

TEACHERS' READINESS TO USE ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: PSYCHOLOGICAL AND INSTITUTIONAL CORRELATES**Yulduz Mansurova**Tashkent State Medical University, Uzbekistan, 0009-0008-7084-4483,
yu.mansurova@tashmeduni.uz
<https://doi.org/10.5281/zenodo.20280750>**Abstract:**

This study examines psychological and institutional factors associated with university teachers' readiness to adopt artificial intelligence (AI) in teaching within social and humanitarian disciplines in a non-Western higher education context. A quantitative, cross-sectional correlational design was employed. Data were collected from 215 university teachers from four universities in Uzbekistan. Teachers' readiness to adopt AI was examined in relation to perceived usefulness, perceived ease of use, digital self-efficacy, perceived institutional support, and ethical concerns. Pearson correlation analysis and hierarchical multiple regression were conducted while controlling for age, academic position, teaching experience, and prior experience with AI. Readiness to adopt AI was positively correlated with perceived usefulness ($r = 0.48, p < .001$), perceived ease of use ($r = 0.34, p < .001$), digital self-efficacy ($r = 0.35, p < .001$), and perceived institutional support ($r = 0.44, p < .001$), and negatively correlated with ethical concerns ($r = -0.28, p < .001$). In the final regression model, perceived usefulness ($\beta = 0.32, p < .001$), digital self-efficacy ($\beta = 0.13, p = .038$), and perceived institutional support ($\beta = 0.21, p = .003$) were significant positive predictors of readiness, whereas ethical concerns showed a significant negative association ($\beta = -0.19, p < .001$). Perceived ease of use was not significant in the full model. The model explained 36.8% of the variance in readiness. The findings indicate that teachers' readiness to adopt AI is primarily associated with perceived pedagogical value, digital confidence, institutional support, and ethical considerations rather than demographic characteristics.

Keywords: artificial intelligence in education, technology acceptance, digital self-efficacy, institutional support, ethical concerns, higher education

Introduction

Artificial intelligence has rapidly entered higher education systems worldwide, reshaping established assumptions about teaching, learning, and academic work. AI-based tools are increasingly used for content generation, assessment support, feedback provision, and administrative tasks. While early discussions of AI in education largely focused on technical capabilities, recent research suggests that the success of AI integration depends less on the availability of tools and more on educators' readiness to adopt them in their pedagogical practice. Teachers remain central actors in educational change, and their perceptions, beliefs, and institutional environments strongly influence whether new technologies are meaningfully integrated or remain marginal.

Research on technology adoption in education has been strongly influenced by the Technology Acceptance Model (TAM), which conceptualizes behavioral intention as a function of perceived usefulness and perceived ease of use (Davis, 1989). Across educational contexts, perceived usefulness has consistently emerged as the strongest predictor of teachers' intention to adopt new technologies, reflecting the importance of perceived pedagogical value over

purely technical considerations. Perceived ease of use has also been shown to contribute to adoption, particularly at early stages of exposure, although its role often weakens when users gain experience or when additional psychological and contextual variables are included in analytical models (Venkatesh et al., 2003).

Subsequent research has extended TAM to better capture the realities of educational settings, emphasizing the role of individual capabilities and organizational conditions. One construct that has received substantial empirical support is digital self-efficacy, defined as individuals' beliefs in their ability to use digital technologies effectively. Drawing on social cognitive theory (Bandura, 1997), studies have shown that teachers with higher levels of self-efficacy are more willing to experiment with new technologies and to adapt their instructional practices accordingly. In the context of digital technologies, computer and digital self-efficacy have been found to predict technology adoption over and above perceived ease of use (Compeau & Higgins, 1995).

