

FACTORS INFLUENCING ARTIFICIAL INTELLIGENCE (AI) USAGE INTENTION AMONG LOGISTICS EMPLOYEES IN THE SOUTHERN KEY ECONOMIC REGION OF VIETNAM

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Abstract:

This study aims to identify and analyze the factors that influence employees' intention to use artificial intelligence (AI) in the logistics industry within the Southern Key Economic Region of Viet Nam. Based on the extended Theory of Acceptance and Use of Technology (UTAUT), the study surveyed 270 workers and analyzed the data using SPSS software. The results show that Performance Expectancy (PE), Social Influence (SI) and Trust in AI (TR) have a positive impact, whereas AI Anxiety (AA) negatively impacts usage intention. Conversely, Effort Expectancy (EE) and Facilitating Conditions (FC) are not statistically significant. This study contributes to supplementing the theoretical framework and offers practical implications for organizations seeking to enhance the effective adoption of AI.

Keywords: Artificial Intelligence; Logistics; Technology Use.

DOI:

Các yếu tố ảnh hưởng đến ý định sử dụng trí tuệ nhân tạo (AI) của người lao động trong ngành logistics tại khu vực kinh tế trọng điểm phía Nam Việt Nam

Tóm tắt:

Mục tiêu của nghiên cứu nhằm xác định và phân tích các yếu tố ảnh hưởng đến ý định sử dụng trí tuệ nhân tạo (AI) của người lao động trong ngành logistics tại khu vực kinh tế trọng điểm phía Nam Việt Nam. Dựa trên nền tảng lý thuyết chấp nhận và sử dụng công nghệ (UTAUT) mở rộng, nghiên cứu thực hiện khảo sát 270 người lao động và phân tích dữ liệu bằng phần mềm SPSS. Kết quả nghiên cứu cho thấy kỳ vọng hiệu quả, ảnh hưởng xã hội và niềm tin vào AI có tác động tích cực, trong khi lo ngại về AI tác động tiêu cực đến ý định sử dụng. Ngược lại, kỳ vọng nỗ lực và điều kiện hỗ trợ không có ý nghĩa thống kê. Nghiên cứu góp phần bổ sung cơ sở lý thuyết và cung cấp hàm ý thực tiễn cho doanh nghiệp trong việc thúc đẩy triển khai AI hiệu quả.

Từ khóa: Logistics; Sử dụng công nghệ; Trí tuệ nhân tạo.

1. Introduction

Nowadays, Artificial Intelligence (AI) has become one of the most prominent technologies of the 21st century. According to Statista's forecast, the global AI market size is expected to reach \$335.29 billion in 2026 and \$1.30 trillion in 2032 (Statista, 2026b). In this context, the artificial intelligence market in Vietnam is projected to contribute more than \$932 million in 2026 and exceed \$3.78 billion by 2032 (Statista, 2026a). The AI market has been expanding rapidly. Therefore, Vietnam has identified artificial intelligence as one of the core technologies to be prioritized for development through 2030 (Vũ Phương Nhi, 2021). Particularly in the logistics industry, AI is being increasingly applied to improve business efficiency in this field (Báo công thương, 2025).

In addition to the benefits AI brings to businesses, it is also profoundly reshaping the global labor market, both jobs and the skills of workers (WEF, 2025a). According to the WEF's Future of Jobs Report 2025, approximately 39% of core skills will change by 2030 (Figure 1) (WEF, 2025c) and approximately 40% of companies plan to reduce staff in jobs that can be automated with AI (WEF, 2025b), which will lead to a decline in traditional jobs. Therefore, jobs in the logistics industry are also changing, requiring workers to possess the skills to use AI in their work. (Bộ Công Thương, 2024).

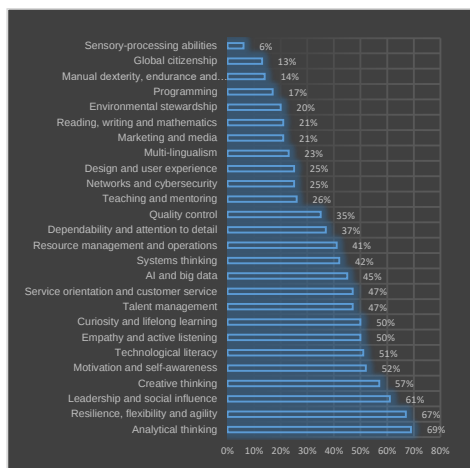


Figure 1. Core skills in 2025

Source: World Economic Forum, 2025

In Vietnam, especially in the Southern key economic region, where many large logistics hubs are concentrated, the application of AI is happening rapidly but not uniformly among businesses. Some workers are still not ready to adapt to new technologies, creating challenges for implementation (Báo Tuổi Trẻ Online,

2026). Therefore, there is a need for research to identify the factors influencing the intention to use AI in the logistics industry.

