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Hotel Team-oriented Human Resources Practices: Conceptualization, Scale Development, and Validation

Abstract

Purpose – This study develops a Hotel Industry Team-Oriented Human Resources (TOHR) Practices Scale based on the Ability-motivation-opportunity (AMO) model to identify human resources strategies that enhance team management in hotels.

Design/methodology/approach – A multi-stage scale development process was used, including literature review, expert interviews, pretesting, and empirical validation through EFA (n=240), CFA (n=810), and SEM (n=629). Data were collected from frontline hotel teams in China using purposive sampling. Multilevel CFA and SEM ensured team-level aggregation, content validity, and predictive power of the TOHR scale.

Findings – The validated TOHR Practices Scale comprises three dimensions: ability-focused TOHR practices (team talent acquisition and development), motivation-focused TOHR practices (team rewards), and opportunity-focused TOHR practices (teamwork facilitation). The scale exhibits high criterion-related validity with team innovation. All dimensions positively influence employee engagement, which mediates the relationship between TOHR practices and service performance. These findings confirm the scale's robustness and relevance for hotel applications.

Practical implications – The three TOHR dimensions offer HR professionals a structured foundation for improving team performance and guest satisfaction. By evaluating how different TOHR practices impact engagement and performance, this study offers a practical roadmap for designing effective HR systems in hospitality. Applying these insights enhances team cohesion, elevates service standards, and drives competitive advantage for hotels.

Originality/value – Team structures are vital in hotels, where collaborative performance impacts outcomes. This is the first study to develop a hotel-specific TOHR Practices Scale using the AMO model, offering practical insights for managers to strengthen team performance and competitiveness.

Keywords Team-oriented human resources practices, hotel, human resources, team, Ability-Motivation-Opportunity model, instrument development

Paper type Research paper

1.Introduction

Teams, composed of individuals with complementary skills, are essential in organizations to achieve shared goals (Katzenbach & Smith, 2008; Robbins & Coulter, 1994). In today's dynamic business environment, teams operate as adaptive systems, responding to interactions and environmental changes (Kozlowski & Ilgen, 2006). Since the 1980s, team-based work models have largely replaced individual-centered

approaches, enabling more efficient and responsive organizational structures (Kozlowski, 2018).

Teams often outperform individuals by promoting innovation, lean management and error mitigation (Holden & Hackbart, 2012; Krynke et al., 2021; Lee, 2016; Paulus et al., 2006). To realize these benefits, effective human resources (HR) practices are vital. Such practices shape organizational culture, enhance performance, and drive competitive advantage by influencing how knowledge and resources are applied (Arrow, 2000; Mathieu et al., 2014; Rogg et al., 2001). In hotels, well-designed HR practices help reduce labor costs, lower turnover intentions, and boost service innovation (Hu et al., 2009; Imandala & Rahardjo, 2020). Team-oriented HR (TOHR) practices, such as team-based training, work design, rewards, and participation programs, are especially important in hotels (Chi et al., 2009), as they enhance team members' motivation, skills, and opportunities.

Recent reviews of leadership research in hospitality emphasize the role of leadership styles (e.g. transformational and servant leadership) in shaping team dynamics, engagement, and service performance (Guchait et al., 2023). Leadership also drives broader organizational goals, such as sustainability, by influencing team culture and employee behaviors (Mahran et al., 2025). These insights underscore the importance of structured HR systems that foster team-oriented leadership and align employee actions with organizational objectives.

The service-oriented nature of hospitality requires strong team collaboration, particularly among frontline employees, such as restaurant servers, concierges, housekeepers, front desk agents, and reservations and sales agents, who shape the customer experience (John & Supramaniam, 2024; Karatepe et al., 2007; Park & Levy, 2014). Effective coordination among frontline teams enhances performance, particularly during high-demand periods or disruptions like the COVID-19 pandemic (Chen & Peng, 2021). In these contexts, seamless collaboration across departments is critical for responding to evolving guest needs. A team's adaptability and responsiveness are essential for delivering exceptional service (Lin et al., 2024).

Unlike many other industries, hotel teams manage both operational tasks but emotional labor, demonstrating friendliness, enthusiasm, and patience to enhance customer satisfaction (Wang, 2020). Team performance hinges on coordination, communication, and adaptability, especially in high-pressure, service-intensive environments. However, traditional HR measurement tools tend to focus on individual-level practices and outcomes, often overlooking the collective team dynamics that are essential in hotel settings.

While TOHR instruments exist, they were primarily developed for contexts such as teacher or R&D teams, emphasizing academic outcomes or innovation. These instruments are not well-suited to hospitality, where frontline teams operate in fast-paced, customer-facing roles requiring seamless teamwork and service delivery. The unique demands of hotel teams underscore the need for a tailored TOHR scale that accurately captures the realities of hotel work.

