

Perceived Competency Certification Effectiveness and Employee Performance: The Mediating Role of Innovation Capability

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ABSTRACT

Purpose – This study examines the association between Perceived Competency Certification Effectiveness (PCCE) and Employee Performance and tests whether employee-level Innovation Capability statistically mediates this association in the Indonesian hotel industry. The study distinguishes perceived certification effectiveness from certification status and objective competency levels.

Design/methodology/approach – A quantitative cross-sectional survey was conducted among 277 certified employees in 18 three-, four-, and five-star hotels in Lampung Province, Indonesia. Data were analyzed using PLS-SEM with SmartPLS 4. Measurement quality was assessed through reliability, convergent and discriminant validity, and collinearity. The structural model was assessed using path coefficients, R^2 , f^2 , Q^2 , and bootstrapping with 5,000 resamples.

Findings/Results – PCCE was positively associated with Innovation Capability ($\beta = 0.615$, $p < 0.001$) and Employee Performance ($\beta = 0.314$, $p < 0.001$). Innovation Capability was positively associated with Employee Performance ($\beta = 0.438$, $p < 0.001$). The indirect association between PCCE and Employee Performance through Innovation Capability was statistically significant ($\beta = 0.269$, $p < 0.001$), consistent with partial statistical mediation.

Originality/Value – The study provides employee-level evidence of a statistical pathway linking perceived competency certification effectiveness, Innovation Capability, and Employee Performance among certified hotel employees. The findings provide contextual support for Human Capital Theory and a microfoundational interpretation of Dynamic Capability Theory without treating employee-level Innovation Capability as an organizational dynamic capability.

ARTICLE INFO

Keywords:

Employee Performance;
Hospitality Industry;
Innovation Capability;
Perceived Competency
Certification
Effectiveness;
PLS-SEM

Article Information:

Received: 23/04/2026

Revise: 22/08/2026

Accepted: 16/09/2026

ISSN:

2985-3168 (Online)

2985-3222 (Print)

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1. Introduction

The hospitality industry has become one of the strategic sectors supporting Indonesia's economic growth and tourism development. Following the post-pandemic recovery, the hotel industry has experienced increasing competition driven by higher tourist arrivals, changing customer expectations, digital transformation, and service innovation. According to Statistics Indonesia (BPS, 2025) and [Badan Pusat Statistik Provinsi Lampung \(2025\)](#), hotel occupancy developments in 2024 included a 58.72% room occupancy rate for star-rated hotels in Lampung Province in December 2024. These developments require hotels to continuously improve service quality and operational performance through competent and adaptive human resources.

Unlike manufacturing industries, hotel organizations rely primarily on employees to create service value because customer satisfaction is largely determined by direct interactions between employees and guests. Consequently, employee competency has become an important human resource for maintaining service consistency and sustaining competitive advantage ([Boon et al., 2019](#); [Chang et al., 2011](#)). Competency certification has therefore emerged as a strategic human resource development instrument intended to validate employees' knowledge, technical skills, and professional attitudes according to nationally recognized occupational standards. Previous studies indicate that competency certification contributes positively to employee competence and service quality, particularly among frontline hotel employees, which motivates closer attention to how employees themselves perceive the effectiveness of that certification. However, certification alone does not necessarily guarantee higher organizational performance because employees must be able to transform their competencies into continuous workplace improvements and innovative service practices.

Innovation capability has increasingly been recognized as a strategic organizational capability that enables employees to identify opportunities, generate creative solutions, share knowledge, and continuously improve service delivery. Within the hospitality industry, innovation capability allows hotels to respond effectively to technological change, evolving customer preferences, and intense market competition. Recent studies have demonstrated that innovation and innovation capability are associated with organizational performance and adaptation ([Anderson et al., 2014](#); [Pascual-Fernández et al., 2021](#); [Zhu et al., 2023](#)). Therefore, innovation capability may represent an important mechanism through which Perceived Competency Certification Effectiveness produces superior employee performance.

In Indonesia, competency certification is implemented through the National Professional Certification Board (Badan Nasional Sertifikasi Profesi/BNSP), an independent institution authorized by the government to develop and oversee the national competency certification system. Certification assessments are conducted by Professional Certification Institutions (Lembaga Sertifikasi Profesi/LSP) that are licensed by BNSP using nationally recognized

occupational competency standards. Within the hospitality sector, certification is organized according to occupational schemes, such as Front Office, Housekeeping, Food and Beverage Service, and Food and Beverage Production, with assessments evaluating employees' competence against established performance criteria. Although competency certification is mandatory for certain regulated occupations, it is also widely adopted voluntarily by hospitality organizations as a mechanism to enhance workforce quality, professional credibility, and service competitiveness. Consequently, beyond serving as formal recognition of occupational competence, certification is increasingly perceived as an organizational resource that supports the application of professional competencies in daily work practices. However, the present study does not examine certification status itself. Instead, it focuses on employees' perceptions regarding the extent to which competency certification effectively supports the application of occupational standards, enhances professional confidence, and facilitates work performance. Accordingly, the construct is conceptualized as Perceived Competency Certification Effectiveness, rather than certification status.

Despite the growing body of literature on competency certification and employee development, important gaps remain. Previous studies have predominantly examined certification as a formal credential, employee competence, or the direct relationship between competency development and employee performance. Less attention has been given to employees' perceptions of how effectively competency certification supports the application of occupational standards, professional confidence, and workplace performance. Moreover, limited empirical evidence explains whether and how this perceived effectiveness is associated with employee innovation capability and, subsequently, employee performance in hospitality settings in developing countries.

The present study therefore focuses specifically on Perceived Competency Certification Effectiveness rather than certification status or objective competency level. The study further examines whether employee-level Innovation Capability provides an explanatory pathway linking Perceived Competency Certification Effectiveness to Employee Performance. This focus allows the study to clarify the mechanism through which employees' perceptions of certification effectiveness may be associated with their innovative work practices and performance outcomes.

2. Literature Review & Hypothesis Development

2.1 Perceived Competency Certification Effectiveness

Perceived Competency Certification Effectiveness (PCCE) refers to employees' perceptions regarding the extent to which competency certification supports the application of occupational standards, strengthens professional confidence, facilitates the consistent application of work competencies, and supports effective performance in daily job activities. PCCE therefore represents a perceived effectiveness construct rather than certification status, objective competency level, or the possession of a competency certificate itself.

This distinction is important because the present study does not compare certified and non-certified employees. All respondents possessed valid competency certificates issued through Professional Certification Institutions (LSP) operating within the national competency certification system overseen by BNSP. The empirical variation examined in this study therefore concerns differences in employees' perceptions of the effectiveness of competency certification rather than differences in certification status.

Human Capital Theory explains that investments in employee knowledge, skills, and competencies can form valuable human capital that is associated with individual and organizational performance ([Ployhart & Moliterno, 2011](#)). In this study, however, PCCE is not the certification itself and is not an objective measure of competence. It is an employee perception of how effectively an existing competency certification supports the application of occupational standards, professional confidence, and work-related competency in daily activities. Accordingly, the theoretical argument concerns the possible association between these perceptions and employee outcomes rather than an effect of certification status.