Institutional context has also been identified as a critical factor shaping technology adoption in higher education. Perceived institutional support, including access to resources, training opportunities, and formal encouragement, can legitimize the use of new technologies and reduce uncertainty among educators. Empirical studies focusing on teachers' readiness for educational technologies suggest that institutional conditions interact with individual perceptions, amplifying or constraining the impact of perceived usefulness and self-efficacy (Scherer et al., 2019). This is particularly relevant in higher education systems undergoing rapid digital transformation, where institutional signals often determine whether innovation is perceived as optional experimentation or as a supported professional practice.

At the same time, the adoption of AI in education introduces ethical considerations that distinguish it from earlier forms of educational technology. Concerns related to data privacy, academic integrity, algorithmic bias, and transparency have become central to discussions of responsible AI use (Floridi et al., 2018). International policy frameworks emphasize that ethical reflection should be integrated into AI adoption processes rather than treated as a secondary issue (UNESCO, 2021). For educators, particularly in social and humanitarian disciplines, ethical concerns may represent a substantive barrier to adoption, even when the perceived usefulness of AI is high.

Despite the growing literature on AI in education, empirical evidence remains uneven across disciplines and regions. Many studies focus on STEM fields or on students rather than teachers, while social and humanitarian disciplines are comparatively underrepresented. In addition, research from non-Western higher education systems remains limited, constraining understanding of how institutional and cultural contexts shape teachers' readiness to adopt AI. In countries such as Uzbekistan, where higher education systems are experiencing rapid reform and digitalization, universities face the challenge of promoting innovation while operating within evolving regulatory and infrastructural conditions. In such contexts, teachers' readiness to engage with AI cannot be assumed and requires empirical examination.

The present study addresses these gaps by examining psychological and institutional factors associated with readiness to adopt AI among university teachers in social and humanitarian disciplines. Drawing on the Technology Acceptance Model and its extensions, the study focuses on perceived usefulness, perceived ease of use, digital self-efficacy, institutional support, and ethical concerns as correlates of readiness. Using a quantitative, cross-sectional design, the study aims to identify the relative strength of these associations and to assess whether demographic characteristics such as age and academic position are meaningfully related to readiness to integrate AI into teaching practice.

Each paragraph should be neither too long nor too short. Unnecessary abbreviations should be eliminated, and necessary ones should be explained in clear terms at first mention. Metric equivalents for all non-metric units should be provided.

Methods

The study employed a quantitative, cross-sectional correlational design aimed at examining factors associated with university teachers' readiness to integrate artificial intelligence tools into teaching practice. The focus of the study was on psychological and institutional variables derived from the Technology Acceptance Model and its extensions relevant to higher education and responsible AI use. The research did not involve any experimental manipulation and did not assume causal relationships between variables.

The sample consisted of 215 university teachers representing social and humanitarian disciplines from four universities in Uzbekistan. Participants were recruited through institutional academic channels using internal university communication systems, including faculty mailing lists and departmental coordinators. A voluntary, non-probability sampling approach was used, and no financial or material incentives were offered for participation. Respondents held different academic positions, including lecturers, senior lecturers, associate professors, and professors. Age varied across a wide range and was treated as a continuous variable in the analyses. All participants reported sufficient proficiency in English, which was the language of the questionnaire. Participation was anonymous, and the online survey was configured to allow only one submission per respondent and to require responses to all items, preventing missing data. As a result, the final dataset contained no missing values, and all 215 responses were included in the analysis. All participants provided informed consent prior to participation. The study involved an anonymous, non-experimental online survey of adult university teachers and did not require formal approval from an ethics committee.

Data were collected using an online questionnaire designed to assess readiness to adopt AI in teaching and its potential correlates. Readiness to use AI was measured using three items adapted from the behavioral intention construct of the Technology Acceptance Model, reformulated to reflect the context of AI-supported teaching. The items assessed respondents' intention and perceived preparedness to integrate AI tools into their instructional activities. Responses were recorded on a five-point Likert scale ranging from strongly disagree to strongly agree.

