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Institutional Signals, Consumer Trust, and Price Premium: Evidence from Dewu's C2B2C Pre-Authentication Model

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Abstract. The rapid expansion of China's e-commerce market has been accompanied by a growing counterfeit problem in high-value categories, causing a widespread trust crisis among consumers. Under such circumstances, the C2B2C platform Dewu has risen through its pre-authentication model, in which the platform assumes physical verification responsibility and transforms the locus of trust from individual sellers to platform institutions. This study takes Dewu as an example and integrates signaling theory with institution-based trust theory to analyze the transmission chain from institutional signals to consumer trust and price premium capacity. Through an analysis of the platform's operational process, the study finds that institutionalized signals, including authentication processes and certificates, could alleviate information asymmetry, reduce perceived risk, and sustain a stable price premium in product categories with high risk of counterfeiting. However, this mechanism's effectiveness is also influenced by different product categories, authentication quality consistency, different consumers' tolerance towards delays, and expansion costs. The study offers a theoretical framework for understanding C2B2C platforms.

Keywords: Institutional signals, consumer trust, price premium

1. Introduction

In recent years, the Chinese e-commerce market has continued to expand, but the problem of counterfeit goods also becomes increasingly prominent. In high-value categories including sneakers, luxury goods, and designer toys, the counterfeiting industry chain has posed a great threat to consumer rights and market order, triggering a widespread trust crisis. Against this background, the C2B2C platform Dewu rises through its pre-authentication model, transforming the platform from a mere information-providing intermediary into one that also assumes the responsibility for verification. This model aligns with the core demands of young Chinese consumers. They are not only driven by trend culture but also attach great importance to authenticity guarantees and transaction transparency during the shopping process. Therefore, they are willing to pay a premium for a safe and reliable consumption experience.

Existing studies on consumer trust and e-commerce platforms have accumulated substantial findings. However, the majority of them focus on conventional B2C or C2C models, while giving less attention to the C2B2C model, where the platform serves as an intermediary that physically

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authenticates products. In particular, few studies have integrated signaling theory and institution-based trust theory to analyze the chain from institutional signals to consumer trust and price premium. Taking Dewu as an example, this study aims to fill this gap by demonstrating how the pre-authentication model builds sustainable price premium through institutional signals, also identifying the boundaries and challenges of this model. This study addresses two core questions. First, through what specific mechanisms the pre-authentication model shape consumer trust. Second, how does trust influence consumers' tolerance towards the loss of delivery time and affect their willingness to pay.

2. Theoretical framework

2.1. Consumer trust theory

McKnight, Choudhury, and Kacmar conceptualize consumer trust as a four-dimensional structure, including institution-based trust, trusting beliefs, trusting intentions, and trusting behaviors [1]. Institution-based trust, the consumers' perceived reliability of the environment encompassing guarantees, rules, and technological safeguards, serves as the antecedent condition upon which the remaining dimensions are formed. In conventional C2C platforms (e.g., eBay, Xianyu), consumers rely on interpersonal signals such as seller reputation scores to infer trustworthiness, producing trust that is essentially an online extension of interpersonal trust. However, in high-value and high-counterfeit-risk categories, the lack of structural safeguards hinders the reduction of information asymmetry and perceived risk [2].

The institutional innovation of the C2B2C model lies precisely in the systematic shift in the locus of trust. By mandating platform intervention at critical junctures, including authentication, escrow, and fulfillment, the platform substitutes institutional commitment for personalized commitment, enabling consumers to complete transaction decisions on the basis of trust in platform rules instead of trust in unfamiliar sellers [3]. The causal effect could be interpreted as: institution-based trust reduces consumers' perceived risk with respect to transaction uncertainty, thereby strengthening trusting intentions, which ultimately leads to greater purchase intention. Quintus et al., empirically confirm this transmission pathway in cross-market e-commerce research [4]. This causal chain constitutes the theoretical point of departure for the "signal–trust–premium" argument of the present study.

2.2. Signaling theory

The fundamental transactional barrier of the online market originates in the "lemons problem" identified by Akerlof. Under conditions of information asymmetry, sellers' private information regarding product authenticity cannot be effectively observed by buyers, resulting in adverse selection and market contraction [5]. Information asymmetry thus constitutes a significant constraint on online markets and is the root cause of the difficulty in spontaneously forming institution-based trust. Spence's signaling theory provides a solution: if the information-advantaged party can transmit a signal whose counterfeiting cost exceeds its benefit, that signal serves as a credible quality guarantee [6]. Pandey, Mittal, and Chawla found that website quality features such as the authentication process and clear return or exchange policy could significantly enhance consumers' perceived product certainty (PPC) [7]. This stronger sense of certainty positively affects consumers' purchase intention.

