

INTERDISCIPLINARY INTEGRATION PERSPECTIVE: THE INTERACTIVE MECHANISM OF E-COMMERCE POLITENESS, KNOWLEDGE SHARING AND CROSS-BORDER WOMEN'S CLOTHING USER EXPERIENCE

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ABSTRACT

Against the backdrop of rapid global digital trade development, users in the shopping process not only value the quality of products themselves but also increasingly pay attention to emotional experience and perceived interactivity, and as a core consumer category in cross-border e-commerce, women's apparel has seen growing concern for users' online purchasing experience. To this end, this study, based on e-commerce politeness theory, employs the critical incident technique and purposive sampling to systematically collect and analyze user reviews of autumn–winter women's apparel purchases on cross-border e-commerce platforms, identifying the core factors that affect the experience. The study found that in satisfied incidents, "product quality" accounted for the largest proportion, followed by "product practicality"; in dissatisfied incidents, "product quality" and "wearing experience" accounted for the largest proportions, followed by "commitment effectiveness." Combining e-commerce politeness with the critical incident technique, this study focuses on the cross-border autumn–winter women's apparel sector and provides empirical references for identifying and improving user experience in this category; at the same time, it regards e-commerce politeness as an important carrier for knowledge transfer and information management in cross-border e-commerce, and constructs a user-experience analysis framework from an interdisciplinary perspective.

Keywords: Cross-Border E-Commerce Platforms, E-Commerce Politeness, Critical Incident Technique, User Experience, Cross-Border Women's Apparel, Knowledge Transfer, Information Management.

1.0 INTRODUCTION

With the iterative advancement of internet technology and the maturation of online trade platforms, cross-border e-commerce has already become the mainstream direction of online commerce development. A vast number of users are active on cross-border platforms, and against the backdrop of the continuously expanding market scale, more merchants are turning their attention to overseas trade platforms. Based on machine learning model predictions, the cross-border e-commerce market will continue to maintain high growth in the coming years (Chen, 2022), while competition among platforms will become increasingly intense. At present, product and service quality constitute the core of improving user experience, so cross-border e-commerce platforms need to meet user demands, enhance overall service quality, and

respond to users' most pressing concerns. Clothing, as one of the best-selling product categories on cross-border platforms and a necessity in daily life, accounts for sixty to seventy percent of women's apparel. Among these, autumn–winter clothing is distinguished by users' heightened consideration of cost and cost-effectiveness compared to other apparel categories, leading to more meticulous purchasing behavior and stronger sensitivity to user experience. However, existing research specifically targeting user experience in cross-border autumn–winter women's clothing remains limited, which is why this study focuses on this category. Moreover, the display effect and aesthetic appeal of clothing easily stimulate consumers' positive emotions, and such emotional factors have been proven to exert significant influence on user experience and purchasing potential (Lavanya, 2020). With the gradual improvement of living standards and consumption levels, user demand satisfaction is no longer confined to the product itself but increasingly emphasizes emotional fulfillment during the shopping process, enhancing subjective well-being (Wang & Jia, 2023). This trend is particularly evident in cross-border women's clothing consumption, and e-commerce politeness, as a carrier of emotional satisfaction, has accordingly gained importance. Research has shown that polite language and behavior on online shopping platforms exert crucial influence on users' emotions, decision-making, and shopping experience (Cuong, 2024). Although cross-border e-commerce has developed rapidly in recent years, for merchants and users from diverse cultural backgrounds, seamless communication remains difficult. Language differences and cultural barriers not only cause deviations in information transmission but also affect the effective conveyance of e-commerce politeness, thereby influencing overseas users' emotional satisfaction and perception of politeness in the sale of cross-border women's clothing. The importance of politeness is thus highlighted. In addition, women's clothing sales involve many key factors affecting user experience, such as product quality and material, price rationality, after-sales service systems, service attitude, and interactive experience (Lin & Cheng, 2015; Febriyanti et al., 2024). Based on this, the present study focuses on exploring the factors influencing user experience in cross-border autumn–winter women's clothing. Through the presentation of e-commerce politeness, the study aims to enhance users' purchase intention and user experience, thereby promoting the sales of cross-border women's clothing and contributing to the high-quality development of cross-border e-commerce platforms.

In summary, to enhance user experience, cross-border platforms and merchants need to focus on the key factors affecting the user experience of cross-border autumn and winter women's clothing, maximizing the expression of e-commerce politeness throughout the shopping process to strengthen users' reliance on platforms and merchants. This study adopts the Critical Incident Technique, concentrating on factors influencing user experience in cross-border women's clothing. Using cross-border autumn and winter women's clothing and user feedback as research samples, the study classifies and discusses particularly satisfactory and unsatisfactory incidents based on collected user reviews, incorporating e-commerce politeness. The aim is to supplement existing research gaps in this area, ultimately identifying factors influencing user satisfaction with cross-border women's clothing and providing feasible recommendations to governments, platforms, and merchants for improving service quality in cross-border e-commerce.