Direct evidence on competency certification in hospitality provides a relevant contextual basis for this construct. [Hidayat et al. \(2024\)](#), for example, examined competency certification in hotel front-office work and reported an association between certification-related competence and employee/service outcomes. This literature supports the relevance of certification in hospitality but does not establish that employees' perceptions of certification effectiveness explain innovation or performance. The present study therefore treats PCCE as a distinct perceptual construct and uses the existing certification literature as contextual support rather than as proof of causality.

The value of certification-related competence may depend on whether employees can apply occupational knowledge in their daily work and participate in knowledge sharing, problem solving, and continuous improvement ([Bos-Nehles et al., 2017](#); [Farrukh et al., 2022](#)). This reasoning motivates Innovation Capability as a possible employee-level pathway associated with PCCE and Employee Performance, consistent with research linking employee innovation to hospitality outcomes ([De Jong & Den Hartog, 2010](#); [Jansen et al., 2006](#)). It does not imply that employees 'apply PCCE'; rather, employees may perceive certification as more effective when the competencies recognized through certification are usable in their work context.

Overall, the literature suggests that competency certification is relevant to employee development and hospitality performance, while evidence on employees' perceptions of certification effectiveness and their relationship with employee-level innovation remains limited. The research gap is therefore the empirical clarification of an employee-level pattern linking PCCE, Innovation Capability, and Employee Performance, not the confirmation of a temporal transformation mechanism.

2.2 Innovation Capability

Innovation Capability in this study is conceptualized at the employee level and refers to an employee's ability to recognize opportunities, generate and share ideas, experiment with new approaches, implement useful improvements, and learn from innovation-related activities. Although Dynamic Capability Theory is fundamentally concerned with organizational-level capabilities, employee innovation is also examined in hospitality research as an individual-level phenomenon ([Chang et al., 2018](#); [Li & Hsu, 2016](#)). The present study does not claim that individual employee innovation capability is equivalent to an organizational dynamic capability. Instead, employee-level innovation capability is treated as a micro-level manifestation of innovative activities that may contribute to organizational adaptation and capability development.

In this study, Innovation Capability is conceptualized and measured at the employee level. The measurement items were adapted from the hotel-level organizational capability perspective of [Chandran et al. \(2024\)](#). During adaptation, the referent of the original organizational-level statements was changed from the hotel or organization to the individual employee, while retaining the underlying behavioral content related to identifying

opportunities, generating ideas, supporting new approaches, and implementing improvements.

Accordingly, Innovation Capability in this study refers to an employee's perceived capability to recognize opportunities, generate and develop new ideas, support innovative approaches, and contribute to the implementation of improvements in the workplace. It is therefore an employee-level operationalization of Innovation Capability and should not be interpreted as a direct measure of the hotel's overall organizational innovation capability. Although the adapted indicators contain behavioral elements that are conceptually close to individual innovative work behavior, the construct is retained as Innovation Capability because its theoretical and measurement basis derives from the Innovation Capability construct of Chandran et al. (2024). The adaptation concerns the unit of analysis and referent of the items rather than a redefinition of the construct as a different latent variable.

From a microfoundational perspective, employees contribute to organizational capabilities through their knowledge, actions, interactions, and repeated work practices. Employees who recognize operational opportunities, generate solutions, share knowledge, experiment with service improvements, and implement new practices may provide behavioral foundations through which organizations adapt and reconfigure resources. Accordingly, the present study uses Dynamic Capability Theory as a theoretical lens for interpreting the organizational relevance of employee-level innovation capability, rather than claiming to directly measure an organizational dynamic capability.

Dynamic Capability Theory explains how organizations sense changes, seize opportunities, and reconfigure resources to adapt and create value ([Teece, 2018](#)). In the present study, this theory is used only as a microfoundational interpretive lens. Employee-level Innovation Capability is not treated as equivalent to an organizational dynamic capability and is not used to empirically estimate organizational sensing, seizing, or reconfiguration. Hospitality literature indicates that innovation capability and employee innovative behaviour are reflected in identifying problems, generating ideas, sharing knowledge, experimenting with new approaches, and implementing practical improvements ([Donate et al., 2022](#); [Chen, 2022](#); [Yang et al., 2021](#)). Since frontline employees interact directly with customers, they possess valuable experiential knowledge that supports continuous service innovation and operational excellence ([Chandran et al., 2024](#)).

Recent empirical evidence demonstrates that innovation capability significantly enhances organizational adaptability, customer satisfaction, service quality, and hotel performance. Hotels possessing stronger innovation capability are better able to respond to technological developments, personalize customer experiences, and sustain competitive advantage ([Burton & Dickinger, 2025](#)). Furthermore, innovation performance is strengthened when organizations combine human resource flexibility with knowledge absorptive capacity, enabling employees to transform competencies into organizational innovation ([Hassan et al., 2024](#)). Employee competence and occupational expertise may provide conditions under which employees recognize problems and develop useful improvements. Accordingly, PCCE is expected to be positively associated with Innovation Capability because employees who perceive certification as relevant and effective may also report greater confidence in applying occupational knowledge and engaging in improvement activities ([Chandran et al., 2024](#); [Koroglu & Ozmen, 2022](#)). This is a proposed association rather than a claim that PCCE directly develops innovation capability.

2.3 Employee Performance

Employee performance refers to employees' effectiveness in accomplishing work responsibilities while contributing to organizational objectives. In hospitality organizations, employee performance encompasses task performance, service quality, adaptive behaviour, teamwork, customer orientation, initiative, and compliance with operational standards ([Pradhan & Jena, 2017](#)). Because hotel services are created through direct interactions between employees and guests, employee performance is an important employee-level outcome in hospitality organizations ([Safavi & Karatepe, 2018](#)).

Human Capital Theory suggests that employee knowledge and competencies are relevant to work performance, while the microfoundational interpretation of Dynamic Capability Theory suggests that employee actions and innovative practices may constitute behavioral foundations relevant to organizational adaptation. These perspectives guide interpretation of the observed employee-level associations rather than establishing causal effects. Previous hospitality studies indicate that employee performance is associated with competency development, innovation capability, employee engagement, and high-performance HR practices ([Hai & Park, 2024](#); [Koroglu & Ozmen, 2022](#)). The present study extends this context by examining whether employees' perceptions of certification effectiveness are associated with performance, while recognizing that the cross-sectional design cannot determine the direction of the relationship.

The research gap addressed in this study is therefore not merely the limited number of mediation studies. More importantly, previous research provides limited evidence on the employee-level statistical pathway through which perceived competency certification effectiveness is associated with performance. By positioning Innovation Capability between PCCE and Employee Performance, this study evaluates whether the data are consistent with an employee-level mediation pattern. The contribution is empirical clarification of this association, not confirmation of a temporal or causal mechanism.

