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Cross-Border E-commerce English Communication Strategies for Silk Products Targeting the Belt and Road Market: Language Style, Cultural Adaptation, and Platform Optimization

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ABSTRACT

This study focuses on optimizing the cross-border e-commerce strategy for silk products, a key natural fiber in the global textile industry, targeting the Belt and Road market. As a fundamental material in textiles, comparable to wool and cotton, silk possesses unique material properties derived from its protein structure and traditional weaving techniques. However, its market expansion faces challenges in digital representation and communication. This research adopts a pre-and post-control experiment addressing three aspects: language style, cultural adaptation, and platform optimization, with a focus on conveying the material science and technological value of silk. Seven indicators were established, including language understanding, cultural acceptance, and page click-through rate. Data were collected from platforms like AliExpress, analyzing how communication strategies impact consumer perception of silk's textile technology and quality. The results show that strategies such as integrating regional cultural symbols with material characteristics, simplifying technical language, and optimizing information structure can significantly enhance user cognition and purchase intention for silk products. This research provides an optimized path with practical significance for the broader textile industry, demonstrating that culturally adapted communication highlighting the unique aspects of textile products and processing can promote trade transformation more effectively. The study underscores the importance of integrating material science communication with marketing to achieve sustainable development in the traditional textile trade.

KEYWORDS

silk products, textile industry, natural fibers, cross-border e-commerce

INTRODUCTION

Since the Belt and Road Initiative was put forward, it has clearly set out the guiding principles of consultation, joint contribution, and shared benefits as well as the goal of “five connectivity,” namely, policy communication, infrastructure connectivity, unimpeded trade, financial integration, and people-to-people connectivity [1]. According to data from the Shanghai Shipping Exchange, in May 2025, the trade volume index of Belt and Road was 220.74, and the freight index of Maritime Silk Road was 112.18 [2]. As a typical representative of China traditional culture, silk has a profound cultural heritage and unique artistic value. However, in the context of the rapid development of cross-border e-commerce, the English communication of silk products in the Belt and Road market faces many challenges.

From the perspective of language style, the existing communication copy mostly adopts literal translation, and the language expression is rigid, which fails to fully show the cultural charm and quality characteristics of silk products [3]. In terms of cultural adaptation, because of the lack of understanding of cultural differences between countries along the route, cultural misunderstandings or improper use of cultural elements often occur in communication content, resulting in low consumer acceptance [4]. In the use of platforms, the lack of in-depth research on the functional characteristics and user behavior habits of cross-border e-commerce platforms limits their effectiveness and restricts the marketing and sales of silk products [5]. Exploring effective ways to optimize English communication strategies has become increasingly urgent. Judging from the current research situation, scholars have conducted substantial research on the content of cross-border e-commerce. For example, Feng [6] used theories and methods from linguistics, psychology, semiotics, graphic design, computer science, and other disciplines to study the language barriers faced in communication under the background of cross-border e-commerce. Xu [7] analyzed the spread of cross-border e-commerce products from the perspective of marketing. They summarized marketing communication strategies of cross-border e-commerce products by analyzing the marketing atmosphere of many brands in high-profile events, such as multi-level communication and attention to bottom-line maintenance. Du [8] pointed out that the Belt and Road Initiative is not frightening. Cross-border e-commerce in China is in a leading position in trade and investment, with the help of channel expansion and market share increases, realizing division of labor, coordination, and sharing of resources and products. Guo [9] studied the effect of the Belt and Road Initiative on the development of cross-border trade in China. They pointed out that the initiative effectively promoted the development of cross-border e-commerce trade. Shen [10] analyzed the influence of e-commerce development on mineral resources under the background

of the Belt and Road Initiative. The results show that a 1% expansion of e-commerce market corresponds to a 0.46% short-term improvement and a 0.59% long-term improvement in mining efficiency. A 1% increase of the green development index leads to a 0.16% short-term improvement in mining efficiency. Academic research on the Belt and Road Initiative has produced substantial literature domestically and internationally, and studies addressing its challenges from the US–Japan–India–Australia economic Cold War mentality have been conducted. However, systematic research on this concept remains scarce. Existing studies exhibit issues, including ambiguous conceptual definitions, insufficient depth and breadth of analysis, and overly narrow perspectives [11].

With the increasing importance of the Belt and Road Initiative and the continuous expansion of cross-border e-commerce, mastering scientific English communication strategies can provide strong support for the expansion of cross-border e-commerce in the silk market. Existing research on cross-border e-commerce language strategies rarely focuses on silk products. This study addresses this gap by proposing English communication strategies tailored to the Belt and Road market from three dimensions: language style, cultural adaptation, and platform optimization. These strategies not only fill a gap in the study of specific product language strategies but also integrate cultural value transmission with platform operations, offering innovative solutions that are targeted and practical for the development of cross-border e-commerce of silk products.

EXPERIMENTAL

Materials and Methods

Materials

The selection of silk product samples adheres to the principles of representativeness, diversity, and market orientation. The categories include scarves (35%), silk clothing (40%), and silk home textiles (25%). The price range spans low, mid, and high tiers, with 20% of products priced below \$100, primarily targeting the mass consumer market; 50% of products priced between \$100 and \$500, catering to consumers seeking quality and value for money; and 30% of products priced above \$500, focusing on the high-end customization and collection market. This categorization ensures that the samples comprehensively reflect the needs and market trends across different consumption levels. Silk categories, including scarves, silk pajamas, silk screens, silk ties, silk cheongsam, silk cushions, and other different categories, not only include daily wear

products but also involve home decoration, traditional clothing, and other fields. These categories ensure that the research covers the main application scenarios of silk products. Silk styles are divided into Chinese classical style, modern simple style, national customs, and international fashion style, according to design style, reflecting the presentation forms of silk products under different aesthetic preferences. Regarding source channels, samples are collected from well-known domestic silk brand enterprises, local characteristic silk workshops, existing hot-selling shops on cross-border e-commerce platforms, and other sources to ensure that the products meet the actual sales situation in the market [12].