2.0 LITERATURE REVIEW

2.1 Cross-Border E-commerce Platform

Cross-border E-commerce Platform is an online shopping platform that has rapidly developed under the background of fast information technology innovation and high degree of international trade liberalization. Different from traditional e-commerce platforms, cross-border platforms break the geographical boundaries of trade, cover goods globally, simplify intermediate circulation links, reduce transaction costs, and reconstruct the value chain of traditional international trade (Ding, 2025), enabling access to a huge market and possessing great development potential. From the perspective of platform types, most cross-border e-commerce platforms belong to Business-to-Customer (B2C), such as the Amazon cross-border e-commerce platform. This mode of e-commerce platform is directly merchants facing end users, paying more attention to the optimization of user experience and the improvement of service quality (Chen & Zhang, 2025), and these two often influence user decision-making. In addition, according to existing research, it can be pointed out in detail: service quality, product quality, logistics efficiency, and customer satisfaction are key factors affecting user decision-making (Liu, 2024). The women's clothing category on current cross-border platforms reflects this advantage (Li, 2025): its products cover the globe, users can browse and obtain high-quality women's clothing worldwide, providing diversified choices. At the same time, it not only has overseas warehouses and intelligent logistics (Hong, 2025), shortening delivery time and providing efficient logistics services, but also has considerate multilingual services and simple and easy-to-operate shopping processes (Adeniyi et al., 2022), which can effectively help users efficiently and accurately find their desired styles and types of women's clothing, reduce user usage problems, make the shopping process more convenient, and optimize service quality. In addition, in order to better guarantee the user shopping experience, cross-border platforms have formulated a series of platform rules, which can not only ensure user privacy security (Xu et al., 2025), but also guarantee product quality and after-sales experience, actively responding to the issues most concerned by users.

Although current cross-border e-commerce platforms have achieved remarkable results in service optimization, the satisfaction of user demand is no longer confined to the product itself but increasingly emphasizes the fulfillment of subjective emotional experience during the shopping process. Therefore, this study takes e-commerce politeness as the point of entry. In addressing issues such as respecting users' rights of use (e.g., pop-up advertisements obscuring the page during use), providing simple and convenient operational modes, transparent and clear information, strengthening supervision of product quality and service quality, ensuring timely response when problems arise and effective implementation of proposed solutions, as well as promptly alleviating users' dissatisfaction, there remain evident deficiencies.

From the above, it can be seen that cross-border platforms focus on the optimization of user experience and the improvement of service quality. Their development conforms to the mainstream direction of meeting the diversified and personalized consumption needs of global users. At the same time, exploring from the perspective of e-commerce politeness is more helpful to improve user experience and increase methods of user purchase intention.

2.2 Cross-Border E-Commerce Women's Clothing

Cross-Border E-Commerce Women's Clothing is one of the best-selling categories in cross-border e-commerce, characterized by a large market base, high consumption frequency, and significant style differentiation. In addition, women's clothing and other apparel categories

generally share features such as high fabric costs, complex design processes, and non-unified size standards. During purchase, users usually pay more attention to product quality (e.g., fabric material, warmth), cost-effectiveness, and adaptability (e.g., size accuracy, pattern design) (Rabisankar, 2008). Since the current target audience of cross-border women's clothing is mainly the younger generation of women, they attach great importance to style and comfort in clothing selection (Mohd Salim & Doraisamy, 2022). Moreover, they also emphasize the service quality of platforms (especially polite service). Relevant studies indicate that when purchasing women's clothing and other apparel products, users demonstrate high sensitivity to experience, with strong expectations for product–expectation congruence and responsiveness of after-sales service. Therefore, to avoid unnecessary returns and complaints, as well as to ensure timely resolution of related issues, users' online perception accuracy, perception of politeness, and overall shopping experience become particularly important (Creusen et al., 2025). Furthermore, logistics services are also an important factor influencing user experience and perception of politeness (Do et al., 2023). It is noteworthy that cross-border women's clothing products cover the global market, supported by fast and efficient supply chains and logistics distribution. For example, SHEIN's flexible supply model can greatly reduce transportation time and lower inventory costs (Li, 2025). Merchants' timely responses allow users to perceive politeness in terms of "timely problem-solving" (Zhang, 2025), reduced inventory costs enable effective replenishment, thereby decreasing order delays caused by stock-outs. Both improvements positively contribute to users' perception of politeness.

Among the many categories of cross-border women's clothing, users of autumn–winter apparel have higher requirements for warmth and breathability, as well as for pattern adaptability in multi-layered dressing. They rely heavily on merchants' detailed product descriptions, and empathetic and polite language (e.g., "Please rest assured, our store adopts XX craftsmanship to ensure no pilling") has an important impact on purchase decisions and reduces perceptual discrepancies. In addition, autumn–winter women's clothing has distinct seasonality, often consisting of thick coats and sweaters. Merchants can integrate politeness with product promotion by employing "seasonal care" rhetoric addressing warmth needs (e.g., "The weather has turned cold, please remember to keep warm and cherish yourself"), thereby combining unique linguistic care with marketing. Therefore, this study takes cross-border autumn–winter women's clothing as an example to investigate the influencing factors of user experience in cross-border women's clothing from a micro-to-macro perspective.