2.4 Hypothesis Development

Grounded in Human Capital Theory, the study proposes that employees who perceive competency certification as more effective in supporting occupational standards and workplace application may also report stronger Innovation Capability. This expectation is based on the possibility that usable occupational knowledge and professional confidence coexist with greater capacity to identify problems and develop improvements. The hypothesis is stated as an association because the study uses a cross-sectional design.

H1: Perceived Competency Certification Effectiveness is positively associated with Innovation Capability.

From a Human Capital Theory perspective, employees' perceptions that competency certification effectively supports occupational standards, professional confidence, and workplace application may reflect the extent to which acquired occupational knowledge and competencies are usable in daily work. Such perceptions may increase employees' confidence in identifying work-related problems and developing useful solutions. Therefore, employees who perceive competency certification as more effective are expected to demonstrate higher levels of innovation capability.

H2: Innovation Capability is positively associated with Employee Performance.

PCCE may also be positively associated with Employee Performance because perceptions that certification supports occupational standards, professional confidence, and consistent competency application may coexist with better reported work performance. The present

hypothesis concerns PCCE as a perception and should not be interpreted as evidence that certification status is associated with higher performance.

H3: Perceived Competency Certification Effectiveness is positively associated with Employee Performance.

Innovation Capability is expected to represent an employee-level statistical pathway through which PCCE may be associated with Employee Performance. Employees who perceive certification as effectively supporting their work may also report greater opportunity to identify improvements, generate solutions, and implement useful changes. These innovative work practices may be associated with higher reported performance.

H4: Innovation Capability statistically mediates the association between Perceived Competency Certification Effectiveness and Employee Performance.

2.5 Conceptual Framework

Based on Human Capital Theory and the microfoundational interpretation of Dynamic Capability Theory, this study proposes an integrated framework linking PCCE, employee-level Innovation Capability, and Employee Performance. The model tests three direct statistical associations and one indirect association. It does not assume or establish a causal sequence because the data are cross-sectional. The conceptual framework is presented in Figure 1.

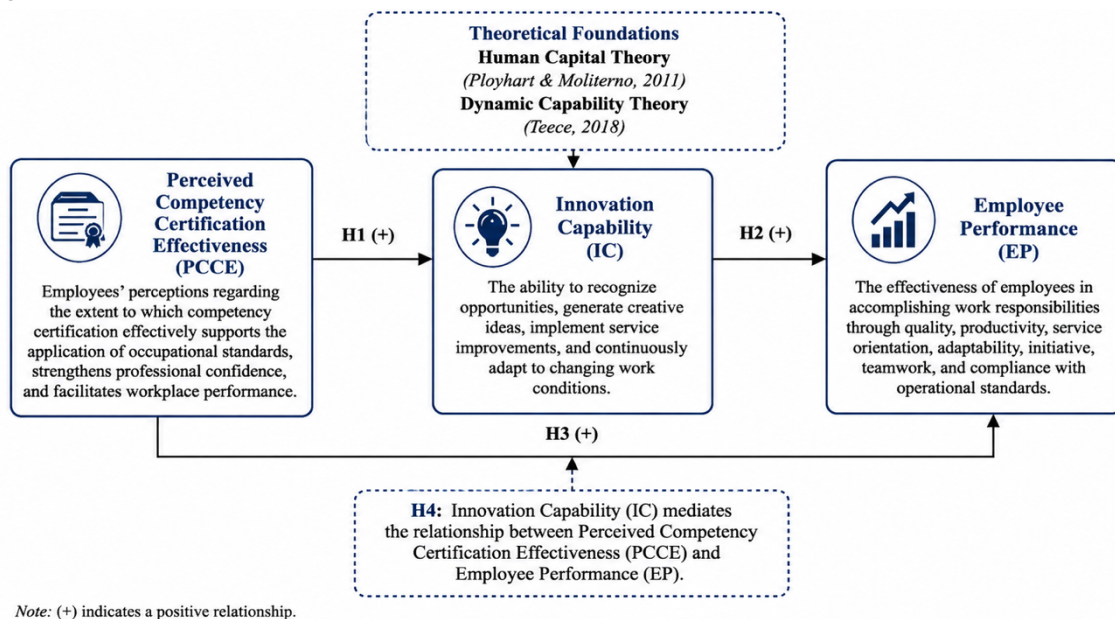


Figure 1. Conceptual Framework

Source: Developed by the authors based on Human Capital Theory (Ployhart & Moliterno, 2011) and Dynamic Capability Theory (Teece, 2018).

3. Methodology

3.1 Research Design

This study employed a quantitative explanatory research design to investigate the relationships among Perceived Competency Certification Effectiveness, innovation capability, and employee performance in the Indonesian hospitality industry. The study used a cross-sectional survey to examine the proposed statistical associations and the indirect association through innovation capability. The unit of analysis consisted of individual employees working in three-, four-, and five-star hotels located in Lampung Province, Indonesia. Data were

collected between January and March 2026 through direct distribution of questionnaires to respondents who met the established sampling criteria.

3.2 Population and Sample

Sampling Procedure

The sampling frame comprised 335 operational hotel employees who met the eligibility criterion of holding a valid occupational competency certificate. The sampling frame and hotel-level allocation were derived from administrative data of the Professional Certification Institution for Tourism ([LSP Pariwisata Nasional Rahenda, 2025](#)). A final sample of 277 employees was allocated proportionally across 18 participating hotels and four operational departments, representing 82.69% of the defined eligible sampling frame. This percentage is sampling coverage, not a conventional response rate.

Sampling coverage is the proportion of the defined eligible population included in the final sample, whereas a response rate requires information on the number of individuals invited or contacted and the number who completed the survey. The available study records support reporting the former but do not document a conventional response-rate denominator. The allocation procedure preserved the proportional distribution of eligible employees across participating hotels and departments. The available sampling worksheet documents the proportional allocation, but it does not retain a respondent-level record of the randomization mechanism. Therefore, the manuscript avoids claiming a specific random-number procedure that cannot be verified from the supplied records.

Table 1. Population and sample distribution by hotel

No	Hotel	Population	Sample	Coverage (%)
1	Grand Mercure Lampung	13	11	84.6
2	Lampung Marriott Resort & Spa	10	9	90.0
3	Radisson Lampung Kedaton	20	16	80.0
4	Holiday Inn Lampung Bukit Randu	20	19	95.0
5	Novotel Lampung	22	18	81.8
6	Akar Hotels & Resorts	21	17	81.0
7	Emersia Hotel & Resort	24	23	95.8
8	Swiss-Belhotel Lampung	22	19	86.4
9	Santika Premiere Lampung	18	14	77.8
10	Azana Boutique Hotel Lampung	17	14	82.4
11	Golden Tulip Springhill Lampung	18	15	83.3
12	Horison Lampung	20	16	80.0
13	Aston Lampung City Hotel	19	15	78.9
14	Amalia Hotel	20	16	80.0
15	Arte Hotel Bandar Lampung	18	14	77.8
16	Batiqa Hotel Lampung	19	15	78.9
17	Asoka Luxury Hotel	17	13	76.5
18	Grand Anugerah Hotel	17	13	76.5
Total		335	277	82.7

Source: Professional Certification Institution for Tourism (LSP Pariwisata Nasional Rahenda) administrative data (2025) and authors' sampling allocation (2026).

