Applied Information System and Management (AISM)
Volume 9, (1) 2026, p. 53–60
P-ISSN: 2621-2536; E-ISSN: 2621-2544; DOI: 10.15408/aism.v9i1.46793

Assessing ERP Adoption Determinants in Oil Palm Plantations Using UTAUT2 and SEM Evidence from PT Menthobi Makmur Lestari

Bimantoro Suryo Budi Sudibyo[1*], Evi Triandini[2], Dadang Hermawan[3]

***Abstract*—The palm oil plantation industry in Indonesia still faces challenges in efficiency, resource management, and operational sustainability. To overcome these challenges, Enterprise Resource Planning (ERP) systems offer integrated solutions. However, their adoption is often hindered by organizational and individual barriers. This study investigates the factors influencing ERP adoption at PT. Menthobi Makmur Lestari is using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework. Data were collected from 88 respondents, including managers and staff actively engaged with ERP systems, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings reveal that price value, facilitating conditions, and performance expectancy significantly and positively affect behavioral intention, which in turn drives actual system usage. Moderation analysis of age, gender, and experience showed minimal influence, indicating that demographic characteristics play a limited role in shaping ERP adoption behavior. Instead, organizational support, infrastructure availability, and perceived economic benefits emerged as the dominant enablers of ERP adoption. The findings highlight the critical role of management strategies, training, and system alignment with employee tasks in ensuring successful ERP implementation. The study concludes that ERP adoption in palm oil companies is more strongly determined by organizational readiness than by individual differences.**

***Index Terms*—Adoption, enterprise resource planning, palm oil industry, unified theory of acceptance and use of technology 2.**

I. INTRODUCTION

The palm oil plantation industry in Indonesia is a strategic sector that makes a significant contribution to the national economy. With oil palm plantations reaching over 16 million hectares by 2024, Indonesia has become the world's leading producer of crude palm oil (CPO) [1] . However, despite this enormous potential, the plantation sector faces serious challenges in operational efficiency, resource management, and environmental sustainability. These challenges demand innovation in more integrated and technology-based business process management.

A Previous study [2] found that the palm oil industry in Indonesia has increased its ERP adoption, with 79 companies now using it, because the system can manage various operational aspects, from financial management to production control. However, ERP adoption in the palm oil industry remains challenged by organizational staff resistance to change, inadequate1 training, and insufficient technological infrastructure. This fact leads many palm oil plantation companies to encounter obstacles in achieving the desired results from ERP [3]. Various studies have also shown that the success rate of ERP adoption is significantly influenced by organizational readiness, management support, technological capabilities, and employee willingness to change [4], [5] . However, previous papers in the palm oil industry have not explicitly examined how factors such as employees' expectations regarding the effort required to implement ERP and the price value to the company can influence ERP adoption [6]. Nevertheless, recent studies on user adoption of technology show that these factors are important to consider, given the growing need for technology use [7].

To address this gap, this study uses the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) to identify key variables such as performance expectancy, effort expectancy, social influence, facilitating conditions, habit, and hedonic motivation factors relevant to technology acceptance [2]. While UTAUT2 has been widely applied in various sectors, its application in the palm oil plantation environment remains limited [6]. Compared to earlier acceptance models such as the Technology Acceptance Model (TAM) or the Diffusion of Innovations (DOI), UTAUT2 offers a more comprehensive, behavior-oriented framework that better aligns with the complexity of ERP adoption in plantation operations [2], [8],

Received: 9 October 2025; Revised: 16 November 2025; Accepted: 8 January 2026.
*Corresponding author
[1]Bimantoro Suryo Budi Sudibyo, Institut Teknologi dan Bisnis STIKOM Bali, Indonesia (e-mail: 232012018@stikom-bali.ac.id).
[2]Evi Triandini, Institut Teknologi dan Bisnis STIKOM Bali, Indonesia (e-mail: evi@stikom-bali.ac.id).
[3]Dadang Hermawan, Institut Teknologi dan Bisnis STIKOM Bali, Indonesia (e-mail: dadang@stikom-bali.ac.id).

[9]. With structural equation modeling (SEM), this study measures not only the direct but also the indirect effects between variables influencing ERP adoption [10], [11].

This research investigates PT. Menthobi Makmur Lestari, an organization situated in Central Kalimantan, Indonesia. The company is currently experiencing substantial difficulties in adopting an enterprise resource planning system, which is consequently affecting its operational performance. This pressing need for digital transformation arises from inherent limitations in current management frameworks, exacerbated by escalating competitive pressures and the imperative for enhanced productivity and sustainability in the palm oil plantation sector. Consequently, this study endeavors to assess the degree of ERP system acceptance within the aforementioned organization. Furthermore, it seeks to identify the primary determinants influencing this adoption using the UTAUT2 framework and to analyze the structural relationships among pertinent variables to elucidate their interplay in shaping user behavior and system utilization.