From the above, it can be seen that cross-border women's clothing, which occupies a large market globally, can influence user experience in multiple aspects such as clothing quality, logistics service, and after-sales service.

2.3 E-commerce Politeness

"Politeness," in a popular sense, means taking into account the feelings of others, treating others with basic respect, being courteous and responsive in speech, maintaining proper social boundaries, and making interpersonal communication harmonious and pleasant. E-commerce politeness refers to the "human-computer interaction" involved in the user's shopping process on the platform, running through all stages of product browsing, searching, purchasing, payment, logistics, and after-sales service, making users feel satisfied when using, their needs responded to in a timely manner, and operations simple and convenient. It has a direct effect

on influencing users' perception of purchase risk of cross-border women's clothing, trust building, and purchase decision-making, and plays a key role in the study of user experience. E-commerce politeness includes aspects of linguistic politeness (such as modest expression, accurate responses), behavioral politeness (such as timely reply, efficient problem solving), and attitudinal politeness (such as patient communication, respect for user needs, proactive responsibility-taking). It is positively correlated with the satisfaction of cross-border women's clothing users. For example, in cross-border platforms, the "human-machine collaborative" customer service system responds in time during the clothing sales process, playing a positive mediating role in users' perception of politeness, reducing the negative impact of reply delays on politeness perception (Kraus, 2023). These politeness dimensions are essentially the core guarantee for accurate information transmission and effective knowledge sharing in cross-border e-commerce, directly affecting users' perception and trust of product information and service commitments.

Relevant research has confirmed that polite behaviors in e-commerce politeness have significant positive effects on users' emotional perception, trust building, and purchase decision-making, effectively enhancing customer transactions and service experience. For example, polite customer service communication can not only reduce users' dissatisfaction caused by problems in shopping (such as delivery delays, product quality defects), improve users' perception of politeness (Chen & Lu, 2025), but also reduce users' perceived risk, enhance their trust in platforms and merchants, thereby promoting purchase behavior and increasing user loyalty (Hakim et al., 2025). Conversely, untimely customer service responses, inadequate logistics services, merchants failing to provide timely solutions when quality control problems occur, and differences in preferences for positive politeness and negative politeness due to different cultural backgrounds (Pratesi et al., 2021), leading to misunderstandings and conflicts in cross-cultural communication, can all be regarded as impolite behaviors, which aggravate users' negative emotions and reduce user experience (Rossikhina & Ikatova, 2022). At this time, using appropriate language and empathetic dialogue can effectively appease users' dissatisfaction and re-solve conflicts (Zapata-Sánchez et al., 2023), while actively providing solutions and compensation for losses as polite behaviors can demonstrate respect for users and effectively improve users' perception of politeness.

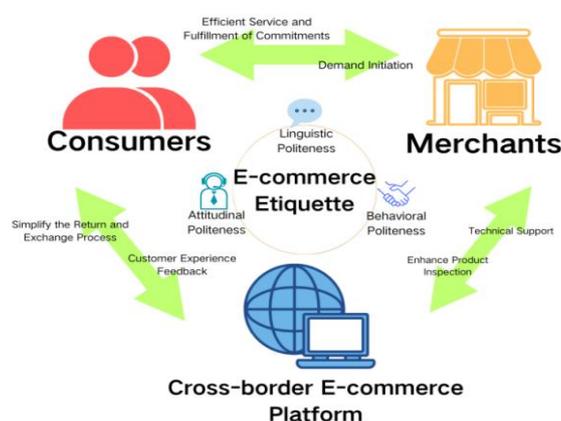


Figure 1. Relationship diagram of the impact of e-commerce politeness on cross-border women's clothing user experience

From the above, it can be seen that e-commerce politeness runs through all stages of the user's shopping process, is a manifestation of respect in the whole human-computer interaction of cross-border e-commerce, has a positive impact on users' emotions, trust, and decision-making, and can effectively help improve user experience.

According to the above three parts, it can be concluded that the key factors affecting user experience involve multiple aspects, and e-commerce politeness in the process of cross-border women's clothing sales shows a significant positive correlation with user experience. Cross-border platforms paying attention to e-commerce politeness can optimize platform services and promote sustainable development. Cross-border women's clothing merchants paying attention to e-commerce politeness can promptly resolve potential or already occurred impolite behaviors, improve user satisfaction, and enhance user experience.

3.0 RESEARCH METHODS

3.1 Critical Incident Technique

Critical Incident Technique (CIT) is a research method that identifies key performance dimensions or influencing factors by collecting and analyzing specific behavioral events that lead to successful or unsuccessful outcomes in particular contexts. It has been widely applied in talent selection, job analysis, and performance evaluation. The method was formally proposed by the American scholar Flanagan in 1954, and since then it has been utilized in multiple fields of research such as business management, healthcare, and education, with its theoretical framework becoming relatively mature. CIT places the researcher in an optimal position to record specific behaviors, and the records are divided into the most satisfactory and the least satisfactory categories, so as to enable necessary observation and evaluation, and to gain a deeper understanding of the psychological processes of the individuals being recorded (Flanagan, 1954).