Developing a TOHR instrument specifically for the hotel industry offers several benefits. It ensures that the HR practices being assessed are relevant and aligned with the nature of service teams, helps managers identify effective strategies for enhancing team performance, and supports consistent application across departments and properties. Additionally, a standardized tool facilitates benchmarking and the identification of best practices within and across organizations. In response to this need, the present study aims to develop a TOHR practices scale tailored to the hotel industry. This tool will equip HR professionals with targeted insights and practical guidance to foster team effectiveness, improve operational outcomes, and strengthen competitiveness in the hospitality sector.

2. Literature review

2.1 Hotel HR practices

Recent systematic reviews of leadership research in hospitality highlight the central role of leadership styles, such as transformational and servant leadership, in influencing team dynamics, employee engagement, and service performance (Guchait et al., 2023). These findings emphasize the need for structured HR practices that foster team-oriented leadership and foster collaborative work environments. Key HR functions, including recruitment, selection, attraction, development, and retention, are crucial for managing talent and driving organizational performance (Pelit & Katircioglu, 2022Beyond operational efficiency, well-designed HR practices can provide sustainable competitive advantage (Al-Tit, 2020).

In the hotel industry, HR practices have a direct impact on employee motivation and turnover. Silvia (2017) found that aligning compensation with both individual and team boosts motivation. Haldorai et al. (2019) identified factors driving turnover in five-star hotels, including emotional labor, interpersonal tensions, work-life conflict, and excessive workloads, highlighting the need for HR strategies that directly address these challenges.

Historically, HR practices have focused on individual-level management, but there is a growing shift toward team-level approaches (Hollenbeck et al., 2004). To foster collaboration and reduce conflict, HR departments increasingly implement strategies such as group-based rewards, conflict resolution training, stress management programs, and communication enhancement (Kweku Otoo & Mridula, 2018). Internal promotion policies also strengthen motivation and retention by making career progress more attainable (Marin-Garcia & Tomas, 2016; Sambrook, 2005).

Despite growing recognition of team dynamics in the hotel sector, literature lacks an integrated framework to systematically evaluate TOHR practices. Addressing this gap is crucial for advancing HR strategies that reflect the unique needs of hotel teams.

2.2 TOHR practices

Over the years, scholars have explored how human resource practices influence team performance. Huang and Lin (2006) proposed a two-factor HR practices scale

emphasizing team competency development and motivation, and team organizational design. Chi et al. (2009) were among the first to conceptualize TOHR practices and empirically examine their moderating effect on the relationship between organizational tenure diversity and team innovation. They identified key HR activities, such as teamwork training, team-based rewards, feedback systems, and participation programs, and developed a nine-item composite measure based on employees' perceptions. Their study of 67 R&D teams revealed TOHR practices moderated the curvilinear relationship between tenure diversity and team innovation. Song (2014) further refined TOHR into three dimensions: team competency formation, team competency reinforcement, and team competency maintenance, showing their positive effects on team innovation and highlighting team psychological safety as a mediator. While these studies underscore the value of TOHR in fostering innovation, their focus has largely been confined to R&D contexts, with a limited range of practices explored.

Bouwmans et al. (2019) developed and validated a TOHR instrument specifically for the vocational education and training sector, grounded in the Ability-Motivation-Opportunity (AMO) framework. Their instrument measured four TOHR practices: recruitment, team development, team evaluation, and teamwork facilitation, and showed strong construct validity and internal consistency. Analyzing data from 70 teacher teams using multilevel structural equation modeling (SEM), the study found that TOHR practices positively influenced team innovation and efficiency, primarily mediated by team commitment and information processing.

While the findings affirm the value of TOHR practices, the study also noted that some mechanisms remain underexplored and that current instruments may lack cross-sectoral applicability. These insights reinforce the importance of aligning HR practices with organizational context to enhance team performance. However, existing TOHR measures may not fully capture the range of practices relevant to industries like hospitality, where teamwork is highly service-oriented and context-specific. This highlights the need for a more comprehensive, industry-specific TOHR scale tailored to the unique dynamics of hotel settings.

2.3 Ability-motivation-opportunity (AMO) model

The AMO model, widely used in human resource management literature, is rooted in the work performance model originally proposed by Blumberg and Pringle (1982). This foundational model identified three key determinants of individual performance: Capacity, Willingness, and Opportunity. They emphasized that optimal performance depends on the interaction of these dimensions, with opportunity playing a pivotal role in enabling performance. Appelbaum et al. (2000) formalized the AMO model, reframing the dimensions as Ability, Motivation, and Opportunity. This three-dimensional interactive model has since become a central framework for understanding how HR practices influence employee behavior and performance, with HR initiatives typically categorized by their impact on enhancing ability, fostering motivation, and providing opportunities to perform.

