

INFLUENCE OF AI-DRIVEN ADMISSION TOOLS' PERCEIVED USEFULNESS, AI PERSONALIZATION, TRUST IN AI COMMUNICATION, AND PRIVACY CONCERN ON INTERNATIONAL STUDENTS' APPLICATION INTENTION*

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Abstract

This study aims to: 1) explore the impact of perceived usefulness, AI-driven personalization, trust in AI communication, and privacy concerns on international students' willingness to apply to private universities in China; 2) identify the strongest positive and negative predictors of application intention in the context of AI-driven admissions services; and 3) provide practical suggestions for improving the application of AI admissions tools in international student recruitment. This study employed a cross-sectional quantitative research design, collecting data from 400 potential international students who had used AI admissions services. Data analysis methods included descriptive statistics, reliability analysis, correlation analysis, and multiple regression analysis. The results show that: 1) perceived usefulness, AI-driven personalization, and trust in AI communication have a positive impact on international students' application intention; 2) privacy concerns have a negative impact on application intention;

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and 3) the regression model explains 55.1% of the variance in application intention, indicating strong explanatory power. Among all predictor's, perceived usefulness was the strongest positive factor, while privacy concerns were the most significant negative factor. The findings enrich the research literature on the application of artificial intelligence (AI) in higher education admissions and provide practical suggestions for improving AI-powered admissions services in Chinese private universities, including enhancing functional accuracy, personalized communication, trust mechanisms, and privacy protection.

Keywords: AI-Driven, AI Personalization, Trust in AI Communication, Application Intention

Introduction

The importance of artificial intelligence (AI) in international student admissions is increasingly evident, particularly in AI-driven admissions tools such as admissions chatbots, automated email systems, program recommendation interfaces, and online consultation platforms. These tools enable universities to provide timely, multilingual, and scalable communication services to potential international students. For Chinese private universities, the value of AI admissions tools is especially prominent, as they can reduce communication costs, improve response efficiency, and enhance their competitiveness in the international education market. The effectiveness of AI admissions tools depends not only on their technological capabilities but also on applicants' perceptions. International students often make application decisions in uncertain environments, as they must remotely evaluate academic programs, admission requirements, scholarship opportunities, visa processes, and institutional reputation. In this process, applicants' perceptions of whether AI tools are practical, personalized, trustworthy, and privacy-protecting directly influence their application intentions. Existing research on AI in education largely focuses on learning support, chatbot

design, or general technology applications. Research on AI-assisted admissions communication in the context of cross-border higher education admissions is relatively limited. Furthermore, while perceived usefulness and personalization may increase applicants' application intentions, privacy concerns may reduce their willingness to use AI systems, especially when sensitive personal data is involved. Therefore, it is necessary to examine applicants' perceived benefits and risks of AI-driven admissions tools. This study, based on the technology acceptance model, privacy computing theory, and AI trust theory, explores how perceived usefulness, AI personalization, trust in AI communication, and privacy concerns influence international students' willingness to apply to private universities in China. The findings are expected to provide empirical evidence for AI-driven admissions research and offer practical guidance for universities to improve their international admissions through responsible and applicant-centered AI communication.

Objectives

1. To examine the effect of perceived usefulness of AI-driven admission tools on international students' application intention.
2. To examine the effect of AI personalization on international students' application intention.
3. To examine the effect of trust in AI communication on international students' application intention.
4. To examine the effect of privacy concern on international students' application intention.
6. To compare the relative predictive power of the four factors and propose practical strategies for improving AI-driven admission services.

Literature Review

Technology acceptance perspectives for AI-driven admission tools: Technology acceptance perspectives explain why individuals adopt or reject systems based on perceptions of utility, effort, and expected outcomes. In recruitment settings, the “system” is often not a single application but a distributed set of AI-mediated touchpoints such as chatbots, recommendation engines, automated email journeys, and portal-based workflows (Almeida et al., 2025; Yan et al., 2025).

