

# Exploring the Influencing Factors of Service Quality in Real Estate E-commerce Platforms Based on the Perspective of Politeness

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Abstract— The rapid development of the internet has led to the rise of various e-commerce platforms, and the real estate agency industry is no exception. Compared to the traditional model that relies on offline stores, real estate e-commerce platforms integrate property listings online, achieving a digital transformation of the transaction scenario. However, this shift has brought about new issues, particularly in the service quality of human-computer interactions. From a politeness perspective, users expect a smooth browsing experience, accurate searches, and efficient, considerate after-sales service when using real estate e-commerce platforms. Failing to meet these expectations is viewed as impolite behavior, which can lead to user attrition and negatively impact the platform's development. This study employs the Critical Incident Technique to explore these issues. The findings indicate that users' perceptions of a polite experience are mainly influenced by key factors such as property matching, property details, information authenticity, personal privacy, and user service assistance. To effectively address these issues and improve the service quality of real estate e-commerce platforms, targeted recommendations are proposed from the perspectives of platform operators, property suppliers, and property demanders. These suggestions aim to provide a theoretical reference for optimizing users' polite experiences.

**Keywords**— E-commerce Politeness, Real estate, Real estate ecommerce platform, Service quality, Critical incident technique.

# I. INTRODUCTION

With the rapid development of internet technology, the real estate intermediary industry is undergoing profound changes, with real estate e-commerce platforms emerging robustly. Unlike traditional real estate intermediaries that mainly rely on offline stores to communicate face-to-face with consumers, using the professional knowledge and communication skills of sales personnel to facilitate transactions, real estate ecommerce platforms integrate a large amount of property information online, allowing consumers to browse numerous listings without leaving their homes. However, this shift has also brought many new problems, among which the service quality in the human-computer interaction process has received widespread attention. From the perspective of politeness, consumers expect a smooth, comfortable, and humanized experience at every stage when using real estate ecommerce platforms, including browsing property information, submitting purchase intentions, paying deposits, and subsequent after-sales consultations. If the platform exhibits information inaccuracies, user data leakage, or poor customer service, consumers will have a bad experience. These are considered impolite behaviours of the real estate e-commerce platform, which could potentially lead to severe consumer loss. Although there are many studies on the service quality of e-commerce platforms, few have analyzed from the politeness perspective of human-computer interaction in the real estate field. Therefore, this study uses the Critical Incident Technique to analyze the key factors affecting the service quality of real estate e-commerce platforms and proposes optimization suggestions, providing theoretical references for improving users' politeness experience.

# II. LITERATURE REVIEW

# A. Real Estate E-commerce Platform

As an intermediary for transactions, the real estate ecommerce platform is a commercial platform that relies on the internet, intranet, and databases to conduct online real estate transactions and related services. It demonstrates the socialization, interactivity, informatization, and networking of various business processes. The platform creates value by matching buyers and sellers, facilitating real estate transactions, and ensuring the security of the transaction process. In matching buyers and sellers, the real estate ecommerce platform integrates property information, real estate agents, developers, financial institutions, and other resources in the real estate market. By utilizing big data and other internet data, it recommends desirable properties to suitable users, helping them quickly find services that meet their needs through the platform (Chen & Huang, 2025). Almost every country has well-known real estate e-commerce platforms. For example, Zoopla is the largest independent online real estate advertiser in the UK and is not affiliated with any estate agents. In addition to advertising properties for sale and rent, the website also provides local-level analysis (Livingston et al, 2021). Immoweb is the largest and most visited residential real estate advertising website in Belgium, allowing sellers to advertise their properties online (Vandenbergh, 2024). Goodchild and Ferrari (2024) found that in the UK and other regions, online platforms have become crucial to the operation of the real estate market. The reason online real estate websites have become so important is that their convenience and timeliness have disrupted traditional models. Zillow, a household name in the United States, is an extremely successful real estate portal. Its accessible and functional top menu and submenu links, along with the ability to filter search results by entering key requirement data fields, demonstrate incredible ease of use, resulting in instant and valuable outcomes (Manko, 2022). The research by Cherif and Grant (2014) shows that real estate internet websites, with their

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online property search functions and value creation capabilities, have improved communication and transactions in the real estate sector by leveraging the convenience of displaying information on the internet, thus fostering closer cooperation among stakeholders. Tien and Zou (2024) point out that unlike traditional methods, real estate online platforms allow buyers to search for more properties through online channels, enhancing the efficiency of property searches in the real estate market and enabling them to find properties that better match their preferences.