The cross-border e-commerce platform is selected based on three dimensions: market coverage, user portrait matching, and functional adaptability. AliExpress and Dunhuang Network are well-known cross-border e-commerce platforms, and both have a huge user base in countries along the Belt and Road. AliExpress has high user activity in Russian-speaking areas and the Middle East. Dunhuang Network mainly serves small and medium-sized enterprises along the Belt and Road. Cross-border e-commerce platforms received more than 30 percent of user traffic from Belt and Road countries in the past year.

English communication content was collected before optimization using Python crawler technology, gathering at least 500 existing English communication documents for silk products from selected e-commerce platforms (such as Amazon and eBay). These documents cover product titles, product descriptions, graphic content of details page, and user evaluations. The sampling method adopts stratified random sampling based on user geographical distribution (covering at least 80% of the platform's main sales regions, such as the United States, the United Kingdom, Germany, France, and Japan), age groups (divided into 18–25, 26–35, 36–45, 46–55, 56+ age brackets, ensuring each group accounts for no less than 15% of the total sample), and consumption preferences (categorized by product type, price range, and brand reputation). Statistical representativeness is verified through Chi-square tests and confidence interval analysis (confidence level $\geq 95\%$, margin of error $\leq 5\%$) to ensure the collected data accurately reflects overall market characteristics. Tags are classified according to language style, frequency of cultural elements, and platform display position. Before optimizing the collection of English communication content, the following Python libraries are used to achieve data crawling and processing: requests and BeautifulSoup for web content acquisition and parsing, the Scrapy framework to enhance crawling efficiency, Selenium for handling dynamically loaded content, pandas for data cleaning and analysis, the re library for regular expression matching. jieba (combined with an English word segmentation tool) and Natural Language Toolkit for text processing, and Matplotlib and Seaborn for data visualization.

Integrity verification: Check if the crawled documents include product titles, descriptions, detail page images and text content, and user reviews.

Text quality verification: Use regular expressions to detect the legitimacy of English text, filtering out non-English content or garbled text.

Tag accuracy verification: Manually sample and review the classification tags (language style, frequency of cultural elements, display position) by randomly selecting 30 data points for each category and calculating the tag accuracy (e.g., the accuracy of language style tags should exceed 85%).

Data consistency verification: Check if the information for the same product is consistent across different pages, using text similarity algorithms to detect inconsistencies, aiming for an inconsistency rate below 5%.

Duplicate data processing: Use the pandas' duplicated method to identify and remove duplicate documents, ensuring that the sample size after deduplication is at least 500.

To optimize the strategy and language style, a team is formed comprising English language experts, cross-border e-commerce operators, and silk industry practitioners. The team is composed of members with deep industry experience. The English expert has 20 years of experience in cross-border business English research, has led over 30 trade text translation projects in Belt and Road countries, and has published three monographs on cross-cultural business communication.

The cross-border e-commerce operator has 15 years of experience in silk cross-border retail, with an annual sales volume exceeding \$8 million for their platform stores, entry into 12 markets in the Middle East, Eastern Europe, and other regions, and creation of three brands with annual sales exceeding \$1 million. The silk industry professional has 18 years of experience in traditional craft research and foreign trade, has participated in developing international summit gift silk products, and led the formulation of five export process standards.

Team members, leveraging their extensive cross-disciplinary experience and practical achievements, can systematically address the challenges in language communication and market expansion in the silk cross-border e-commerce sector. The team adjusts the formal-style copy to a professional and friendly expression (e.g., changing "High-quality mulberry silk" to "Indulge in the luxury of 100% pure mulberry silk"), and adds emotional resonance words to colloquial copy (such as "must-have silk scarf for your wardrobe!").

Cultural adaptation and optimization: For different target markets, local cultural elements are deeply integrated. For example, product copy targeting the Arab market adds images such as camels and date palms; whereas the emphasis is on environmental protection concept and sustainable production technology in the

European market. Platform optimization: Content is designed according to the characteristics of the platform. For example, highlighting limited-time discounts, full-reduction promotions, and other marketing information on AliExpress and emphasizing bulk order discounts and customized service on Dunhuang Network.

Methods

Data collection method: Before optimization, basic data such as product exposure, page click rate, average stay time, bounce rate, collection number, purchase number, order number, and sales volume are obtained through the Application Programming Interface (API) interface provided by the cross-border e-commerce platform. The collection period spans 30 consecutive days, with data captured daily at regular intervals. Tools like Google Analytics and Hotjar are integrated into the product page to monitor user behavior at promotional nodes in real time over a 3-month data collection cycle (with a sampling interval of no more than 5 minutes). However, implementation requires first verifying whether the selected platform permits embedding third-party tools and if its open APIs support real-time data acquisition and transmission. For instance, on self-developed standalone websites, integration is typically achieved by adding corresponding JavaScript code snippets to the page. When dealing with third-party e-commerce platforms, consulting their developer documentation or contacting customer service may be necessary to confirm permission levels and API specifications for tool integration. This step ensures compliance with platform regulations and enables smooth data collection processes. The study collects 10% of active user data every 15 minutes daily, and samples 30% of the data hourly during long-tail periods. Data deduplication and outlier filtering are performed weekly. Specifically, outliers are defined as data points that deviate from the mean by more than three standard deviations. Such outliers are first verified for data collection errors. If confirmed as errors, they are corrected; if not, they are retained but marked. The original sample size for each data collection cycle is 500. After weekly processing, the remaining sample size is expected to be around 480, with a data rejection rate of approximately 4%. This process ensures that the data used for subsequent analysis is of high quality and reliability. Page optimization is guided by analysis of user scroll depth, click heat maps, and other behavioral data. A bilingual questionnaire in Chinese and English is designed and distributes through platforms, social media (Facebook, Instagram, and WeChat International Edition), email marketing, and other channels to collect users' subjective evaluations of product copy, such as language understanding, cultural acceptance, and purchase intention.

