

PROPERTY MANAGEMENT SYSTEMS AND HOTEL EMPLOYEE PERFORMANCE IN SOUTH SULAWESI: THE MEDIATING ROLE OF SYSTEM BENEFITS

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Article Info	Abstract
<p>Keywords: Property Management System; employee performance; system benefits; hospitality technology; mediation effect.</p> <p>Received: December 21, 2025</p> <p>Approved: June 8, 2026</p> <p>Published: June 29, 2026</p>	<p>The rapid digitalization of the hotel industry has accelerated the adoption of Property Management Systems (PMS), which promise to improve operational efficiency and service delivery. Despite this, many hotels have not been able to fully translate PMS effectiveness into improved employee performance because the practical benefits perceived by employees are often overlooked. Previous studies have largely emphasized the direct effects of information systems on performance, while less attention has been allocated to the underlying mechanisms explaining how PMS effectiveness contributes to employee work outcomes. Therefore, this study aims to examine the interrelationship between PMS effectiveness, system benefits, and employee performance quality, with particular focus on the mediating role of system benefits. Using a quantitative approach, data were collected from 170 guest service agents employed in star-rated hotels in South Sulawesi, Indonesia. These data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings reveal that PMS effectiveness has a significant positive effect on both system benefits and employee performance quality. More importantly, system benefits have been found to significantly mediate the relationship between PMS effectiveness and employee performance, indicating that the successful translation of technological effectiveness into work quality depends on the extent to which employees experience practical operational benefits from the system. Unlike previous hospitality technology studies, which have primarily examined direct relationships between information systems and employee outcomes, this study conceptualizes system benefits as a distinct operational mechanism through which PMS effectiveness translates into employee performance quality. This approach extends existing technology acceptance and information systems success perspectives by emphasizing employee-perceived operational value rather than system usage alone. In addition, this study provides empirical evidence from the underexplored context of developing tourism regions and mid-scale hotels, while offering practical implications for optimizing PMS implementation to enhance workforce productivity and service quality. Nevertheless, the findings should be interpreted with caution, because the study relies on self-reported cross-sectional data collected from guest service agents working in three-star and below hotels in South Sulawesi. This factor limits causal inference and generalizability</p>



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INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed operational practices across the hospitality industry (Buhalis et al., 2023). Hotels have been increasingly required to adopt technology-based information systems to enhance efficiency, service quality, and decision-making processes in a highly competitive environment (Wynn & Lam, 2023; Tashpulatova & Suyunova, 2024). Among the most widely implemented systems is the Property Management System (PMS), which functions as an integrated platform for managing front-office operations, reservations, billing, guest records, housekeeping coordination, and managerial reporting (Bouchareb, 2023). Recent studies confirm that PMS adoption enables hotels to improve operational consistency, reduce manual errors, accelerate service delivery, and support data-driven managerial decisions in increasingly dynamic hospitality markets (Ivanov et al., 2022; Polischuk et al., 2023). However, the presence of technology alone does not automatically guarantee improved organizational outcomes, particularly when system utilization is not aligned with employee capabilities and operational demands (Navimipour & Soltani, 2016).

In practice, many hotels continue to experience difficulties in maximizing the effectiveness of PMS implementation. Although PMS has been widely recognized as an essential operational tool, its contribution to employee performance often remains inconsistent due to variations in system usability, employee readiness, technological support, and the extent to which employees perceive direct benefits from using the system (Walston et al., 2014; Commey et al., 2023). This indicates that the relationship between PMS implementation and work performance is not merely technical, but also behavioral and operational. Employees are more likely to perform effectively when the system not only functions properly, but also provides practical advantages such as ease of work, faster task completion, accurate information access, and smoother service coordination (Jovanovi et al., 2016; Gunaseelan et al., 2024). Therefore, understanding PMS solely as a technological investment is insufficient. It must also be examined in terms of how its effectiveness can be converted into meaningful operational benefits for employees.

Existing literature has extensively examined the relationship between information systems and employee or organizational performance within the hospitality sector. Previous studies have generally concluded that effective technological systems can positively influence work productivity, service efficiency, and managerial control (Melin-González & Bulchand-Gidumal, 2016; Ratna et al., 2018). Nevertheless, the majority of these studies have focused predominantly on direct-effect relationships, while treating information systems as independent drivers of performance improvement. Limited scholarly attention has been devoted to explaining the underlying mechanism through which PMS effectiveness produces better employee outcomes, particularly the mediating role of perceived system benefits. As a result, an important theoretical gap remains unresolved, namely whether PMS effectiveness directly enhances employee performance, or whether such improvement occurs because employees first experience practical operational benefits that facilitate their work processes. Addressing this issue is essential to reaching a more comprehensive explanation of technology-enabled performance in hotel operations (Tulus Harefa et al., 2024; Wirdhawan & Wibisono, 2024).