Currently, real estate e-commerce platforms are composed of platform operators, property suppliers, and property demanders. The interactive relationship among these three parties is shown in Figure 1. Based on the relationship between these three parties, effective integration can significantly optimize the service quality of real estate ecommerce platforms.



**Transaction Relationship** 

Fig. 1. Diagram of the Three-Party Interaction Relationship in Real Estate Ecommerce Platforms.

# B. E-commerce Politeness

In the field of service quality research, the concept of politeness has gradually taken on significant importance. M. et al (2012) proposed viewing politeness as a communicative state from a theoretical construction perspective and used a social signal framework to unify and interpret politeness phenomena. This perspective provides a new interpretation of the role of politeness in service quality and customer experience. Skogan (2005) through his study on interactions between police officers and citizens, emphasized the importance of interaction quality in interpersonal communication, laying the foundation for understanding service interactions in different contexts. Mulholland (2004) pointed out that people's attitudes toward computers and other new media are similar to their attitudes toward real people, indicating the necessity of considering "human-like" treatment in human-computer interaction. This finding extends the connotation of politeness, applying it to the field of humancomputer interaction. Whitworth (2005) further clarified that politeness is a key social requirement in Human-Computer Interaction (CHI). He proposed that impolite software would drive away users, while polite software would attract users, highlighting the critical significance of software politeness for its success. Additionally, Whitworth (2009) emphasized that for online societies, software must not only be practical and

usable but also polite to promote the realization of the potential of internet society and technology. On this basis, Chen and Hu (2017) proposed a multidimensional structure for constructing a politeness model in virtual commercial environments and developed a tool to measure perceived politeness in online commercial platforms, which holds practical value in virtual storefront management. Additionally, Chen and Huang (2025) summarized and refined the dimensions of the politeness framework, constructing an impact model of user value co-creation on e-commerce platforms based on user experience. Empirical tests proved the influence path of the politeness framework on user value cocreation and the moderating effect of platform types. Overall, in the context of human-computer interaction, politeness significantly affects service quality, with the degree of politeness directly relating to user experience and service effectiveness in the interaction process.

In the field of real estate e-commerce platforms, although research directly addressing the impact of politeness factors on service quality is not yet sufficient, the aforementioned theoretical studies provide an important theoretical foundation for exploring the factors influencing service quality from a politeness perspective.

## III. RESEARCH METHODS

# A. Critical Incident Technique

The Critical Incident Technique (CIT) was proposed by Flanagan in 1954. Viergever (2019) systematically demonstrated that CIT is a qualitative research method rather than a simple tool. Initially, CIT was used in the field of military psychology as a means to identify and evaluate the effectiveness of human behavior. Due to its characteristics, it was later applied in the field of performance evaluation and subsequently expanded to management, education, medicine, and other fields to address more research challenges (Butterfield et al, 2005). For example, Pettersson et al (2024) used CIT to explore and identify the actions taken by healthcare professionals when working with children with autism spectrum disorders in high-tech environments. Weiss et al (2024) employed CIT to explore how "egalitarian" interactions between student teachers and mentor teachers can be achieved during a one-year teacher education internship in Germany.

CIT focuses on real-life behaviors and issues by collecting and analyzing critical incidents narrated by respondents through specific procedures. It classifies and analyzes these incidents to efficiently identify problems, explore key factors, and derive solutions (Jessica, Philippa & Wendy, 2008). Compared to traditional methods of investigating service quality, CIT has significant advantages. Therefore, this study employs CIT as the research method.

# B. Research Design

The data collection methods typically used in CIT include observation, questionnaires, individual interviews, and group interviews. This study employs the questionnaire method. Using questionnaires to collect critical incidents has advantages such as being quick and efficient, ensuring the



quality and depth of responses, and enhancing the authenticity of the data.