Trust in AI communication as a communication and governance construct: Trust in AI communication can be conceptualized as a belief that AI-mediated messages and interactions are reliable, competent, and aligned with the user’s interests, especially under uncertainty and limited ability to verify information immediately. In recruitment, trust is not only a property of the algorithmic agent; it is also a property of the institution that deploys the agent. When applicants interact with a chatbot or AI-generated messages, they often attribute agency and intentionality to the system’s outputs, which can influence judgments about honesty, transparency, and institutional responsibility (Kleizen, 2020). A systematic review of trust in AI chatbots emphasizes that trust formation is multi-dimensional and depends on system performance, perceived benevolence, transparency cues, and contextual stakes, implying that recruitment contexts may raise the threshold for trust due to the consequences of misinformation or misinterpretation (Ng, 2024).

Personalization, privacy calculus, and the privacy paradox: AI personalization refers to system behaviors that tailor content, recommendations, and interaction pathways to the perceived attributes, preferences, or prior behavior of a user. In recruitment, personalization may include custom program suggestions, scholarship prompts, region-specific visa advice, reminders aligned with deadlines, and language-adapted messaging. Personalization can enhance

perceived usefulness by increasing relevance and reducing search costs; however, it can also intensify privacy concern if applicants infer extensive data collection, profiling, or sensitive inference. Contemporary research on AI personalization underscores that perceived information sensitivity and service profiling can elevate privacy concern, even when personalization improves service relevance.

AI-driven admission tools in higher education: scope and functions: In higher education, AI-driven admission tools commonly include conversational agents for inquiry handling, personalized outreach and segmentation systems, AI-assisted content generation for emails and web pages, recommendation systems that match prospects to programs, and analytics tools that predict enrollment likelihood. The deployment rationale often emphasizes scalability, 24/7 availability, and consistency of messaging qualities that are particularly attractive for institutions recruiting across time zones. At the same time, student-facing AI tools in education are increasingly studied as socio-technical systems whose acceptance depends on both functional and relational dimensions. Research syntheses of educational chatbot implementation show that adoption depends on perceived performance, appropriate conversational design, and governance arrangements that address user concerns (Bilquise et al., 2024).

International students' application intention refers to their motivational readiness to apply to a university, which is shaped by academic value, perceived safety, social belonging, institutional reputation, support services, scholarships, and transparent administrative processes. In China's private university context, AI-mediated recruitment tools may influence this intention through several key factors. Perceived usefulness improves applicants' decision-making by saving time, offering complete information, matching students with suitable programs, and reducing uncertainty in application preparation (Sureshkumar, 2025; Dawar et al., 2022). AI personalization can enhance perceived relevance and reduce information overload, but it may also raise surveillance concerns when applicants

feel that sensitive data are being tracked or profiled (Teepapal, 2025; Asthana et al., 2024). Trust in AI communication depends on message quality, system competence, interaction quality, and human-like communication cues, which help users judge the reliability and benevolence of AI tools (Saffarizadeh & Keil, 2025). Meanwhile, privacy concern is especially important in AI admissions because applicants may provide sensitive information such as passports, transcripts, financial documents, and personal statements, and such concerns can affect their willingness to use AI-mediated admission services (Shouli et al., 2026). Therefore, effective AI-driven admissions should balance usefulness, personalization, trust-building communication, and privacy protection to strengthen international students' application intention (Gao & Liu, 2020).

Methodology

Employed a quantitative survey design to explore the impact of perceived usefulness, AI personalization, trust in AI communication, and privacy concerns on international students' intention to apply to private universities in China. This design was suitable for testing relationships between well-defined variables and assessing the predictive power of multiple factors at the same time point. The target population consisted of international students intending to apply to private universities in China who had experience using AI-driven admissions tools (e.g., admissions chatbots, automated messaging systems, or program recommendation platforms). A non-probability online sampling method was used, and data was collected through international student communities, online education networks, and educational counseling channels. A total of 400 valid questionnaires were obtained for statistical analysis. The research tool was a structured self-administered questionnaire containing three parts: screening questions, demographic information, and measurement items for key constructs. This study measured five constructs: perceived usefulness, AI personalization,