According to Statistics Indonesia (BPS, 2025), the number of hotels and other accommodation establishments in Indonesia reached 34,702 businesses in 2025, showing



continued growth compared to previous years. The accommodation sector generated IDR 258.31 trillion in revenue in 2024. This reflects increasing demand for accommodation services and the growing competitiveness of the hospitality industry. As the number of accommodation businesses continues to expand, BPS emphasizes that improvements in service quality and operational efficiency must be supported by the adoption of information technology to maintain competitiveness (BPS, 2025). Furthermore, recent studies on hospitality digitalization indicate that hotels are increasingly adopting integrated digital systems to support reservation management, inventory control, financial administration, customer service, and interdepartmental coordination (Ramdhan & Suharto, 2024). Integrated hotel management systems enable faster operational processes, improve information accuracy, facilitate real-time decision making, and enhance guest service quality (Ramdhan & Suharto, 2024). Nevertheless, the adoption and optimization of digital technologies remain uneven, particularly among medium-scale and independent hotels outside major tourism destinations.

Limitations related to investment capacity, technological readiness, employee digital competence, and system integration continue to constrain the effective utilization of digital systems (Ramdhan & Suharto, 2024). Consequently, understanding how Property Management System (PMS) effectiveness translates into operational benefits and employee performance has become vital for hospitality digitalization and tourism competitiveness in Indonesia. Despite the growing adoption of PMS in the hospitality industry, previous studies have predominantly focused on the direct relationship between information systems and organizational outcomes. Limited attention has been given to the mechanisms through which PMS effectiveness influences employee performance quality, particularly through perceived system benefits. This gap is especially evident in developing tourism destinations and medium-scale hotels, where digital transformation remains uneven.

Research on hospitality information systems has consistently reported positive relationships between technological capabilities and organizational outcomes. However, three important gaps remain. First, most PMS-related studies focus on direct effects of technology on operational performance, service efficiency, or employee productivity. Additionally, as with performance quality in general, less attention has been paid to understanding the underlying mechanisms through which PMS effectiveness influences employee outcomes. Second, constructs such as perceived usefulness, user satisfaction, and net benefits have been widely examined within Technology Acceptance Model (TAM) and Information Systems Success Model frameworks, yet few studies have explicitly conceptualized operational system benefits as a distinct mediating mechanism in hotel PMS environments. Third, empirical evidence from developing tourism regions remains limited, particularly in medium-scale hotels, in which digital transformation is still evolving and technological utilization varies considerably among employees.

Addressing these gaps is important because employee performance is unlikely to be influenced solely by the technical effectiveness of a system. Rather, technological effectiveness may improve performance only when employees experience tangible operational benefits that facilitate their daily work activities. Therefore, this study proposes a mediation framework that positions PMS benefits as the explanatory mechanism linking PMS effectiveness and employee performance quality.

This issue is particularly relevant in the context of South Sulawesi, Indonesia, where the hospitality sector continues to grow alongside regional tourism development.



The expansion of star-rated hotels in cities such as Makassar, Parepare, Palopo, and Bulukumba has encouraged the adoption of digital hotel management systems. However, many mid-scale and lower-tier hotels still face challenges related to technological readiness, employee digital competence, and the optimization of PMS features in day-to-day operations (Daniel Adolf Ohyver et al., 2024). In many cases, a PMS is adopted as an operational necessity, yet its actual utilization remains suboptimal, limiting its contribution to employee productivity and service quality. This suggests that the successful implementation of PMS in developing tourism regions cannot be assessed merely in terms of system availability, but also by how effectively the system generates practical benefits which support employee work performance (Muhtasom et al., 2025; Suardana et al., 2020).

The present study is also theoretically grounded in broader information systems literature, particularly the Technology Acceptance Model (TAM) (Davis, 1989) and the Information Systems Success Model (IS Success Model). TAM states that users are more likely to utilize technological systems when they perceive the technology as useful and supportive of their work activities (Davis, 1989), while the IS Success Model emphasizes that system quality and information system effectiveness contribute to user satisfaction and performance outcomes through perceived benefits and system usage (DeLone & McLean, 2003). In this study, PMS effectiveness reflects a system's quality dimension, whereas PMS benefits represent the operational usefulness perceived by employees, which subsequently influences employee performance quality. Integrating these perspectives provides a stronger theoretical foundation for explaining how hospitality technology contributes to workforce performance improvement.

Based on these considerations, this study aims to examine the interrelationship between PMS effectiveness, PMS benefits, and employee performance quality among guest service agents working in star-rated hotels in South Sulawesi, Indonesia. This study specifically investigates whether system benefits significantly mediate the relationship between PMS effectiveness and employee performance. The novelty of this research lies in the integration of system benefits as a mediating construct within the PMS–performance framework, providing a deeper theoretical explanation beyond the direct-effect models commonly used in previous hospitality information system studies. In addition, this study offers empirical evidence from the underexplored context of developing tourism regions and mid-scale hotels. This contributes to both the advancement of hospitality technology literature, and to practical strategies for hotel digitalization and workforce performance improvement.

Literature Review

Effectiveness of Property Management System

Property Management Systems (PMS) are evaluated in terms of how effectively the system can be used to perform operational tasks accurately, efficiently, and in accordance with organizational needs. In the hospitality context, PMS effectiveness is reflected in the system's ability to support front-office transactions, room management, guest data processing, billing accuracy, internal coordination, and managerial reporting in a timely and reliable manner (Bouchareb, 2023; Zhou & Liu, 2022a). A system can be considered effective when it reduces manual workload, minimizes operational errors, and enables employees to complete assigned tasks with greater speed and consistency. Previous



information systems literature has emphasized that technological effectiveness is closely associated with system usability, compatibility with job requirements, and user confidence in operating the system (Navimipour & Soltani, 2016).