From October 20, 2024, to November 13, 2024, a survey was conducted to collect critical incidents that left a strong impression on users while using real estate e-commerce platforms. The collection period lasted 24 days. Questionnaires were collected through both online channels within the real estate e-commerce platform user community and in-person interviews with platform users. The respondents were users who are currently using or have previously used real estate e-commerce platforms. Before filling out the questionnaire, the purpose and significance of collecting the questionnaires were explained to them. The questionnaire items asked users about the most satisfactory and least satisfactory incidents they experienced while using the real estate e-commerce platform, as well as suggestions for improving the least satisfactory incidents to make them satisfactory. Additionally, respondents were asked whether they would be willing to continue using the platform if the least satisfactory incidents were properly addressed. The aim of this study is to summarize the key factors based on user feedback about satisfactory critical incidents and propose further optimization strategies accordingly. For unsatisfactory critical incidents identified by users, the study aims to summarize the key factors and propose compensation measures and improvement suggestions to prevent similar incidents from occurring in the future.

# IV. DATA ANALYSIS

## A. Analysis of Respondents' Basic Information

In this study, a total of 254 questionnaires were collected. After excluding invalid questionnaires that were blank, offtopic, incomplete, or did not meet the CIT research standards, 204 valid questionnaires remained. According to the statistical data of the valid questionnaires, there were 176 satisfactory critical incidents and 166 unsatisfactory critical incidents.

Based on the valid questionnaires, this study analyzed respondents from the aspects of gender, age, and educational background. In terms of gender, there are 135 male users and 69 female users, which may indicate that males are more inclined to participate in such activities. Regarding age distribution, the largest proportion is 36-45 years old, accounting for 37.25%, followed by 26-35 years old, accounting for 26.47%. This indicates that respondents are mainly concentrated in the young to middle-aged group. In terms of educational background, a high proportion of respondents hold a bachelor's degree, reaching 66.18%, followed by users with a master's degree, accounting for 17.65%. This indicates that respondents are mainly highly educated individuals. The occupational status shows that there are many employed respondents, totaling 150. This means that employed individuals have more opportunities to access real estate e-commerce platforms and have stronger purchasing power. Regarding usage frequency, users who use the platform several times a week account for the highest proportion, at 43.63%, followed by those who use it several times a month, at 33.33%. This shows that most respondents visit real estate e-commerce platforms regularly. Finally, the data on monthly expenditure shows that the majority of users fall within the range of 4,001-6,000 RMB, accounting for 22.55%, while high-income users with monthly expenditure above 20,001 RMB also represent a significant proportion, with 29 users. This indicates that respondents have varying spending capacities and different needs.

# B. Analysis of Critical Incidents

In critical incident analysis, to ensure the reliability and consistency of the results, this study will conduct reliability and validity tests. For reliability tests, formulas will be used to calculate the individual classification consistency of the classifiers and the mutual classification consistency among classifiers. Only when the reliability of each data point is greater than 0.8 will it be considered valid; otherwise, reclassification will be required (Flanagan, 1954). Validity tests will be carried out from three dimensions: face validity, content validity, and expert validity.

## Classification of Critical Incidents

The study conducted a classification and definition of satisfactory and unsatisfactory critical incidents, as shown in Table 1 and Table 2.

TABLE I. Classification and Definition of Satisfactory Critical Incidents

| Categories              | Definition Explanation  |  |
|-------------------------|---|--|
| Property                | Matching property information for users through big   |  |
| Matching                | data technology   |  |
| Property Details        | Property details, such as layout, size, price, and surrounding amenities, etc   |  |
| Additional<br>Services  | Besides basic property transactions, there are<br>additional services such as property appraisal, loan<br>processing, legal consultation, and interior design |  |
| Interface<br>Experience | Layout of the interface, color scheme   |  |
| Intelligent             | Automatic Q&A services for real estate-related  |  |
| Responses               | inquiries   |  |

TABLE 2. Classification and Definition of Unsatisfactory Critical Incidents

|                  | Categories                     | Definition Explanation   |  |
|------------------|--------------------------------|--|--|
|                  | Information<br>Authenticity    | Property and related transaction information must be<br>authentic, accurate, complete, timely, and consistent,<br>without the publication of false or misleading content                                     |  |
| Personal Privacy |                                | User's personal identity information, contact details,<br>browsing and transaction records, and other private<br>data retained on the platform must not be disclosed   |  |
|                  | User Support<br>Assistance     | The response speed of human customer service, the professionalism in guiding the transaction process, etc  |  |
|                  | Regulatory<br>System           | Ensure the verification of merchants and property<br>information based on entry review standards, monitor<br>the transaction process using technical means, and<br>establish rules for penalizing violations |  |
|                  | Rights Protection<br>Mechanism | Ensure smooth rights protection channels and<br>coordinate with relevant teams, establish rights<br>protection processes and rules, and address issues or<br>disputes users encounter during transactions    |  |