This study contributes to the existing literature by uniquely applying the UTAUT 2 model within the context of a palm oil plantation company, an industrial sector characterized by a paucity of research on enterprise resource planning adoption. Such an application provides a more granular insight into the dynamics of technology acceptance within resource-intensive industries. Moreover, this research synthesizes technology acceptance evaluation with structural relationship analysis, culminating in a holistic model. This resultant model offers practical guidance for PT. Menthobi Makmur Lestari and other entities across the broader coconut and palm oil industries facilitate operational efficiency improvements, bolster digital transformation initiatives, and foster enhanced competitiveness through optimized ERP implementation strategies.

II. Related Work

To provide an overview of ERP adoption in agribusiness sectors, several studies have examined how digital systems improve operational performance. Using the UTAUT2 model, previous research [12], [13] focused on ERP system adoption in the food industry in Central Java. It evaluated various factors influencing adoption, including performance expectancy, effort expectancy, price value, facilitating conditions, and habit. The results indicate that ERP is crucial for digitalization and operational efficiency, with training and technology adaptation identified as the most significant challenges. Complex causal relationship testing, enabled by PLS-SEM, demonstrates the importance of integrating ERP systems to support operational and cost efficiency in small and medium-sized businesses.

As an extension of ERP adoption studies in agribusiness, a study [2] used PLS-SEM to examine relationships among variables and the impact of ERP implementation on operational performance in the Indonesian palm oil plantation industry. The study emphasizes the importance of digital adoption for improving efficiency and productivity in the Indonesian agribusiness sector. Furthermore, components such as organizational trust, mobility strategies, and transformational leadership play a significant role in improving ERP performance. This finding is important for understanding how ERP can help manage and operate palm oil plantations more efficiently.

To understand how technology acceptance models operate within organizations, it is also relevant to consider evidence from other industrial contexts. For instance, a study [10] examines how ERP system implementation affects the financial and operational performance of companies in the defense industry. Many businesses invest in ERP systems in the hope of achieving financial benefits, as demonstrated in that article. However, ERP implementations come with high costs and significant risks. A key finding is that the financial and operational performance of defense companies benefits from ERP systems. After two years, companies that have implemented ERP improve their financial and operational performance. The study employed quantitative methods, including a survey of 110 industry managers, and processed the data using SmartPLS software for SEM. The results indicate that ERP improves decision-making, efficiency, and customer satisfaction.

Building on the findings of previous studies, several gaps remain unaddressed, particularly in plantation-based industries. The novelty of this study lies in its in-depth exploration of contextual factors, including plantation working conditions, employees' technological literacy, and company infrastructure support. In addition to analyzing technology acceptance factors, this study extends the use of PLS-SEM to evaluate the relationship between ERP adoption and operational indicators, including process efficiency, supply chain management, and labor productivity. This analysis provides a more comprehensive approach than previous research. The integration of SEM and UTAUT2 provides added value, as the two are rarely used together in the palm oil plantation industry.

III. Research Method

A. Hypothesis

A theoretical framework helps clarify the relationships among variables and predict research outcomes. In this study, the theoretical framework was adapted from the UTAUT2 model, as visualized in Fig. 1.

After determining the theoretical framework, hypotheses are formulated to explain the relationships between variables. In this study, the hypotheses are as shown in Figure 2, which can be described as follows:

- H1: Performance expectancy has a positive influence on behavioral intention.
- H2: Effort expectancy has a positive influence on Behavioral Intention.
- H3: Price value has a positive influence on Behavioral Intention.
- H4: Facilitating conditions have a positive influence on behavioral intention.
- H5: Social influence has a positive influence on behavioral intention.

Applied Information System and Management (AISM)
Volume 9, (1) 2026, p. 53–60
P-ISSN: 2621-2536; E-ISSN: 2621-2544; DOI: 10.15408/aism.v9i1.46793

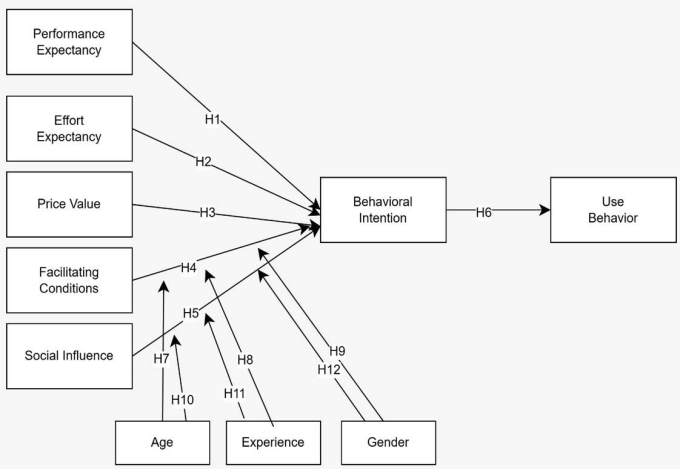

Fig. 1. Proposed model.