Although there have been numerous studies on technology, most studies still focus on other areas. Research on AI in logistics, especially in Vietnam, remains limited. Furthermore, specific factors of AI such as trust in the technology, concerns about risks, or the fear of being replaced by AI have not been fully studied in previous research.

Arising from this research gap, this study aims to identify and analyze factors influencing the intention of logistics workers in the Southern key economic region of Viet Nam to use artificial intelligence. The expected results contribute to the theoretical framework and provide recommendations for businesses to implement AI more effectively.

This study is structured into six main parts. The first part introduces the research context, identifies the problem and objectives. The second part examines the theoretical framework and presents a proposed research model. The third part describes the research methodology. The fourth part presents the results of the data analysis and discusses the main findings. Part fifth consists of discussions related to the paper's findings. Finally, the sixth part provides conclusions and recommendations.

2. Theoretical Background

2.1. Artificial Intelligence

According to the Organization for Economic Co-operation and Development (OECD) AI is a system capable of learning from input data to produce outputs such as predictions, content, recommendations, or decisions. (Kjpargeter, 2024).

Furthermore, the United Nations Educational, Scientific and Cultural Organization (UNESCO) defines AI as a technology that integrates models and algorithms, capable of self-learning, and then able to make predictions and decisions (UNESCO, 2023).

A key component of artificial intelligence is machine learning, which consists of three main types: supervised learning, unsupervised learning, and reinforcement learning (Gerhard Paass & Hecker Dirk, 2024).

AI is applied in many important fields in socio-economics such as marketing (Haleem et al., 2022), healthcare (Shaheen, 2021), finance and accounting (Hasan, 2022), education (Tahiru, 2021)...

In the logistics industry, AI generation or AI-integrated software applications are AI tools that workers frequently use (Nicoletti, 2025).

2.2. Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), proposed by Venkatesh et al. (2003), integrates eight previous technology acceptance and usage models into a single theoretical framework that

explains and predicts technology use behavior in organizations. UTAUT identifies four key factors influencing Behavioral Intention (BI) and/or Use Behavior (UB): Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC); and indicates that the relationship between these factors and BI/UB is mediated by demographic variables such as gender, age, experience, and voluntariness (Venkatesh et al., 2003).

2.3. Trust Theory

Trust Theory is an important theoretical foundation in the study of organizational behavior and information systems, helping to explain individual decision-making behavior under uncertainty. According to Mayer, Davis, and Schoorman (1995), trust is understood as the willingness to accept risk when depending on something else, based on the expectation of benefit or no harm (Mayer et al., 1995). For artificial intelligence, this theory shows that users only use technology when they trust the accuracy, transparency, and reliability of the system. Therefore, trust in AI has a positive impact on the intention to use it by workers in the logistics industry.

2.4. Artificial Intelligence Anxiety

AI Anxiety was developed based on extensive studies of technology anxiety. Initially, Computer Anxiety was defined by Heinssen, Glass, and Knight (1987), reflecting the state of anxiety and lack of confidence in people when learning about and using computers (Heinssen et

al., 1987). Building on this foundation, Technology Anxiety was further expanded by Meuter, Ostrom, Bitner, and Roundtree (2003), emphasizing the feeling of stress in users when using self-service technologies and digital systems (Meuter et al., 2003). Recently, Artificial Intelligence Anxiety is considered an extended variable, representing the level of anxiety when people use artificial intelligence, especially emphasizing automation, system risks, and the risk of being replaced by AI (Wang & Wang, 2022).

2.5. Review of Related Studies

In recent years, there has been numerous research on the topic of identifying factors influencing employees' intentions to use Artificial Intelligence.

In 2025, a study on factors influencing the intention and behavior of IT employees in using AI-generated tools was conducted in Hyderabad. Data was analyzed using SEM combined with SOR, UTAUT3, and TTF models. The results showed that factors such as performance expectations, trust, and technological suitability significantly influenced usage intentions, with trust playing a crucial mediating role in usage behavior (Prasad et al., 2025).