The effectiveness of PMS in hotel operations is not determined solely by technological sophistication, but by how well the system supports employee task execution in practical situations. Employees who interact with effective digital systems are more likely to experience smoother workflows, easier access to information, and faster service coordination, all of which contribute to better individual work outcomes (Ratna et al., 2018). Therefore, PMS effectiveness can be understood as the degree to which hotel information technology successfully facilitates employee duties, while supporting operational control and service consistency.

Although PMS effectiveness and PMS benefits are closely related, both constructs represent conceptually different dimensions within hospitality information systems research. PMS effectiveness refers to the technical and functional capability of the system to operate accurately, reliably, and in accordance with operational requirements. In contrast, PMS benefits refer to the practical and perceived operational advantages experienced by employees as a consequence of using the system, such as work convenience, faster task completion, reduced operational burden, and improved coordination. Therefore, effectiveness emphasizes system capability, whereas benefits emphasize user-perceived operational value derived from the system. This distinction is important, because a technologically effective system may not necessarily generate meaningful benefits if employees do not experience direct usefulness in their daily work processes.

Benefits of Property Management System

PMS benefits are the practical advantages perceived by employees and hotel management as a result of using the system in daily operations. These benefits may include time efficiency, task simplification, information accuracy, reduction of repetitive manual work, better interdepartmental communication, and improved decision support (Commey et al., 2023; Walston et al., 2014). In the context of hotel services, the benefits of PMS become evident when employees are able to perform reservations, check-in/check-out procedures, room status monitoring, and guest request handling more effectively than under manual or fragmented systems.

The perception of benefits is important, because employees tend to accept and utilize technological systems more intensively when they experience direct operational value from the technology (Jovanovi et al., 2016). A PMS which is technologically available but does not provide tangible convenience may fail to influence employee behavior and work quality. Consequently, system benefits function as the operational translation of technological effectiveness. This means that employees do not only use a system because it exists, but because the system demonstrably helps them perform their jobs more productively and accurately.

Employee Performance Quality

Employee performance quality refers to the extent to which employees are able to complete work tasks efficiently, accurately, consistently, and in line with service standards established by the organization. Employee performance quality is particularly critical in



hotel operations, because service encounters involve speed, precision, responsiveness, and guest satisfaction. Guest service agents, as front-line employees, are expected to manage multiple operational tasks simultaneously, while maintaining service excellence and communication efficiency.

Previous studies have indicated that employee performance is strongly influenced by the degree of alignment between job characteristics and technological support available in the workplace (Melin-González & Bulchand-Gidumal, 2016; Gunaseelan et al., 2024). When employees are supported by information systems that simplify work procedures, provide accurate information, and reduce unnecessary operational burdens, they are more likely to achieve higher productivity and work quality. Therefore, employee performance quality in this study is viewed as an outcome that may be strengthened when hotel employees operate within an effective PMS environment and experience substantial system-related benefits.

Hypotheses Development

The PMS Effectiveness and PMS Benefits

An effective Property Management System is expected to generate greater operational benefits for its users. This is because system functionality determines whether employees can experience convenience, speed, and accuracy in completing their duties. A system that performs reliably allows hotel employees to process guest transactions more efficiently; accurately coordinate room availability; and access operational information without delay. Previous studies suggest that the more effective a technological system is in supporting work processes, the greater the perceived usefulness and operational value reported by users (Walston et al., 2014; Commey et al., 2023). Thus, PMS effectiveness is logically associated with the benefits gained from system utilization.

H1: PMS effectiveness significantly influences PMS benefits.

PMS Effectiveness and Employee Performance Quality

Technological effectiveness has been widely acknowledged as an important determinant of employee work outcomes. In hotel environments, an effective PMS can help employees reduce service errors, accelerate task completion, improve communication among departments, and handle operational responsibilities more confidently. This means that employees working with an effective PMS are empowered to achieve higher levels of productivity and service consistency than those working with less supportive systems. Prior research also confirms that the compatibility between information systems and job requirements positively contributes to individual performance improvement (Ratna et al., 2018; Navimipour & Soltani, 2016). Therefore, PMS effectiveness is expected to have a direct positive relationship with employee performance quality.

H2: PMS effectiveness significantly influences employee performance quality.

PMS Benefits and Employee Performance Quality

The practical benefits derived from PMS use are also expected to improve employee performance quality. Employees who perceive that a PMS simplifies their work, reduces unnecessary repetition, provides accurate information, and facilitates service coordination are more likely to complete tasks effectively and with fewer operational

mistakes. In this sense, the value of technology lies not only in its existence but in the operational convenience and support it provides to users. Earlier studies have indicated that when employees perceive strong technological benefits, they tend to show improved efficiency, higher confidence, and better overall work outcomes (Jovanovi et al., 2016; Tulus Harefa et al., 2024). Therefore, PMS benefits should positively influence employee performance quality.