Table 1 shows the sampling coverage for each participating hotel ranged from 76.5% to 95.8%. The table describes the allocation of the final sample across the participating hotels; it should not be interpreted as evidence of a conventional survey response rate.

Table 2. Population and sample distribution by department

Department	Population	Sample	Sample share (%)
Front office	86	71	25.6
Housekeeping	88	74	26.7
Food and beverage service	84	70	25.3
Food and beverage product	77	62	22.4
Total	335	277	100.0

Source: Authors' calculation (2026).

As presented in Table 2, Housekeeping employees constituted the largest proportion of respondents (26.7%), followed by Front Office (25.6%), Food and Beverage Service (25.3%), and Food and Beverage Production (22.4%). The distribution reflects the operational departments included in the sampling frame.

Hotel-Level Clustering Assessment

Respondents were drawn from 18 participating hotels, creating a potential clustering issue because employees within the same hotel may share managerial practices, organizational policies, training environments, and innovation climates. The respondent-level dataset available for the present analysis does not retain a hotel identifier for each respondent. Consequently, an intraclass correlation coefficient (ICC) and cluster-robust estimation cannot be calculated without reconstructing hotel membership from unsupported assumptions. The reported PLS-SEM estimates are therefore single-level associations and should be interpreted with this sampling-structure limitation in mind.

The respondent-level dataset supplied for this revision contains respondent identifiers and item responses but does not contain a hotel identifier for each respondent. Accordingly, no numerical ICC or cluster-robust coefficient is reported. The absence of a hotel identifier is treated as a data-availability limitation rather than a basis for imputing or reconstructing hotel membership.

Table 3. Respondent Characteristics (n = 277)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	152	55
	Female	125	45
Education	Senior High School/Vocational School	86	31
	Diploma	77	28
	Bachelor's Degree	72	26
	Master's Degree	42	15
Length of Service (Tenure)	< 1 year	61	22
	1–3 years	72	26
	4–6 years	47	17
	7–10 years	47	17
	> 10 years	50	18
Hotel Classification	Three-, Four-, and Five-star Hotels	277	100
Certification Status	Certified Employees	277	100

Source: Authors' calculation (2026).

Table 3 presents the demographic characteristics of the respondents. The sample consisted of 277 certified hotel employees representing different educational backgrounds, lengths of service, and hotel classifications. Male respondents accounted for 54.9% of the sample, while female respondents represented 45.1%. In terms of educational attainment, most respondents had completed senior high school/vocational education or diploma programs, reflecting the educational profile commonly found in the Indonesian hospitality industry. Regarding work experience, respondents were relatively well distributed across tenure categories, with the largest proportion having between one and three years of service (26.0%). This diversity indicates that the sample adequately represents employees with different levels of professional experience in the hotel sector. Demographic information collected in this study included respondents' gender, educational attainment, and length of service. These characteristics are reported descriptively. Because the primary objective was to examine the relationships among PCCE, Innovation Capability, and Employee Performance, the original model did not specify demographic variables as structural controls.

Certification Eligibility and Certification Information

Eligibility was based on possession of a valid occupational competency certificate issued through an eligible Professional Certification Institution (LSP) within the national competency certification system overseen by BNSP. The empirical construct examined in the model is employees' perceived effectiveness of competency certification, not certification status itself. The supplied records do not provide a respondent-level variable for certification scheme or certification year, so these characteristics are not analyzed as substantive variables.

3.3 Measurement

Data were collected using a structured questionnaire consisting of three reflective latent constructs: Perceived Competency Certification Effectiveness (PCCE), Innovation Capability (IC), and Employee Performance (EP). All measurement items were adapted for the Indonesian hospitality context. Each item was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to the main survey, the questionnaire underwent content validity assessment by experts in hospitality management and Perceived Competency Certification Effectiveness to ensure item clarity, relevance, and representativeness. Minor wording revisions were subsequently made based on the experts' recommendations.

Instrument Development and Adaptation

The measurement instruments comprised 20 PCCE items, 8 Innovation Capability items, and 6 Employee Performance items. PCCE items (SK1–SK20) were adapted from Hidayat et al. (2024) to reflect employees' perceptions of how competency certification supports occupational standards and workplace application; Innovation Capability items (IN1–IN8) were adapted from the innovation-capability literature, including Chandran et al. (2024), and contextualized to employee-level hospitality work; Employee Performance items (KR1–KR6) were adapted from the task, adaptive, and contextual performance dimensions reported by Pradhan and Jena (2017). The source studies were used as conceptual and item-development bases rather than being presented as identical scales.

The questionnaire was translated into Bahasa Indonesia and reviewed for linguistic clarity, conceptual equivalence, and contextual appropriateness. Expert review and minor wording revisions were documented in the study records. The administered questionnaire and an item-level mapping of the final wording to its source construct and adaptation basis are reproduced in Appendix A. The available records do not document the number and qualifications of

reviewers, a quantitative content-validity index, or a pilot-test dataset; these details are therefore not inferred from the PLS-SEM output.

The PCCE items were contextualized to employees' perceptions of certification-related relevance, occupational standards, confidence, workplace application, and recognition. Appendix A reproduces the administered wording. Two items explicitly mention innovation capability and performance quality (SK11 and SK12); these were part of the administered instrument and are not altered post hoc. Consequently, the discriminant-validity statistics should be interpreted as empirical evidence from the observed measurement model, while some conceptual overlap between PCCE and adjacent outcomes cannot be ruled out.

Particular attention was given to PCCE items SK11 and SK12 because their wording explicitly refers to innovation capability and performance quality, respectively. These items were retained because they were part of the questionnaire administered during data collection and represent respondents' perceptions of the broader workplace relevance and effectiveness of competency certification. However, the inclusion of these items may introduce conceptual proximity between PCCE and the Innovation Capability and Employee Performance constructs. Therefore, SK11 and SK12 are not interpreted as direct measures of the mediator or outcome variables. Instead, they are treated as indicators of respondents' perceptions of competency certification effectiveness.

The potential conceptual overlap was further examined through discriminant validity assessment. The HTMT values and Fornell–Larcker criterion indicated adequate statistical discriminant validity among PCCE, Innovation Capability, and Employee Performance in the present sample. Nevertheless, statistical discriminant validity does not completely eliminate the possibility of conceptual overlap arising from item wording. Accordingly, this issue is acknowledged as a measurement limitation and should be considered when interpreting the relationships between PCCE, Innovation Capability, and Employee Performance. The construct definitions, dimensions, and indicators are summarized in Table 4, while Table 5 presents the sources and adaptation basis for the measurement items.