Among the numerous examples over the past seventy years, here are several representative cases: In the study by Hafiz Muhammad Usman Khizar (2023) and colleagues, CIT was employed to identify customer satisfaction and dissatisfaction incidents in tourism services, thereby formulating more precise strategies for service improvement. A research team developed an Android-based Control and Identification Toolbox (CIT), and by collecting user feedback data through the CIT method, they optimized the interface's intuitiveness and functionality, which significantly enhanced the interactive effectiveness of the teaching tool (Concha et al., 2019). Another study explored how Critical Incident Technique (CIT) can be combined with Systematic Literature Review (SLR) and the Delphi method to determine the critical capabilities required in the Operations and Supply Chain Management (OSCM) domain (Bals et al., 2025).

3.2 Research Design

This study investigates the influencing factors of cross-border women's clothing user experience. Considering that users of cross-border platforms are distributed both domestically

and internationally and that their shopping frequency is relatively high, the study aims to explore in depth the users' perceptions of e-commerce politeness on these platforms. A qualitative research method, namely the Critical Incident Technique (CIT), is adopted. From the user's perspective, the study collects critical incidents of the most satisfactory and the least satisfactory experiences related to e-commerce politeness during the process of purchasing autumn and winter women's clothing on cross-border e-commerce platforms (Flanagan, 1954). This provides the analytical foundation for examining user experience of e-commerce politeness in the context of cross-border women's clothing.

To facilitate more convenient and efficient data collection, this study gathered user comments from autumn–winter women's clothing stores on cross-border e-commerce platforms. During the data collection stage, a purposive sampling strategy and effective comment screening were employed to ensure the authenticity and validity of the research data, focusing on users' most satisfactory or most unsatisfactory key incidents in the shopping process. The data collection period lasted from October 27 to November 10, 2025, spanning 14 days. The collected data were subsequently subjected to in-depth analysis and organization, providing authentic and reliable support for examining the impact of e-commerce politeness on user experience in cross-border women's clothing. Notably, the collection and analysis of user comments in this study essentially involve the extraction and interpretation of knowledge related to e-commerce politeness, which aligns with the interdisciplinary focus of information and knowledge management.

4.0 DATA SOURCES AND SAMPLE SELECTION

4.1 Data Sources

The data for this study were obtained from publicly available user-generated content (UGC) comments in the autumn–winter category of women's clothing on cross-border e-commerce platforms. During the data collection process, a triple compliance principle was strictly followed to ensure legality and ethicality: compliance with the provisions of the Personal Information Protection Law of the People's Republic of China regarding the reasonable use of public information; adherence to international general principles of data privacy protection (such as the core guidelines of "lawfulness, fairness, and trans-parency" emphasized in the European Union's General Data Protection Regulation (GDPR)); and conformity with the terms of service of cross-border e-commerce plat-forms, which stipulate that "after appropriate canonization, public comments may be used for academic research." To safeguard ethical standards, all collected data were anonymized, with any information that could identify users' personal identities (includ-ing user nicknames and delivery addresses), as well as commercial information such as store names and product links, removed. Furthermore, all data collected were used solely for academic analysis in this study, stored in encrypted form with access restricted to the research team. Upon completion of the study, the data will be archived or securely de-destroyed in accordance with academic norms and will not be used for any commercial purposes.

4.2 Sample Selection Strategy

In terms of sample selection, this study adopted a purposive sampling strategy to ensure that the data possess both market representativeness and content depth. The specific screening criteria and procedures are as follows: taking autumn–winter women's apparel as the research subject, this category has a stable market, high product interaction complexity, and a pronounced need for politeness strategies, aligning with the research theme of e-commerce politeness, and it has a large user base and volume of reviews; its feedback information best represents mainstream market choices and general consumer opinions, thereby ensuring the sample's representativeness at the market level. Reviews were collected from October 27 to November 10, 2025, capturing consumer feedback during a stable development period for this category on cross-border e-commerce platforms and ensuring the timeliness and dynamism of the data. From each selected product, 10 to 15 reviews were purposefully chosen. Selection balanced satisfied reviews (5-star) and dissatisfied reviews (1-star), with priority given to reviews that were detailed and included specific usage scenarios or descriptions of particulars, to ensure the depth and richness of data quality. Through the above process, this study ultimately constructed a qualitative analysis dataset comprising 277 user reviews. Because of its focused source (single platform and vertical category), continuous time span, sales-based representativeness, and high information-density review content, the dataset is suitable for exploratory thematic mining and provides a solid empirical basis for a deeper understanding of consumer experience in this market.