However, while PMS benefits share conceptual similarities with perceived usefulness, net benefits, and user satisfaction, they are not identical constructs. Perceived usefulness primarily reflects an individual's cognitive belief that a system enhances job performance, whereas user satisfaction represents an affective evaluation of the user's experience with the system. Similarly, net benefits in the Information Systems Success Model are commonly assessed at broader organizational or system levels, encompassing both individual and organizational outcomes. In contrast, PMS benefits in this study refer specifically to employee-perceived operational advantages experienced during daily hotel operations, including faster task completion, reduced operational burden, improved coordination, greater service efficiency, and enhanced service delivery. Therefore, PMS benefits are conceptualized as a contextualized operational construct that explains how PMS effectiveness translates into improved employee performance quality within hotel settings.

This distinction marks an important contribution of the present study. Previous hospitality technology research has largely focused on perceived usefulness, satisfaction, or general system outcomes, whereas the present study emphasizes employee-perceived operational benefits as the explanatory mechanism linking PMS effectiveness and employee performance quality.

H3: PMS benefits significantly influence employee performance quality.

The Mediating Role of PMS Benefits

Although PMS effectiveness may directly influence employee performance, the improvement in work quality may not occur automatically without employees experiencing the operational benefits generated by the system. In other words, a technologically effective PMS is likely to enhance employee performance, when the system creates practical advantages such as ease of operation, faster information processing, and smoother coordination. This indicates that system benefits may serve as an important explanatory mechanism linking technological effectiveness with work outcomes. Recent performance management and information systems studies have also emphasized that perceived usefulness and operational support frequently function as mediating channels through which technological resources affect employee productivity (Wirdhawan & Wibisono, 2024; Tulus Harefa et al., 2024). Accordingly, PMS benefits are expected to mediate the relationship between PMS effectiveness and employee performance quality.

H4: PMS benefits significantly mediate the relationship between PMS effectiveness and employee performance quality.

Figure 1. depicts the study framework and the hypothesized causal effect between the study variables.

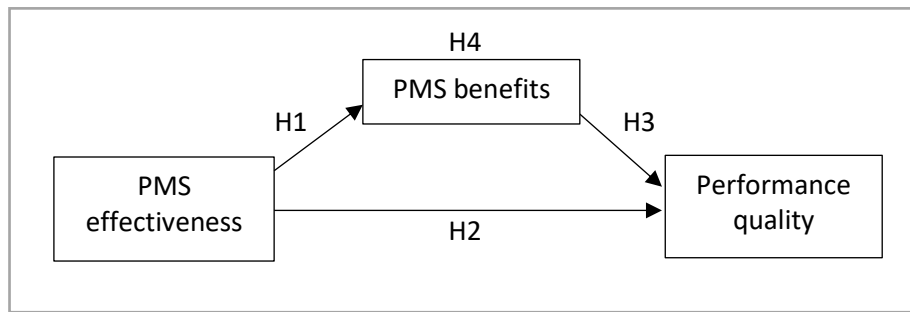


Figure 1. Research Model
Source: Research Data,2025

METHODOLOGY

This study uses a quantitative, cross-sectional research design to examine the mediating effect of PMS benefits on the relationship between PMS effectiveness and employee performance quality in the hotel industry. A quantitative approach was considered appropriate in order to test the causal relationships among predefined latent variables and to statistically verify the proposed mediation model.

The population of this study consisted of guest service agents (GSAs) working in star-rated hotels across four major cities in South Sulawesi, Indonesia, namely Makassar, Parepare, Palopo, and Bulukumba. These cities were selected because they represent important tourism growth areas in the province and show a relatively high concentration of hotel operations which serve both domestic and regional visitors. In addition, the distribution of hotels across these cities provides a relevant operational setting for examining the implementation of hotel information systems in emerging tourism destinations.

This study has specifically focused on three-star and below hotels. The selection of this hotel category was made deliberately for both practical and theoretical reasons. First, three-star and lower-tier hotels constitute the dominant segment of hotel establishments in South Sulawesi, making them more representative of the region's hospitality industry structure. Second, compared with four- and five-star hotels, which generally have more advanced digital infrastructure, standardized operating procedures, and highly trained personnel, mid-scale and lower-tier hotels often experience greater variation in system adoption, employee technological readiness, and optimization of PMS usage. This provides a more critical empirical setting to observe whether PMS effectiveness can meaningfully generate operational benefits and improve employee performance quality. Previous hospitality technology studies also suggest that the influence of digital systems tends to be more observable in medium-scale operational environments, in which technology utilization is still evolving rather than fully institutionalized (Hou & Fan, 2024; Wynn & Lam, 2023).

A purposive sampling technique has been employed to select respondents who met the study criteria, namely guest service agents who actively used PMS in their daily hotel operations. Guest service agents were chosen because they are front-line employees directly involved in reservations, check-in and check-out procedures, guest data input, billing coordination, and service communication, making them the most relevant users for

evaluating PMS effectiveness and perceived system benefits. The minimum sample size was determined using G*Power analysis, indicating that at least 119 respondents were required to achieve adequate statistical power. Accordingly, this study successfully collected data from 170 respondents representing 85 hotels, thereby exceeding the minimum requirement for structural model testing.