- H6: Behavioral intention has a positive influence on use behavior.
- H7: Age moderates the influence of facilitating conditions on behavioral intention.
- H8: Experience moderates the influence of facilitating conditions on behavioral intention.
- H9: Gender moderates the influence of facilitating conditions on behavioral intention.
- H10: Age moderates the influence of social influence on behavioral intention.
- H11: Experience moderates the influence of social influence on behavioral intention.
- H12: Gender moderates the influence of social influence on behavioral intention.

B. Data Collection

The survey questionnaire used in this study was created based on the proposed model in Figure 1, where the questionnaire uses a 1–5 Likert scale (strongly disagree–strongly agree) to measure how performance expectancy (PE), effort expectancy (EE), social influence (SI), price value (PV), and facilitating conditions (FC), influence the behavioral intention (BI) and use behavior (UB) of ERP systems in the palm oil plantation industry. The sampling technique used in this study was purposive sampling, where participants were selected based on their roles and direct involvement in using the ERP system.

Before final distribution, the questionnaire was reviewed by key stakeholders and managers to ensure the questions were relevant to the company's current ERP implementation. Subsequently, the questionnaires were distributed to the intended respondents, comprising strategic parties (D-Level), managers, and staff and employees who work using the ERP system at PT. Menthobi Makmur Lestari. A total of 88 respondents completed the questionnaire.

C. Data Analysis

For the data analysis, we used Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationships between variables and test the hypotheses. Due to the presence of the moderating variables, such as age, gender, and experience, affecting the relationship between SI and BI, as well as FC and BI, we conducted separate models to analyze the influence of these moderating variables. This separation of the analysis models aims to examine the influence of each moderating variable on the relationship between the two. Further explanation about the data analysis can be found in the Results & Discussion section.

IV. Result & Discussion

A. Demographic Analysis

The total number of research participants was 88. The demographic analysis in Table 1 shows that the majority of respondents are men (75%), while women account for only 25%. Meanwhile, in terms of length of service, more than half of the respondents (53.4%) have worked at the company for more than 5 years, indicating a high level of work experience. As many as 25% of respondents have a working period of 1 to 3 years, and 15.9% have a working period of 3 to 5 years. Respondents with a work period of less than 1 year accounted for only 5.7%, making this group relatively small compared to other categories. The analysis of respondents' final education shows that 55.7% hold a bachelor's degree, followed by 33% who graduated from high school/vocational school, and 8% who graduated from vocational education (D3/D4). Meanwhile, the number of respondents with a Master's degree is the least, with 3.4%.

Table 1.
Respondents Demographics Information

Category		Mark
Gender	Man	75%
	Woman	25%
Length of Service at the Company	<1 year	5.7%
	1–3 years	25%
	3–5 years	15.9%
	>5 years	53.4%
Last education	High school/vocational school	33%
	D3/D4	8%
	S1	55.7%
	S2	3.4%

B. Descriptive Analysis

The descriptive analysis results in Table 2 show that the majority of indicators have a standard deviation below 1, indicating the data are relatively homogeneous, except for indicators such as UB1, MD1, MD2, and MD5, which exhibit greater variation. Additionally, the skewness value falls within the range of -1 to +1, indicating a normal distribution. However,

several indicators, especially for the Price Value (PV1–PV3) and BI1 constructs, tend to lean to the right, with higher negative values. Meanwhile, the kurtosis value remains within reasonable limits (±2), although several indicators, such as PV1–PV3 and BI1, show more leptokurtic distributions, with values clustered around the mean. Overall, the descriptive analysis results indicate that the data meet the univariate normality assumptions, allowing further analysis with the PLS-SEM method.