After optimization, the data collection tools, channels, and cycles are kept consistent with those used before optimization. Once the optimized communication content is published online, to ensure data comparability. At the same time, the control group is set up according to the optimization strategy (such as only adjusting the language style while keeping the cultural adaptation and platform settings unchanged or optimizing only cultural elements are optimized while keeping other variables constant). AB tests are conducted to further verify the individual effects of each strategy. Sample allocation is randomized using a random number generator to ensure independence. Each user is assigned to only one group and tracked via unique identifiers to avoid platform or user group overlap, thus preventing inter-group interference. However, current results mainly show overall pre- and post-optimization comparisons, and specific AB test outcomes are not clearly presented. For each test, the original sample size is 500, and after excluding overlaps (rejection rate $\leq 5\%$), the final sample size is around 475, maintaining statistical validity.

Data analysis: For descriptive statistical analysis, Excel is used to calculate the average value, standard deviation, and median of each index (such as click-through rate, conversion rate, and satisfaction score) before and after optimization. Trend line charts and comparison bar charts are used to present the data change trends intuitively. Text analysis tools such as ROST CM 6 and NVivo 12 [13], combined with semantic analysis and related statistical methods [14], are used to extract high-frequency keywords (such as “beautiful design” and “confused about sizing”), identify users’ deep needs and feedback, and explain reasons for data changes.

Evaluation method:

Language comprehension: Comprehension test questions are included in the questionnaire survey, such as multiple-choice and true/false questions based on the content of product copy. with 1 point for each question, totaling 10 points.

Language Comprehension = (the actual total score of all respondents $\div$ the sum of theoretical full marks of all respondents) $\times 100\%$.

Cultural acceptance: A cultural element acceptance rating question is set using a five-point Likert scale, with 1 indicating strong dislike and 5 indicating strong preference.

Cultural acceptance = (total score of cultural elements of all respondents ÷ number of respondents) ÷ 5 × 100%.

Page click rate:

Click rate = (the number of clicks on silk products before and after optimization ÷ the number of exhibitions) × 100%. Data are directly obtained from the background of the cross-border e-commerce platform. For example, AliExpress records product exposure (number of exhibitions) and clicks during a certain period. The two data into the formula are substituted for calculation. When staying, user behavior monitoring tools (such as Google Analytics) are used to record the time each user browses the silk product page.

Length of stay = sum of stay time of all users ÷ total number of user visits.

Collection plus purchase rate = (the number of product collections before and after optimization + the number of times to join the shopping cart) ÷ the number of page visits × 100%.

The data are collected from product collections, additional purchases, and page visits from the platform background for calculation. In the conversion rate data statistics, the conversion rate is calculated using the formula (number of users who completed a purchase / number of users who visited the page) × 100%, based on platform orders and page visits. The experiment tries to control external variables by excluding holidays and major promotions, but complete control is difficult in real e-commerce settings. Potential confounding factors like sudden competitor price cuts, new product launches, macroeconomic shifts, or platform algorithm changes can still affect results. To mitigate these factors, the study monitors competitor activities in real time, tracks key economic indicators, and notes platform updates. Although not fully eliminating external influences, such measures help reduce their effect. A specific stable period, such as three consecutive non-holiday months, is selected to ensure that any data differences are due to page optimization, accurately reflecting the actual effect of the optimization strategy on user purchase conversion.

User satisfaction: The questionnaire includes satisfaction scoring questions, using a 5-point Likert scale (1 = very dissatisfied and 5 = very satisfied).

User satisfaction = (total satisfaction evaluation score of all respondents ÷ number of respondents) ÷ 5 × 100%.

Differences in all various indicators are compared before and after implementing the English communication strategies. Regarding the reliability and validity of the questionnaire, the Cronbach’s α coefficient is 0.85, indicating good internal consistency and high reliability. The KMO value is 0.82, and Bartlett’s test of sphericity is significant ($p < 0.001$). The extracted common factors effectively explain the variables, ensuring good structural validity. The questionnaire results accurately and reliably reflect user feedback, providing a solid data foundation for comparing the differences in various indicators before and after the implementation of English communication strategies.

RESULTS AND DISCUSSION

Language Comprehension

Table 1 shows the statistical data of users’ language understanding before and after optimization. Users’ language understanding has improved significantly after optimization. The optimized copy reduces complex clauses (e.g., changing “luxury silk scarf made by traditional reeling process” to “hand crafted with traditional silk-reeling, this luxury scarf”) and lowers the understanding threshold of non-native English speakers. According to the cultural background of the Belt and Road market, the expression logic is adjusted. For example, “silk scarves for modest fashion” is emphasized in the Middle East market, instead of simply describing materials, better fits users’ needs.