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Dewu's authentication mechanism is the institutional embodiment of this theory in a C2B2C context. After a seller ships a product, the platform mandates intervention by professional authenticators applying multi-dimensional criteria (material composition, craftsmanship, anti-counterfeit chip, packaging details). Products that pass are affixed with a uniquely numbered authentication certificate and anti-counterfeit tag before dispatch to the buyer [8, 9]. The credibility of this signal depends not only on the platform's guarantee of authenticity, but also on costly practices that are difficult to forge, including investment in authentication systems, expensive testing equipment, and individually bound certificate serial numbers. For example, Dewu has already invested millions of yuan in building a research-grade laboratory accredited by the China National Accreditation Service for Conformity Assessment (CNAS) [8]. According to Spence's signaling theory, these practices constitute a "separating equilibrium" and help consumers distinguish authentic sellers from fake ones, since fake sellers usually cannot afford to copy such investments [6].

The generated institutional signals exert a dual effect on consumer cognition. On one hand, authenticators' professional judgment renders previously private authenticity information public, reducing information asymmetry between buyers and sellers and alleviating the cognitive burden of adverse selection [7]. On the other hand, authentication certificates and traceable credentials function as transparency mechanisms that compress consumers' multi-dimensional perceived risk. Youn, Hwang, and Ju demonstrate that platform transparency mechanisms significantly reduce consumers' overall shopping uncertainty in the second-hand luxury market [10]. The institutional signals thus function in the following way: by reducing information asymmetry, they narrow the perceived risks, which converts into a belief in the reliability of the platform's rules, rather than directly generating trust.

2.3. Price premium capacity

The platform's price premium capacity derives not from the product itself, but from shaping consumer's value perception through institutional mechanisms. In conventional e-commerce, price differentials for identical SKUs across channels reflect operational factors. By contrast, the C2B2C premium is different: consumers' willingness to pay (WTP) more on Dewu constitutes compensation for the institutionally authenticated credibility.

The foundation of this logic resides in the conversion pathway of trust in institutions bringing a higher perceived value. Institution-based trust compresses consumers' uncertainty expectations regarding authenticity and fulfillment, making them more willing to price goods closer to a risk-free level. Authentication certificates and anti-counterfeit tags as tangible transparency carriers are further incorporated into consumers' overall value assessments. The price premium, institutional signals, and institution-based trust are therefore not parallel but successive stages of the same causal chain established in Section 2.2.

Dewu's authentication mechanism provides two-tiered support for the premium: at the transaction level by enhancing WTP through reduced decision uncertainty, and at the market level by enabling goods bearing the authentication certificate, anti-counterfeit tag, brand packaging, and sealing tape to achieve stable recognition in the secondary market [9]. This premium capacity holds only when no equivalent credible alternatives exist outside the platform and consumers internalize authentication costs as value.

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3. Analysis of Dewu's pre-authentication model

3.1. Operational process of Dewu's pre-authentication model and comparison with similar platforms

Dewu's pre-authentication model restructures the conventional two-party transaction into a "three-party institutional loop" (seller–platform–buyer), embedding the platform as a physical rather than merely informational intermediary across eight sequential stages: item-by-item receipt, quality inspection, photographic documentation, multi-stage authentication, individual tag attachment, re-inspection, anti-counterfeit packaging, and dispatch. The whole process is supported by a CNAS-accredited authentication laboratory [8].

Different stages perform differentiated functions. The signal transmission function is performed by multi-stage authentication, individual tag attachment, and anti-counterfeit packaging, compelling the supply side to incur observable compliance costs and releasing a separating signal of willingness to submit to institutional review. The trust production function is performed by fund escrow and performance liability mechanisms: sellers ship goods to the platform for authentication, with genuine items forwarded to buyers and counterfeits returned, while the platform deducts a comprehensive commission and authentication service fee. Together these constitute the credibility foundation of the institutional signals theorized in Section 2.2.