Table 2.
Descriptive Statistics

	Standard Deviation	Skewness		Kurtosis	
	Statistics	Statistics	Std. Error	Statistics	Std. Error
PE1	0.664	-0.653	0.257	0.477	0.508
PE2	0.5705	-0.419	0.257	-0.25	0.508
PE3	0.48824	-0.428	0.257	0.076	0.508
EE1	0.5221	0.031	0.257	-0.45	0.508
EE2	0.813	-0.215	0.257	-0.422	0.508
SI1	0.662	-0.532	0.257	-0.68	0.508
SI2	0.661	-0.301	0.257	-0.73	0.508
SI3	0.718	-0.348	0.257	-0.992	0.508
PV1	0.771	-0.965	0.257	1,925	0.508
PV2	0.773	-1.054	0.257	2,083	0.508
PV3	0.81	-1,313	0.257	2,325	0.508
FC1	0.725	-0.807	0.257	1,061	0.508
FC2	0.677	-0.283	0.257	0.001	0.508
BI1	0.7712	-1.105	0.257	2.29	0.508
BI2	0.613	-0.288	0.257	-0.608	0.508
BI3	0.585	-0.231	0.257	-0.644	0.508
BI4	0.748	-0.412	0.257	0.064	0.508
UB1	1,179	-0.441	0.257	-0.526	0.508
UB2	0.635	-0.168	0.257	-0.562	0.508
MD1	1,025	-0.645	0.257	-0.121	0.508
MD2	1,149	-0.099	0.257	-0.78	0.508
MD3	0.819	-0.631	0.257	0.816	0.508
MD4	0.893	-0.814	0.257	0.887	0.508
MD5	1,142	-0.368	0.257	-0.675	0.508
MD6	0.727	-0.219	0.257	-0.524	0.508

C. Evaluation of the Moderation Model on Social Influence and Behavioral Intention

The analysis of ERP adoption in this study used the PLS-SEM approach, with the development of two distinct moderation models. This approach aimed to identify moderating variables that influence the relationship between independent variables and dependent variables.

The first model tests the moderation role of age, experience, and gender on the relationship between Social Influence and Behavioral Intention. The second model uses the same moderating variables, namely age, experience, and gender, on the relationship between Facilitating Conditions and Behavioral Intention.

The test results for the first PLS-SEM model shown in Figure 1 include the measurement and structural model analyses. In the measurement model, the loading factor for each indicator supporting the construct is above 0.7. This value indicates that each indicator can represent the appropriate construct [10]. Next, CR value, which reflects the internal consistency of the latent variable, is also above the minimum threshold of 0.7 across all constructs. These results show that the indicators used possess good internal consistency in describing the latent construct.

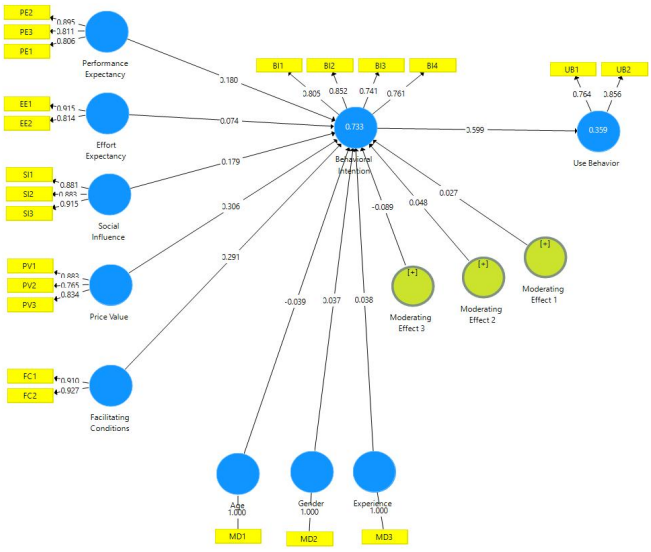

Fig. 2. PLS-SEM moderation model on social influence.

The average variance extracted (AVE) for all constructs was higher than 0.5. This finding indicates that each construct explains more than 50% of the variance in its indicators, thereby meeting the criteria for convergent validity. Thus, the results of the CR and AVE analyses overall indicate that the measurement model in this study possesses adequate reliability and validity [11]. In addition, the moderating variables of age (MA), gender (MG), and experience (ME) (as shown in Table 3), which serve as moderators in the relationship between social influence and behavioral intention, also meet the construct reliability and validity criteria. The CR value was recorded as higher than 0.8, whereas the AVE value is below 0.9. This fact implies that the moderation effect in the measurement model has fulfilled construct validity criteria.

Table 3.
Measurement Model Results of the First Model

	Composite Reliability (CR)	Average Variance Extracted (AVE)
SI	0.922	0.798
EE	0.857	0.750
FC	0.915	0.844
PE	0.876	0.703
PV	0.868	0.687
UB	0.793	0.658
BI	0.87	0.626
MA	0.832	0.632
MG	0.921	0.795
ME	0.963	0.896

Next, the structural model is evaluated using R-squared and path coefficients. The R-square for BI is 0.733, indicating that social influence, effort expectancy, facilitating conditions, performance expectancy, and price value account for 73.3% of the variance in an individual's behavior toward ERP adoption. However, the R-square value for UB (0.359) indicates that an individual's desire to adopt ERP has only a small influence on their intention to use it truly.