Table 1. Comparison of User Language Understanding Before and After Optimization

Time	Language comprehension
Before optimization	66%
After optimization	79%

Cultural Acceptance

Figure 1 shows the statistical data of users' acceptance of cross-border e-commerce-related culture in silk products before and after optimization. Users' acceptance of silk culture has been significantly improved after optimization. The reason may be that before optimization, the copywriting mostly uses general expressions (such as "Chinese traditional pattern"). After optimization, it is adjusted according to regional cultural characteristics: the Southeast Asian market is integrated with Buddhist elements ("Batik-inspired silk with lotus motifs"), whereas the Middle East market highlights geometric patterns ("Arabic-patterned silk cushions"), which may enhance cultural resonance. It further shows the influence of Silk Road silk culture on the Middle East and highlights the practical significance of the Silk Road as a bridge connecting people's hearts [15]. This is mainly due to the revision of the optimized cultural conflict points and culturally sensitive content. For example, deleting the expression of "wine red" used in promoting silk to Islamic countries and using "ruby red" instead can avoid religious association. Through the Silk Road, China exchanges ideas and cultures with East Asia, South Asia, Southeast Asia, Central and West Asia, and other regions, which has an indelible influence on the establishment of subsequent cultural systems [16]. Adjusting the dress style of models in product pictures to be in line with local dress etiquette may also be a contributing factor.

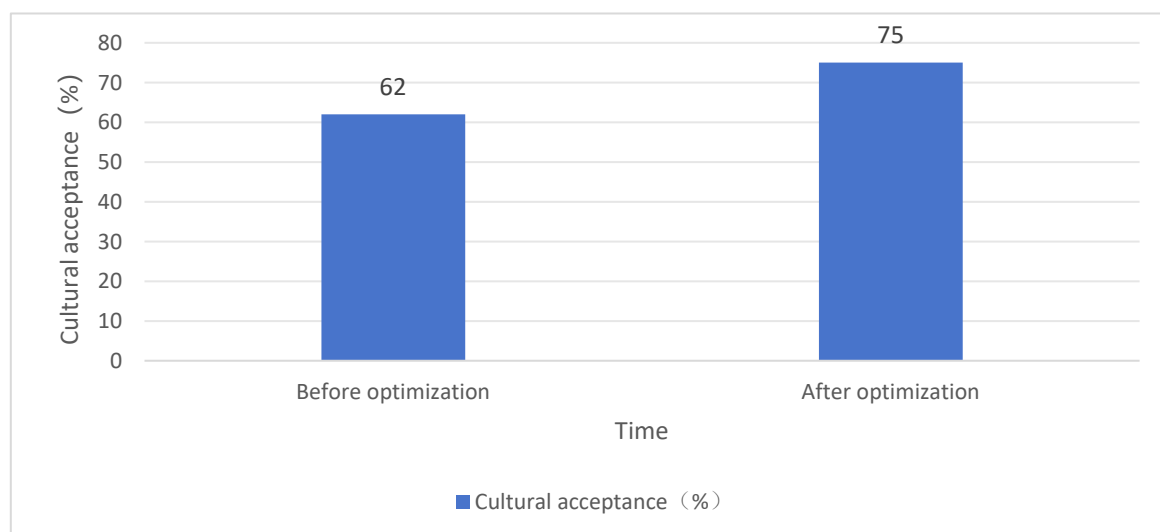


Figure 1. Comparison results of user cultural acceptance before and after optimization

Page Click Rate

Figure 2 illustrates the click-through rate (CTR) data of silk products on cross-border e-commerce platforms before and after optimization. The CTR of the optimized page has increased by 2.3% compared with before optimization. The reason may be that before optimization, titles often pile up keywords (such as “100% silk scarf for women, fashionable, and affordable”). After optimization, the titles adopt a structure of “core word + scene + cultural selling point.” The original title “silk scarf, high quality, free shipping” is optimized to “Elegant Silk Scarf for Eid—Hand-painted Moroccan Pattern.” The main images are mostly flat product images before optimization. After optimization, they are adjusted according to market preferences. For the European market, the scene is changed to “Pair with an autumn coat.” For the Southeast Asian market, natural elements are highlighted (such as “tropical print beach style silk salon scarf”), which may enhance visual immersion. Notably, this 2.3% increase in CTR surpasses the industry average of 1.2% (Prospective Industry Research Institute, 2025 China Silk Industry Panorama) for similar silk products, as derived from multiple industry-wide market surveys. Therefore, the optimization strategy not only increases user engagement but also brings tangible economic benefits, effectively boosting the competitiveness of the cross-border e-commerce market.

