



Employee Readiness of PT EPN Towards Digital Transformation of Logistics Procurement and Its Impact on Supply Chain Visibility (SCV)

Tsabitah Sri Irwanto*

Universitas Logistik dan Bisnis
Internasional,
Indonesia

Melia Eka Lestiani

Universitas Logistik dan Bisnis
Internasional,
Indonesia

Agus Purnomo

Universitas Logistik dan Bisnis
Internasional,
Indonesia

***Corresponding author:**

Tsabitah Sri Irwanto, Universitas Logistik
dan Bisnis Internasional, Indonesia.

✉ tsabithirwanto@gmail.com

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Abstract

Background: Digital transformation in logistics procurement depends strongly on employee readiness, particularly in organizations that are gradually introducing E-Procurement and the E-Vendor Management System (E-VMS) to replace manual procedures. Procurement activities involving vendors, internal units, and strategic partners require integrated digital support; however, evidence regarding employees' preparedness for this transition and its consequences for Supply Chain Visibility (SCV) remains limited.

Objective: This study examines employee readiness for digital transformation using the Unified Theory of Acceptance and Use of Technology (UTAUT) and evaluates its relationship with Supply Chain Visibility (SCV).

Methods: An explanatory quantitative design was applied using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4. All 84 employees in the population were included through saturated sampling (census). Ten hypotheses were tested across Performance Expectancy (PE), Effort Expectancy (EE), Behavioral Intention (BI), Use Behavior (UB), and Supply Chain Visibility (SCV).

Results: PE and EE positively affected BI, while PE and BI positively affected UB. UB was the strongest determinant of SCV. EE did not directly affect UB, and BI had no direct effect on SCV. BI fully mediated the effect of EE on UB, whereas UB mediated the effect of BI on SCV. Seven of the ten hypotheses were accepted, while three were rejected.

Conclusion: Employee readiness was relatively favorable, but Supply Chain Visibility depended on actual system use rather than intention alone. Organizations should therefore ensure that employees' usage intentions are translated into consistent use behavior so that digital transformation in logistics procurement can generate optimal benefits.

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INTRODUCTION

Digital transformation has become a major concern in contemporary supply chain management, including procurement activities that substantially shape organizational cost structures across industries (Mwangata & Hapompwe, 2024). In the digital era, organizations worldwide are continuously required to enhance the efficiency, quality, and responsiveness of procurement practices (Mutegi & Karani, 2024). Digitalization is therefore considered a strategic necessity because it can strengthen connectivity among business partners, broaden access to and the circulation of critical data, and support the development of supply chains that are resilient, customer-oriented, intelligent, connected, and secure (Wang & Pettit, 2022). In parallel with this

transition, individual acceptance of technology has become an important global issue addressed by the Unified Theory of Acceptance and Use of Technology (UTAUT), which can explain up to 70 percent of the variance in technology-use intention across organizational settings (Venkatesh et al., 2003, 2023). Supply Chain Visibility (SCV) has likewise attracted growing scholarly and managerial attention because timely and accurate access to demand and supply information is associated with improved supply chain performance (Huang et al., 2023; Kalaiarasan et al., 2022).

Several conditions may hinder digital transformation in logistics procurement. First, effective policy implementation depends on the availability of adequate resources, including human resources, funding, and information technology infrastructure (Rasji et al., 2024; Wibawa, 2011). Employee readiness is particularly important because adaptation to new systems often requires intensive training to shorten the learning process and improve the quality of system use (Ariadi et al., 2024; Ramazan & Najamudin, 2021). Second, limited technological integration can disrupt organizational information flows when procurement activities are insufficiently connected with broader logistics and supply chain management processes (Wang & Pettit, 2022). Third, the continued use of manual procurement practices, such as spreadsheet-based vendor management without a centralized database and tender documents distributed separately through email, indicates that readiness for technology adoption has not yet been fully established despite the need for digital transformation.