Additionally, Wongras et al. also conducted research on the intention to adopt AI among human resources staff in Thailand, based on an extended UTAUT model. Data collected from 364 employees in Bangkok were analyzed to identify influencing factors.

The results showed that perceived value, effort expectations, and supportive conditions significantly impacted the intention to use AI (Wongras & Tanantong, 2023).

Additionally, another study, based on an extended UTAUT model, analyzed users' intentions to use AI health assistants in China. Data from 373 samples were processed using CB-SEM. The results showed that expectations of effectiveness, effort expectations, and social influence positively impacted usage intentions, while beliefs and perceived risks played a significant role in shaping the behavior of adopting the technology (Su et al., 2025).

2.6. Proposed research model

Based on the theories of UTAUT, Trust Theory, Artificial Intelligence Anxiety, and previous studies, the research model of this paper is described in Figure 3.

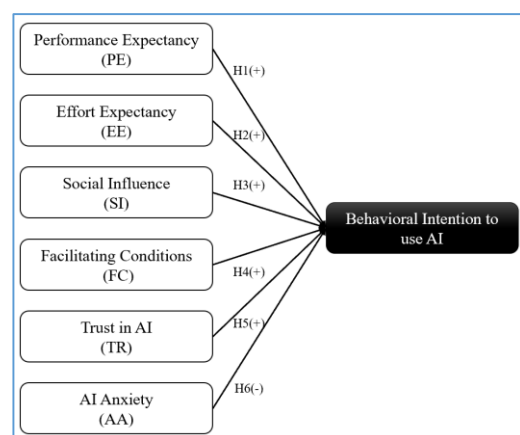


Figure 2. Research Model

Source: Author

The research hypotheses are as follows:

H1 (+): Performance Expectancy has a positive influence on Behavioral Intention to use AI. Performance Expectancy refers to the degree to which an individual believes that using a specific system or technology will enhance their job performance and improve task efficiency. When employees believe that using AI will improve their work performance, they will use AI in their work (based on UTAUT theory).

H2 (+): Effort Expectancy has a positive influence on Behavioral Intention to use AI. Effort Expectancy reflects the perceived ease of use associated with the system, indicating how simple and user-friendly the technology is expected to be. If AI is perceived as easy to use and requires little effort, employees will be more likely to want to use it (based on UTAUT theory).

H3 (+): Social influence has a positive impact on behavioral intention to use AI. Social Influence describes the extent to which individuals perceive that important others, such as colleagues or supervisors, believe they should use the new technology. Influence from colleagues, superiors, and the organizational environment can encourage behavior towards using AI (based on UTAUT theory).

H4 (+): Facilitating Conditions have a positive influence on Behavioral Intention to use AI. Facilitating Conditions refer to the availability of organizational and technical

infrastructure that supports the use of the system, including resources, training, and assistance. Technological infrastructure, training, and company policies play a significant role in the desire to use AI (based on UTAUT theory).

H5 (+): Trust in AI has a positive influence on Behavioral Intention to use AI. Trust in AI represents the user's willingness to rely on artificial intelligence systems based on perceptions of reliability, accuracy, and integrity of the technology. Employees who trust in the accuracy, transparency, and safety of AI are more likely to use this technology (based on Trust Theory).

H6 (-): AI Anxiety negatively impacts Behavioral Intention to Use AI. AI Anxiety is defined as the feeling of apprehension or fear experienced by individuals when they consider using or interacting with AI technologies, often due to uncertainty or lack of familiarity. Anxiety, fear, or stress associated with using AI can reduce the intention to use the technology (based on Artificial Intelligence Anxiety).

3. Methodology

This study uses a quantitative approach to test the proposed research model and hypotheses regarding workers' intentions to use artificial intelligence (AI). Data were collected through a structured questionnaire survey, designed based on scales validated in previous studies. All variables were measured using a 5-point

Likert scale, from 1 = strongly disagree to 5 = strongly agree.

The survey respondents were employees working in the logistics industry across provinces in the Southern Key Economic Region of Vietnam, selected using a convenience sampling method. A total of 300 questionnaires were distributed, of which 270 valid responses were used for analysis. The data were then analyzed using SPSS 20.0 software. The analytical procedure included descriptive statistics, reliability testing using Cronbach's Alpha, Exploratory Factor Analysis (EFA), Pearson

correlation analysis, linear regression analysis. Based on these results, in-depth interviews with 10 experts were conducted to develop managerial recommendations.