Although StockX also adopts pre-authentication, it differs from Dewu in two key dimensions. First, Dewu's authentication signals exhibit a higher degree of signal materialization: certificates and anti-counterfeit tags as portable credentials enable trust to circulate beyond the platform interface in the secondary market, whereas StockX's "verified" label is more closely tied to its platform account system with weaker cross-platform transferability. Second, Dewu has embedded a comprehensive authentication standardization system through joint research teams with institutions including the Shanghai Inspection Company, the Gemmological Institute of China University of Geosciences (Beijing), and East China University of Science and Technology, and has co-issued the country's first group authentication standard in the domain of athletic footwear, cosmetics and luxury watch [8, 11]. The differences of signal materialization and institutional standardization depth together elevate authentication from a service into a fully observable institutionalized process.

3.2. From institutional signals to purchase intention

Trust in Dewu's platform operates not as a linear relationship that signal could directly lead to purchase but as a mechanism chain of multiple factors. At the causal origin, institutional signals that include authentication processes, authentication certificates, anti-counterfeit tags, and fulfillment constraints act upon the information asymmetry structure confronting consumers, partially publicizing previously private authenticity information and substantively attenuating information asymmetry [7]. This attenuation reduces consumers' subjective estimates of authenticity risk and performance risk, compressing perceived risk as the second mediating link. Quintus et al. found that higher trust is associated with lower perceived risk, while higher perceived risk negatively affects consumers' willingness to purchase [4]. On this foundation, institution-based trust is activated as the third link, ultimately driving purchase intention. The core causal chain could be summarized as follows: institutional signals reduce information asymmetry, which lowers perceived risk, strengthens institution-based trust, and increases purchase intention.

Three moderating mechanisms operate simultaneously. First, social proof plays an important role. Community reviews and user-generated unboxing posts reinforce consumers' confidence in the

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platform because they provide additional confirmation from other users that the platform's rules and authentication system are effective. In this way, individual trust becomes supported by collective user experience. Second, institution-based trust can reduce consumers' sensitivity to time costs. When consumers strongly trust the platform, they may interpret delivery delays not as a problem, but as evidence that the authentication process is being carefully carried out. In this case, waiting time is transformed from a perceived cost into a visible sign of commitment. However, this effect has limits and depends on certain conditions, which will be further discussed in Section 4.2. Third, trust can collapse asymmetrically. Negative authentication mistakes that spread through social media can seriously damage institution-based trust, because trust construction requires long-term signal consistency whereas trust destruction requires only a small number of highly salient negative events. Therefore, the stability of this mechanism depends on three conditions: consistent signal quality, genuine social proof that is not manipulated, and the lack of equally credible alternative mechanisms. If any of these conditions fail, the platform's trust capital may rapidly depreciate.

3.3. Category heterogeneity in consumers' willingness to pay a price premium

The price premium derives not from products' physical scarcity but from the value compensation generated by transaction certainty. In high-counterfeit goods categories of high information asymmetry, the price differential consumers pay constitutes compensation for the elimination of information asymmetry, Youn et al. have already confirmed that transparency mechanisms jointly enhance adoption intention by reducing uncertainty expectations and improving perceived value of the platform [10]. This premium mechanism involves a key trade-off between greater certainty and slower delivery caused by the "authenticate first, ship later" model. In categories with strong symbolic value and high risks of counterfeiting, such as sneakers, luxury goods, and designer toys, authenticity uncertainty constitutes the dominant purchase anxiety. In these cases, the certainty provided by authentication certificates is far more valuable than the inconvenience of delayed delivery. Consequently, the entire mechanism chain works smoothly and sustains a stable price premium. In standardized and time-sensitive categories such as cosmetics and fast-moving consumer goods (FMCG), the marginal utility of certainty declines rapidly while delivery time becomes more important. As a result, the mechanism chain becomes weaker at both the "perceived risk compression" and the "institution-based trust activation" links, making it difficult for the premium mechanism to function successfully.

Dewu's premium capacity is therefore not universal but depends on specific product categories. In essence, the premium model can remain sustainable only if Dewu continues to provide stable and trustworthy authentication signals in categories where counterfeit risk and information asymmetry are especially high.

4. Limitations and practical challenges

4.1. The limits of authentication quality consistency

Authentication quality consistency is the weakest link in Dewu's institution-based trust system and the point at which the "signal–trust" transmission chain is most likely to break down.

The problem can manifest in several ways, such as the same product receiving different authentication results in different batches, uneven standards across product categories, or disagreements between human authenticators and testing equipment.

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Given the significant craftsmanship variation and rapidly evolving counterfeiting techniques across sneakers, luxury goods, designer toys, and electronics, each category requires its own standards library and professional training system. Unfortunately, standardization development usually lags behind category expansion. The more categories the platform adds, the harder it becomes to maintain consistent authentication quality.