These conditions can materially affect organizational performance. Conventional procurement processes that are not supported by sufficient user readiness and integrated systems are susceptible to inefficiency, elevated operating costs, limited transparency, human error, and processing delays (Kangethe & Namusonge, 2024). At the organizational level, inadequate readiness may also prevent companies from realizing the benefits of E-Procurement, including faster processes and cost reduction (Mwangata & Hapompwe, 2024), as well as the advantages of the E-Vendor Management System (E-VMS) in strengthening supplier performance and mitigating global supply chain risk (Abbey et al., 2023; Mutegi & Karani, 2024). Weak data integration and slow manual procedures can ultimately reduce supply chain visibility and increase logistics costs through late material deliveries. In the company examined in this study, approximately 13 percent of total material shipments were delayed during 2023–2025, indicating that the manual procurement process had not yet optimally supported supply chain visibility.

To examine the causes and mechanisms underlying these effects, the study focuses on five principal variables. In the UTAUT framework, Performance Expectancy (PE) captures users' belief that a system can improve job performance, whereas Effort Expectancy (EE) represents the perceived ease of using the system (Venkatesh et al., 2003, 2023). These constructs are expected to shape Behavioral Intention (BI), which reflects an individual's willingness to use technology and is conceptually rooted in the Theory of Reasoned Action (Conner & Norman, 2026; Fishbein & Ajzen, 1975). Behavioral Intention is then reflected in Use Behavior (UB), namely, the actual use of the system in routine work activities (Venkatesh et al., 2003, 2023). As the ultimate outcome, Supply Chain Visibility (SCV) refers to the degree to which supply chain actors can access accurate and timely demand and supply information (Kalaiarasan et al., 2022). SCV is represented by four dimensions: information technology, information exchange, business intelligence gathering, and asset status knowledge which together create broader visibility across the supply chain and are associated with improved supply chain performance (Asamoah et al., 2023; Huang et al., 2023).

The novelty of this study lies in the integration of the UTAUT framework with Supply Chain Visibility as the final outcome in the digital transformation of logistics procurement. Earlier UTAUT research commonly treats Use Behavior as the endpoint of analysis (Faida & Angesti, 2023; Venkatesh et al., 2003, 2023), whereas SCV studies seldom trace visibility outcomes back to individual-level technology acceptance factors (Kalaiarasan et al., 2022). This study addresses that gap by examining a sequential causal pathway from PE and EE through BI and UB to SCV within one integrated model, particularly in an energy-sector company that is preparing to implement E-Procurement and E-VMS.

The urgency of this research is strengthened by the fact that the company under study is still gradually moving from the initial implementation of E-Procurement and E-VMS toward full operational use. At this stage, employee readiness as the prospective system user's readiness becomes an important determinant of successful digital transformation (Faida & Angesti, 2023).

Without sufficient knowledge of employees' readiness levels and the factors shaping that readiness, the likelihood of adoption difficulties during full implementation may increase ([Ramazan & Najamudin, 2021](#); [Rasji et al., 2024](#); [Wibawa, 2011](#)). Consequently, evidence on employee readiness is required before the systems are comprehensively deployed.

This study addresses two main problems: (1) the absence of empirical evidence regarding the readiness of PT Energia Prima Nusantara employees to adopt E-Procurement and E-VMS based on the Unified Theory of Acceptance and Use of Technology (UTAUT); and (2) the extent to which such readiness influences Supply Chain Visibility (SCV) as an indicator of successful digital transformation in logistics procurement.

Accordingly, the study examines the effects of PE and EE on BI, the effects of BI and PE on UB, and the effects of UB and BI on SCV. It also evaluates the mediating role of BI in the relationships between PE and EE and UB, as well as the mediating role of UB in the relationship between BI and SCV, within the implementation context of E-Procurement and E-VMS in an energy-sector company.

The research contribution lies in combining UTAUT with Supply Chain Visibility as the terminal outcome and tracing a multistage sequence from Performance Expectancy and Effort Expectancy through Behavioral Intention and Use Behavior to Supply Chain Visibility in a single analytical model. Such an integrated pathway has rarely been tested empirically in digital logistics-procurement settings, particularly in the energy sector. From a practical perspective, the findings provide an empirical basis for PT Energia Prima Nusantara and comparable organizations to formulate strategies that strengthen employee readiness before full-scale implementation of digital systems.