trust in AI communication, privacy concerns, and willingness to use AI. All items were measured using a five-point Likert scale. Data were screened before hypothesis testing, removing incomplete or invalid responses. Reliability was assessed using Cronbach's alpha coefficient, and construct validity was tested using factor analysis. Descriptive statistics were used to summarize the characteristics of respondents and the distribution of key variables. Data analysis was performed using SPSS software. First, Pearson correlation analysis was used to test the relationships between key constructs. Then, multiple regression analysis was applied to examine the effects of perceived usefulness, AI personalization, trust in AI communication, and privacy concerns on willingness to use the software. Standardized regression coefficients were used to compare the relative strengths of predictors, and R^2 and adjusted R^2 were used to assess the explanatory power of the model. Multicollinearity was assessed using variance inflation factor values to ensure there was no excessive overlap among independent variables. The significance level for the hypothesis tests was set at $p < .05$.

Results

A total of 400 usable responses were analyzed. Approximately 42.8% of respondents are from Southeast Asia and 29.2% from South Asia, with smaller shares from East Asia (non-China), Africa, and Europe/Americas. Gender is balanced, and the largest age group is 23–27 years. Most respondents report moderate to high prior experience using AI systems, indicating that they can meaningfully evaluate AI-mediated admissions communication. The descriptive results indicate that respondents generally held moderate perceptions of AI-driven admissions services. The mean scores for perceived usefulness, AI personalization, trust in AI communication, privacy concerns, and application intention were all close to the midpoint of the 5-point scale, ranging from 2.988

to 3.012. Among them, trust in AI communication showed the highest mean score, while perceived usefulness showed the lowest, although the differences were very small. The standard deviations ranged from 0.902 to 0.983, suggesting a moderate variation in respondents' opinions. The reliability results indicate that all measurement scales achieved excellent internal consistency, with Cronbach's alpha values ranging from 0.938 to 0.953. Perceived usefulness showed the highest reliability ($\alpha = 0.953$), followed by application intention ($\alpha = 0.951$), trust in AI communication ($\alpha = 0.949$), AI personalization ($\alpha = 0.944$), and privacy concern ($\alpha = 0.938$). Since all values are above 0.90, the questionnaire items are highly reliable and suitable for further statistical analysis.

Table 1 Correlations among constructs

Construct	PU	PER	TR	PC	AI
PU	1.0	0.45	0.435	-0.165	0.584
PER	0.45	1.0	0.383	-0.245	0.541
TR	0.435	0.383	1.0	-0.271	0.512
PC	-0.165	-0.245	-0.271	1.0	-0.438
AI	0.584	0.541	0.512	-0.438	1.0

Pearson correlations were used to assess bivariate relationships among constructs prior to multivariate testing. Table shows that PU, PER, and TR are positively associated with application intention, while privacy concern is negatively associated with application intention. Correlations among predictors are moderate, suggesting related but distinct constructs.

Table 2 Summary of hypothesis testing decisions

Hypothesis	Decision	Evidence
H1	Supported	PU shows a positive and statistically significant effect on AI.
H2	Supported	PER shows a positive and statistically significant effect on AI.
H3	Supported	TR shows a positive and statistically significant effect on AI.
H4	Supported	PC shows a negative and statistically significant effect on AI.

All four hypotheses are supported. Perceived usefulness has the largest positive standardized effect ($\beta = 0.344$), indicating that applicants' intention to apply rises most strongly when the AI admission tool is experienced as practically helpful for completing admissions tasks. Privacy concern has a sizable negative effect ($\beta = -0.268$), demonstrating that perceived privacy risk can offset the benefits of an otherwise useful system. Personalization ($\beta = 0.246$) and trust in AI communication ($\beta = 0.195$) are also significant, indicating that relevance and credibility matter beyond pure task efficiency. Therefore, universities should prioritize (i) functional correctness and task completion, (ii) privacy-by-design with transparent disclosures, and (iii) trust signals such as verified information sources, clear escalation, and consistent messaging.