Data were collected using a structured questionnaire distributed face-to-face over a three-month period from October to December 2023. The questionnaire consisted of four sections: respondent demographic profile, PMS effectiveness, PMS benefits, and employee performance quality. All measurement items were adapted from previous validated studies and modified to fit the context of hotel front-office operations. Responses were measured along a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to the main survey, a pilot test was conducted to assess item clarity, validity, and internal reliability.

The collected data were coded and screened using IBM SPSS Statistics version 24 before analysis via Partial Least Squares Structural Equation Modelling (PLS-SEM). Harman's single-factor test was first employed to assess the possibility of common method bias following the recommendation of Podsakoff et al. (2003). Subsequently, PLS-SEM was applied in two analytical stages: evaluation of the measurement model and evaluation of the structural model. PLS-SEM was considered suitable for this study because it is highly effective for testing predictive causal relationships, mediation effects, and latent variable interactions, particularly in hospitality and tourism research involving complex behavioural constructs and moderate sample sizes (Ali et al., 2018; Richter et al., 2016).

To minimize the potential influence of common method bias, several procedural remedies were implemented during data collection. Respondent anonymity and confidentiality were assured, participation was voluntary, and respondents were informed that there were no right or wrong answers. In addition, questionnaire items were organized according to construct categories and presented using clear and concise wording in order to reduce evaluation apprehension and response consistency tendencies.

FINDINGS AND DISCUSSION

PLS-SEM assessment

To test the proposed relationships among PMS effectiveness, PMS benefits, and employee performance quality, this study employed Partial Least Squares Structural Equation Modelling (PLS-SEM). The use of PLS-SEM was considered appropriate, because the present study aimed to simultaneously assess the reliability of the measurement items and the predictive relationships among latent variables within the proposed mediation framework. Following the standard analytical procedure, the assessment was conducted in two consecutive stages, namely measurement model evaluation and structural model evaluation.

Measurement model

The measurement model was assessed by examining indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. As reported in Table 2, the majority of indicator loadings were above the recommended threshold of 0.70,

indicating acceptable item reliability. Although several indicators recorded loadings between 0.40 and 0.70, these items were retained because the corresponding constructs still demonstrated satisfactory levels of composite reliability and average variance extracted. This was consistent with Hair et al.'s (2017) recommendation that moderately loaded indicators may be preserved when overall construct validity remains adequate. In particular, the indicator EFFE2 demonstrated a loading value below the ideal threshold. However, the indicator was retained, because the overall construct still achieved acceptable composite reliability and convergent validity standards. In addition, EFFE2 was theoretically relevant in representing operational aspects of PMS effectiveness that were considered important within hotel front-office activities. Following Hair et al. (2017), indicators with moderate loadings may be preserved when they contribute to content validity and do not substantially reduce construct reliability.

The reliability statistics further confirmed that all constructs met the acceptable internal consistency criteria. Cronbach's alpha values ranged from 0.662 to 0.740, while composite reliability values ranged from 0.705 to 0.777. These values indicate that the indicators used in this study consistently measured the intended latent variables. In addition, all AVE values exceeded the minimum threshold of 0.50, suggesting that each construct possessed sufficient convergent validity by explaining more than half of the variance of its indicators.

To ensure that each latent construct was empirically distinct, discriminant validity was examined using the heterotrait-monotrait ratio (HTMT). The HTMT values shown in Table 3 were all below 0.90, confirming that PMS effectiveness, PMS benefits, and employee performance quality each represented conceptually separate constructs. Overall, the measurement model fulfilled the required standards of reliability and validity, indicating that the data were suitable for hypothesis testing in the structural model.

Table 2: Measurement Model Assessment

Constructs	Loadings	Cronbach's alpha	Composite reliability	AVE
<i>PMS Effectiveness</i>		0.725	0.777	0.562
EFFE1	0.794			
EFFE2	0.466			
EFFE3	0.825			
EFFE4	0.849			
<i>PMS Benefits</i>		0.662	0.705	0.592
BENE2	0.852			
BENE3	0.659			
BENE4	0.783			
<i>Performance Quality</i>		0.740	0.755	0.566
PQ1	0.699			
PQ2	0.857			
PQ3	0.780			
PQ4	0.658			

Source: Research Data

Next, in evaluating the discriminant validity, the heterotrait-monotrait (HTMT) ratio of correlation was employed. It is important to note that all HTMT values were observed to be below 0.90, which indicates confirmation of the discriminant validity of the scales, per the criteria set forth by Ringle et al. (2015) (see Table 3).



Table 3: Heterotrait-monotrait ratio (HTMT)

	PMS Benefits	PMS Effectiveness	Performance Quality
PMS Benefits			
PMS Effectiveness	0.705		
Performance Quality	0.482	0.497	

Source: Research Data

Structural model

After establishing the adequacy of the measurement model, the next step was testing the hypothesized structural relationships. Prior to hypothesis testing, collinearity diagnostics were conducted using the Variance Inflation Factor (VIF). All VIF values were found to be substantially below the critical threshold of 3.3, indicating that multicollinearity was not a concern and that the predictor constructs could be interpreted reliably.