METHOD

This study applied a quantitative explanatory design to test causal relationships among variables related to employee readiness for digital transformation that could not be adequately explained through descriptive observation alone. The design was selected because the study specifically examined the relationships among Performance Expectancy (PE), Effort Expectancy (EE), Behavioral Intention (BI), Use Behavior (UB), and Supply Chain Visibility (SCV) within a UTAUT framework integrated with SCV ([Kalaiaresan et al., 2022](#); [Venkatesh et al., 2003, 2023](#)). Numerical responses obtained from Likert-scale questionnaires were analyzed statistically so that relationships among constructs could be tested quantitatively rather than merely described. This design also enabled the analysis to move beyond identifying symptoms by tracing sequential causal relationships through to the final outcome of supply chain visibility.

The research was conducted at PT Energia Prima Nusantara, a company operating in renewable energy and electricity distribution and located at Jl. Rawagelam I Blok J No. 23, Jatinegara, Cakung District, East Jakarta. The site was selected because the company was in the planning and gradual implementation stage of E-Procurement and E-VMS, making it appropriate for assessing employee readiness before the systems entered full operational use. The collection and processing of primary data were scheduled for 2026 in line with the company's ongoing digital transformation planning.

Five principal constructs were examined in this study. PE represented employees' belief that the system could improve productivity and accelerate task completion, while EE reflected the perceived ease of learning and operating the system ([Venkatesh et al., 2003, 2023](#)). BI denoted the intention to use the system, whereas UB captured the frequency and consistency of actual use. SCV represented the capability to exchange accurate, timely, and complete information concerning goods flows, inventory, and vendors ([Asamoah et al., 2023](#); [Huang et al., 2023](#); [Kalaiaresan et al., 2022](#)). These five constructs were organized into ten hypotheses covering both direct and mediated relationships. The original UTAUT moderators gender, age, experience, and voluntariness were intentionally excluded to maintain the focus on the primary causal pathways ([Venkatesh et al., 2003, 2023](#)).

The conceptual model was constructed by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) with Supply Chain Visibility (SCV) as the final outcome variable ([Kalaiaresan et al., 2022](#); [Venkatesh et al., 2003, 2023](#)), as illustrated in Figure 1.

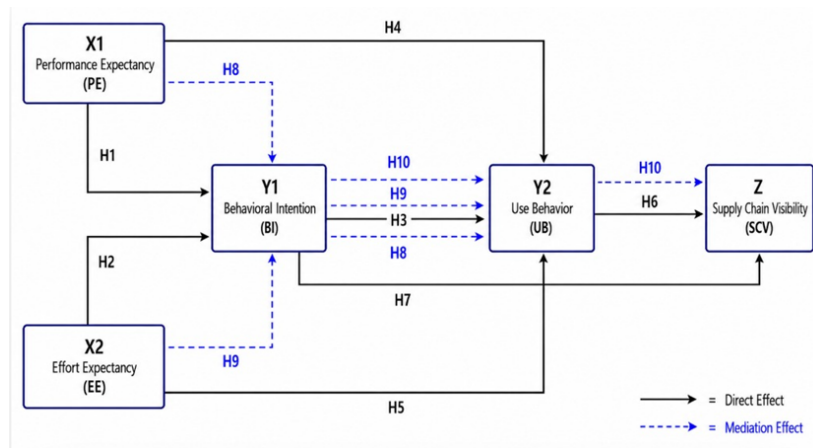


Figure 1. Research Conceptual Framework

Based on the proposed conceptual model, the following hypotheses were tested.