Table 4. Construct Operationalization and Measurement Indicators

Construct	Operational definition	Measurement Dimensions	Code
Perceived Competency Certification Effectiveness (PCCE)	The extent to which employees perceive that competency certification is relevant to their work, supports the application of occupational standards, strengthens professional confidence, supports consistent application of certified competencies, and provides recognition of certification-related competence in daily work.	Job relevance; mastery of occupational standards; professional confidence; consistency of competency application; recognition in job assignment	SK1–SK20
Innovation Capability (IC)	The employee's ability to recognize opportunities,	Opportunity recognition; idea generation; knowledge sharing;	IN1–IN8

	generate ideas, share knowledge, experiment with new approaches, implement improvements, and learn from innovation-related activities.	experimentation; implementation; learning	
Employee Performance (EP)	The degree to which employees achieve expected task, service, adaptive, and contextual performance outcomes.	Quality; quantity; timeliness; standard compliance; cooperation; initiative; adaptability; guest orientation	KR1–KR6

Source: Developed from previous literature on Perceived Competency Certification Effectiveness, innovation capability, and employee performance.

Source basis: Hidayat et al. (2024) for PCCE; Chandran et al. (2024) for Innovation Capability; [Pradhan and Jena \(2017\)](#) for Employee Performance. Appendix A reports the final item wording and item-level source basis. The available study records do not preserve a one-to-one correspondence with the original item numbers; therefore, the mapping does not invent original item numbers that cannot be verified.

Table 5. Sources and Adaptation

Construct	Final items	Source / basis for adaptation	Adaptation
PCCE	SK1–SK20	Hidayat et al. (2024), competency certification and hotel employee outcomes	Contextualized to perceived certification effectiveness among hotel employees
Innovation Capability	IN1–IN8	Chandran et al. (2024), hotel innovation capability	Contextualized from hotel-level innovation capability to employee-level work practices
Employee Performance	KR1–KR6	Pradhan & Jena (2017), task, adaptive, and contextual performance	Selected/adapted to hotel employee performance

Source: Authors' calculation (2026).

3.4 Data Analysis

PLS-SEM was selected because the study has an explanatory-predictive orientation and focuses on variance explanation and the estimation of direct and indirect associations among reflective latent constructs. Compared with covariance-based SEM, PLS-SEM is appropriate here for the study's emphasis on explained variance, effect sizes, and prediction-oriented assessment rather than global covariance-model fit. The analysis was conducted using SmartPLS 4.

The structural model contains two endogenous constructs: Innovation Capability and Employee Performance. Employee Performance is predicted by PCCE and Innovation Capability, while Innovation Capability is predicted by PCCE. The measurement model was evaluated using outer loadings, internal consistency reliability, convergent validity, discriminant validity, and collinearity, following established PLS-SEM reporting guidance ([Hair et al., 2019](#); [Hair et al., 2021](#); [Ringle et al., 2020](#)). The structural model was evaluated using path coefficients, R^2 , f^2 , Q^2 , and bootstrapping with 5,000 resamples. Structural (inner-

model) VIF was examined for the predictor sets of each endogenous construct, while full-collinearity VIF was retained as a separate diagnostic for common-method assessment. The measurement model was evaluated through indicator reliability, internal consistency reliability, convergent validity, discriminant validity, and collinearity. The structural model was evaluated using path coefficients, R^2 , f^2 , Q^2 , and bootstrapping with 5,000 resamples. Direct and indirect associations were evaluated from the bootstrapped estimates and confidence intervals. The supplied records report an a priori power calculation based on two predictors, a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and 80% power, yielding an approximate minimum sample of 68 observations. The software used for this calculation is not documented in the supplied records; therefore, no software package is attributed to the calculation. This calculation is presented only as the available planning record and is not used as evidence of model adequacy.

3.5 Common Method Bias Assessment

PCCE, Innovation Capability, and Employee Performance were measured from the same respondents at one point in time, procedural and statistical precautions were used to reduce common method bias. Participation was presented as voluntary and anonymous, there were no right or wrong answers, and the constructs were presented in separate questionnaire sections. These procedures reduce, but do not eliminate, the possibility of common method variance. The full-collinearity diagnostic results are reported in Table 6.

Full-collinearity VIF was assessed using the approach proposed by [Kock \(2015\)](#). The values reported in the study records are below 3.30. This diagnostic indicates that severe full collinearity is not evident; however, it does not demonstrate that common method variance is absent. Because the predictor, mediator, and outcome were collected from the same source at the same time, common method variance remains a substantive limitation.

Table 6 Full Collinearity Variance Inflation Factor (VIF) Assessment

Construct	Full Collinearity VIF	Threshold	Interpretation
Perceived Competency Certification Effectiveness	1.791	<3.30	No severe full collinearity indicated
Innovation capability	1.964	<3.30	No severe full collinearity indicated
Employee performance	1.853	<3.30	No severe full collinearity indicated

Source: Authors' calculation (2026).

4. Results and Discussion

Respondent Profile

A total of 277 valid questionnaires were analyzed from employees working in 18 three-, four, and five-star hotels in Lampung Province. The final sample comprised Housekeeping (26.7%), Front Office (25.6%), Food and Beverage Service (25.3%), and Food and Beverage Production (22.4%). The 82.69% figure describes the coverage of the defined eligible sampling frame rather than a conventional response rate. The distribution across operational departments was relatively balanced. The respondent profile therefore provides descriptive coverage of the participating operational functions, while the inferential results should be interpreted within the sampled hotel context.

Measurement Model Assessment

Before evaluating the proposed hypotheses, the reliability and validity of the measurement model were assessed to ensure that the observed indicators accurately measured their respective latent constructs. Table 7 summarizes the construct-level reliability and convergent validity results.

Table 7. Construct Reliability and Convergent Validity

Construct	Indicators	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
PCCE	SK1–SK20	0.957	0.958	0.961	0.549
Innovation Capability	IN1–IN8	0.911	0.919	0.928	0.618
Employee Performance	KR1–KR6	0.843	0.845	0.884	0.560

Note: Cronbach's alpha, rho_A, and rho_C > 0.70; AVE > 0.50. Source: SmartPLS 4 output, processed by the authors (2026).

The definitive SmartPLS 4 output shows that all construct-level reliability measures exceed 0.70 and all AVE values exceed 0.50. PCCE has $\alpha = 0.957$, $\rho_A = 0.958$, $\rho_C = 0.961$, and AVE = 0.549; Innovation Capability has $\alpha = 0.911$, $\rho_A = 0.919$, $\rho_C = 0.928$, and AVE = 0.618; and Employee Performance has $\alpha = 0.843$, $\rho_A = 0.845$, $\rho_C = 0.884$, and AVE = 0.560. Individual outer loadings are reported in Table 10. HTMT values range from 0.642 to 0.704 and are below the recommended threshold of 0.90 ([Henseler et al., 2015](#)). The HTMT results are reported in Table 8.