Applied Information System and Management (AISM)
Volume 9, (1) 2026, p. 53–60
P-ISSN: 2621-2536; E-ISSN: 2621-2544; DOI: 10.15408/aism.v9i1.46793

This small influence is because the path coefficients for variables related to BI, such as SI, EE, FC, PE, and PV, indicate a weak influence on BI. The factors most likely to influence the desire to adopt ERP are Price Value and Facilitating Conditions. These findings are in line with a previous study by [15], which shows that ERP tends to be adopted by company employees when adequate support is available, both from the infrastructure side and from the company, and when the benefits outweigh the costs of using ERP in making work easier for employees. To address this issue, a previous study [6] found that companies need to examine the economic benefits of ERP and recognize the urgency of aligning ERP use with employees' tasks to enable them to perform their duties within the company.

Although age, gender, and user experience moderate the relationship between Social Influence (SI) and Behavioral Intention (BI), the analysis results indicate that the influence is relatively small. Experience and Age variables influence the relationship between SI and BI, although their contribution is very weak. In fact, the Gender moderation variable shows a negative value, so it does not have a significant influence. This finding shows that the factor determining ERP use is the presence of work or company activities that require employees to use ERP. In addition, organizational culture and company support play important roles in influencing individuals' decisions to use ERP to complete their duties [16].

This fact is evident in the actual implementation at the palm oil company, which serves as the case study site, where ERP adoption is more likely to occur when top management requires its employees to use it. Here, this requirement must also be supported by adequate infrastructure, initial training, and mentoring in the use of ERP. It is because, without support from top management and the necessity to use ERP, employees will tend to reject it, as they are already used to the existing system.

D. Evaluation of the Moderation Model on Facilitation and Behavioral Intention

In the second model, we used PLS-SEM to analyze the moderation model found in the relationship between facilitating conditions and BI. Figure 3 displays the second model. Loading factors for each indicator are above 0.8, indicating that each indicator supports the appropriate construct. Next, the CR and AVE values in Table 4 indicate that the variables effort expectancy (EE), facilitating conditions (FC), performance expectancy (PE), price value (PV), and social influence (SI) have good internal consistency and are indicators of the construct. A similar pattern is also evident in the CR and AVE values for the moderating variables, namely age (MA), experience (ME), and gender (MG), which confirm their validity as moderators of the relationship between FC and BI variables.

Table 4.
Value of the Measurement Model from the Second Model

	Composite Reliability (CR)	Average Variance Extracted (AVE)
EE	0.857	0.75
FC	0.915	0.844
PE	0.876	0.703
PV	0.868	0.687
SI	0.922	0.798
BI	0.869	0.625
UB	0.793	0.658
MA	0.921	0.853
MG	0.937	0.882
ME	0.921	0.854

Next, the R-square value of 0.744 indicates that the model explains 74.4% of the variance in users' desire to adopt ERP. Meanwhile, for Use Behavior, it accounts for only 35.9% of the variance. It shows the presence of other potential factors that influence the company's ERP use.

In line with the results of the first model (the moderation effect of SI on BI), the price value and facilitating conditions variables are the most influential factors in an individual's desire to adopt ERP. On the other hand, the moderation effects based on age, gender, and experience show a very weak influence, even insignificant, on the relationship between facilitating conditions and behavioral intention. This finding confirms that the desire and behavior of ERP use among the company's employees are potentially influenced, especially by facilitating conditions, namely strong company support in the form of organizational culture and infrastructure, as well as the availability of additional benefits for users.

E. Hypothesis Testing

Hypothesis evaluation was conducted for the first and second models to obtain t-test values and p-values. Table 5 shows the hypothesis test results of both models. The acceptable threshold value for the t-test is more than 1.5, whereas the acceptable p-value is less than 0.5 [11], [17]. Thus, if a hypothesis has a t-test value above 1.5 and a p-value below 0.5, the hypothesis is considered significant or accepted. On the other hand, if the mentioned criteria are not fulfilled, then the hypothesis is considered not significant or rejected.