- H1: Performance Expectancy (PE) positively influences Behavioral Intention (BI).
- H2: Effort Expectancy (EE) positively influences Behavioral Intention (BI).
- H3: Behavioral Intention (BI) positively influences Use Behavior (UB).
- H4: Performance Expectancy (PE) positively influences Use Behavior (UB).
- H5: Effort Expectancy (EE) positively influences Use Behavior (UB).
- H6: Use Behavior (UB) positively influences Supply Chain Visibility (SCV).
- H7: Behavioral Intention (BI) positively influences Supply Chain Visibility (SCV).
- H8: Behavioral Intention (BI) positively mediates the relationship between Performance Expectancy (PE) and Use Behavior (UB).
- H9: Behavioral Intention (BI) positively mediates the relationship between Effort Expectancy (EE) and Use Behavior (UB).
- H10: Use Behavior (UB) positively mediates the relationship between Behavioral Intention (BI) and Supply Chain Visibility (SCV).

The study population comprised all 84 employees of PT Energia Prima Nusantara who used E-Procurement and E-VMS across ten departments. Because the population was relatively small, a saturated sampling approach (census) was applied. Eligible respondents were permanent or contract employees with at least one year of service, a minimum D3 education, and willingness to participate. Consequently, all 84 employees were included in the sample, consisting of 63 men (75%) and 21 women (25%); 47.6% had worked for 1–3 years, and 52.4% had more than three years of service.

The primary instrument was a closed-ended questionnaire using a five-point Likert scale, which was distributed online through Google Forms to 84 respondents. Data collection was supplemented by a literature review (Kalaizarasan et al., 2022; Ramadhan & Rahman, 2022; Venkatesh et al., 2003, 2023; Wang & Pettit, 2022) and participatory observation. Interviews were not conducted because the required primary information had already been obtained through the questionnaire. Content validity was assessed through expert judgment, while convergent and discriminant validity were evaluated using outer loadings, Average Variance Extracted (AVE), Fornell and Larcker (1981), and the Heterotrait-Monotrait (HTMT) ratio (Cheung et al., 2024; Henseler et al., 2015).

The data were processed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4 because this approach is suitable for relatively small samples and can estimate complex perception-based relationships (Hendrio, 2024; Kusviansyah & Ardi, 2024; Mardi & Imtihan, 2025; Permana et al., 2024). The analysis proceeded through descriptive statistics, assessment of the measurement model, and evaluation of the structural model using R^2 , effect size, and predictive relevance, followed by hypothesis and mediation testing using bootstrapping. Statistical significance was determined using a t-statistic > 1.96 and a p-value < 0.05.

RESULTS AND DISCUSSION

Results

Study Profile and Respondent Characteristics

The study included 84 employees of PT Energia Prima Nusantara representing ten departments directly associated with procurement and logistics. All 84 questionnaires distributed through Google Forms were returned in complete form, yielding a 100% response rate. Respondents were predominantly male (63 people; 75.0%) compared with female participants (21 people; 25.0%). Length of service was relatively balanced, with 47.6% having worked for 1–3 years and 52.4% having worked for more than three years. Project Management contributed the largest proportion of respondents (16.7%), followed by Engineering (14.3%) and Business Development (13.1%), whereas Legal had the smallest proportion (2.4%).

Table 1

Characteristics of Research Respondents

Characteristics	Categories	Frequency (n)	Percentage (%)
Gender	Male	63	75,0
	Women	21	25,0
Long Time Working	1-3 years	40	47,6
	> 3 years	44	52,4
Departments	Project Management	14	16,7
	Engineering	12	14,3
	Business Development	11	13,1
	Operation and Maintenance	10	11,9
	Human Capital & General Services	9	10,7
	Supply Management	8	9,5
	Finance and Accounting	7	8,3
	IT	6	7,1
	HSE	5	6,0
	Legal	2	2,4

Source: Primary data processed using questionnaire (2026)

The predominance of respondents with more than one year of service confirms that every participant satisfied the inclusion criteria and possessed sufficient familiarity with procurement business processes. Their responses can therefore reasonably represent actual employee readiness for digital transformation ([Faida & Angesti, 2023](#)).