This study invited the help of three classifiers to assist with the classification process. Classifier One is a real estate agency business manager with over 5 years of experience in the real estate agency industry. Classifier Two is a legal compliance officer specializing in real estate-related laws and



regulations, familiar with risk control in real estate transactions. Classifier Three is a user experience designer focused on improving the interaction between users and the platform through design. All three classifiers have relevant experience in the field of real estate e-commerce platforms. Their professional knowledge and practical experience allow them to accurately and reasonably classify satisfactory and unsatisfactory critical incidents.

### Reliability Testing

The reliability test mainly includes two aspects: individual classification consistency and the mutual classification consistency among classifiers.

Individual classification consistency refers to the need for the same classifier to maintain consistent classification results for the same or similar critical incidents when classifying multiple times. When the degree of similarity in classification results between two or more classifiers is above 0.8, it indicates consistency and reliability in their classification. For satisfactory critical incidents, the numbers of similar classifications in the first and second rounds by the three classifiers were 148, 155, and 145, respectively. This results in individual classification consistency reliability of 0.84, 0.88, and 0.82 for the three classifiers, all of which exceed 0.8. For unsatisfactory critical incidents, the numbers of similar classifications in the first and second rounds by the three classifiers were 138, 145, and 141, respectively. This results in individual classification consistency reliability of 0.83, 0.87, and 0.85 for the three classifiers, all of which exceed 0.8. In summary, the degree of similarity in classification results for both satisfactory and unsatisfactory critical incidents by the three classifiers is above 0.8, indicating consistency and reliability in the classification.

The mutual classification consistency among classifiers refers to the requirement that when three classifiers independently evaluate and classify the same set of critical incidents, they should provide similar judgments and classification results. This indicates that the classification system is reliable and reproducible. The reliability data must be above 0.8 to be considered valid; otherwise, reclassification is necessary.

Validate the degree of the mutual classification consistency among classifiers. The formula is as follows:

$$R = \frac{(N \times A)}{1 + [(N-1) \times A]}$$
(1)  
$$A = \frac{2M_{12}}{n_1 + n_2} + \frac{2M_{23}}{n_2 + n_3} + \frac{2M_{13}}{n_1 + n_3}$$
(2)

Where *R* represents reliability, *N* represents the number of classifiers, *A* represents the average of the mutual classification consistency, *M* represents the number of similar classifications between classifiers (e.g.,  $M_{12}$  is the number of samples classified similarly by the first and second classifiers), and *n* represents the number of samples judged by each classifier (e.g.,  $n_1$  is the number of samples judged by the first

classifier).

The number of mutual consistencies in satisfactory critical incidents is shown in Table 3.

TABLE 3. The Number of Mutual Consistencies - Satisfactory Critical

| meraents     |              |              |              |
|--------------|--------------|--------------|--------------|
| Number       | Classifier 1 | Classifier 2 | Classifier 3 |
| Classifier 1 | 148          |              |              |
| Classifier 2 | 103          | 155          |              |
| Classifier 3 | 98           | 94           | 145          |

The average of the mutual consistency is 0.659, and the data reliability is 0.853, which exceeds 0.8.

The number of mutual consistencies in unsatisfactory critical incidents is shown in Table 4.

TABLE 4. The Number of Mutual Consistencies - Unsatisfactory Critical

| Number         Classifier 1         Classifier 2         Classifier 3 |     |     |     |
|---|-----|-----|-----|
| Classifier 1  | 138 |     |     |
| Classifier 2  | 95  | 145 |     |
| Classifier 3  | 86  | 88  | 141 |

The average of the mutual consistency is 0.634, and the data reliability is 0.839, which exceeds 0.8.

The mutual consistency data results are shown in Table 5.