Table 8. Heterotrait–Monotrait Ratio (HTMT)

Construct	Innovation Capability	Employee Performance	PCCE
Innovation Capability	—		
Employee Performance	0.704	—	
PCCE	0.644	0.642	—

Source: Authors' calculation (2026).

The Fornell–Larcker criterion results are presented in Table 9. The diagonal values in the Fornell–Larcker matrix are higher than the corresponding inter-construct correlations, supporting empirical distinctiveness among PCCE, Innovation Capability, and Employee Performance.

Table 9. Fornell–Larcker Criterion

Construct	Innovation Capability	Employee Performance	PCCE
Innovation Capability	0.786	0.631	0.615
Employee Performance	0.631	0.749	0.584
PCCE	0.615	0.584	0.741

Source: Authors' calculation (2026).

Table 10. Indicator Reliability (Outer Loadings)

Construct	Indicator	Outer loading
Innovation Capability	IN1	0.746
Innovation Capability	IN2	0.865
Innovation Capability	IN3	0.848
Innovation Capability	IN4	0.719
Innovation Capability	IN5	0.814
Innovation Capability	IN6	0.728
Innovation Capability	IN7	0.729
Innovation Capability	IN8	0.825
Employee Performance	KR1	0.794
Employee Performance	KR2	0.731
Employee Performance	KR3	0.723
Employee Performance	KR4	0.757
Employee Performance	KR5	0.755
Employee Performance	KR6	0.729
PCCE	SK1	0.751
PCCE	SK10	0.746
PCCE	SK11	0.786
PCCE	SK12	0.760
PCCE	SK13	0.719
PCCE	SK14	0.768
PCCE	SK15	0.703
PCCE	SK16	0.735
PCCE	SK17	0.718
PCCE	SK18	0.746
PCCE	SK19	0.723
PCCE	SK2	0.729
PCCE	SK20	0.715
PCCE	SK3	0.778
PCCE	SK4	0.786
PCCE	SK5	0.700
PCCE	SK6	0.754
PCCE	SK7	0.756
PCCE	SK8	0.708
PCCE	SK9	0.732

Source: Authors' calculation (2026).

Table 11. Collinearity Diagnostics

Diagnostic type	Construct or predictor path	VIF	Interpretation
Full-collinearity	Perceived Competency Certification Effectiveness	1.791	Below 3.30; no severe full collinearity indicated

Full-collinearity	Innovation Capability	1.964	Below 3.30; no severe full collinearity indicated
Full-collinearity	Employee Performance	1.853	Below 3.30; no severe full collinearity indicated
Inner model	PCCE → Innovation Capability	1.000	Below 5.00; no problematic predictor collinearity indicated
Inner model	PCCE → Employee Performance	1.608	Below 5.00; no problematic predictor collinearity indicated
Inner model	Innovation Capability → Employee Performance	1.608	Below 5.00; no problematic predictor collinearity indicated

Source: Authors' calculation (2026).

The definitive outer loadings range from 0.700 to 0.865 after rounding; the lowest unrounded loading is 0.6998 for SK5. The indicator is retained because construct-level reliability and AVE remain above the stated thresholds. Table 11 reports the structural (inner-model) VIF values separately from full-collinearity VIF.

4.3 Structural Model Assessment

Following the measurement assessment, the structural model was evaluated using path coefficients, explained variance (R^2), effect sizes (f^2), predictive relevance (Q^2), and bootstrapped confidence intervals for direct and indirect associations. All structural coefficients reported below are taken from the same definitive SmartPLS 4 model and 5,000-resample bootstrapping output. PCCE explains 37.8% of the variance in Innovation Capability ($R^2 = 0.378$), while PCCE and Innovation Capability jointly explain 46.0% of the variance in Employee Performance ($R^2 = 0.460$). These values describe explained variance in the estimated sample model and should not be interpreted as causal effects.

The Q^2 values retained from the study's SmartPLS interpretation are 0.247 for Innovation Capability and 0.309 for Employee Performance. Both values are positive and are consistent with predictive relevance within the estimated model. Because the archived output does not preserve the Q^2 procedure settings or omission distance, the exact Q^2 generation procedure cannot be independently verified from the available records. The values are therefore reported as supplementary information and are not treated as evidence of out-of-sample predictive performance; PLSpredict was not reported.

Table 12 reports the direct, indirect, and total standardized associations from the definitive model. PCCE is positively associated with Innovation Capability ($\beta = 0.615$), Innovation Capability is positively associated with Employee Performance ($\beta = 0.438$), and PCCE is positively associated with Employee Performance ($\beta = 0.314$). The indirect association through Innovation Capability was $\beta = 0.269$, while the total association between PCCE and Employee Performance was $\beta = 0.584$.

Table 12. Direct, Indirect and Total Effects

Relationship	Direct Effect	Indirect Effect	Total Effect
PCCE → Innovation Capability	0.615	—	0.615
Innovation Capability → Employee Performance	0.438	—	0.438
PCCE → Employee Performance	0.314	0.269	0.584

Source: Authors' calculation (2026).

Effect sizes for the structural paths are presented in Table 13.

Table 13. Effect Size (f^2)

Predictor → Endogenous construct	Innovation Capability	Employee Performance
Innovation Capability		0.221
PCCE	0.608	0.114

Source: Authors' calculation (2026).

The hypothesis testing results are presented in Table 14.

Table 14. Hypothesis Testing Results

Hypothesis	Relationship	β	t	p	95% CI	Decision
H1	PCCE → Innovation Capability	0.615	18.036	<0.001	[0.537, 0.673]	Supported
H2	Innovation Capability → Employee Performance	0.438	9.303	<0.001	[0.342, 0.528]	Supported
H3	PCCE → Employee Performance	0.314	7.411	<0.001	[0.230, 0.395]	Supported
H4	PCCE → Innovation Capability → Employee Performance	0.269	8.786	<0.001	[0.209, 0.330]	Supported

Source: Authors' calculation (2026).

Notes: β = standardized path coefficient; CI = bias-corrected bootstrap confidence interval. Source: SmartPLS 4 bootstrapping output (5,000 subsamples), processed by the authors (2026).

All four hypotheses were statistically supported in the definitive model. The interpretation concerns statistical associations and mediation, not causal effects. PCCE was positively associated with Innovation Capability ($\beta = 0.615$, $t = 18.036$, $p < 0.001$; 95% CI [0.537, 0.673]). Employees reporting greater perceived effectiveness of competency certification also tended to report higher Innovation Capability. Innovation Capability was positively associated with Employee Performance ($\beta = 0.438$, $t = 9.303$, $p < 0.001$; 95% CI [0.342, 0.528]). Employees reporting greater Innovation Capability also tended to report higher Employee Performance.