Variable Specification Overview: Evaluation of the Measurement Model (Outer Model)

Assessment of the outer model was conducted to verify whether each indicator adequately represented its latent construct PE, EE, BI, UB, and SCV ([Kalaianarasan et al., 2022](#); [Venkatesh et al., 2003, 2023](#)). Every indicator recorded an outer loading above 0.70, ranging from 0.778 to 0.925, and therefore met the criterion for convergent validity ([Hendrio, 2024](#)).

Table 2

Results of Outer Loadings

Indicator	BI	EE	OR	SCV	UB
BI1	0,868				
BI2	0,881				
BI3	0,919				
EE1		0,860			
EE2		0,925			
EE3		0,778			
EE4		0,884			
PE1			0,900		
PE2			0,864		
PE3			0,823		

Indicator	BI	EE	OR	SCV	UB
PE4			0,847		
SCV1				0,800	
SCV2				0,850	
SCV3				0,833	
UB1					0,895
UB2					0,900
UB3					0,901

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

Across the PE, EE, BI, UB, and SCV constructs, all indicator loadings exceeded 0.70 and ranged from 0.778 to 0.925. Thus, every indicator satisfied the requirements for convergent validity and was retained for subsequent analysis (Hendrio, 2024).

Table 3

Construct Reliability and Validity

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
BI	0,868	0,872	0,919	0,791
EE	0,885	0,901	0,921	0,746
OR	0,881	0,884	0,918	0,737
SCV	0,770	0,771	0,867	0,685
UB	0,881	0,882	0,926	0,808

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

Discriminant validity was evaluated using the Fornell-Larcker criterion (Table 4), under which the square root of each construct's AVE should exceed its correlations with the other constructs Fornell & Larcker (1981) and Can & Rosseel (2025), together with the HTMT ratio (Table 5). Most HTMT values were below 0.90; however, PE-SCV (0.946) and UB-SCV (0.983) were above this threshold, suggesting possible conceptual overlap (Cheung et al., 2024; Henseler et al., 2015). EE2, with a loading of 0.925, was the strongest indicator of Effort Expectancy, while UB1–UB3, all above 0.89, strongly represented Use Behavior (Venkatesh et al., 2003, 2023). The elevated HTMT values for PE-SCV (0.946) and UB-SCV (0.983) suggest substantial shared variance between these constructs. This pattern indicates the need for further theoretical assessment of whether the SCV indicators sufficiently distinguish expectancy-based perceptions from behavior-based outcomes.

Table 4

Discriminant Validity (Fornell-Larcker Criterion)

	BI	EE	OR	SCV	UB
BI	0,889				
EE	0,667	0,863			
OR	0,647	0,749	0,859		
SCV	0,722	0,635	0,778	0,828	
UB	0,767	0,663	0,767	0,811	0,899

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

For each construct, the square root of AVE shown on the diagonal was greater than its correlations with the remaining constructs; therefore, the Fornell-Larcker criterion was considered satisfied.

Table 5

Discriminant Validity (Heterotrait-Monotrait Ratio/HTMT)

	BI	EE	OR	SCV	UB
BI					
EE	0,754				

	BI	EE	OR	SCV	UB
OR	0,737	0,839			
SCV	0,884	0,768	0,946		
UB	0,875	0,741	0,869	0,983	

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

Most HTMT ratios were lower than 0.90. The exceptions were PE-SCV (0.946) and UB-SCV (0.983), which exceeded the recommended threshold and indicate possible conceptual overlap between these constructs, as discussed further in the study limitations.

Evaluation of Structural Models (Inner Model)

The collinearity assessment produced VIF values between 1.978 and 2.619, indicating that the structural model did not exhibit problematic multicollinearity.

Table 6

Collinearity Test Results (Inner VIF)

Pathway	VIF Value	Remarks
OR → BI	2,277	Collinearity-free
EE → BI	2,277	Collinearity-free
OR → UB	2,499	Collinearity-free
EE → UB	2,619	Collinearity-free
BI → UB	1,978	Collinearity-free
BI → SCV	2,433	Collinearity-free
UB → SCV	2,433	Collinearity-free

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

All inner VIF values ranged from 1.978 to 2.619, remaining below the threshold of 5; consequently, no multicollinearity problem was identified in the model.