5.0 DATA ANALYSIS

5.1 Classification Principles

Among the 277 valid comments collected in this study, a total of 142 satisfactory key incidents and 135 unsatisfactory key incidents were obtained. After preliminary review by the researchers, these key incidents were categorized. The satisfactory key incidents were labeled as: product quality, logistics service, product practicality, scenario-based dressing adaptability, and aesthetic appeal. The unsatisfactory key incidents were classified as: effectiveness of commitment, product quality, return policy, packaging refinement, and wearing experience. Since some attributes overlapped between satisfactory and unsatisfactory key incidents, identical naming was adopted. As shown in Table 1, the classification labels and detailed descriptions of satisfactory and unsatisfactory key incidents can be clearly observed.

Table 1. Naming, classification, and explanation of critical incidents

	Classification Naming	Detailed Description
Most satisfactory and most unsatisfactory	Product Quality	It refers to the overall quality level of clothing in core dimensions such as material, craftsmanship, durability, and functionality.
Most satisfactory	Logistics Service	It refers to the activities of planning, executing, and controlling the transportation, storage, and handling of

	Classification Naming	Detailed Description
		goods from the place of supply to the place of receipt in order to meet customer needs.
	Product Practicality	It refers to the actual functions of clothing (such as “covering the body and providing warmth”) that meet user needs.
	Scenario Dressing Adaptability	It refers to the degree of matching between clothing style, function, and fashion with the dressing requirements of specific scenarios.
	Aesthetic Value	It refers to the extent to which clothing provides a sense of pleasure, harmony, and aesthetic experience visually.
Most unsatisfactory	Commitment Validity	It refers to whether the commitments made by merchants to consumers through product detail pages, advertisements, and customer service communication (including explicit and implicit promises) are fulfilled.
	Return Policy	It refers to the regulations set by merchants regarding return conditions and time limits, and whether buyers can return goods conveniently.
	Packaging Refinement	It refers to the comprehensive evaluation of the complexity, integrity, attentiveness, and value conveyed by product packaging, including whether the packaging is “firm,” “delicate,” and “experiential,” and whether the clothing is intact, undamaged, and clean.
	Wearing Experience	It refers to the degree of match between users’ expectations of clothing wearing effect and the actual wearing experience, including whether the clothing size fits properly.

Table 2 provides detailed information on the background of the three classifiers. All of these classifiers possess experience related to the e-commerce domain and have been long-term active participants on cross-border e-commerce platforms, with particular attention to the manifestation of e-commerce politeness. Therefore, this study specifically invited these three classifiers to conduct classification validation of user comments on cross-border women’s clothing, identifying satisfactory and unsatisfactory critical incidents to ensure that the incidents remain closely aligned with the research theme. Only after the three classifiers unanimously confirmed the classification results did this study proceed with subsequent classification work.

Table 2. Background information of classifiers

Classifier	Job Position	Work Experience
Classifier 1	Practitioner in cross-border e-commerce operations	Many years of operating women's clothing category on cross-border e-commerce platforms, with rich operational experience.
Classifier 2	User of a cross-border platform	Extensive experience in clothing shopping on cross-border e-commerce platforms.
Classifier 3	University lecturer in e-commerce	Many years of teaching in e-commerce major, with rich theoretical knowledge of e-commerce.

5.2 Reliability and Validity Analysis

Reliability refers to the consistency of measurement results, that is, the degree of agreement obtained when the same measurement method is applied multiple times to the same variable. In the reliability analysis of the Critical Incident Technique (CIT), two aspects are generally examined: "individual classification consistency" and "in-ter-classifier consistency." The specific explanations are as follows:

5.3 Individual classification consistency

Since researchers in the classification process are inevitably influenced by subjective factors in their judgments, it is necessary to evaluate the consistency of the same classifier when categorizing identical incidents at different times, in order to enhance the credibility of the classification results. When the degree of agreement among two or more researchers exceeds 0.8, the classification is considered consistent and credible (Andersson & Nilsson, 1964; Keaveny, 1995; Latham & Saari, 1984). In this study, the individual classification consistency of the three classifiers for unsatisfactory incidents was 0.86, 0.84, and 0.89, respectively. For satisfactory incidents, the individual classification consistency of the three classifiers was 0.88, 0.85, and 0.88, respectively. Both sets of incidents meet the requirement of agreement levels greater than 0.8, indicating that the classifications in this study are consistent and credible.

5.4 Inter-classifier consistency

This aspect focuses on the degree of consistency among different classifiers when categorizing the same incident. The essence of classifier consistency lies in "reducing the interference of subjective bias on data quality." Only through consistency testing can it be ensured that subsequent analyses based on classification results possess scientific rigor and reliability.

In this study, the first classification work was conducted only after all three classifiers agreed on the categorization of satisfactory and unsatisfactory critical incidents. Once consensus was reached among the three classifiers, the initial classification of critical incidents was carried out. After an interval of 14 days, the same three classifiers were again requested to perform the classification. By collecting and integrating the data from these two rounds of classification, the study subsequently conducted a comparative analysis of the classification results of the three classifiers. Based on this analysis, Table 3 presents the number of inter-classifier

consistencies for satisfactory incidents, and Table 4 presents the number of inter-classifier consistencies for unsatisfactory incidents.