TABLE 5. The Mutual Consistency Data Results

| Critical incidents | Average Mutual<br>Consistency (A) | Reliability(R) |
|--------------------|-----------------------------------|----------------|
| Satisfactory       | 0.659                             | 0.853          |
| Unsatisfactory     | 0.634                             | 0.839          |

In summary, for both satisfactory and unsatisfactory critical incidents, the data for individual classification consistency and the mutual classification consistency among classifiers are all above 0.8. The reliability testing results indicate that the data is valid, meaning the classifiers' classifications are effective. This demonstrates that the service quality of the real estate e-commerce platform is indeed influenced by the classification and definition results, which are key factors.

Examples of the classification of satisfactory critical incidents in this study are shown in Table 6, while examples of the classification of unsatisfactory critical incidents are shown in Table 7.

#### Validity Testing

Content validity refers to the extent to which a tool encompasses the content it is intended to measure. The items in this study's questionnaire are centered around satisfactory critical incidents and unsatisfactory critical incidents, as well as suggestions for improvement, thus covering the research objectives comprehensively. Furthermore, business school faculty members were invited to evaluate the validity of the items, indicating a certain degree of expert validity (Yaghmale, 2009). The items are also highly relevant to the theme of politeness in this study, demonstrating good face validity (Mosier, 1947).

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## TABLE 6. Examples of Satisfactory Critical Incidents Classification

| Categories               | Examples   |
|--------------------------|--|
| Property<br>Matching     | Example 1: When I was browsing property listings on the platform, the intelligent recommendation feature found a house that perfectly met my needs. The page was also equipped with real images and detailed information about nearby facilities. The location, price, and layout of this house almost perfectly matched my ideal standards.<br>Example 2: I was amazed by the precise property recommendation   |
| Categories               | Examples   |
|                          | feature. After I set my budget, preferred area, and type of house, the platform quickly filtered out a series of property listings that highly met my needs.   |
| Property<br>Details      | Example 1: The platform provided detailed information, such as the house's size, orientation, and level of renovation, as well as information about surrounding facilities. It informed me of the distances to schools, hospitals, and malls, and included historical transaction records and an analysis of housing price trends in the area. All this information helped me make a better decision.<br>Example 2: When I clicked into the details page, the housing information was complete and accurate, the images were clear and real, and the text descriptions were objective and comprehensive. Additionally, there was detailed information about the surrounding facilities and user reviews for reference. The entire process made me feel respected as a user, providing an excellent experience and saving me a lot of time and effort in house hunting. |
| Additional<br>Services   | Example 1: I particularly like the platform's renovation section, which offers free design or free on-site measurement services. It even has free AI design. I just got my house and was worried about how to decorate it. When I accidentally saw the AI design on the platform and clicked on it, it automatically generated images that I liked, instantly giving me inspiration for the decoration. I absolutely love it.<br>Example 2: I think the platform is pretty good. During the transaction process, it also provided legal consultation and asked if I needed a loan plan. It didn't make me pay extra money or try to rip me off. This gave me a very thoughtful and delightful experience.  |
| Interface<br>Experience  | Example 1: When searching for a house, the filter interface is comprehensive and clear. All the options I wanted to select were included, making the operation very convenient.<br>Example 2: The platform's interface design is simple, and the filtering function is detailed and practical, allowing precise targeting of the desired house.  |
| Intelligent<br>Responses | Example 1: I like the automated Q&A feature of the online customer service. It covers many questions I wanted to ask, with the questions of set<br>in advanced being quite comprehensive. Sometimes, waiting for a human customer service representative takes time, but by simply entering<br>keywords, I can get the answers I need right away, saving me a lot of time.<br>Example 2: The intelligent user service can answer some basic  |
| Categories               | Examples   |
|                          | questions at any time, with relatively quick response times. When I encounter unclear issues about property ownership or transaction processes, the intelligent customer service can generally provide clear answers. This thoughtful and detailed feature setting is quite satisfying.  |