Variance inflation factors (VIF) were examined to confirm that multicollinearity does not distort regression estimates. As shown in Table VIF

values are close to 1 and well below commonly used thresholds, indicating that the predictors contribute distinct information to the model.

Table 3 Variance inflation factors (VIF)

Predictor	VIF
PU	1.395
PER	1.355
TR	1.352
PC	1.107

Low VIF values indicate that the four predictors are not redundant and can be treated as separate levers in admissions system design. For example, increasing personalization does not automatically guarantee higher trust, and improving usefulness does not eliminate privacy concern. This supports a balanced improvement strategy across usability, relevance, credibility, and privacy protections. To communicate the results in a compact form, Figure presents the conceptual model with standardized coefficients and the explained variance of application intention. This visualization is useful for both academic reporting and admissions management discussions because it highlights the relative strength and direction of each pathway.

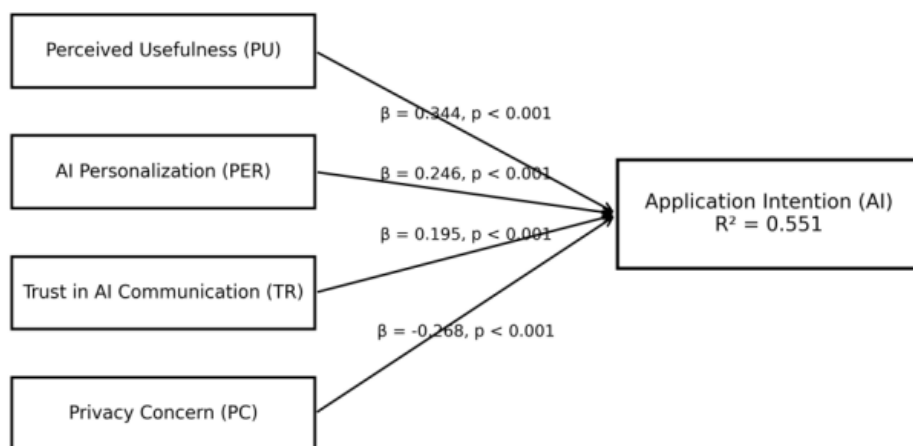


Figure 1 Conceptual model with estimated standardized effects.

Discussion

Research reveals that international students' willingness to apply to Chinese private universities is influenced by both perceived benefits and perceived risks of AI-assisted admissions tools. Regression analysis shows that perceived usefulness, AI personalization, and trust in AI communication have significant positive impacts on application intention, while privacy concerns have a significant negative impact. The model explains 55.1% of the variance in application intention, indicating that these four factors are highly explanatory for understanding applicants' responses to AI-assisted admissions services.

Perceived usefulness was found to be the strongest positive predictor of application intention. This result suggests that international applicants are most likely to respond positively to AI-assisted admissions tools when they believe they can help them obtain accurate information, understand admission requirements, reduce uncertainty, and efficiently complete application-related tasks. In the context of cross-border higher education, applicants often face difficulties related to language, distance, document preparation, program selection, and visa information. Therefore, AI tools that provide clear, timely, and

practical support can directly enhance students' application intention. This finding supports the core assumption of the technology acceptance model: practicality is a key driver of behavioral intention.

AI-driven personalization has also had a significant positive impact on application intentions. This indicates that applicants value admissions services that provide tailored information based on their academic background, preferred programs, language needs, nationality, or study plans. Personalized recommendations can reduce information overload and help students find programs that better align with their goals. However, personalization design must be approached with caution, as excessive or ambiguous data collection can raise privacy concerns. Therefore, universities should ensure that personalization is based on transparent, necessary, and applicant-consented data usage.

Trust in AI communication is another significant positive predictor. This finding suggests that applicants are more willing to apply when they perceive AI-generated information as reliable, accurate, transparent, and in accordance with institutional norms. Trust is particularly important in international admissions, as students often rely on online communication before visiting universities or directly contacting faculty. If AI tools provide inconsistent or inaccurate responses, applicants will question not only the tool itself but also the university's credibility. Therefore, trust in AI communication serves as a bridge between technological interaction and institutional reputation.