Perceived usefulness and perceived ease of use were measured using adapted versions of the original Technology Acceptance Model scales proposed by Davis. Perceived usefulness was assessed with four items capturing the extent to which respondents believed that AI tools could enhance the effectiveness and quality of their teaching. Perceived ease of use was measured with four items evaluating how easy respondents perceived AI tools to be to learn and apply in teaching contexts. Digital self-efficacy was assessed using five items adapted from the computer self-efficacy framework developed by Compeau and Higgins, focusing on confidence in using new digital technologies for instructional purposes.

Ethical concerns related to AI were measured with six items adapted from existing frameworks on responsible AI in education. These items addressed concerns related to data privacy, academic integrity, algorithmic bias, and broader ethical risks associated with the use of AI in educational settings. Perceived institutional support was measured using four items adapted from the perceived organizational support framework, assessing the extent to which respondents felt that their institution provided sufficient resources, guidance, and encouragement for the use of AI in teaching.



In addition to the main scales, respondents provided demographic and professional information, including age, academic position, years of teaching experience, and prior experience with AI tools. Experience with AI was assessed as a binary variable (yes/no), and respondents who reported prior experience were additionally asked to indicate the frequency of AI use.

All multi-item scales were constructed as the arithmetic mean of their respective items. Internal consistency was assessed using Cronbach’s alpha based on item-level responses. Prior to the main analyses, the data were screened for distributional properties and potential outliers. Skewness and kurtosis values were examined, and visual inspections using boxplots and standardized scores were conducted. No cases were excluded at this stage.

Results

Descriptive statistics for all aggregated scales are presented in Table 1. All variables were based on 215 valid responses. Mean values ranged from moderate to moderately high across constructs. Readiness to adopt AI in teaching showed a mean score of 2.96 (SD = 0.72), indicating an overall moderate level of readiness within the sample. Ethical concerns demonstrated the highest average score (M = 3.40, SD = 0.79), while perceived institutional support showed the lowest mean value (M = 2.55, SD = 0.68). Skewness and kurtosis values for all scales were close to zero and remained within commonly accepted thresholds, suggesting approximately normal distributions.

Table 1. Descriptive statistics for the main study variables (N = 215)

Scale	Mea	SD	Mi	Ma	Skewnes	Kurtosi
n	n	n	x	s	s	
Perceived Usefulness (PU)	3.07	0.7	1.1	4.8	-0.08	-0.40
Perceived Ease of Use (PEOU)	2.91	0.7	1.0	4.7	-0.04	-0.22
Digital Self-Efficacy	3.00	0.8	1.0	4.8	-0.08	-0.26
Institutional Support	2.55	0.6	1.0	4.4	0.15	-0.18
Ethical Concerns	3.40	0.7	1.5	5.0	0.15	-0.75
Readiness	2.96	0.7	1.0	5.0	-0.00	-0.13

Table 2 presents the distribution of participants by university affiliation, academic position, and experience with AI tools. Of the total sample, 61 respondents (28.4%) reported prior experience using AI tools in teaching or related professional activities.

Table 2. Sample characteristics (N = 215)

Variable	Category	n
University	Univ_A	60



Variable	Category	n
	Univ_B	45
	Univ_C	61
	Univ_D	49
Academic position	Lecturer	70
	Senior Lecturer	70
	Associate Professor	49
	Professor	26
AI experience	Yes	61
	No	15
		4

Among respondents with prior AI experience (n = 61), the majority reported using AI tools on a monthly basis, while fewer participants indicated weekly or daily use. No respondents in this subgroup reported rare or no use.

Table 3. Frequency of AI use among respondents with AI experience (n = 61)

Frequency	n	%
Monthly	40	65.
Weekly	13	21.
Daily	8	13.

Internal consistency estimates for all multi-item scales are shown in Table 4. Cronbach's alpha coefficients ranged from 0.72 to 0.79, indicating acceptable reliability for all constructs.