The significance of the structural paths was then assessed using a bootstrapping procedure with 5,000 resamples. The results demonstrate that PMS effectiveness has a strong positive and statistically significant influence on PMS benefits ($\beta = 0.519, p < 0.001$). This indicates that when the PMS operates efficiently, accurately, and in line with operational requirements, employees are more likely to perceive substantial practical advantages from the system. In other words, technological effectiveness appears to be foundational to functional system benefits in hotel daily operations.

The analysis also reveals that PMS effectiveness exerts a positive direct effect on employee performance quality ($\beta = 0.265, p = 0.005$). This suggests that employees working with an effective PMS are able to complete operational duties with better speed, consistency, and precision. Likewise, PMS benefits significantly influence employee performance quality ($\beta = 0.230, p = 0.006$), indicating that the practical convenience derived from PMS utilization contributes meaningfully to the improvement of employee work outcomes.

With respect to explanatory power, PMS effectiveness accounted for 26.2% of the variance in PMS benefits ($R^2 = 0.262$), indicating a moderate explanatory contribution. Meanwhile, PMS effectiveness and PMS benefits jointly explained 13.1% of the variance in employee performance quality ($R^2 = 0.131$). Although this percentage may be categorized as modest, such a result remains acceptable considering that employee performance in hotel settings is influenced by numerous additional organizational, interpersonal, and environmental factors beyond information system variables. While this explains only a modest proportion of variance in employee performance quality, it is consistent with the multidimensional nature of employee performance in hospitality settings. Employee performance is influenced not only by technological factors but also by organizational culture, leadership support, employee engagement, training quality, work environment, and managerial practices. Consequently, PMS effectiveness and system benefits should be viewed as important, but not exclusive, determinants of employee performance quality.

The relatively low explanatory power suggests opportunities for future research to integrate organizational and behavioural variables into hospitality technology frameworks. Future studies may incorporate leadership support, digital competence, organizational culture, employee motivation, and training effectiveness to obtain a more comprehensive understanding of performance determinants in hotel operations.



Table 4. Structural estimates (path analysis)

	Beta (β)	T-Statistics	P-Values	VIF	f^2	R^2	Q^2
H1: EFFE -> BENE	0.519***	9.151	0.000	1.000	0.355	0.262	0.144
H2: EFFE -> PQ	0.265**	2.841	0.005		0.150	0.131	0.064
H3: BENE -> PQ	0.230**	2.755	0.006				

Note: *** $p < 0.001$, ** $p < 0.01$

Source: Research Data

In terms of model fitness, as depicted in Table 4, PMS effectiveness can statistically significantly explain the 26.2% ($R^2 = 0.262$) variance of PMS benefits. The former and latter constructs constitute a 13.1% ($R^2 = 0.131$) variance of performance quality. Per Cohen (1988), it is suggested that the degree of variance in the PMS benefits explained by the PMS effectiveness is deemed to be substantial. However, variance in performance quality attributed to both PMS effectiveness and PMS benefits is considered to be small.

On the other hand, it is discovered that the f^2 structural model shows a large effect size spectrum for the PMS effectiveness towards PMS benefits ($f^2=0.355$). Whereas the effect size of PMS effectiveness and PMS benefits ($f^2=0.109$) on performance quality is considered medium. As for the model's predictive utility, the Q^2 values for all frameworks comprising the interrelationship between PMS effectiveness, PMS benefits and performance quality exceeded zero. Based on these predictive relevance results, all frameworks examined in this study can be deemed to offer substantial predictive models, per Henseler et al. (2012).

Mediation Effect

To further examine the indirect mechanism proposed in this study, the mediating role of PMS benefits was tested using the bootstrapping indirect effect approach with bias-corrected confidence intervals. As presented in Table 5, the indirect path from PMS effectiveness to employee performance quality through PMS benefits was found to be positive and statistically significant ($\beta = 0.120$, $p = 0.011$), with the confidence interval ranging from 0.033 to 0.214 and excluding zero.

Table 5. Mediation effects testing (indirect path analysis)

Path Analysis	Beta (β)	P-Values	Confidence Interval (Bias Corrected)		Result
			2.5%	97.5%	
EFFE -> BENE -> PQ	0.120**	0.011	0.033	0.214	Significant

Note: *** $p < 0.001$, ** $p < 0.01$

Source: Research Data

Table 5 confirms that PMS benefits serve as a significant mediator in the proposed model. The contribution of PMS effectiveness to employee performance quality does not occur solely through direct technological support, but also through the practical operational value that employees derive from the system. Therefore, the more effective the PMS is in facilitating work processes, the greater the benefits perceived by employees, which subsequently enhance their performance quality.