4. Research Results

4.1. Descriptive Statistics of the Sample

This study uses five categorical variables to describe the demographic characteristics of the respondents, including gender, age, job position, work location, and job role. The frequency and percentage of these variables are presented in Table 1.

Table 1. Demographic Characteristics of the Respondents

Demographics	Classification	Frequency	Percent
Gender	Male	135	50,0
	Female	135	50,0
Age	Under 25	52	19,3
	25–34	77	28,5
	35–44	71	26,3
	Over 45	70	25,9
Position	Employee	236	87,4
	Manager	34	12,6
Location	Ho Chi Minh	114	42,2
	Dong Nai	46	17,0
	Tay Ninh	35	13,0
	Others	75	27,8
Job	Warehouse	92	34,1
	Transportation	36	13,3
	Import–Export	38	14,1
	Others	104	38,5
Total		270	100,0

Source: Author

Table 1 describes the demographic characteristics of a sample of 270 logistics workers in the Southern key economic region of Viet Nam. The gender distribution of the sample is

balanced, with 50.0% male and 50.0% female. Age distribution is relatively even across age groups. The surveyed workers include 87.4% employees and 12.6% managers. Ho Chi Minh City has

the highest proportion of workplaces (42.2%). Job types are also relatively evenly distributed, with warehouse workers accounting for the highest percentage (34.1%).

The research model consists of 6 independent variables including: Performance Expectancy (PE1, PE2,

PE3), Effort Expectancy (EE1, EE2, EE3, EE4), Social Influence (SI1, SI2, SI3), Facilitating Conditions (FC1, FC2, FC3, FC4), Trust in AI (TR1, TR2, TR3, TR4), AI Anxiety (AA1, AA2, AA3, AA4) and 1 dependent variable, Behavioral Intention (BI1, BI2, BI3, BI4). Table 2 presents the Mean and Std. Deviation of these variables.

Table 2. Descriptive Statistics of Research Variables

Dimension	Item	N	Mean	Std. Deviation
Performance Expectancy	PE1	270	4,02	1,018
	PE2	270	3,98	1,054
	PE3	270	3,94	,916
Effort Expectancy	EE1	270	3,53	1,194
	EE2	270	3,47	1,254
	EE3	270	3,47	1,126
	EE4	270	3,62	1,278
Social Influence	SI1	270	3,81	1,157
	SI2	270	3,77	,989
	SI3	270	3,69	1,194
Facilitating Conditions	FC1	270	2,30	,833
	FC2	270	2,34	,842
	FC3	270	2,28	,801
	FC4	270	2,48	,843
Trust in AI	TR1	270	3,89	,968
	TR2	270	3,81	,994
	TR3	270	3,86	1,019
	TR4	270	3,89	,932
AI Anxiety	AA1	270	3,31	,947
	AA2	270	3,23	,943
	AA3	270	3,25	,933
	AA4	270	3,26	,980
Behavioral Intention	BI1	270	4,04	,971
	BI2	270	3,94	1,020
	BI3	270	3,89	,997
	BI4	270	3,97	1,014
Total		270		

Source: Author

Descriptive statistics show that Performance Expectancy, Effort Expectancy, Social Influence, and Trust in AI have high average values, reflecting strong consensus among workers. In contrast, Facilitating Conditions and AI Anxiety have lower average values, indicating concerns and caution regarding the use of AI.

4.2. Reliability Analysis of Measurement Scales

To ensure the consistency of the scales, the study performed reliability testing using Cronbach's Alpha coefficient for each variable. A corrected item-total correlation coefficient greater than or equal to 0.3 and a Cronbach's Alpha coefficient greater than or equal to 0.7 are considered acceptable and suitable for subsequent analyses.

Table 3. Results of Cronbach's Alpha analysis

Construct	Cronbach's Alpha	Item	Corrected Item-Total Correlation
Performance Expectancy (PE)	0,855	PE1	0,794
		PE2	0,716
		PE3	0,683
Effort Expectancy (EE)	0,865	EE1	0,734
		EE2	0,731
		EE3	0,640
		EE4	0,758
Social Influence (SI)	0,783	SI1	0,674
		SI2	0,593
		SI3	0,610
Facilitating Conditions (FC)	0,766	FC1	0,574
		FC2	0,579
		FC3	0,593
		FC4	0,519
Trust in AI (TR)	0,876	TR1	0,770
		TR2	0,689
		TR3	0,714
		TR4	0,764
AI Anxiety (AA)	0,823	AA1	0,672
		AA2	0,646
		AA3	0,688
		AA4	0,586
Behavioral Intention (BI)	0,835	BI1	0,638
		BI2	0,725
		BI3	0,658
		BI4	0,640