Table 5.
Hypothesis Test Results: Both Models

Connection between Variables	First Model (Moderation on SI and BI)		Second Model (Moderation on FC and BI)	
	t-test	p-value	t-test	p-value
PV→BI	2.334	0.02	2.836	0.005
FC→BI	2.6	0.01	3.101	0.002
PE→BI	1.515	0.13	0.902	0.368
EE → BI	0.851	0.395	0.695	0.488
SI → BI	1.74	0.082	0.145	1.398
BI →UB	7.623	0	7.897	<0.001
MA →BI	0.247	0.805	0.838	0.403
ME → BI	0.497	0.619	0.776	0.438
MG→ BI	1,117	0.264	0.032	0.975

Based on the t-test results and p-values, hypotheses H3, H4, and H6 are accepted because the p-values meet the significance criteria. The summary of the hypothesis results is shown in Table 6. Acceptance of hypothesis H3 indicates a positive influence of price value on behavioral intention in ERP adoption among palm oil companies. This fact indicates that employees in palm oil plantation companies are more likely to adopt and continue using the ERP system when they perceive that the benefits outweigh the costs, whether in terms of time, effort, operational adjustments, or organizational investment [18].

Next, hypothesis H4 is accepted, indicating a positive influence of facilitating conditions on behavioral intention in ERP adoption. This result shows that employee intention to adopt and use the ERP system increases when they perceive that adequate organizational support, infrastructure, and technical resources are available to assist them [25]. Hypothesis H6, which posits a positive influence of behavioral intention on use behavior, is also accepted, indicating that users' desire to adopt ERP affects their use of the current system. This effect indicates that users who believe in the usefulness, relevance, and value of ERP are more likely to engage consistently with the system in their daily operational tasks. This fact aligns with the previously accepted H3 and H4 regarding price value and facilitating conditions [24], [25].

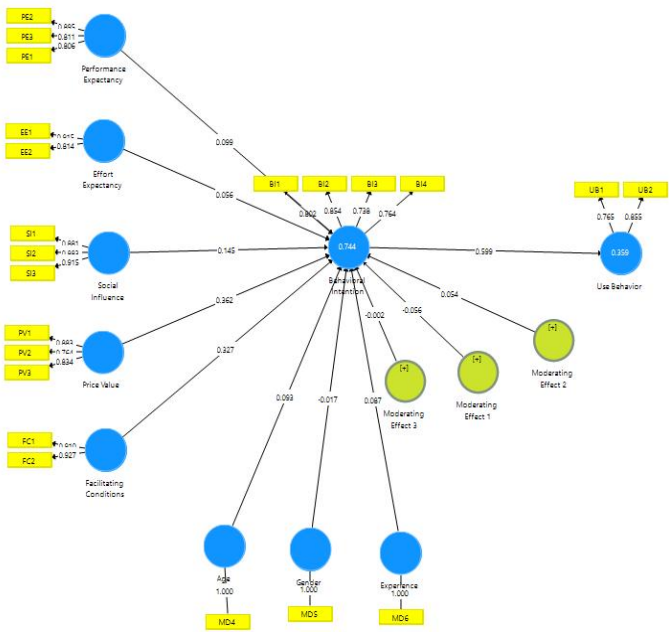

Fig. 3. PLS-SEM moderation model on facilitating conditions.

Aside from that, H1, which tests the influence of Performance Expectancy on Behavioral Intention, can also be accepted, even though its influence is relatively weak. This condition implies that employees still consider the usefulness and operational benefits of the ERP system as a factor in shaping their intention to adopt it. However, these perceived benefits are not the strongest drivers of their motivation. They are driven mainly by price value and by the supporting facilitating conditions for using the ERP. As for the moderation hypothesis, which can also be accepted, H8 posits that experience moderates the relationship between facilitating conditions and behavioral intention, though its influence is considered weak. This phenomenon suggests that experienced users benefit slightly more from supportive conditions. However, ERP adoption in palm oil companies still depends primarily on strong organizational support rather than prior ERP experience [19].

Table 6.
Hypothesis Results

Hypothesis	Connection	Decision
H1	Performance Expectancy → Behavioral Intention	Accepted
H2	Effort Expectancy → Behavioral Intention	Rejected
H3	Price Value → Behavioral Intention	Accepted
H4	Facilitating Conditions → Behavioral Intention	Accepted
H5	Social Influence → Behavioral Intention	Rejected
H6	Behavioral Intention→ Use Behavior	Accepted
H7	Moderation Age toward Facilitating Conditions → Behavioral Intention	Rejected
H8	Moderation Experience toward Facilitating Conditions → Behavioral Intention	Accepted
H9	Moderation Gender toward Facilitating Conditions → Behavioral Intention	Rejected
H10	Moderation Age toward Social Influence → Behavioral Intention	Rejected
H11	Moderation Experience toward Social Influence → Behavioral Intention	Rejected
H12	Gender Moderation toward Social Influence → Behavioral Intention	Rejected