#### TABLE 7. Examples of Unsatisfactory Critical Incidents Classification

| Categories        | Examples   |  |
|-------------------|--|--|
|                   | Example 1: When looking for properties, I would sometimes receive listings that did not match the actual situation, containing false   |  |
|                   | information, which caused me to waste a trip.  |  |
| Information       | Example 2: Once, I saw some houses marked as "real properties" with very attractive prices. However, upon clicking for detailed information,   |  |
| Authenticity      | I found that the actual prices were significantly different from those marked. Some were even false low prices to attract attention. When I  |  |
|                   | contacted the agent for further inquiries, I was told that such prices didn't exist at all. I felt deceived by the platform's false pricing, which   |  |
|                   | negatively affected my house-hunting experience and wasted a lot of time distinguishing these inaccurate listings.   |  |
|                   | Example 1: A while ago, I wanted to see if there were any suitable houses on the real estate e-commerce platform, so I filled in my personal   |  |
|                   | information in detail on the platform, hoping to match my desired properties accurately. Little did I know that within a few days of filling out   |  |
| Personal Privacy  | the information, I started receiving all sorts of spam calls non-stop. Calls from renovation companies and various agents kept ringing. Later,   |  |
| 1 ensonal 1 m aey | while inquiring about some loan matters on the platform for buying a house, I also left some personal information. As a result, I didn't get any   |  |
|                   | reliable loan plans but received a bunch of harassment messages from small loan companies instead, completely disrupting my life.  |  |
|                   | Example 2: I accidentally clicked on a page, and suddenly someone claiming to be an agent or broker called me, which startled me.  |  |
|                   | Example 1: Last time, I found a house online that I liked, but the page didn't have the information I wanted. I contacted user service, but the  |  |
| User Support      | wait for a human representative was long, and once connected, their responses were slow and indifferent. They didn't solve my problem at all,  |  |
| Assistance        | and I felt like my time was wasted. I decided not to buy that house.   |  |
| <u> </u>          | Example 2: I was browsing properties on the platform and saw a house I really liked. I connected to the platform's human user service to   |  |
| Categories        | Examples   |  |
|                   | more information. However, the user service replied very slowly and had a rather cold attitude. They only gave brief, dismissive answers to  |  |
|                   | my questions and did not provide detailed information. I his made me feel very disrespected and unnappy.   |  |
|                   | Example 1: I previously came across a noise insting where the photos made the noise look clean and well-kept, with new renovations, and the  |  |
|                   | price seemed quite reasonable. However, when I contacted the agent to view the nouse, I found that the actual condition of the nouse was   |  |
|                   | vasty different from the description on the platform. The wants had hard setting a data while for that data data the platform.   |  |
| Regulatory        | Event of the and that this agent often used take photos to attract tenants, and the photon had rained to detect and prevent this behavior.   |  |
| System            | Example 2. While scatching for reliat monimation of the platform types in the platform to arrange a vigour ocation. The database should that all the conditions must be available to the platform to arrange a vigour and what to  |  |
|                   | detailed page showed that an the conductors her my expectations. However, when a conducted the platform to an angle a viewing and went to see the base in person. I found that the actual conditions was very different from what was shown on the platform. The area was much smaller   |  |
|                   | see the house in persons, i found that the actual containion was very unretent from what was shown on the platform. The area was materi similarity that the interior facilities were much older. There was clearly followed and the information Law very discrimination to the platform. |  |
|                   | had multicated, and the methor facinities were much older. There was clearly take and exaggerated mortification in very dissatisfied with the<br>platform's lack of figure suddings of property lictings which led to the appearance of inaccurate content.                              |  |
|                   | Frame 1: Previously I contacted a project through the platform that claimed to be adjusted by the developer. After paying the deposit  |  |
|                   | and preparing to sign the contract. I discovered that the developer had not obtained a permit and was engaging in illegal sales. When I  |  |
| Rights            | and proparing to sign the contact, i discovered that the discovered into contact a perform and was engaging in negar success when a requested a refut to mediate without any substantial effect. I still   |  |
| Protection        | haven't soften my denosit hack   |  |
| Mechanism         | Example 2: Before taking me to see the house, they did not clearly inform me about the brokerage service fees. Just as I was about to sign the   |  |
|                   | contract, they suddenly told me I had to pay a substantial amount, which was clearly unreasonable. When I duestioned the platform they kent  |  |
|                   | telling me to wait, saying they were negotiating, but it felt like they were just stalling.  |  |

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# V. CONCLUSIONS AND RECOMMENDATIONS

## A. Conclusions

This study, using the Critical Incident Technique from a politeness perspective, explores the factors influencing the service quality of real estate e-commerce platforms. The conclusions are as follows.