Table 7

R² and R² Adjusted

Variable	R Square	R ² Adjusted
BI	0,494	0,482
UB	0,715	0,704
SCV	0,681	0,673

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

The exogenous constructs accounted for 49.4% of the variance in BI, 71.5% of the variance in UB, and 68.1% of the variance in SCV. The effect size (f^2) for each structural path is presented in Table 8. The strongest effects were observed for UB → SCV ($f^2 = 0.503$) and BI → UB ($f^2 = 0.382$), whereas EE → UB showed no effect ($f^2 = 0.000$), consistent with the rejection of H5.

Table 8

Test Results Effect size (f-Square)

Pathway	Value f^2	Categories
OR → BI	0,098	Small
EE → BI	0,150	Medium
OR → UB	0,298	Medium
EE → UB	0,000	Ignored
BI → UB	0,382	Large
BI → SCV	0,076	Small
UB → SCV	0,503	Large

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

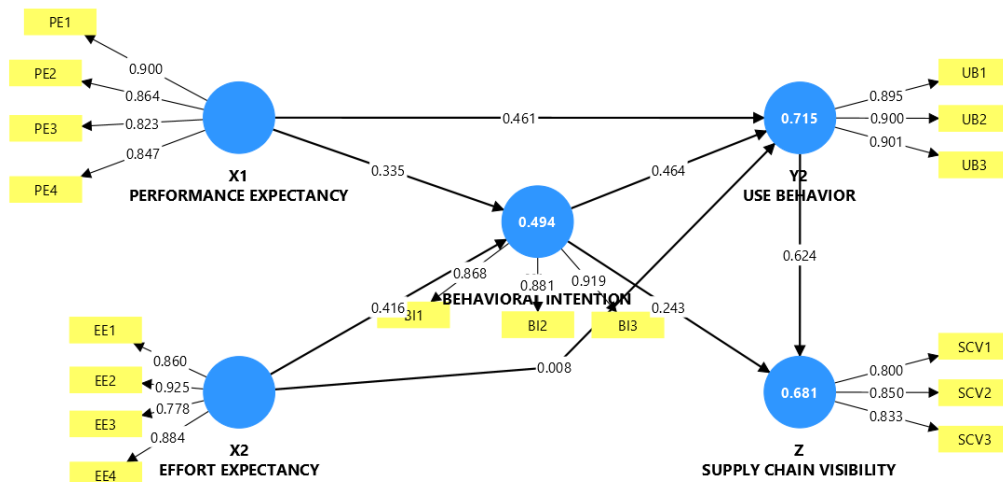


Figure 2. PLS Algorithm Analysis Results

Quantitative Data and Testing of Direct Relationship Hypotheses

Direct hypotheses were tested using data from 84 respondents through a bootstrapping procedure with significance criteria of t-statistic > 1.96 and p-value < 0.05 (Venkatesh et al., 2003, 2023).

Table 9

Hypothesis Testing (Direct Contact)

H	Pathway	O	STDEV	T-stat	P-value	Conclusion
H1	OR → BI	0,335	0,153	2,195	0,028	Accepted
H2	EE → BI	0,416	0,134	3,103	0,002	Accepted
H3	BI → UB	0,464	0,119	3,900	0,000	Accepted
H4	OR → UB	0,461	0,126	3,663	0,000	Accepted
H5	EE → UB	0,008	0,125	0,064	0,949	Rejected
H6	UB → SCV	0,624	0,122	5,122	0,000	Accepted
H7	BI → SCV	0,243	0,128	1,899	0,058	Rejected

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

The principal findings can be summarized as follows. First, PE positively and significantly affected BI ($t = 2.195$; $p = 0.028$), consistent with the role of Performance Expectancy in shaping intention (Venkatesh et al., 2003, 2023). Second, EE significantly affected BI ($t = 3.103$; $p = 0.002$), supporting the view that Effort Expectancy encourages intention during the early adoption stage (Faida & Angesti, 2023). Third, BI influenced UB ($t = 3.900$; $p < 0.001$), while PE also had a direct effect on UB ($t = 3.663$; $p < 0.001$). Fourth, EE did not significantly affect UB ($t = 0.064$; $p = 0.949$). Fifth, UB produced the strongest effect on SCV ($t = 5.122$; $p < 0.001$), whereas BI did not directly affect SCV ($t = 1.899$; $p = 0.058$).