Therefore, it can be concluded that price value, facilitating conditions, and performance expectancy positively influence the user's desire to adopt ERP. However, other factors can affect actual use of ERP, which can be explored further in future research [19]. In addition, the results of user experience moderation show that prior ERP experience can influence an individual's desire to adopt ERP, especially when supported by external factors such as organizational culture and the availability of company infrastructure. This emphasizes how important it is to take organizational preparedness and individual perceptions into account when promoting ERP integration in intricate agricultural settings. Nevertheless, given the disparities in digital literacy and training accessibility, more research might examine the particular difficulties faced by various labor groups on palm oil plantations as they adjust to ERP systems. Furthermore, one promising way to comprehend sustained adoption is to look at how leadership and organizational trust affect ERP implementation success. Additionally, future research should examine how ERP systems affect oil palm plantations' environmental and economic sustainability over the long run.

V. CONCLUSION

This study shows that ERP adoption at PT. Menthobi Makmur Lestari is generally positive. Employees are willing to use the system when they see clear benefits in their daily work and when the company provides sufficient support, infrastructure, and training. Three factors, namely price value,

Applied Information System and Management (AISM)
Volume 9, (1) 2026, p. 53–60
P-ISSN: 2621-2536; E-ISSN: 2621-2544; DOI: 10.15408/aism.v9i1.46793

facilitating conditions, and performance expectancy, were the main drivers of their intention to adopt ERP, and this intention played an important role in determining actual system use. In contrast, effort expectancy and social influence did not significantly shape adoption, and demographic factors such as age, gender, and experience contributed very little.

These findings highlight that ERP adoption in plantation operations depends far more on organizational readiness and perceived usefulness than on individual differences. For companies, this means that improving infrastructure, offering consistent training, and clearly communicating the practical benefits of ERP are key to strengthening employee intention and ensuring active system use. On the other hand, disregarding staff concerns about perceived system complexity or the lack of observable advantages might hinder ERP integration success, highlighting the need for a user-centric implementation approach. Furthermore, considering the intricate sociotechnical context of palm oil farms, additional research might broaden the measures used and cross-validate the scales to reduce common mistake biases that frequently result from subjective views.

This study has several limitations. It focuses on a single company, so the findings may not reflect conditions in other plantations or related industries. The moderating variables were also limited, and the model explained only a small portion of actual usage behavior, suggesting that other influences may remain relevant. Future research could involve multiple companies, include factors such as digital literacy or work culture, and use longitudinal designs to track changes in adoption over time. From a practical standpoint, palm oil companies should continue strengthening system access, providing hands-on support to field teams, and demonstrating to employees how ERP improves efficiency and accuracy. In the long run, assessing a company's digital readiness and organizational culture can help identify areas for improvement before a large-scale digital transformation is rolled out.

ACKNOWLEDGMENT

This research was funded by the Magister Research Grant Program 2025 under the Research and Community Service Program of the Ministry of Higher Education, Science, and Technology (Kemendiktisaintek), Republic of Indonesia. The authors sincerely acknowledge this funding support, which enabled the successful completion of this study.

REFERENCES

[1] BPS Indonesia, "BPS Statistik 2025," *Statistik Indonesia 2025*, vol. 1101001, 2025, [Online]. Available: https://www.bps.go.id/id/publication/2025/02/28/8cfe1a589ad3693396d3db9f/statistik-indonesia-2025.html

[2] J. Kembaren, "Increasing operational performance through erp performance in oil palm plantation industry Indonesia," *Daengku: Journal of Humanities and Social Sciences Innovation*, vol. 2, no. 5, pp. 640–644, 2022, doi: 10.35877/454ri.daengku1209.

[3] M. F. D. Syahputra and E. Mahendrawathi, "Classification of users in open-source ERP implementation with diffusion of innovation theory to determine change strategy," in *2024 2nd International Conference on Software Engineering and Information Technology, ICoSEIT 2024*, pp. 324–329, 2024, doi: 10.1109/ICoSEIT60086.2024.10497490.

[4] A. Sulaksono and J. Nursyamsi, "Perkembangan ERP bidang industri manufaktur era transformasi digital," *Jurnal Akuntansi Dan Manajemen Bisnis*, vol. 2, no. 2, pp. 106–119, Aug. 2022, doi: 10.56127/jaman.v2i2.222.

[5] C. Neves, T. Oliveira, F. Cruz-Jesus, and V. Venkatesh, "Extending the unified theory of acceptance and use of technology for sustainable technologies context," *Int J Inf Manage*, vol. 80, Art. no. 102838, Sep. 2024, doi: 10.1016/j.ijinfomgt.2024.102838.