During the process of using real estate e-commerce platforms, there are five key factors that affect users' polite experience. Firstly, in terms of Property Matching, most platforms use big data and other technologies to accurately match user needs with property information, helping them quickly find properties that meet their requirements. Secondly, Detailed Property Information is also an important factor affecting users' polite experience. Real estate e-commerce platforms comprehensively display various information, including prices, layouts, and surrounding facilities, and provide real photos and video materials of the houses, enabling users to fully understand the property details. Moreover, beyond basic property transaction services, real estate e-commerce platforms also offer a variety of services such as property evaluation, loan processing, and legal consultation. These diversified services extend the business scope and aim to meet users' various needs during the property transaction process. Furthermore, a User-Friendly Interface Design and convenient operation process further enhance users' polite experience. Lastly, the platforms' Intelligent Responses can promptly address users' questions, reducing their waiting time.

However, users' impolite experiences mainly focus on five key factors. Some real estate e-commerce platforms present false property information that does not match the actual situation of the houses, causing users to feel misled and lowering the overall impression of the platform. Users' personal information filled in on the real estate e-commerce platform may be leaked due to inadequate security measures. leading to harassment. Additionally, the service quality provided by the platform is inconsistent, such as slow responses from customer service representatives and unprofessional guidance on transaction processes. Failure to promptly understand users' needs may result in loss of customers. Lastly, the platform's insufficient supervision of agents and property developers leads to frequent violations. When users encounter problems or disputes during transactions, the platform's protection mechanisms are not sound, resulting in poor protection channels and long processing times, thereby infringing on users' legitimate rights and interests. These behaviors cause users to have an absolutely poor experience and are considered very impolite actions of the platform.

## B. Recommendations

To address the aforementioned issues and improve the service quality of real estate e-commerce platforms, targeted recommendations are proposed from the perspectives of platform operators, property suppliers, and property demanders, as follows.

## Platform operators

Precision Matching and Service Expansion: Improve the accuracy of property matching to ensure that property information is true and traceable. For verified false listings, provide immediate high compensation to users and remove the violators. Additionally, offer personal concierge services to expand personalized services.

Security Assurance and After-Sales Upgrades: Strengthen the security of users' personal information by implementing multiple encryption measures. In the event of a data breach, provide free credit monitoring for one year. Simplify the loan approval process by collaborating with banks, and introduce a legal team to offer free consultations. Establish a "Service Supervision Bonus" to promote after-sales customer service upgrades.

Enhance Interaction and Optimize Supervision: Organize user communities, hold online home buying seminars and offline homeowner exchange activities. Optimize the interface to enable users to schedule property viewings with agents at the click of a button and ensure instant responses from smart customer service to enhance efficient interaction. In the supervision system, establish a business credit rating and an elimination system for the lowest performers to strengthen supervision and gain users' trust.

## Property suppliers

Ensuring Property Information Accuracy: All suppliers must provide accurate and error-free property information. This includes conducting detailed on-site inspections, taking high-definition photos, accurately labeling key data, regularly reviewing the property's status, and promptly updating any changes to ensure buyers receive genuine information.

Strengthening Information Security: Invest heavily in strengthening security measures. Establish stringent employee information usage protocols and sign confidentiality agreements. Any violations should be promptly and severely punished. Additionally, notify and assist users in taking precautionary measures when risks are detected.

Enhancing Service and Supervision Efficiency: Strictly control the quality of employee services by training them in knowledge and skills to respond quickly to user inquiries. Actively accept supervision from the platform and users, set up complaint feedback channels, and regularly review and improve processes. When dealing with transaction disputes, they must be handled fairly and impartially.

# Property demanders

Enhancing Property Recognition: When browsing properties on the platform, buyers should not rely solely on pictures and listed prices. They should compare similar properties in the same area, check the credibility of the poster, and request in-person or online video viewings for listings with attractive photos but vague descriptions to verify the property's condition and prevent false listings.

Strengthening Information Security Awareness: When registering personal information for renting or buying property, be cautious with authorizations, carefully read



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privacy policies, and avoid disclosing sensitive information to unfamiliar parties unless necessary. After transactions, monitor how your information is handled and promptly report any abnormalities to the platform for assistance.

Maintaining Awareness of Rights Protection: If you encounter poor agency service, use the platform's evaluation and complaint systems to reflect and document the details. Before transactions, understand the dispute resolution process and retain evidence. In case of disputes, follow the established procedures to reasonably claim compensation.

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