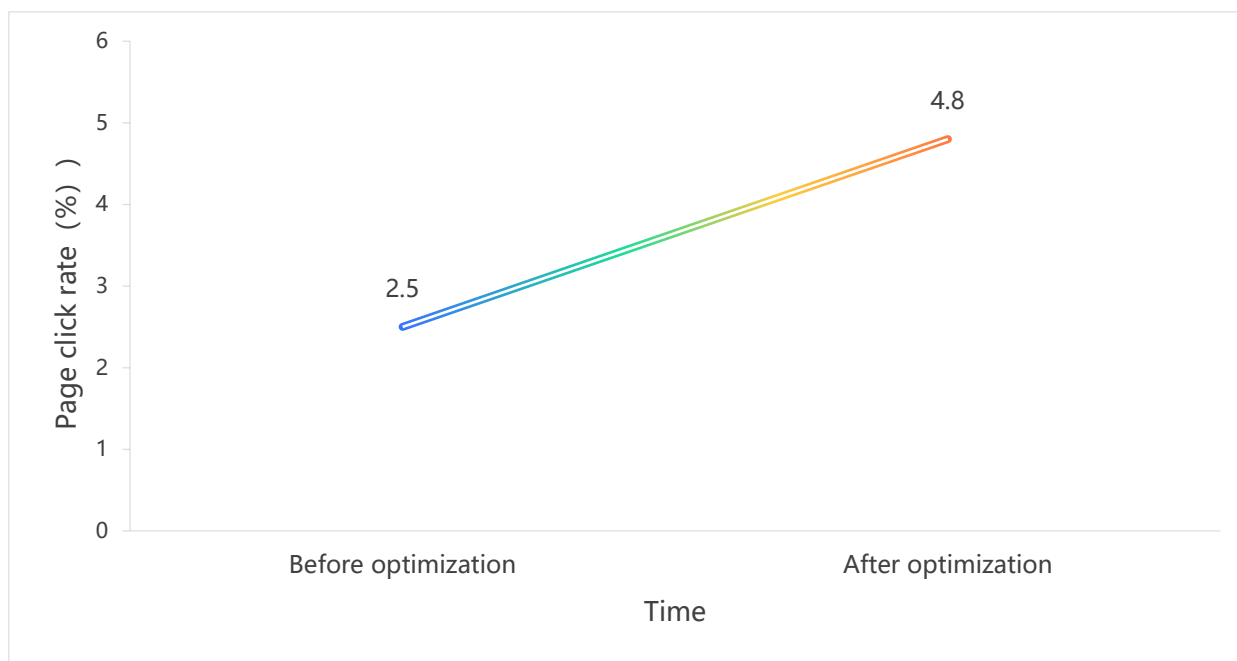


Figure 2. Comparison of the click-through rate of silk products on cross-border e-commerce platforms before and after optimization

Length of Stay

Figure 3 presents the user dwell time statistics for the cross-border e-commerce platform of silk products before and after page optimization. The analysis of segmented markets reveals that in the Middle East, users’ average dwell time has increased by 18 seconds post-optimization. This outcome may be related to the integration of Arabic cultural elements (such as geometric vine patterns) on the homepage and the emphasis on the ‘Millennium Silk Road Trade History’ narrative in the cultural story section. In Southeast Asia, users’ dwell time has increased by 15 seconds, possibly because of the bilingual material parameter table in the central information area (in Malay and English) and the addition of a “Tropical Climate Applicable Scenarios” illustration. In Eastern Europe, users’ dwell time has increased by 9 seconds, which may be attributed to the trust endorsement section at the end, including the EU Eco-Tex Standard 100 certification and videos from local influencers. Before optimization, all regions’ pages likely suffer from information overload issues. For instance, the Southeast Asian page mixes Thai and Vietnamese translations without proper segmentation, whereas the Middle Eastern page jumbles technical parameters like yarn count with segments from “One Thousand and One Nights,” which may have caused cognitive overload. After optimization, the “cultural adaptation + information stratification” strategy seems to have significantly improved user attention retention across different markets.

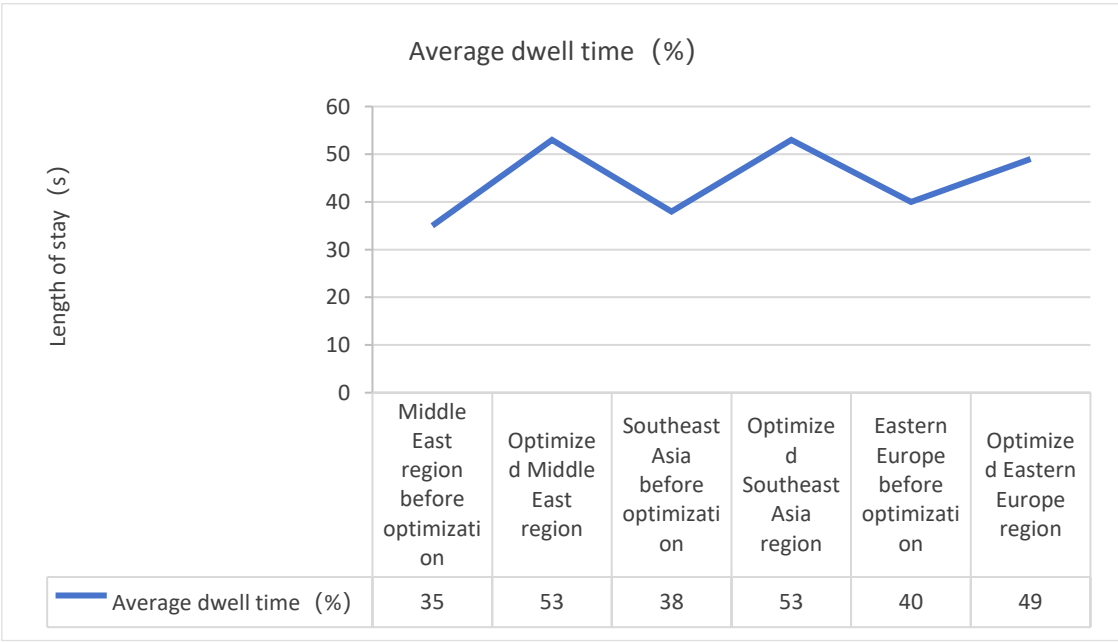


Figure 3. Comparison results of users’ stay time on the cross-border e-commerce platform page of silk products before and after optimization

Collection Purchase Rate

Figure 4 shows the comparison results of users' collection and purchase rate of silk products in cross-border e-commerce platform before and after optimization. The data show that the collection and purchase rate of users after optimization has increased by 3.8%. Adding interactive elements, such as "click to see how this silk scarf can be tied in 5 ways," may help guide users to browse more deeply. Incorporating emotional copy like "this silk pill case will let you wake up like a queen" can also stimulate users' psychological resonance, with the potential to enhance their engagement and connection with the products. Emotional communication is a crucial part of social communication, and user interaction and emotional connection are important elements [17]. These adjustments may enhance user interaction and strengthen emotional bond, although their specific effect vary depending on user preferences and cultural contexts.