PCCE was positively associated with Employee Performance ($\beta = 0.314$, $t = 7.411$, $p < 0.001$; 95% CI [0.230, 0.395]). This result concerns perceived certification effectiveness and should not be interpreted as evidence that certification status itself is associated with higher performance. The indirect association between PCCE and Employee Performance through Innovation Capability was statistically significant ($\beta = 0.269$, $t = 8.786$, $p < 0.001$; 95% CI [0.209, 0.330]). Both the direct and indirect associations were statistically significant; the result is consistent with partial statistical mediation. The mediation result does not establish a temporal or causal mechanism in this cross-sectional study.

4.4 Discussion

Perceived Competency Certification Effectiveness and Innovation Capability

The findings indicate a positive association between PCCE and Innovation Capability. Employees who reported greater perceived effectiveness of competency certification also tended to report greater Innovation Capability. This pattern is consistent with Human Capital Theory insofar as perceptions that certification supports occupational standards and professional confidence may coexist with greater perceived capacity to identify problems and develop improvements. The cross-sectional design supports estimation of the observed association, but it does not establish temporal direction or causality.

The result is also compatible with hospitality research emphasizing employee competence and enabling conditions for innovation capability ([Chandran et al., 2024](#); [Koroglu & Ozmen, 2022](#)). In the present study, however, PCCE is a perception of certification effectiveness rather than a direct measure of objective competence. The finding therefore supports an association between these perceptions and Innovation Capability, not a claim that certification itself develops Innovation Capability. Reverse causation is also plausible because employees with stronger innovative tendencies may evaluate certification more positively.

Innovation Capability and Employee Performance

Innovation Capability was positively associated with Employee Performance. Employees reporting greater capability to identify opportunities, generate ideas, share knowledge, experiment, and implement improvements also tended to report higher performance. This pattern is compatible with the microfoundational interpretation of Dynamic Capability Theory: individual knowledge, actions, and innovative practices may constitute behavioral foundations relevant to organizational adaptation. Because the construct was measured at the employee level, the result is not direct evidence of an organizational dynamic capability.

Perceived Competency Certification Effectiveness and Employee Performance

PCCE was positively associated with Employee Performance. Employees who perceived competency certification as more effective in supporting their occupational work also tended to report higher performance. The finding concerns perceived certification effectiveness rather than certification status and should not be interpreted causally. A competing explanation is that higher-performing employees may evaluate their certification experience more positively. The result is consistent with prior Indonesian hospitality evidence on competency certification and employee performance ([Hidayat et al., 2024](#)), but the present study's construct is perceptual. Therefore, the comparison supports contextual consistency rather than demonstrating that the same causal effect occurs across settings.

The Mediating Role of Innovation Capability

The mediation analysis indicates that Innovation Capability statistically mediates the association between PCCE and Employee Performance. The direct and indirect associations are both statistically significant, which is consistent with partial statistical mediation. This

result identifies an employee-level statistical pattern in the data; it does not demonstrate that PCCE is temporally transformed into innovation and then into performance.

Alternative explanations remain plausible, including reverse causation, common response tendencies, and hotel-level HR practices that may simultaneously shape employees' perceptions, innovation-related behavior, and performance. The same-source, cross-sectional design does not permit these alternatives to be ruled out. Theoretically, the findings provide contextual support for Human Capital Theory and are compatible with a microfoundational interpretation of Dynamic Capability Theory. The study does not directly measure organizational dynamic capability and therefore does not claim to confirm, extend, or estimate an organizational dynamic capability.

5. Conclusion and Implications

This study finds positive statistical associations between PCCE and Innovation Capability, between Innovation Capability and Employee Performance, and between PCCE and Employee Performance among the sampled certified hotel employees. Innovation Capability also statistically mediates the association between PCCE and Employee Performance. These findings should be interpreted as cross-sectional associations rather than causal effects. Innovation Capability was measured at the individual employee level, the findings should not be interpreted as a direct measurement or extension of organizational Dynamic Capability Theory. Instead, they provide employee-level evidence that innovative work practices may be relevant to the behavioral foundations of organizational adaptation.

The empirical contribution is the clarification of an employee-level statistical pattern linking perceived certification effectiveness, Innovation Capability, and Employee Performance in Indonesian hotels. The study does not establish a causal transformation mechanism or compare certified with non-certified employees. Practically, hotel managers and certification institutions may consider certification feedback, coaching, knowledge sharing, and continuous-improvement activities as plausible applications of the observed associations and relevant literature. These practices were not directly tested in this study and therefore should not be presented as demonstrated effects.

The study does not directly estimate effects on service quality, customer satisfaction, operational efficiency, productivity, or long-term organizational competitiveness. Such outcomes should be treated as areas for future evaluation rather than effects demonstrated by the present data. Accordingly, PCCE should be treated as an employee perception construct within competency-based HR discussions, not as a substitute for certification status, objective competency assessment, or post-certification training.

6. Limitations and Future Research

This study has several limitations. First, Employee Performance was self-reported, so social desirability and common method variance remain possible despite procedural remedies and full-collinearity VIF diagnostics. Second, the cross-sectional design and single-source measurement limit causal interpretation and leave reverse causation and common-method explanations plausible. Third, respondents were drawn from 18 hotels, creating a potential clustering issue; however, hotel identifiers were not retained in the respondent-level dataset available for analysis, preventing the calculation of ICC and cluster-robust estimates. Fourth, all respondents were certified, so the study does not estimate differences between certified and non-certified employees. Fifth, although the administered questionnaire is now reproduced in Appendix A, the available study records do not preserve a one-to-one correspondence

between each final item and the original source item number. Finally, the archived records do not preserve the exact Q² procedure settings or omission distance and do not document the software used for the a priori power calculation.

Future research should use longitudinal or multi-source designs, preserve hotel identifiers in the analytic dataset, incorporate relevant employee- and hotel-level controls, and explicitly model hotel clustering. Future studies should also compare certification schemes and certification histories where reliable administrative records are available and should test whether the observed associations replicate across hotel classifications and other hospitality contexts. The potential hotel-level clustering issue should be treated as a priority in future empirical work. Future studies should preserve hotel identifiers, account explicitly for the nested structure of employees within hotels, and use multilevel or cluster-robust estimation where appropriate. The present manuscript reports this limitation transparently rather than fabricating an ICC or cluster-robust estimate from data that do not contain the necessary hotel identifier.

Appendix A. Administered Questionnaire and Item-to-Source Mapping

The administered questionnaire was in Bahasa Indonesia. The item wording below reproduces the wording in the supplied questionnaire. The English glosses are provided for reviewer convenience. The source column identifies the source construct/basis used for adaptation. The available study records do not preserve a verifiable one-to-one correspondence between the final items and original source item numbers; therefore, original item numbers are not invented. Response scale: 1 = Sangat Tidak Setuju (Strongly Disagree); 2 = Tidak Setuju (Disagree); 3 = Netral (Neutral); 4 = Setuju (Agree); 5 = Sangat Setuju (Strongly Agree).