Testing the Effects of Mediation (Indirect Relationship)

Table 10

Hypothesis Testing (Indirect Relationship)

	O	STDEV	T-statistic	P-value	Conclusion
H8: PE → BI → UB	0,156	0,099	1,575	0,115	Rejected
H9: EE → BI → UB	0,193	0,072	2,694	0,007	Full mediation
H10: BI → UB → SCV	0,290	0,075	3,848	0,000	Accepted (mediation)

Source: Primary data processed using the PLS-SEM (SmartPLS) method (2026)

The mediation results indicate three different patterns. First, BI did not mediate the effect of PE on UB ($t = 1.575$; $p = 0.115$), leading to the rejection of H8. Second, BI fully mediated the effect of EE on UB ($t = 2.694$; $p = 0.007$). Third, BI mediated the effect of UB on SCV ($t = 3.848$; $p = 0.000$).

relationship between EE and UB ($t = 2.694$; $p = 0.007$), so H9 was accepted and complements the nonsignificant direct effect reported for H5 (Venkatesh et al., 2003, 2023). Third, UB significantly mediated the relationship between BI and SCV ($t = 3.848$; $p < 0.001$), resulting in the acceptance of H10 and showing that intention contributes to Supply Chain Visibility through actual system use rather than through a direct pathway.

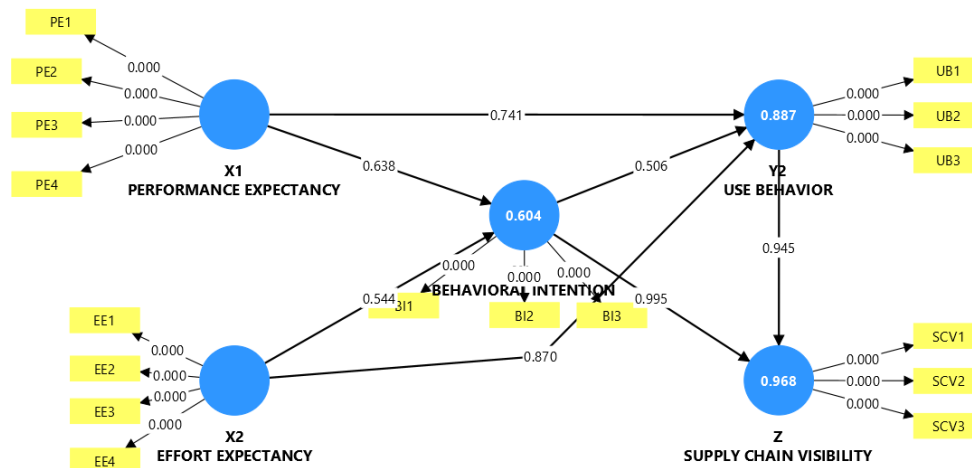


Figure 3. Bootstrapping Analysis Results

Discussion

This study was motivated by the gradual implementation of E-Procurement and E-VMS at PT Energia Prima Nusantara, where the systems are moving toward full deployment while employee readiness had not previously been measured empirically. The results indicate that employee readiness should be understood as a sequence of acceptance and actual use rather than as intention alone. Performance Expectancy and Effort Expectancy contribute to Behavioral Intention, while actual Use Behavior becomes the critical mechanism through which digital procurement can generate Supply Chain Visibility.

EE significantly influenced BI ($t = 3.103$) but did not significantly influence UB ($t = 0.064$; $p = 0.949$; $f^2 = 0.000$ in H5). This pattern shows that perceived ease of use by itself is insufficient unless it is translated into an intention to use the system (Venkatesh et al., 2003, 2023). The finding is also consistent with the identified human-resource constraints, where employee adaptation requires adequate support and training before ease of use can be converted into consistent operational behavior (Ariadi et al., 2024; Ramazan & Najamudin, 2021).