Privacy concerns have had a significant negative impact on application intentions. This finding confirms that international applicants may hesitate to use AI-driven admissions tools when they are uncertain about how their personal data is collected, stored, analyzed, and shared. Since international admissions typically involve sensitive documents such as passports, transcripts, financial information, and personal statements, privacy risks are a major obstacle influencing application intentions. The negative impact of privacy concerns also

indicates that technological usability alone is insufficient. Even if AI tools are convenient and personalized, unclear privacy policies or excessive data requests can reduce applicants' willingness to apply.

Chinese private universities should adopt a balanced AI admissions strategy. Enhancing functional usability should be the primary task, as it has the strongest positive impact on application intentions. Simultaneously, universities should improve the quality of personalization and enhance trust through accurate and transparent AI communication, and reduce privacy concerns through clear data usage policies, informed consent mechanisms, secure data protection, and human support channels. In this way, AI-driven admissions tools can not only serve as technological services but also as strategic tools to improve the efficiency of international admissions and institutional competitiveness.

Conclusion

A total of 400 valid questionnaires were analyzed. Descriptive results showed that respondents' perceived usefulness, AI personalization, trust in AI communication, privacy concerns, and application intentions regarding AI-assisted admissions tools were all at moderate levels. The average scores of the main constructs were close to the midpoint of a five-point scale, indicating that applicants' overall views on AI-assisted admissions tools were neither extremely positive nor extremely negative. Reliability analysis showed that all constructs had high internal consistency. The Cronbach's alpha coefficients for perceived usefulness, AI personalization, trust in AI communication, privacy concerns, and application intentions were all above 0.90. These results indicate that the measurement items have good reliability and are suitable for further statistical analysis. Correlation analysis showed that perceived usefulness, AI personalization, and trust in AI communication were positively correlated with application intentions, while privacy concerns were negatively correlated with

application intentions. The correlations among the independent variables were moderate, indicating that there are associations among these constructs, but they are conceptually distinct. Multiple regression analysis was used to test the hypotheses. The results showed that the overall model was statistically significant and explained 55.1% of the variance in application intentions. Perceived usefulness had the most significant positive correlation with application intention, followed by AI personalization and trust in AI communication. Privacy concerns, however, showed a significant negative correlation. These findings support all four hypotheses. The variance inflation factor (VIF) value was below the generally accepted threshold, indicating that multicollinearity is not a serious problem. International students' application intention is influenced by both perceived benefits and perceived risks of AI-driven admissions tools. Applicants are more likely to apply when they perceive AI tools as useful, personalized, and trustworthy. However, even when AI tools have practical functional value, privacy concerns significantly reduce application intention.

Recommendation

Chinese private universities should improve their AI-powered admissions tools in four aspects. First, universities should enhance the perceived usability of these tools, ensuring that chatbots, automated responses, and recommendation systems provide accurate, timely, and practical information about programs, admission requirements, scholarships, application deadlines, and visa procedures. Since perceived usability has the most significant impact on application intention, AI tools should focus on addressing applicants' actual problems rather than simply providing general promotional information. Second, universities should enhance the personalization of AI, providing tailored admissions guidance based on applicants' academic background, intended major,

language requirements, nationality, and learning goals. However, the personalization process should remain transparent and limited to necessary information. Applicants should clearly understand the reasons for recommendations and the data upon which they are based. Third, universities should strengthen trust in AI communication. AI-generated responses should be consistent with official admissions policies, updated regularly, and reviewed by admissions staff. Fourth, universities should provide clear channels for human support so that applicants can contact human staff when encountering complex or sensitive issues. This can reduce uncertainty and enhance applicants' confidence in the AI system and the university. Universities should mitigate applicants' privacy concerns by adopting "privacy-design" principles. Before applicants submit their personal information, universities should provide clear data usage policies, informed consent, data minimization, secure storage, and transparent privacy statements. Because privacy concerns can negatively impact application decisions, responsible data governance should be considered a core component of international student admissions, not just a technical or legal requirement.

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