Source: Author

The results indicate that all measurement scales achieve acceptable reliability. Cronbach's Alpha coefficients ranged from 0.766 to 0.876, higher than 0.7 (Table 3), and Corrected Item-Total Correlation was greater than 0.3, ranging from 0.519 to 0.794. This confirms the high consistency of the observed variables and ensures reliability for further analysis.

4.3. Exploratory Factor Analysis (EFA)

Next, the study performed Exploratory Factor Analysis (EFA) to test the underlying structure of the scales in the research model. In this study, the criteria included: $0.5 \leq \text{KMO} \leq 1$, Bartlett's Test significance < 0.05 , Eigenvalue greater than 1, Factor Loading at least 0.5, and a total variance explained exceeding 50%.

Table 4. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,794
Bartlett's Test of Sphericity	Approx. Chi-Square	2834,745
	df	231
	Sig.	0,000

Source: Author

The results in Table 4 show that the KMO value is 0.794 (greater than 0.5) and the Bartlett's Test significance value is 0.000 (< 0.05).

In addition, the Total Variance Explained results show an Eigenvalue of 1.019 (greater than 1) and a total variance explained exceeding of 70.126% (above 50%).

Table 5. Rotated Component Matrix^a

Rotated Component Matrix^a						
	Component					
	1	2	3	4	5	6
TR4	,856					
TR1	,841					
TR2	,813					
TR3	,762					
EE4		,862				
EE1		,841				
EE2		,834				

Rotated Component Matrix ^a						
	Component					
	1	2	3	4	5	6
EE3		,766				
AA3			,836			
AA1			,827			
AA2			,809			
AA4			,756			
FC3				,791		
FC2				,778		
FC1				,776		
FC4				,712		
PE1					,830	
PE3					,829	
PE2					,737	
SI1						,827
SI3						,763
SI2						,706

Source: Author

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Based on the Rotated Component Matrix results, all observed variables exhibit strong factor loadings (> 0.706) and appropriately converge into six factors, including Performance Expectancy (PE1, PE2, PE3), Effort Expectancy (EE1, EE2, EE3, EE4), Social Influence (SI1, SI2, SI3), Facilitating Conditions (FC1, FC2, FC3,

FC4), Trust in AI (TR1, TR2, TR3, TR4), and AI Anxiety (AA1, AA2, AA3, AA4) (Table 5). These results confirm that the measurement scales demonstrate good convergent and discriminant validity, ensuring their suitability for subsequent analyses.

4.4. Pearson Correlation Analysis

The study will analyze the Pearson correlation coefficient to examine the linear relationship between the variables in the model. The results are shown in Table 6.

Table 6. Correlations

Correlations								
		BI	PE	EE	SI	FC	TR	AA
BI	Pearson Correlation	1	,696**	,331**	,595**	-,015	,473**	-,062

Correlations								
		BI	PE	EE	SI	FC	TR	AA
	Sig. (2-tailed)		,000	,000	,000	,804	,000	,313
	N	270	270	270	270	270	270	270
PE	Pearson Correlation	,696**	1	,294**	,566**	-,047	,482**	,043
	Sig. (2-tailed)	,000		,000	,000	,445	,000	,482
	N	270	270	270	270	270	270	270
EE	Pearson Correlation	,331**	,294**	1	,313**	,039	,285**	,052
	Sig. (2-tailed)	,000	,000		,000	,519	,000	,399
	N	270	270	270	270	270	270	270
SI	Pearson Correlation	,595**	,566**	,313**	1	,037	,406**	-,029
	Sig. (2-tailed)	,000	,000	,000		,542	,000	,629
	N	270	270	270	270	270	270	270
FC	Pearson Correlation	-,015	-,047	,039	,037	1	-,100	-,079
	Sig. (2-tailed)	,804	,445	,519	,542		,101	,195
	N	270	270	270	270	270	270	270
TR	Pearson Correlation	,473**	,482**	,285**	,406**	-,100	1	,025
	Sig. (2-tailed)	,000	,000	,000	,000	,101		,680
	N	270	270	270	270	270	270	270
AA	Pearson Correlation	-,062	,043	,052	-,029	-,079	,025	1
	Sig. (2-tailed)	,313	,482	,399	,629	,195	,680	
	N	270	270	270	270	270	270	270
**. Correlation is significant at the 0.01 level (2-tailed).								