Discussion

This study provides strong empirical support for the proposition that PMS effectiveness is a fundamental driver of both perceived system employee performance quality in hotel operations. The significant positive relationship between PMS effectiveness and PMS benefits indicates that hotel employees are more likely to perceive a digital system as valuable when the system performs reliably, responds efficiently, and fits the operational realities of front-office service work. This result is consistent with the argument of Walston et al., who emphasized that users tend to recognize technological benefits when information systems demonstrably simplify work processes and reduce procedural burden. Similarly, Commey et al. found that the usefulness of hotel property systems is strongly associated with their operational functionality rather than their mere availability. In the present study, this suggests that PMS effectiveness is the baseline technological condition that enables employees to perceive convenience, utility, and efficiency in their daily tasks.

The direct positive influence of PMS effectiveness on employee performance quality further confirms that the role of hotel information systems extends beyond administrative support and directly affects front-line service execution. Guest service agents are required to process reservations, handle guest arrivals and departures, manage billing records, and coordinate with other departments under high service speed and accuracy demands. Under such circumstances, an effective PMS reduces time loss, minimizes manual recording errors, and provides immediate access to operational information, thereby allowing employees to perform more consistently. This finding supports previous evidence, as reported by Ratna et al., that alignment between technological systems and job characteristics significantly improves individual performance outcomes. It also reinforces Melin-González and Bulchand-Gidumal's claims that hotel technology contributes positively to employee productivity when system functionality is embedded within daily operational workflows.

Another notable finding is that PMS benefits significantly influence employee performance quality. Employees likely do not improve their work performance solely because a PMS is installed within the hotel, but because they gain practical and operationally relevant advantages through their use of the system. These benefits may include faster transaction completion, easier retrieval of guest data, smoother communication between departments, and reduced repetition of clerical tasks. When employees perceive that the system genuinely assists their responsibilities, they are likely to demonstrate stronger task confidence, higher efficiency, and more accurate service delivery. This finding is in line with Jovanovi et al., who argued that the behavioral acceptance of hospitality technology is closely linked to the extent of convenience and productivity experienced by employees. In the same vein, Tulus Harefa et al. noted that technological systems generate performance improvement when users perceive clear instrumental value in relation to their job completion.

More importantly, the mediation analysis reveals that PMS benefits significantly mediate the relationship between PMS effectiveness and employee performance quality. This result provides a deeper theoretical explanation than the conventional direct-effect model commonly presented in prior hospitality information system studies. The finding implies that technological effectiveness alone is insufficient to guarantee improved employee outcomes unless the system can generate practical utility which is consciously appreciated by users. In other words, PMS effectiveness influences performance not only



because the technology works, but because the technology creates operational benefits that make employee tasks easier, faster, and more manageable. This confirms that perceived system benefit acts as the translating mechanism through which technological capability is converted into behavioral productivity. Such a conclusion extends the technological-performance discourse advanced by Wirdhawan and Wibisono, who have suggested that system value is often realized through employee-perceived usefulness, rather than technical presence alone.

From a theoretical perspective, these findings reinforce the argument proposed in the Technology Acceptance Model that employee behavior toward information systems is strongly influenced by perceived usefulness rather than technological presence alone. The findings also extend the IS Success Model by demonstrating that the operational value generated by PMS serves as an intermediary mechanism linking system effectiveness with employee performance outcomes (DeLone & McLean, 2003). This suggests that hospitality digitalization should not merely prioritize software implementation, as stakeholders must also ensure that employees experience meaningful operational support from the technology. Compared with previous hospitality technology studies that primarily focused on direct technological impacts, the present study provides a more behaviorally oriented explanation of how employees internalize technological value in service operations.

The contextual significance of these findings is particularly evident in South Sulawesi, where many three-star and below hotels remain in a transitional phase of hospitality digitalization. Unlike larger chain hotels with standardized technology ecosystems, mid-scale and lower-tier hotels often operate with uneven employee digital competence, varying levels of PMS optimization, and limited technological support. Under these circumstances, the success of PMS implementation becomes highly dependent on whether the system is able to deliver immediate and visible work-related benefits to front-line employees. The present findings therefore suggest that in developing tourism regions, digital transformation should not be interpreted merely as software adoption, but also in terms of successful alignment between system functionality, employee usability, and operational benefit realization. This contextual insight provides an important contribution by showing that the effectiveness of hotel digital systems in emerging destinations is deeply influenced by how employees internalize and utilize the practical value of the technology.

Taken together, the discussion confirms that PMS effectiveness, PMS benefits, and employee performance quality are not independent constructs but part of an interconnected operational mechanism. PMS effectiveness provides the technological foundation, PMS benefits represent the employee-perceived operational translation, and employee performance quality emerges as the final behavioral outcome. Such a holistic understanding offers a more comprehensive explanation of how hotel information systems contribute to front-line performance and highlights that the real success of hospitality digitalization lies not only in the installation of systems, but in the creation of meaningful technological value for employees.

Although the model explains a modest proportion of variance in employee performance quality, this finding is consistent with the multidimensional nature of employee performance in hospitality settings. Employee performance is influenced by technological factors but also by organizational culture, leadership support, employee engagement, training quality, work environment, and managerial practices. Consequently,

PMS effectiveness and system benefits should be viewed as important, but not exclusive, determinants of employee performance quality.

The relatively low explanatory power suggests opportunities for future research to integrate organizational and behavioral variables into hospitality technology frameworks. Future studies may incorporate leadership support, digital competence, organizational culture, employee motivation, and training effectiveness in order to reach a more comprehensive understanding of performance determinants in hotel operations.