Table 4. Internal consistency of study scales

Scale	Number of items	Cronbach's α
Perceived Usefulness	4	0.72
Perceived Ease of Use	4	0.77
Digital Self-Efficacy	5	0.79
Institutional Support	4	0.77
Ethical Concerns	6	0.76
Readiness	3	0.73



Bivariate correlations between the main study variables are presented in Table 5, with corresponding p-values reported in Table 6. Readiness demonstrated moderate positive correlations with perceived usefulness, perceived ease of use, digital self-efficacy, and institutional support. Ethical concerns were negatively correlated with readiness. Correlations between ethical concerns and perceived usefulness were negligible and not statistically significant.

Table 5. Pearson correlation coefficients among main variables

Variable	PU	PEOU	Self-Efficacy	Inst. Support	Ethical Concerns	Readiness
PU	1.00	0.48	0.40	0.35	-0.01	0.48
PEOU		1.00	0.33	0.29	-0.10	0.34
Self-Efficacy			1.00	0.38	-0.04	0.35
Inst. Support				1.00	-0.30	0.44
Ethical Concerns					1.00	-0.28
Readiness						1.00

Table 6. p-values for Pearson correlations

	PU	PEOU	Self-Efficacy	Inst. Support	Ethical Concerns	Readiness
PU	—	4.94e-14	1.56e-09	1.76e-07	0.9270	1.77e-13
PEOU		—	5.42e-07	1.82e-05	0.1564	2.37e-07
Self-Efficacy			—	1.34e-08	0.6076	1.23e-07
Inst. Support				—	7.55e-06	1.56e-11
Ethical Concerns					—	3.29e-05

Hierarchical multiple regression analysis was conducted with readiness as the dependent variable. Results of the regression models are presented in Tables 7–9. In Model 1, which included demographic and experiential variables, the model explained less than 1% of the variance in readiness, and none of the predictors reached statistical significance.

Table 7. Regression results: Model 1 (control variables)

Predictor	B	SE	t	p
Age	0.0086	0.02	0.316	0.756



Predictor	B	SE	t	p
Academic position	-0.00	0.05	-0.0	0.94
Teaching experience	-0.00	0.02	-0.3	0.73
AI experience	0.141	0.11	1.26	0.20

R² = 0.008

In Model 2, perceived usefulness and perceived ease of use were added. The inclusion of these variables resulted in a substantial increase in explained variance. Perceived usefulness emerged as a strong positive predictor of readiness, while perceived ease of use showed a smaller but statistically significant association.

Table 8. Regression results: Model 2 (TAM variables)

Predictor	B	SE	t	p
PU	0.39	0.06	5.7	2.62e-08
PEOU	0.14	0.06	2.1	0.034

R² = 0.244; ΔR² = 0.235

In Model 3, digital self-efficacy, institutional support, and ethical concerns were added. Perceived usefulness, digital self-efficacy, institutional support, and ethical concerns were statistically significant predictors of readiness. Ethical concerns showed a negative association. Perceived ease of use was no longer significant after inclusion of these variables.

Table 9. Regression results: Model 3

Predictor	B	SE	t	p
PU	0.320	0.06	4.77	1.89e-06
PEOU	0.065	0.06	1.03	0.303
Digital Self-Efficacy	0.129	0.06	2.09	0.038
Institutional Support	0.212	0.07	3.02	0.003
Ethical Concerns	-0.18	0.05	-3.5	5.05e-04

R² = 0.368; ΔR² = 0.124

An alternative version of the final model excluding teaching experience yielded virtually identical coefficients and significance levels for all key predictors, indicating that the results were robust to the removal of a collinear demographic variable.

Discussion

This study examined psychological and institutional factors associated with university teachers' readiness to adopt artificial intelligence in teaching within social and humanitarian disciplines. Rather than treating AI adoption as a purely technological issue, the analysis focused on how teachers' perceptions, confidence, institutional context, and ethical considerations jointly relate to readiness. Overall, the findings indicate that readiness is shaped primarily by how teachers evaluate the pedagogical value of AI and by the conditions under which AI is introduced at the institutional level, while demographic characteristics play a limited role.