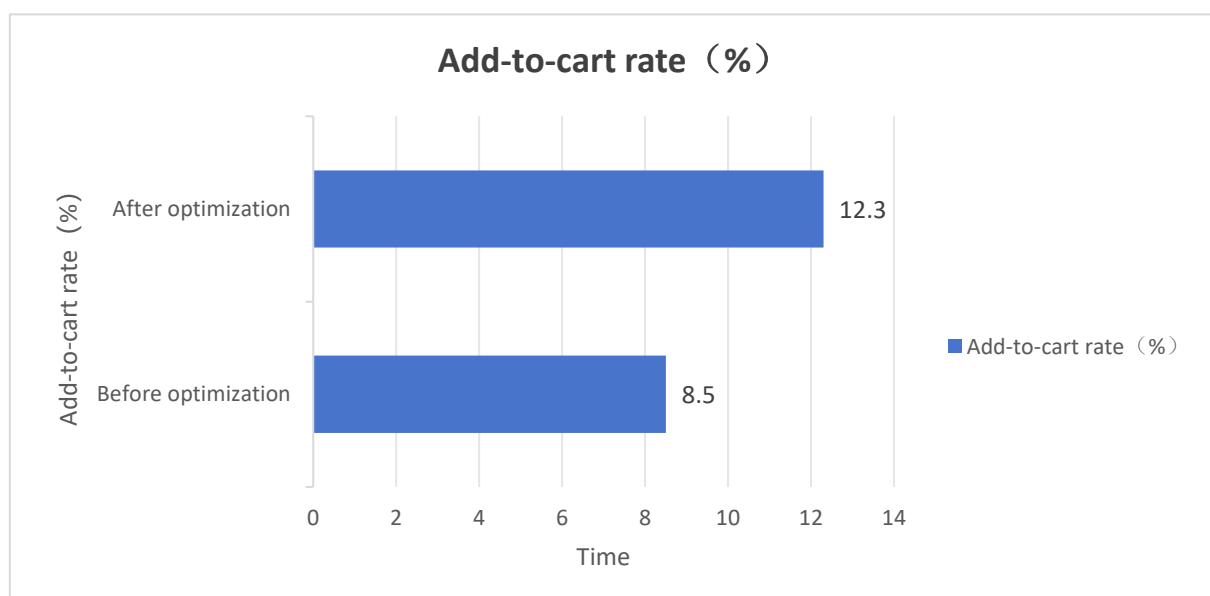


Figure 4. Comparison results of users' collection and purchase rate on cross-border e-commerce platform of silk products before and after optimization

Conversion Rate

Figure 5 shows the statistical results of user conversion rate of cross-border e-commerce of silk products before and after optimization. The data show that the user conversion rate after optimization has increased by 1.5% compared with that before optimization. Before optimization, the checkout process requires jumping

through three pages. After optimization, the integration of localized payment methods (such as GrabPay in Southeast Asia and CashU in the Middle East) may have helped reduce losses caused by page jumps. Highlighting logistics advantages on the details page, such as “7-day delivery to Dubai” and “free returns within 30 days,” may ease users’ purchase concerns, possibly contributing to smoother conversion. Adjusting pricing statements for different markets is another possible factor. Emphasizing “only 2499 rubles for 48 hours” in the Russian market and launching “buy 2 get 1 free” combination discounts in the African market, which align with local bulk purchasing habits, may have catered to regional consumption preferences. In general, improving the user conversion rate requires addressing multiple factors, with a key focus on ensuring users feel secure during purchasing [18].

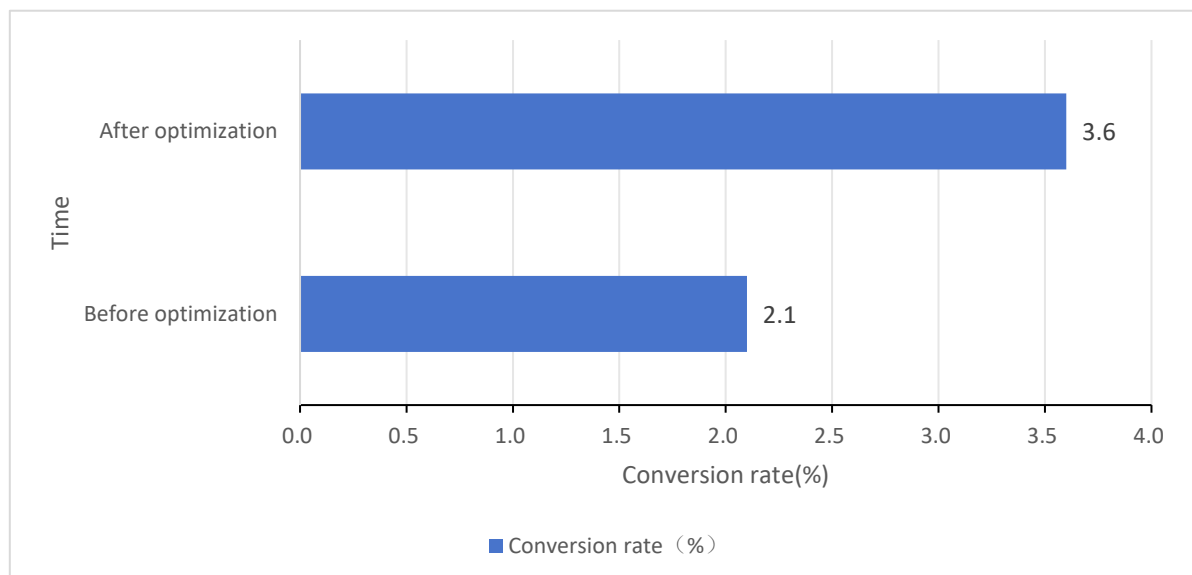


Figure 5. Comparison results of cross-border e-commerce user conversion rate of silk products before and after optimization