Source: Author

Pearson correlation analysis results show that the variables in the model have a strong linear and statistically significant relationship. The dependent variable, Behavioral Intention (BI), has a strong positive correlation with Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI),

and Trust in AI (TR), strengthening the basis for further regression analysis.

4.5. Linear Regression Analysis

To examine the extent of the impact of the independent variables on the dependent variable, the study conducts multiple linear regression analysis.

Table 7. Model Summary^b

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,754 ^a	,569	,559	,54359	1,808
a. Predictors: (Constant), AA, FC, TR, EE, SI, PE					
b. Dependent Variable: BI					

Source: Author

Based on the results in Table 7, the research model demonstrates a good level of fit, with a correlation coefficient $R = 0.754$ and an adjusted R-squared value of 0.559, indicating that the independent variables explain 55.9% of the variance in the dependent variable (BI). The Durbin–Watson value of 1.808 shows that there is no serious autocorrelation problem.

Table 8. Coefficients^a

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,969	,274		3,538	,000		
	PE	,444	,049	,477	9,078	,000	,595	1,681
	EE	,066	,035	,083	1,893	,059	,859	1,165
	SI	,217	,045	,248	4,864	,000	,632	1,582
	FC	,000	,053	,000	,004	,997	,972	1,029
	TR	,119	,047	,121	2,532	,012	,718	1,393
	AA	-,087	,043	-,082	-2,013	,045	,985	1,015

a. Dependent Variable: BI

Source: Author

The regression analysis results showed that Performance Expectancy ($\beta = 0.477$; $p < 0.001$) had the strongest influence on behavioral intention. The variables Social Influence ($\beta = 0.248$; $p < 0.000$), Trust in AI ($\beta = 0.121$; $p = 0.012$), and AI Anxiety ($\beta = -0.082$; $p = 0.045$) also had an impact on BI. Two variables, Effort Expectancy ($p = 0.059$) and Facilitating Conditions ($p = 0.997$), were not statistically significant. In addition, all VIF values are below 2, indicating that no multicollinearity issue exists.

5. Discussion

The study results show that Performance Expectancy, Social Influence, and Trust in AI have a positive impact, while AI Anxiety has a negative impact. Conversely, Effort Expectancy and Facilitating Conditions are not statistically significant. This suggests that AI adoption primarily depends on perceived value, level of trust, and social influence rather than technical factors.

This result is relatively similar to previous studies such as Prasad et al.

(2025) and Su et al. (2025), which both emphasize the role of Performance Expectancy and Trust. However, it differs from the research results of Wongras & Tanantong (2023), which did not record the influence of Effort Expectancy and Facilitating Conditions. This shows the differences between logistics workers and other groups.

6. Conclusion and Recommendations

6.1. Conclusion

This study identified factors influencing the intention of logistics workers in the Southern key economic region of Viet Nam to use artificial intelligence. The results showed that Performance Expectancy, Social Influence, and Trust in AI had a positive impact, while AI Anxiety had a negative impact on the intention to use. In contrast, Effort Expectancy and Facilitating Conditions were not statistically significant in the model. These findings not only contribute to the theoretical basis of technology adoption in the context of AI, but also provide important implications for businesses in promoting effective and sustainable AI deployment.

6.2. Recommendations

Based on the research findings, the paper proposes several recommendations to promote the adoption of AI in logistics enterprises. First, companies should implement AI in tasks where it can enhance work efficiency, thereby increasing employees' perceived usefulness of AI. In addition, leaders and colleagues should guide and encourage employees within the organization to adopt the technology. Furthermore, enterprises should organize AI training programs to help employees understand and trust the benefits that AI can provide. Finally, appropriate policies should be established to reduce employees' anxiety and resistance toward AI adoption, thereby improving their readiness and acceptance of AI use.

Although the study achieved its objectives, certain limitations remain regarding sample size, the survey area being limited to southern Viet Nam, and the cross-sectional methodology does not fully reflect changes over time. Therefore, further studies should expand the scope of the survey to include more areas, increase the sample size, or apply more statistical methods.

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Article info

Received date: 8/4/2026

Revised date: 14/4/2026

Accepted date: 20/6/2026

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