Perceived usefulness emerged as the most consistent and strongest predictor of readiness across all models. This result aligns with the central premise of the Technology Acceptance Model, but its importance appears particularly pronounced in the context of social and humanitarian disciplines. In these fields, AI is not necessarily perceived as an inherent component of disciplinary practice, and teachers may therefore require clearer justification of its educational relevance. The present findings suggest that readiness depends less on general openness to innovation and more on concrete beliefs that AI can contribute meaningfully to teaching activities, such as supporting feedback, assessment, or access to learning resources. However, it should be noted that perceived usefulness was measured at a general level and did not distinguish between different types of AI applications, which may vary considerably in their pedagogical implications.

Perceived ease of use showed a positive association with readiness at the bivariate level and in the intermediate regression model but lost statistical significance in the final model. This pattern suggests that ease of use may play a facilitating rather than a central role. One possible interpretation is that teachers who perceive AI as useful and feel confident in their digital abilities may be willing to invest effort in learning tools that are not immediately intuitive. At the same time, the cross-sectional nature of the data does not allow conclusions about whether ease of use becomes less important over time or whether its role differs at earlier stages of exposure to AI technologies. Longitudinal research would be required to clarify how the importance of ease of use evolves as teachers gain experience.

Digital self-efficacy remained a significant predictor of readiness even after accounting for perceived usefulness and institutional support. This finding indicates that general confidence in using digital technologies represents a distinct factor that cannot be fully explained by perceptions of ease of use. In the context of higher education in Uzbekistan, where digital transformation has often proceeded rapidly and unevenly, teachers' readiness to adopt AI may reflect broader experiences with adapting to digital change rather than familiarity with specific AI tools. Nevertheless, because self-efficacy was assessed through self-report, it remains possible that respondents with higher readiness also tended to evaluate their own digital competence more positively, which may have inflated the observed association.

Institutional support showed a robust and independent relationship with readiness, underscoring the importance of organizational context. Teachers who perceived their institutions as providing guidance, resources, or encouragement for AI use were more likely to report readiness to integrate AI into teaching. This finding suggests that readiness is not solely an individual disposition but is shaped by institutional signals that legitimize or constrain innovation. In higher education systems where policies related to AI are still emerging, the absence of clear institutional support may generate uncertainty, even among teachers who recognize potential benefits. At the same time, perceived institutional support may reflect not

only actual resources but also respondents' general attitudes toward their institutions, which should be considered when interpreting this result.

Ethical concerns were negatively associated with readiness and remained significant in the final model. This indicates that ethical considerations function as a substantive barrier rather than a marginal attitude. Importantly, ethical concerns did not simply mirror resistance to technology: they coexisted with positive perceptions of usefulness and institutional support. This suggests that teachers may simultaneously acknowledge the pedagogical potential of AI and remain cautious about issues such as data privacy, academic integrity, and algorithmic bias. However, the study did not examine how teachers prioritize different ethical concerns, nor did it assess whether institutional ethical guidelines moderate the relationship between concerns and readiness. These questions warrant further investigation.

Demographic variables, including age, academic position, and teaching experience, were not meaningfully associated with readiness. This finding challenges common assumptions that readiness to adopt AI is primarily a generational or career-stage issue. Instead, the results suggest that readiness is shaped more by perceptions, confidence, and institutional context than by demographic characteristics. Nevertheless, because the sample was limited to social and humanitarian disciplines, these patterns may not generalize to disciplines where AI technologies are already more deeply embedded.

Several limitations should be acknowledged. First, the cross-sectional design precludes causal interpretation, and the observed associations may change as institutional policies and individual experiences with AI develop. Second, all variables were measured using self-report instruments, which may be influenced by social desirability or common method variance. Third, the study focused on a specific disciplinary and national context, which limits generalizability to other settings. Finally, although participants reported adequate English proficiency, the use of a non-native language may have affected how some items were interpreted, particularly those related to ethical and institutional issues.