Declining authentication consistency erodes institution-based trust through two corresponding pathways in the causal chain of Section 3.2. First, standard inconsistency disrupts the stable signal-quality mapping, preventing consumers from reliably inferring quality from certificates and causing the chain to fail at the information asymmetry reduction link. Second, a single misjudgment amplified through social media triggers asymmetric trust collapse. Both pathways converge on a single conclusion that authentication consistency is the foundation of institutional signal credibility, and its stability directly determines the load-bearing capacity of the entire trust chain.

4.2. The limits of consumer tolerance for authentication delay

Dewu's pre-authentication model embeds a trade-off between institution-based trust enhancement and delivery delay. How consumers respond to this trade-off depends on the type of product being purchased, consumers' level of trust in the platform and service, and the characteristics of different users.

As established in Section 3.3, high-price, high-symbolic-value categories sustain the trust premium under delay, while low-price, time-sensitive categories cannot. Moreover, Ngo et al. further show that different logistics service quality (LSQ) dimensions affect Generation Z consumers' trust in different ways: convenient return services and effective handling of order problems have a stronger positive effect on trust than delivery speed itself [12]. This finding suggests that characterizing delay tolerance through timeliness alone is insufficient, since LSQ effects on trust are multi-dimensional. There are also differences between different user groups. Collectors and investors are more concerned about authentication certainty and exhibit low time sensitivity. By contrast, users who want products for immediate use tend to value fast delivery more than authentication certainty.

In short, consumers will accept the authentication delay only when three conditions hold simultaneously: the product is high-value and symbolically meaningful, the purchase is not time-sensitive, and the consumer prioritizes certainty over speed. When any of these conditions is absent, the delay becomes a liability rather than a signal of commitment. It is also worth noticing that this absorptive effect has limits. The more a platform stretches authentication delays or applies this model to categories where the conditions do not hold, the more it depletes consumers' willingness to wait, until the mechanism eventually stops working.

4.3. The limits of replication and extension of the model

Dewu's expansion boundaries are endogenously determined by the cost structure of its institutional signals, rendering the model significantly non-replicable. This differs structurally from the category constraints of Section 3.3 that concerns which categories sustain a premium. It discusses under what conditions the authentication mechanism is economically available.

At the level of overseas expansion, localization of authentication standards, multi-stage fragmentation of cross-border logistics, and jurisdictional heterogeneity in market regulation collectively undermine execution consistency of the pre-authentication model. Zhang and Pertheban found that logistics reliability and host-country regulatory environment are the core determinants of

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consumer cross-border trust, with significant cross-national variation in factor weights, which becomes the constraint on Dewu's international expansion [13]. When authentication services expand across different countries and regions, the risk of misjudgment increases accordingly. At the same time, the cost advantage created by centralized domestic warehousing are difficult to maintain internationally, because cross-border operations are more fragmented and expensive.

At the level of cost structure, authenticator training, testing equipment investment, and fulfillment-related costs constitute fixed costs per transaction unit, with merchants bearing a comprehensive commission and authentication service fee per product. This structure is sustainable only within the premium space of high-value products. For low-to-medium value items, the disproportionately high authentication cost ratio will undermine the economic viability of the price premium mechanism, making it difficult to sustain.

Generally speaking, the model's fundamental limits are the economic costs of maintaining trustworthy institutional signals. The same authentication system that creates Dewu's competitive advantage also restricts how far and how quickly the platform can expand.

5. Conclusion

Taking Dewu as an example, this study analyzes the transmission mechanism from institutional signals to consumer trust and then to price premium under the C2B2C pre-authentication model. The study finds that through institutionalized signals such as the authentication process, certificates, and the anti-counterfeit four-piece set, Dewu reduces information gaps between buyers and sellers, lowers consumers' perceived risk, and shifts the locus of trust from individual sellers to the platform itself. Therefore, it is able to maintain a stable price premium in highly counterfeit-risk product categories. However, this mechanism is not universal, since its effectiveness depends on the category of products, the consistency of authentication quality, and the tolerance of different consumers towards delays. The model is also constrained by operating costs and the feasibility of cross-border expansion.

Future research can proceed in three directions. First, empirical comparisons of authentication accuracy across different product categories and examination of how trust is formed in each case. Second, quantitative measurement of consumers' tolerance thresholds for authentication delays at different price levels. Third, examination of the adaptability of this model in cross-border and local markets, in order to provide more systematic theoretical support for the long-term development of C2B2C platforms.

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