[6] W. I. Yudhistyra and C. Srinuan, "Adoption of industry-oriented enterprise resource planning systems: A rigorous empirical research in the mining industry leveraging PLS-SEM and artificial neural networks models," *Results in Engineering*, vol. 28, no. May, Art. no. 107280, 2025, doi: 10.1016/j.rineng.2025.107280.

[7] E. G. A. Reyes, A. K. S. Ong, M. F. Andrada, J. F. T. Diaz, and Ma. J. J. Gumasing, "Examining factors influencing the adoption of enterprise resource planning systems in secondary healthcare institutions," *J Health Organ Manag*, vol. 39, no. 6, pp. 1155–1178, Feb. 2025, doi: 10.1108/JHOM-07-2024-0316.

[8] W. Subhani, A. S. A. Latiff, and S. A. Wahab, "Effort expectancy, task technology fit, and ERP adoption behavior; moderating effect of trust in technology: evidence from SMEs of Pakistan," *Pakistan Journal of Commerce and Social Sciences*, vol. 17, no. 3, pp. 424–445, 2023, doi: 10.64534/commer.2023.067.

[9] P. N. Yuliani, N. W. S. Suprapti, I. G. J. A. Widagda K., and P. S. Piartrini, "The literature review on UTAUT 2: Understanding behavioral intention and use behavior of technology in the digital era," *International Journal of Social Science and Business*, vol. 8, no. 2, pp. 208–222, 2024, doi: 10.23887/ijssb.v8i2.77311.

[10] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *European Business Review*, vol. 31, no. 1, pp. 2–24, 2019, doi: 10.1108/EBR-11-2018-0203.

[11] A. Prabowo, H. Y. Haryono, and D. Soediantono, "Peran enterprise resource planning systems (ERP) terhadap kinerja perusahaan: Studi empiris pada industri pertahanan," *Journal of Industrial Engineering & Management Research*, vol. 3, no. 4, pp. 61–68, 2022, doi: 10.7777/jiemar.v3i4.305.

[12] H. Panduwiyasa and R. H. Yahya, "Analisis adopsi sistem ERP dalam mengoptimasi industri pangan menggunakan SEM dan model UTAUT2," *J. Sistem Info. Bisnis*, vol. 13, no. 1, pp. 10–19, 2023, doi: 10.21456/vol13iss1pp10-19.

[13] B. Ahn and H. Ahn, "Factors affecting intention to adopt cloud-based ERP from a comprehensive approach," *Sustainability (Switzerland)*, vol. 12, no. 16, pp. 1–26, 2020, doi: 10.3390/SU12166426.

[14] C. J. Costa, E. Ferreira, F. Bento, and M. Aparicio, "Enterprise resource planning adoption and satisfaction determinants," *Comput. Human Behav.*, vol. 63, pp. 659–671, 2016, doi: 10.1016/j.chb.2016.05.090.

[15] V. Christiansen, M. Haddara, and M. Langseth, "Factors affecting cloud ERP adoption decisions in organizations," *Procedia Comput. Sci.*, vol. 196, no. January, pp. 255–262, 2021, doi: 10.1016/j.procs.2021.12.012.

[16] N. Kock, "One-tailed or two-tailed P values in PLS-SEM?," *Int. J. e-Collaboration*, vol. 11, no. 2, pp. 1–7, 2015, doi: 10.4018/ijec.2015040101.

[17] J. P. Cabrera-Sánchez, I. Ramos-De-luna, E. Carvajal-Trujillo, and Á. F. Villarejo-Ramos, "Online recommendation systems: Factors influencing use in E-commerce," *Sustainability (Switzerland)*, vol. 12, no. 21, pp. 1–15, 2020, doi: 10.3390/su12218888.

[18] M. A. Uddin, M. S. Alam, A. Al Mamun, T. U. Z. Khan, and A. Akter, "A study of the adoption and implementation of enterprise resource planning (ERP): Identification of moderators and mediators," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 6, no. 1, Art. no. 2, 2019, doi: 10.3390/JOITMC6010002.

[19] M. H. Miraz, H. H. Jin, N. M. Salleh, M. A. Hossain, and M. T. Hasan, "What factors affect the adoption of cloud-based ERP in companies' operations in Malaysia?," *International Journal of Management and Sustainability*, vol. 13, no. 3, pp. 490–505, Jul. 2024, doi: 10.18488/11.v13i3.3827.

[20] N. I. Denashurya, Nurliza, E. Dolorosa, D. Kurniati, and D. Suswati, "Overcoming barriers to ISPO certification: Analyzing the drivers of sustainable agricultural adoption among farmers," *Sustainability*, vol. 15, no. 23, Art. no. 16507, Dec. 2023, doi: 10.3390/su152316507.