Table 3. Number of inter-coder consistencies – satisfactory incidents

Number of Consistencies	Coder 1	Coder 2	Coder 3
Coder 1	125	-	-
Coder 2	120	121	-
Coder 3	122	118	125

Table 4. Number of inter-coder consistencies – unsatisfactory incidents

Number of Consistencies	Coder 1	Coder 2	Coder 3
Coder 1	116	-	-
Coder 2	113	114	-
Coder 3	122	120	121

Based on the data presented in Table 3 and Table 4, this study verifies the degree of in-ter-classifier consistency among the three classifiers. The formula is shown as follows:

$$A = \frac{2M_{12}}{n_1 + n_2} + \frac{2M_{23}}{n_2 + n_3} + \frac{2M_{13}}{n_1 + n_3} \tag{1}$$

$$R = \frac{(N \times A)}{1 + [(N - 1) \times A]} \tag{2}$$

In this study, the reliability coefficient is defined as follows:

R= Reliability

N= Number of classifiers

A= Average degree of inter-classifier consistency

M= Number of identical classifications among classifiers (e.g., M12 represents the number of samples classified identically by classifier 1 and classifier 2)

n= Number of samples judged by each classifier (e.g., n1 represents the number of sam-ples classified by classifier 1)

Based on the above formula, the calculation was expanded and applied to the dataset. The results are presented in Table 5: Reliability of Classification, which demonstrates the reliability coefficients derived from the classification consistency among the three clas-sifiers.

Table 5. Reliability table of classification

Classification	Average Inter-Rater Consistency (A)	Reliability (R)
Satisfactory	0.90	0.96
Unsatisfactory	0.91	0.97

According to the data presented in Table 5, the average inter-classifier consistency exceeds 0.8, indicating that the classification results among the classifiers are stable and consistent. The reliability coefficient also exceeds 0.8, demonstrating a high level of classification consistency.

The reliability testing of the collected comments confirms that the dataset and its categorization are credible and dependable. This provides a solid foundation for subsequent research and ensures methodological rigor in the development of the study.

5.5 Validity Analysis

In this study, validity refers to the extent to which the measurement tool accurately captures the intended phenomena, reflecting the effectiveness and accuracy of the methodological approach. Validity is generally divided into three types: expert validity, content validity, and face validity. Expert Validity refers to the evaluation conducted by domain experts to determine the effectiveness and appropriateness of a research tool, method, or measurement approach, as well as the relevance of the research content (Lynn, 1986). Since this study extracted user comments from cross-border e-commerce platforms, domain experts were invited to confirm the classification labels and to categorize the critical incidents. This process ensured that the classification remained aligned with the theme of e-commerce politeness and safeguarded the scientific rigor of the study. Therefore, this research demonstrates expert validity. Content Validity refers to whether a research tool or classification framework comprehensively and without omission covers all important aspects of a construct (Haynes et al., 1995). In this study, content validity is ensured by covering all relevant dimensions of e-commerce politeness within the cross-border women's clothing category. By employing the Critical Incident Technique (CIT) to investigate user experiences, the study achieves a comprehensive analysis of the factors influencing consumer experiences from the perspective of e-commerce politeness. Therefore, this research demonstrates content validity. Face Validity refers to whether a measurement tool (such as a questionnaire or test) appears, from an intuitive perspective, to reasonably measure the concept or content it claims to assess. The core of face validity lies in judging whether the tool "looks valid" and is easy to understand (Nevo, 1985). In this study, face validity is reflected in ensuring that the collected user comments on cross-border women's clothing reveal consumer experience factors that are directly related to e-commerce politeness. Hence, this research possesses face validity. Taken together, this study, from the perspective of e-commerce politeness, provides an in-depth exploration of the factors influencing user experience in cross-border e-commerce platforms for women's clothing. The findings offer feasible measures for improving consumer experience, thereby enhancing both the shopping satisfaction of users and their loyalty to the platform.

5.6 Classification Results

After categorizing the collected key incidents according to classification labels and counting their frequencies, this study further selected two incidents from both satisfactory and unsatisfactory categories as illustrative examples, in order to gain deeper insight into the influencing factors of cross-border autumn–winter women’s clothing user experience. Subsequently, data analysis was conducted for each category of incidents. The key incident examples and data analyses are presented as follows: Table 6 provides examples of unsatisfactory key incidents; Table 7 presents examples of satisfactory key incidents; Table 8 shows the data analysis of satisfactory key incidents; and Table 9 presents the data analysis of unsatisfactory key incidents.