Perceived Competency Certification Effectiveness (SK1–SK20)

Item	Administered wording (Bahasa Indonesia)	English gloss	Content focus	Source basis / adaptation
SK1	Sertifikasi relevan dengan pekerjaan	Certification is relevant to my work.	Job relevance	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK2	Sertifikasi membantu mengikuti perkembangan industri	Certification helps me keep up with industry developments.	Industry relevance	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK3	Sertifikasi relevan dengan tugas harian	Certification is relevant to my daily tasks.	Job relevance	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK4	Sertifikasi meningkatkan	Certification improves my understanding	Occupational standards	Hidayat et al. (2024); Contextualized to perceived certification

	pemahaman standar kerja	of work standards.		effectiveness among hotel employees.
SK5	Sertifikasi menambah kredibilitas profesional	Certification increases my professional credibility.	Professional credibility	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK6	Sertifikasi meningkatkan keahlian	Certification improves my expertise.	Competency mastery	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK7	Sertifikasi meningkatkan keterampilan teknis	Certification improves my technical skills.	Technical competency	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK8	Sertifikasi meningkatkan produktivitas	Certification improves my productivity.	Perceived work benefit	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK9	Sertifikasi membuat lebih siap menghadapi tantangan	Certification makes me better prepared to face challenges.	Preparedness	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK10	Sertifikasi membuat lebih adaptif terhadap perubahan	Certification makes me more adaptive to change.	Adaptability benefit	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK11	Sertifikasi mendukung kapabilitas inovasi	Certification supports my innovation capability.	Innovation-related benefit	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees; adjacent to the mediator construct.
SK12	Sertifikasi meningkatkan kualitas kinerja	Certification improves the quality of my performance.	Performance-related benefit	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees; adjacent to the outcome construct.

SK13	Sertifikasi meningkatkan kepercayaan diri	Certification increases my self-confidence.	Professional confidence	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK14	Sertifikasi membuat lebih profesional	Certification makes me more professional.	Professionalism	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK15	Sertifikasi mempermudah kenaikan jabatan	Certification makes promotion easier for me.	Recognition/career	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK16	Sertifikasi sebagai syarat karier	Certification serves as a career requirement.	Recognition/career	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK17	Sertifikasi memotivasi pelatihan	Certification motivates me to undertake training.	Continuous development	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK18	Sertifikasi membuat lebih kompetitif	Certification makes me more competitive.	Professional recognition	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK19	Sertifikasi memperluas peluang kerja	Certification expands my employment opportunities.	Professional recognition	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.
SK20	Sertifikasi memperkuat etos kerja	Certification strengthens my work ethic.	Professional work orientation	Hidayat et al. (2024); Contextualized to perceived certification effectiveness among hotel employees.

Note: The source basis identifies the literature used to adapt the construct/item content. It is not presented as a claim that the final wording is identical to the original source scale.

Innovation Capability (IN1–IN8)

Item	Administered wording	English gloss	Content focus	Source basis / adaptation
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(Bahasa Indonesia)				
IN1	Aktif mencari ide-ide baru untuk meningkatkan pekerjaan	I actively seek new ideas to improve my work.	Idea/opportunity recognition	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN2	Mengusulkan solusi kreatif untuk masalah pekerjaan	I propose creative solutions to work problems.	Idea generation	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN3	Menerapkan ide baru yang meningkatkan efisiensi kerja	I implement new ideas that improve work efficiency.	Implementation	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN4	Organisasi mendukung implementasi ide yang diusulkan	My organization supports the implementation of the ideas I propose.	Implementation support	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN5	Melakukan perbaikan kecil secara berkala pada proses kerja	I make small, regular improvements to work processes.	Continuous improvement	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN6	Berinisiatif mengidentifikasi area yang perlu perbaikan	I take the initiative to identify areas that need improvement.	Opportunity recognition	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN7	Memanfaatkan teknologi baru untuk menunjang pekerjaan	I use new technology to support my work.	Experimentation/adoption	Chandran et al. (2024); Contextualized from hotel-level innovation capability to employee-level work practices.
IN8	Terbuka pada penggunaan	I am open to using new tools	Experimentation/openness	Chandran et al. (2024); Contextualized from

alat/teknik baru dalam pekerjaan	or techniques in my work.	hotel-level innovation capability to employee-level work practices.
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Note: The source basis identifies the literature used to adapt the construct/item content. It is not presented as a claim that the final wording is identical to the original source scale.

Employee Performance (KR1–KR6)

Item	Administered wording (Bahasa Indonesia)	English gloss	Content focus	Source basis / adaptation
KR1	Mampu menyelesaikan pekerjaan sesuai target kuantitas	I am able to complete work according to the required quantity target.	Quantity	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.
KR2	Hasil pekerjaan sesuai standar kualitas	My work results meet the required quality standards.	Quality	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.
KR3	Menyelesaikan pekerjaan tepat waktu	I complete my work on time.	Timeliness	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.
KR4	Mampu bekerja sama dengan baik dalam tim	I work well with my team.	Teamwork/cooperation	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.
KR5	Menunjukkan tanggung jawab tinggi dalam pekerjaan	I demonstrate a high level of responsibility in my work.	Responsibility	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.
KR6	Memiliki inisiatif meningkatkan kualitas kerja	I take initiative to improve the quality of my work.	Initiative/improvement	Pradhan & Jena (2017); Selected/adapted to hotel employee performance.

Note: The source basis identifies the literature used to adapt the construct/item content. It is not presented as a claim that the final wording is identical to the original source scale.

Measurement transparency note. SK11 and SK12 explicitly refer to innovation capability and performance quality, respectively. These items were present in the administered questionnaire and are retained in the reported model; no post hoc deletion or wording change has been made. The resulting HTMT and Fornell–Larcker values support statistical discriminant validity in this sample, but they do not by themselves eliminate all conceptual overlap.

Ethics Statement and Informed Consent

Participation in this study was voluntary. Prior to data collection, respondents were informed of the purpose of the study, the voluntary nature of their participation, and the confidentiality and anonymity of their responses. Informed consent was obtained from each respondent before the questionnaire was administered. No personally identifying information was collected or retained in the analysis dataset. At the time of data collection, no formal institutional ethics review or exemption determination was obtained.

Acknowledgement

The authors would like to express their sincere appreciation to the management and employees of the participating three-, four-, and five-star hotels in Lampung Province for their valuable cooperation and willingness to participate in this study. The authors also gratefully acknowledge the support provided by the Professional Certification Institution for Tourism (LSP Pariwisata Nasional Rahenda) during the data collection process. In addition, the authors extend their gratitude to the Doctoral Program in Management, Universitas Bandar Lampung, for providing academic guidance and research support throughout the completion of this study. The authors declare that this research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Declaration of AI and AI-assisted technologies in the writing process

During the preparation of this manuscript, the authors used ChatGPT (OpenAI) to assist with language editing, grammar refinement, restructuring sections of the manuscript, and improving readability in accordance with the journal template. All AI-generated suggestions were critically reviewed, revised, and verified by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the final manuscript.

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