Despite these limitations, the findings highlight that readiness to adopt AI in teaching is a multifaceted construct shaped by both individual perceptions and institutional conditions. Efforts to promote AI integration in higher education may therefore benefit from moving beyond generic narratives of digital transformation and focusing instead on demonstrating pedagogical value, supporting teachers' digital confidence, providing visible institutional backing, and addressing ethical concerns in a transparent manner.

Conclusion

This study examined factors associated with university teachers' readiness to adopt artificial intelligence in teaching within the context of social and humanitarian disciplines. The findings indicate that readiness is primarily shaped by teachers' perceptions of the pedagogical value of AI, their confidence in using digital technologies, the level of institutional support they perceive, and their ethical concerns related to AI use. In contrast, demographic characteristics such as age and academic position were not meaningfully associated with readiness.

The results suggest that the integration of AI into higher education cannot be understood as a purely technical or generational issue. Teachers' readiness appears to depend less on who they are and more on how AI is framed, supported, and ethically contextualized within their professional environment. When AI is perceived as genuinely useful for teaching and when institutional structures provide clear support, teachers report greater readiness to engage with these tools, even in disciplines where AI may not be traditionally embedded. At the same time, ethical concerns remain a salient factor that can constrain readiness, underscoring the

importance of addressing issues of academic integrity, data privacy, and responsibility alongside technological innovation.

By focusing on social and humanitarian disciplines, this study contributes to a growing body of research that extends technology acceptance models beyond technologically intensive fields. The findings highlight the need for higher education institutions to move beyond generic narratives of digital transformation and to engage with teachers' concrete pedagogical needs and ethical considerations. Institutional strategies that combine practical support, professional development, and transparent ethical guidelines may be more effective in fostering readiness than approaches that emphasize technology adoption as an end in itself.

Overall, the study underscores that readiness to adopt AI in teaching is a multifaceted construct shaped by individual perceptions and institutional conditions. Understanding these factors is essential for developing informed and responsible approaches to AI integration in higher education.

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APPENDIX

Survey Items Used in the Study

(All items were rated on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree.)

A1. Readiness to Adopt AI in Teaching

1. I am willing to integrate AI-based tools into my teaching practice.
2. I feel prepared to use AI technologies to support my instructional activities.
3. I intend to use AI tools in my teaching in the near future.

A2. Perceived Usefulness

1. Using AI tools would improve the effectiveness of my teaching.
2. AI technologies could enhance the quality of learning experiences for students.

3. AI tools would help me accomplish teaching tasks more efficiently.
 4. Overall, AI would be useful in my teaching practice.
- A3. Perceived Ease of Use
1. Learning to use AI tools for teaching would be easy for me.
 2. I find AI technologies easy to understand.
 3. Interacting with AI tools does not require a lot of mental effort.
 4. It would be easy for me to become skillful at using AI in teaching.
- A4. Digital Self-Efficacy
1. I feel confident using new digital technologies for teaching purposes.
 2. I can effectively learn to use unfamiliar digital tools on my own.
 3. I feel capable of troubleshooting problems with digital technologies.
 4. I can adapt my teaching practices to new digital environments.
 5. I feel confident experimenting with new educational technologies.
- A5. Perceived Institutional Support
1. My institution encourages the use of AI in teaching.
 2. My institution provides adequate resources to support AI use in teaching.
 3. My institution offers guidance or training related to AI technologies.
 4. I feel supported by my institution when experimenting with AI in teaching.
- A6. Ethical Concerns Related to AI
1. I am concerned about data privacy when using AI tools in education.
 2. I am concerned about academic integrity when students use AI technologies.
 3. I am concerned about potential bias in AI systems used for teaching or assessment.
 4. I am concerned about the transparency of AI decision-making processes.
 5. I am concerned about over-reliance on AI in educational contexts.
 6. I am concerned about unclear responsibility for errors made by AI systems..