Table 6. Examples of most unsatisfactory critical incidents

Incident Category	Example
Commitment Validity	I wanted to order XL but based on the reviews I changed to ordering Large, and that was a big mistake! The top is not as loose as it looks on the model, nor does it extend below my hips. It actually sits just below my waist, which is not what I wanted. I wanted a loose sweatshirt, but that is not what I received. Perhaps the seller should actually use models that reflect how the product looks on someone rather than misleading consumers.
Product Quality	When I saw this coat, I was excited and ironed out all the wrinkles to prepare for first use. However, to my frustration, the zipper did not cooperate. I could not zip up the coat, and after many attempts I gave up. I am sure that if I spent a few minutes or took off the coat to zip it, I could eventually close it, but I wanted a coat without zipper problems. I was very disappointed it did not work out!
Return Policy	The sleeves were too long and too big for anyone! I also ordered this as a Christmas gift! I only tried it on today, and I was surprised to see that the return window had already closed. I want to return these two sweatshirts!
Packaging Refinement	The sweatshirt was delivered in a parcel. When I took it out, I found the sleeve was already stained and it seemed as though it had been washed before.
Wearing Experience	I was happy when my coat arrived, until I put it on. Although there was enough room in the front, I immediately noticed how tight the shoulders and back were. When I sat down and stretched my arms forward, as if holding a steering wheel, my frustration peaked. The seams of the arms dug deeply into my armpits. The coat itself was well made and beautiful! The inside was nice, soft, and warm! Unfortunately, it will have to be returned. I was very sad.

Table 7. Examples of most satisfactory critical incidents

Incident Category	Example
Product Quality	A high-quality shirt at a better price. I have washed and worn this shirt several times, and it has withstood wear. I like that no buttons have fallen off during washing or wearing. I bought a small size and there are no gaps between the buttons.
Logistics Service	I have always loved the quality service and products I purchased from Amazon! I also want to say thank you very much for your quick service! I can always count on receiving my items within 2 to 3 days! Thank you so much for having such great company! I really enjoy doing business with Amazon!
Product Practicality	I love its look, feel, fitness, and warmth. I bought it for a trip to Denver in January! It can easily be layered underneath while still allowing me to wear my puffy coat. I bought a large size because I like loose sweatshirts.
Scenario Dressing Adaptability	This is my favorite new “Saturday” shirt. I wear it when cleaning the house, I wear it during Sam’s bulk shopping trip, and I wear it on the boat while watching the sunset at the beach, but I have not found any problems with it. Perfect comfortable fit.
Aesthetic Value	I love oversized sweaters, and this one fits my description perfectly. My body is stocky like a caveman, with a broad torso and long hips and legs. A loose sweater helps me look less oversized, which is something nobody wants to be.

Table 8. Analysis of data of satisfactory critical incidents

Category of Satisfactory Incidents	Coder 1 Count	Coder 2 Count	Coder 3 Count	Average Count	Average Ratio	Rank
Product Quality	45	65	50	53.33	37.56%	1
Product Practicality	43	24	43	36.67	25.82%	2
Aesthetic Value	33	28	30	30.33	21.36%	3
Scenario Dressing Adaptability	12	16	10	12.67	8.92%	4
Logistics Service	9	9	9	9	6.34%	5

Table 9. Analysis of data of unsatisfactory critical incidents

Category of Unsatisfactory Incidents	Coder 1 Count	Coder 2 Count	Coder 3 Count	Average Count	Average Ratio	Rank
Product Quality	49	54	54	52.33	38.76%	1
Wearing Experience	52	57	47	52	38.52%	2
Commitment Validity	19	16	19	18	13.34%	3
Packaging Refinement	9	4	8	7	5.18%	4
Return Policy	6	4	7	5.67	4.20%	5

The data indicate that there are commonalities between satisfactory and unsatisfactory critical incidents, and these issues are strongly reflected in user feedback. This suggests that if platforms and merchants effectively address such problems, they can significantly enhance the overall shopping experience of users.

According to the data in Table 8 and Table 9, after the three classifiers completed the classification, in the satisfactory critical incidents, the proportion of product quality was the highest (37.56%), and the proportion of logistics service was the lowest (6.34%); in the unsatisfactory critical incidents, the proportions of product quality (38.76%) and wearing experience (38.52%) were similar and both high, while the proportion of return policy was the lowest (4.20%).

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study adopted the Critical Incident Technique (CIT) to explore, from the perspective of e-commerce politeness, the factors influencing user experience in cross-border e-commerce platforms for women’s clothing. The data analysis revealed nine dimensions that affect user experience in the autumn/winter women’s clothing category: effectiveness of commitment, product quality, return policy, packaging refinement, wearing experience, logistics service, product practicality, scenario-based clothing adaptability, and aesthetic value. A noteworthy finding is that product quality contributes to both satisfaction and dissatisfaction, and it represents the highest proportion of unsatisfactory incidents (38.76%), making it the core source of negative user experiences. By contrast, service-related incidents (including return policy and packaging refinement) account for a relatively small proportion of dissatisfaction (9.38%). However, these issues often intensify negative emotions due to merchants’ “politeness perception deficits.” If merchants and platforms can promptly address product quality and service-related problems, they may reduce users’ negative emotions, provide

satisfactory products and reliable services, and ultimately allow consumers to feel respected and valued. This improvement will enhance users' overall perception of e-commerce politeness and strengthen their shopping experience and loyalty. Therefore, merchants should prioritize corrective actions in these areas to ensure sustainable development in cross-border e-commerce. By integrating e-commerce politeness with information management and knowledge transfer from an interdisciplinary perspective, this study further expands the theoretical boundaries of cross-border e-commerce user experience research.