Policy Implications

The findings of this study provide several important policy implications for strengthening digital transformation in the hospitality sector, particularly in developing tourism regions such as South Sulawesi. First, hotel digitalization policies must extend beyond the mere promotion of technology adoption and place stronger emphasis on system effectiveness and user-centered implementation. The results demonstrate that the presence of PMS alone is insufficient to improve employee performance unless the system functions reliably and produces practical operational benefits for employees. Therefore, tourism authorities and industry stakeholders should encourage hotels to adopt PMS platforms that are not only technologically available, but also operationally compatible with hotel service workflows.

Second, workforce digital competency should form an integral part of hospitality development policy. Since PMS benefits significantly mediate the relationship between system effectiveness and employee performance, hotel employees must be equipped with the skills required to fully utilize PMS features in day-to-day service delivery. This indicates the need for structured digital literacy training, PMS-based operational certification, and continuous workplace upskilling programs, particularly for front-line hotel staff in medium-scale and lower-tier establishments.

Third, the findings also suggest the importance of establishing regional hospitality digital standards that guide hotels in selecting, implementing, and evaluating hotel information systems. Such standards may include minimum criteria for PMS usability, employee adaptability, operational integration, and service efficiency outcomes. By providing a clearer digital transformation framework, policymakers can reduce disparities in technology utilization across hotel categories and improve the long-term competitiveness of regional hospitality businesses.

Theoretical Implications

This study contributes to the hospitality information systems literature by offering a more comprehensive explanation of the relationship between hotel digital technology and employee work outcomes. Previous studies have largely treated information systems as direct predictors of employee or organizational performance. However, the present findings demonstrate that the relationship is more complex and behaviorally mediated than previously assumed.

The most important theoretical contribution of this study lies in confirming PMS benefits as a significant mediating construct between PMS effectiveness and employee performance quality. This indicates that technological effectiveness does not automatically translate into improved employee performance, unless and until employees perceive clear functional and operational benefits from the system. In this sense, the study extends the



direct-effect technological performance model toward a more process-oriented explanatory framework in which system capability, perceived usefulness, and behavioral productivity are structurally interconnected.

Furthermore, this study enriches hospitality digitalization research by providing empirical evidence from mid-scale hotels in developing tourism destinations, a context that has remained relatively underrepresented in previous PMS and hotel information system studies. As such, the findings broaden the geographical and operational applicability of hospitality technology theories, particularly in understanding how digital systems function within resource-constrained and technologically transitional environments.

Practical Implications

The findings of this study demonstrate that the successful implementation of PMS can provide substantial practical advantages for hotel management in improving front-line employee performance. Hotels should therefore view PMS not merely as an administrative software investment, but as an operational productivity tool directly influencing employee speed, work accuracy, service coordination, and guest handling efficiency.

First, hotel managers should prioritize the selection of PMS platforms that are user-friendly, responsive, and compatible with daily service tasks. A technologically sophisticated system will have limited impact if employees perceive it as difficult to operate or disconnected from their operational routines. Thus, system usability and employee acceptance should become key considerations in PMS procurement and implementation.

Second, hotels need to invest continuously in PMS training and practical skill reinforcement. Since employee-perceived system benefits significantly influence work performance, employees must be given sufficient technical familiarity to ensure that PMS features are utilized optimally rather than minimally. Regular simulation-based training, refresher sessions, and operational troubleshooting support could substantially improve employee confidence in using the system.

Third, hotel management should routinely evaluate whether PMS implementation genuinely reduces operational inefficiencies and supports service quality improvement. Monitoring employee feedback, task completion speed, reservation accuracy, and interdepartmental coordination can help hotels assess whether the PMS is functioning as a performance-enhancing tool. In this regard, the practical success of PMS lies not only in installation, but in its concrete and measurable contributions to employee productivity and guest service excellence.

CONCLUSION

This study concludes that PMS effectiveness plays a significant role in improving both the perceived benefits of the system and the performance quality of hotel employees. An effective PMS enables hotel employees to perform operational tasks with greater accuracy, consistency, and efficiency, while also generating practical benefits that simplify work processes and support daily service execution. The findings further confirm that PMS benefits significantly mediate the relationship between PMS effectiveness and employee performance quality. This further indicates that employee performance improves not merely because a digital system is available, but because employees experience direct operational value from using the system.



These results also suggest that the success of hotel digitalization is determined not only by technological implementation, but by the extent to which technology produces meaningful usability and practical convenience for employees. In developing hospitality environments such as South Sulawesi, where digital adoption is still evolving, the ability of PMS to generate visible employee benefits becomes a critical factor in achieving improved service performance.

This study has several limitations. First, the use of self-reported questionnaire data may have introduced respondent bias. Second, the cross-sectional design limits causal interpretation. Third, the sample was restricted to guest service agents working in three-star and below hotels in South Sulawesi, limiting generalizability to other hotel categories and regions. Future studies are encouraged to employ longitudinal designs, multiple data sources, and broader geographical coverage while incorporating specific organizational and behavioral determinants of employee performance.

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