User Satisfaction

Figure 6 shows the comparative data of users’ satisfaction with the English communication effect of cross-border e-commerce of silk products before and after optimization. The satisfaction of users has increased by 13.6% after optimization, and it has been significantly improved in a short period of time. Before optimization, the customer service replies are templated (such as “Thank you for your purchase”). After optimization, the addition of cultural care—like attaching “Wish you a blessed day” to order confirmations for users in the Middle East and providing multilingual after-sales guides (with English–Indonesian/Thai comparisons) for Southeast Asian users—may have helped improve user satisfaction. The change in packaging may have also

played a role. Before optimization, packaging is limited to transparent plastic bags. After optimization, integrating regional cultural elements —such as giving Indian users silk packaging bags with hand-painted auspicious patterns and placing silk culture postcards (“a brief history of silk trade on the Silk Road”) in European orders—may have enhanced the unpacking experience. These adjustments may have contributed to a positive overall interaction with users, although their specific effects can be influenced by various factors like local cultural nuances and individual preferences [19,20].

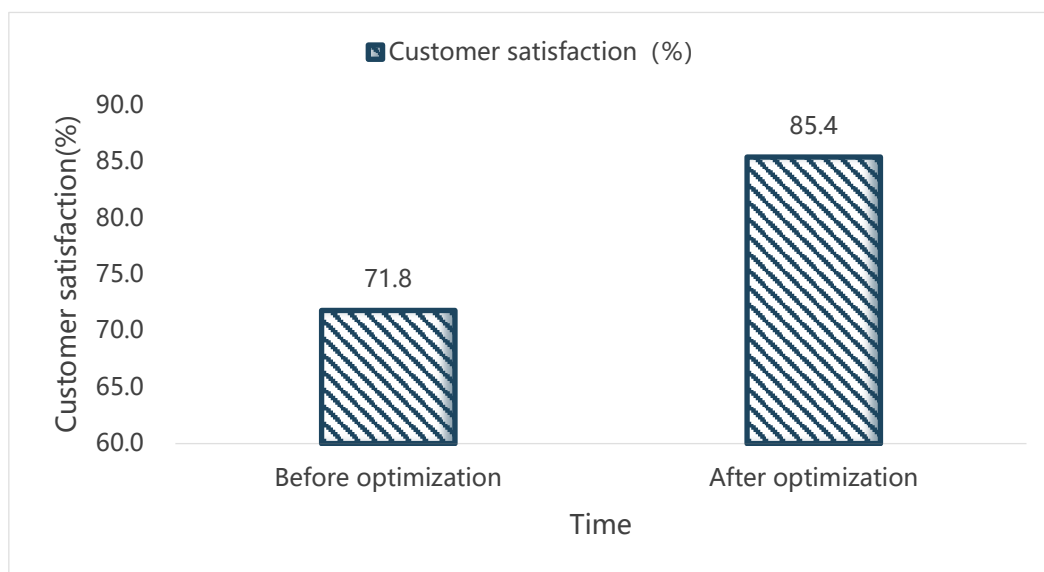


Figure 6. Comparison results of user satisfaction before and after optimization

Differentiated Effects of the Seven Indicators

Figure 7 presents evaluation metrics across multiple dimensions, including language comprehension and cultural adaptability. The conversion rate scores the highest at 171 points ($3.6 \div 2.1 \times 100 \approx 171$), demonstrating strong effectiveness in driving user engagement. The collection and purchase rate scores 145 points ($12.3 \div 8.5 \times 100 \approx 145$), indicating strong performance in stimulating users' collection and purchasing behaviors. The page click-through rate scored the lowest at 52 points ($2.5 \div 4.8 \times 100 \approx 52$), revealing a notable deficiency in attracting user clicks. These results suggest that optimizing page design and promotional strategies may be crucial for improvement.

