for the high-quality development of agriculture. The construction of regional public brands, as a key aspect of agricultural branding, serves as a vital engine for deepening structural reforms on the agricultural supply side and enhancing the industry's competitiveness and overall benefits. The emergence of new media, such as live streaming and short videos, has expanded the channels and effectiveness of brand dissemination, providing robust support for brand development. Agricultural product cultivation is characterized by a low degree of organization, with production being small-scale and scattered. By collaborating with the government to emphasize the unique features of agricultural products with geographical indications agricultural products, landmark agricultural processing, and landmark cultural brands, such as "Anhua black tea" "Xinhui tangerine peel", etc. Through the three avenues of landmark agricultural product branding, landmark agricultural product processing branding, and landmark cultural branding, we collaborate with live streaming initiatives to establish a regional public brand for agriculture. This approach aims to integrate resources, enhance the market influence of regional agricultural products, and improve the organization and scale of the agricultural industry. Additionally, we seek to promote the further development of agricultural product live streaming through the positive impact of branding.

4.2.3 Improve the degree of digitization of agricultural supply chain and integrate resources

In addition to the leading enterprises in the agricultural supply chain, a significant number of small and micro-enterprises, individual entrepreneurs, and traditional businesses exhibit a generally low level of informatization. Their internal organizational structures, business processes, and methods of information transfer are insufficiently equipped to meet the demands of modern digitalization. The key

to bridging the gap between the upstream and downstream segments of the agricultural supply chain lies in digitization. The digital transformation of upstream participants must be grounded in information infrastructure, including big data, cloud computing, the Internet of Things, and intelligent terminals. This transformation should involve more comprehensive data collection focused on business processes, production processes, and organizational workflows. The goal is to establish a holistic digitization system encompassing consumers, products, services, marketing, channels, and logistics, thereby fully integrating the entire supply chain system and enabling complete access to its data. Furthermore, to address the lack of professional logistics and supply chain support for live sales, the government should consolidate local resources, strengthen the county supply chain framework, optimize the logistics network and infrastructure, and assist in resolving supply chain challenges.

4.3 Innovative live streaming scenarios

4.3.1 Choose a good live streaming platform and design the live streaming content according to the platform characteristics

According to the characteristics of agricultural products and the target audience, it is essential to choose a suitable live broadcast platform. For instance, if the target market consists of the urban middle class and above, you can choose "Xiaohongshu"; if consumers prefer entertainment, they can choose Tiktok. If the target market is third- or fourth-tier cities, you can choose "Kwai". If consumers focus is on commodity trading, they can choose "Taobao". At the same time, according to tailor live and short video content to the unique characteristics of each platform to attract traffic. Xiaohongshu emphasizes the quality of goods, with a focus on selecting appealing images and crafting engaging copy. Tiktok can attract viewers through storytelling, highlighting the fun, entertainment, and interactivity of live broadcasts. Kwai is known for its cost-effective content, which can be slightly exaggerated for effect. Taobao, on the other hand, centers on commodity trading, with live broadcast content that provides detailed explanations of product information, showcasing a comprehensive range of agricultural products, including their appearance, color, size, and other details to facilitate consumer purchases.

4.3.2 Enrich the live streaming scene and strengthen the aesthetics of the live streaming environment

As a core element of agricultural product live streaming, the live streaming environment plays a crucial role in enhancing the consumer viewing experience, building consumer trust, and increasing product appeal. Enterprises can showcase the authentic planting environment, harvesting process, soil conditions, water sources, and more through on-site live broadcasts, thereby enhancing the realism and credibility of their products. They can create diverse scenes tailored to the characteristics of the agricultural products, decorating the live broadcast space with natural elements such as bamboo baskets, wooden frames, and dried flowers to evoke a pastoral atmosphere. Additionally, incorporating interactive features such as Q&A sessions, lucky draws, and sampling demonstrations—from the harvesting stage to the final product—can make the live streaming experience more engaging and interactive. This enriches the scene's transformation, further enhancing the attractiveness and competitiveness of agricultural product live broadcasts, ultimately promoting sales and brand recognition.

5. Conclusion

In the practice of live streaming to assist farmers, the platform has become a vital link between farmers and consumers, facilitating the sale of agricultural products and increasing farmers' income levels. However, challenges persist, including an over-reliance on specific individuals (such as government officials and netizens), a lack of support from professional live broadcast teams, weak brand recognition, and insufficient supply chain digitization, which hinder long-term sustainable operations. To achieve sustainable development, it is essential to implement comprehensive measures focusing on three key areas: people, products, and fields. This can be accomplished by establishing a training platform for live streaming talent, enhancing the visibility of agricultural products with geographical indications and regional public agricultural brands, integrating supply chain resources, and innovating live content and presentation formats. These efforts will contribute to the prosperity and growth of the agricultural live streaming industry.

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Author contributions

Yuanfang ZHU is in charge of developing the research framework, collecting the data, analyzing the data, and writing the paper. Liu HE was in charge of improving the research framework, paper revision and optimization, data proofreading, etc. Data collection and analysis were aided by Weijian HU and Juntao LI.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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