6.2 Recommendations

This study, from the perspective of politeness, systematically analyzes and experimentally verifies the influencing factors of users in the human-computer interaction scenarios during the sales process of cross-border autumn and winter women's clothing. It identifies the existing problems and translates the experimental results into specific, actionable improvement measures. Feasibility suggestions are provided from three dimensions: government, platform, and merchants, to promote the overall optimization of e-commerce politeness and enhance the product and service quality of the cross-border women's clothing industry.

6.3 Recommendations for government

The government acts as the guide for platforms and merchants to operate compliantly, achieve healthy operations, and ensure fair competition; at the same time, the government provides solid backing for protecting user rights and possesses strong credibility. Therefore, this study proposes three recommendations for the government:

1. Regarding the prominent product quality and service quality issues in the most dissatisfied critical incidents, the government should take the lead in formulating national or industry standards for the quality of cross-border e-commerce women's clothing products and services, providing legal and mechanistic guarantees for user experience. Quality standardization can not only enhance the international market reputation of Made in China products, further supporting the development of China's cross-border e-commerce; it can also reduce returns, complaints, and disputes caused by quality issues, thereby reducing dissatisfaction incidents from the source.
2. The government should implement reward mechanisms in policies, endorsing, promoting, awarding, and certifying platforms or merchants with outstanding performance in service and quality construction. Appropriate rewards can motivate platforms and merchants to develop positively, promote healthy competition, and guide China's cross-border e-commerce industry towards high quality and high credibility.
3. The government needs to enforce quality supervision and dishonesty penalties, establish a credit rating system for cross-border e-commerce merchants' service and quality, as well as authoritative third-party certification and supervision mechanisms. Merchants with prominent issues such as evading after-sales responsibilities and severely sub-standard product quality should be subject to corresponding dishonesty penalties, such as public exposure, to guide merchants towards polite service. Combining rewards and penalties helps guide platforms and merchants to operate legally and compliantly, conduct healthy business, correct mistakes, and improve deficiencies.

6.4 Recommendations for Platforms

The platform shoulders the responsibility of protecting user rights and providing good services, holds the power to formulate platform rules, and needs to regulate and guide merchants to improve product and service quality. Therefore, this study proposes two recommendations for the platform:

1. The platform can add real-time tracking functions. According to the above data, autumn and winter women's clothing has prominent issues in "product quality" and "service quality." Establishing quantifiable and monitorable AI customer service early warning and response indicators can provide merchants with data dashboards reflecting user feedback, helping merchants accurately solve problems and promptly meet user needs.
2. The platform needs to simplify the cross-border return process. In response to the inconvenience users face when returning clothing due to quality issues, the platform can launch a "cross-border return convenience channel," simplifying the application process, making the return process clear and straightforward, effectively reducing user return time and operational costs, and greatly improving the user shopping experience.

6.5 Recommendations for merchants

Merchants are the primary responsible parties for ensuring product quality matches descriptions, guaranteeing a comfortable shopping experience, and providing polite service. Therefore, this study proposes three recommendations for merchants:

1. Merchants are the first responsible entities for product quality and service. It is evident that users place great emphasis on quality assurance for clothing categories such as autumn and winter women's clothing. Merchants should shift their operational improvement focus from marketing to the products and services themselves. They need to strictly verify the authenticity and comprehensiveness of product descriptions, provide detailed and comprehensive physical displays, and include more than three sets of detailed physical images (fabric texture, actual measurements) on product detail pages. This eliminates misleading images, directly addresses users' primary concerns, fulfills promises, and enhances the user shopping experience.
2. Merchants need to improve service efficiency and politeness. On one hand, merchants should establish a 24-hour response mechanism for user inquiries and complaints, adopting polite communication scripts tailored to users from different cultural backgrounds, avoiding perfunctory responses; on the other hand, merchants should proactively take responsibility for service defects and compensate users through various means, such as re-sending products or offering coupons, to promptly soothe user dissatisfaction.
3. Merchants need to improve packaging and logistics services. Although data analysis shows that packaging (accounting for 5.18% of dissatisfaction incidents) and logistics services (accounting for 6.34% of satisfaction incidents) have a low proportion in critical incidents, both are directly related to behavioral politeness and are important factors in enhancing users' perception of politeness. Considering the long-distance nature of cross-border transportation, merchants can use abrasion-resistant and deformation-resistant packaging materials to ensure product integrity. They should also ensure the cleanliness of inner packaging, preventing issues

such as product stains and related quality control problems; pay attention to the sturdiness of outer packaging to avoid damage to packaging and products. In terms of logistics, merchants should cooperate with reliable logistics providers, offer real-time tracking services for logistics nodes, proactively inform users of logistics delays, and promptly provide solutions to enhance the user logistics experience.

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