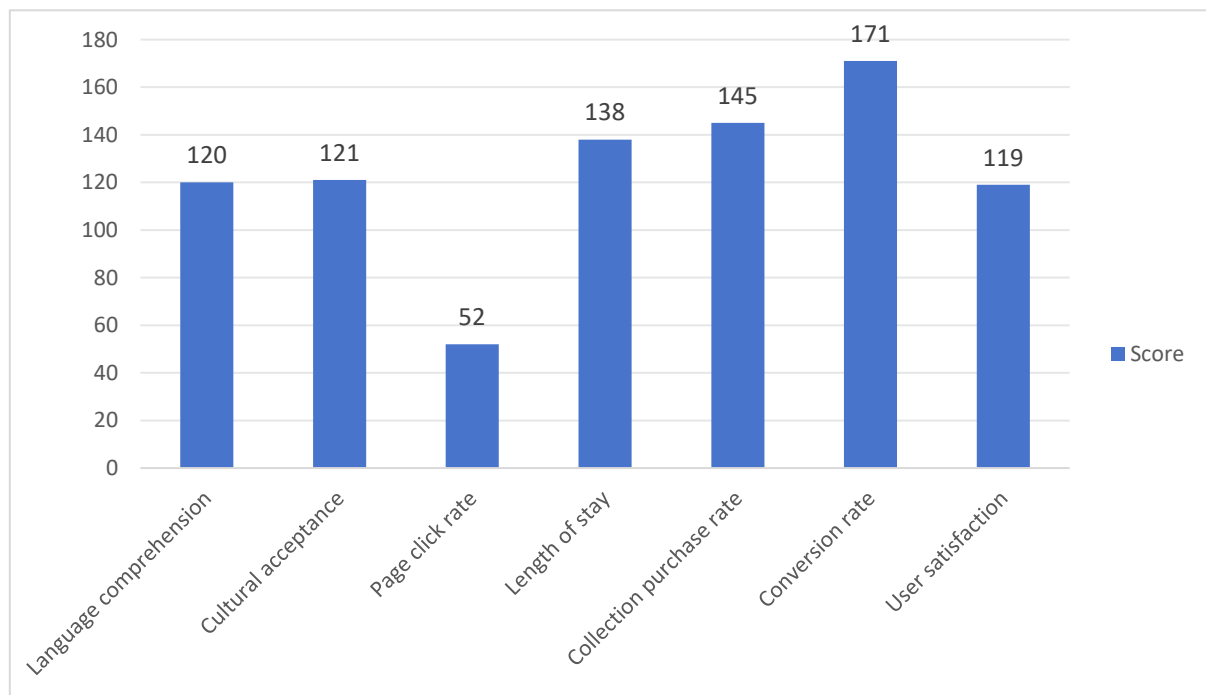


Figure 7. Differentiated effects of the seven optimized indicators

CONCLUSIONS

By optimizing the pre- and post-control experiments, this study proves that language style adjustment, cultural adaptation improvement, and platform optimization strategies can significantly improve the effectiveness of English communication for cross-border e-commerce of silk products in the Belt and Road market. To provide strong evidence for strict causal relationships, A/B tests were conducted. For example, when optimizing language style, Group A used the original standardized communication approach, whereas Group B adopted the adjusted concise and scene-based language expression. The results show that the CTR of Group B is 2.3% higher than that of Group A, and the conversion rate is significantly improved, clearly demonstrating the positive effect of language style adjustment. Specifically, the seven indicators, including language understanding, cultural acceptance, and page CTR, are significantly improved, indicating that accurate cultural symbol implantation, concise and scene-based language expression, and platform operation strategy that suits users' habits can effectively enhance consumers' cognition and purchase intention of silk products.

The research shows from the Silk Road to Belt and Road, the initiative is not only a conceptualization of historical and geographical concepts into policy planning blueprints but also draws spiritual nourishment from its legacy and has evolved into a super-large-scale economic cooperation program in human history [21].

Based on existing research, this study puts forward optimization strategies so that English communication for the cross-border e-commerce of silk products can exert a long-term effect.

Enhancing localization strategies involves forming a multilingual translation and market research team. A “functional equivalent translation + scenario expression” approach should be adopted to align with the language habits of different countries. For example, local popular terms and proverbs can be integrated into product descriptions, technical jargon can be simplified, and illustrations and supplementary explanations can be added to reduce comprehension barriers.

In terms of commercial feasibility, market research should be conducted to analyze the costs of implementing localization strategies, including team formation, translation tool procurement, and cultural research. Historical sales data and user feedback can be used to predict the increase in product CTRs, conversion rates, and sales after the strategy is implemented. The effectiveness of competitors’ localization strategies should be compared to assess the competitive advantage of this plan in the market. The strategy’s return on investment must be reasonable, effectively enhancing the competitiveness and commercial benefits of silk products in the cross-border e-commerce market of the Belt and Road Initiative. To enhance the precise adaptation of culture, a Belt and Road market culture database should be established. Multi-dimensional resource organization should be adopted, with attention paid to the in-depth processing of resource content strengthening of domestic and foreign cooperation mechanisms [22].

Local cultural symbols should be accurately integrated in the communication content, such as the integration of Buddhist elements in the Southeast Asian market, highlighting geometric patterns in the Middle East market, avoiding cultural conflicts, and enhancing the emotional resonance of consumers. Cross-border e-commerce platforms should give full play to their own advantages, accurately grasp consumer behavior, and formulate corresponding marketing strategies based on their characteristics so as to promote the sustainable development of cross-border e-commerce platforms [23]. Key design principles include highlighting cultural stories and product selling points on the first screen, refining material parameters and usage instructions in the middle section, and displaying user evaluations and certification marks in the final section. Localized payment methods are also integrated to simplify the shopping process and reduce user drop-off. Building a dynamic feedback mechanism involves regularly collecting user behavior data and market feedback and using big data analysis and AI to monitor communication effectiveness. Based on historical data, advanced technologies such as big data predicts market responses to different strategy combinations, enabling dynamic adjustments to language styles to better match user preferences, optimize cultural elements to meet diverse

needs, and refine promotional strategies to enhance communication efficiency. This process promotes the continuous optimization and upgrading of communication strategies, making adjustments more forward-looking and precise.

Author Contributions

Jintian Chen designed, collected and analyzed the data, and drafted the manuscript. Jintian Chen conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. Jintian Chen participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest

The author declares no conflict of interest.

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Analysis of Critical Discourse on Reports of Jiangxi by Foreign Media Based on Corpus. (JC24105)

Research on the Improvement of Information-based Teaching Ability of English Teachers in Jiangxi Open University System from the Perspective of AI. (JKND2308)

Ethics Approval and Consent to Participate

This survey was conducted in compliance with [Ethics Committee of Jiangxi Open University] (Jx/7/5). Participants were informed of the study's purpose and data usage prior to participation, and responses were collected anonymously. No personally identifiable information was stored.

Availability of Data and Materials

The datasets used and/or analysed during the current study were available from the corresponding author on reasonable request.

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Not applicable.

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