The managerial response should therefore be implemented in stages. First, because PE shows significant relationships with BI and UB, the company should continue communicating the practical benefits of the system (Kangethe & Namusonge, 2024; Mwangata & Hapompwe, 2024; Ramadhan & Rahman, 2022). Second, the significant EE → BI relationship and the mediation of EE through BI suggest that training should not only explain how the system works but also build users' confidence and willingness to adopt it. Third, because BI affects SCV through UB, management should monitor whether employees' stated intentions are translated into regular use after system implementation.

The increase in UB had the largest effect on SCV, with a coefficient of 0.624 and $f^2 = 0.503$, reinforcing the importance of actual system use for obtaining accurate and timely information (Asamoah et al., 2023; Huang et al., 2023; Kangethe & Namusonge, 2024). Stronger use behavior is therefore expected to support reductions in the 13% material-delivery delays and improve integrated data access. This finding indicates that Supply Chain Visibility is achieved when employees consistently use the digital procurement system in their operational activities, not merely when they express an intention to use it.

The proposed novelty integrating UTAUT with SCV as the final outcome (Kalaierasan et al., 2022; Venkatesh et al., 2003, 2023) is empirically reflected in the BI → UB → SCV pathway represented by H6, H7, and H10. Unlike studies that end the UTAUT process at Use Behavior, the present model demonstrates how technology acceptance can extend to an operational supply

chain outcome. The findings therefore connect individual acceptance mechanisms with organizational visibility in a digital logistics-procurement context.

Although the Fornell-Larcker criterion was satisfied, HTMT values for PE-SCV (0.946) and UB-SCV (0.983) exceeded the 0.90 threshold (Tables 4 and 5) (Cheung et al., 2024; Fornell & Larcker, 1981; Henseler et al., 2015). This result suggests possible conceptual overlap, particularly between UB and SCV, and should be interpreted cautiously. The overlap may indicate that respondents perceive actual system use and improved Supply Chain Visibility as closely related aspects of the same digital-transformation experience. Future studies should reassess the measurement items and examine whether the constructs can be more clearly differentiated.

CONCLUSION

This study shows that employee readiness, expressed through technology acceptance and actual system use, forms an important pathway toward Supply Chain Visibility in digital transformation. Using the integrated UTAUT framework, the results indicate that Performance Expectancy and Effort Expectancy positively shape Behavioral Intention; Performance Expectancy and Behavioral Intention positively influence Use Behavior; and Use Behavior has the strongest effect on Supply Chain Visibility. Effort Expectancy does not directly influence Use Behavior, while Behavioral Intention has no direct effect on Supply Chain Visibility. The mediation tests further show that Behavioral Intention mediates the relationship between Effort Expectancy and Use Behavior, whereas Use Behavior mediates the relationship between Behavioral Intention and Supply Chain Visibility. Overall, seven hypotheses were accepted and three were rejected, confirming that actual use of the digital system is more decisive for visibility outcomes than intention alone.

From a practical perspective, organizations implementing digital procurement should focus on converting employees' intention to use technology into stable and repeated usage through reinforcement training, increased system familiarity, and continuous operational support. PT Energia Prima Nusantara should also maintain communication regarding system benefits and provide sufficient assistance during the transition to full E-Procurement and E-VMS implementation. Because the study is limited to one organization and a cross-sectional sample of 84 respondents, future research may test the integrated UTAUT-SCV model in other sectors, larger samples, or longitudinal settings. Further refinement of the SCV and Use Behavior indicators is also advisable in view of the elevated HTMT values identified between some constructs.

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AUTHOR CONTRIBUTION STATEMENT

Tsabitah Sri Irwanto, Melia Eka Lestiani, and Agus Purnomo contributed to the conceptualization, methodology, data collection, analysis, interpretation, drafting, and revision of the manuscript. All authors read and approved the final manuscript.

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