Ability encompasses HR practices that ensure employees possess the necessary knowledge, skills, and abilities (KSA) to perform their tasks (Fu et al., 2013; Sarikwal & Gupta, 2013). This includes identifying interpersonal skills and collaboration potential during recruitment, along with investing in team development. *Motivation* refers to the drive to perform tasks, which is boosted through incentive programs, including performance appraisals tied to financial or non-financial rewards (Demortier et al., 2014). *Opportunity* refers to the external conditions that surround an individual and their tasks, such as participation in decision-making, knowledge sharing, lateral communication, and job enrichment, which can enable or constrain performance, and are beyond the individual's direct control (Blumberg & Pringle, 1982; Marin-Garcia & Tomas, 2016). TOHR practices foster these opportunities by promoting collaboration and team learning.

Though traditionally applied at the individual level (Benet Zepf et al., 2018; Szulc et al., 2021), AMO is increasingly relevant in team-based work environments (Dasí et al., 2021; Jiang et al., 2013). Earlier TOHR instruments did not explicitly adopt the AMO model (Chi et al., 2009; Huang & Lin, 2006; Song, 2014), but Bouwmans et al. (2019) developed an AMO-based TOHR instrument for teacher teams.

In the hotel industry, AMO applications have mostly focused on green HRM (Ahmed et al., 2021; Pham et al., 2020; Sibian & Ispas, 2021). Mat et al. (2021) aligned AMO dimensions with HR practices, including recruitment and selection (ability), evaluation and rewards (motivation), and training (opportunity), but interpretations vary. Few studies explicitly examine team-level applications. Ružić (2015) explored hotel HR management, linking HR practices to financial performance but without explicitly connecting specific practices to AMO domains. Given this gap, the current study builds on Bouwmans et al. (2019) to develop a team-level, AMO-based TOHR instrument suited to the unique dynamics of the hotel industry, where collaboration and service orientation are critical.

3. Research methods

3.1 Development and validation of TOHR practices scale

Guided by the procedural frameworks of Churchill (1979) and DeVellis (2003), the scale development process followed eight stages, as illustrated in Figure 1.

[FIGURE 1 HERE]

First, the construct domain was defined through a literature review, using Bouwmans et al.'s (2019) TOHR framework for teacher teams as a conceptual base, adapted to the hotel context. In stage two, initial items were generated by combining those from Bouwmans et al. (2019) with insights from hotel HR literature. Two new motivation-related practices—team pay and internal promotion—were added to reflect hotel-specific needs (Haldorai et al., 2019; Kweku Otoo & Mridula, 2018). Stage three established the measurement format, adopting a five-point Likert scale, consistent with

social sciences research and well-suited to capturing response variability. In stage four, nine hotel HR professionals including HR Directors, HR Managers, General Manager with HR oversight, HR Generalist, and university faculties specializing in hotel HR were interviewed to evaluate item relevance and alignment with AMO dimensions. Their professional experience ranged from 11 to 23 years across diverse roles and organizational contexts. This purposive sampling provided a well-rounded, expert-informed foundation to support the scale's content validity. Their feedback was used to refine the item pool. Stage five involved a pretest with 20 frontline hotel employees to check clarity and comprehension, leading to minor revisions before full-scale data collection. Stage six involved conducting an Exploratory Factor Analysis (EFA) using responses from frontline employees (N = 240) to refine the scale and assess its initial reliability and validity. In stage seven, Confirmatory Factor Analysis (CFA) was conducted with a separate sample of 810 frontline hotels employees to validate the scale's structure and confirm convergent, discriminant, and criterion-related validity, along with composite reliability. Stage eight optimized cale length by removing items with low item-total correlations, low communalities, or redundancy. Predictive validity was tested using multilevel SEM with another sample (N = 629). This rigorous, multi-stage process led to the development of a reliable, context-specific TOHR scale for the hotel industry.

3.2 Unit of analysis

This study develops a TOHR practices scale tailored to the hotel industry at the team level. Because no global indices for teams exist, individual team members' responses were collected and aggregated for team-level analysis. Individual responses contributed to higher-level constructs; thus, the individual-level responses were aggregated for team-level analysis. Chan's (1998) referent-shift consensus model was employed to construct statements for observed variables, shifting the reference from the individual to the team. This approach captures team-level constructs by rephrasing individual-oriented questions to reflect team-based perceptions, such as evaluations of team members or the team as a whole.

The referent-shift consensus model was preferred over personal reference or direct consensus methods, which may overlook team-level constructs (Klein et al., 2001). Aggregating individual responses required validation through interrater agreement (Rwg) and Intraclass Correlation Coefficients (ICC), ensuring the constructs represented team-level phenomena (DeShon et al., 2004; Huang, 2010; Mehta & Mehta, 2018). This method enabled the study to reliably capture and analyze team-level HR practices based on individual-level data, providing a robust foundation for the TOHR practices scale.

3.3 Data collection

This study targeted customer-contact employees in four- or five-star hotels in three major city clusters: Beijing-Tianjin-Hebei, Yangtze River Delta, and Greater Bay Area, which were selected because they account for 66.76% of China's tourism income

(Chinese government website, 2023; Ministry of Culture and Tourism of the People's Republic of China, 2020).

A purposive sampling approach was adopted to ensure alignment with the research objectives, and team-based focus. Each hotel department was treated as a distinct team for questionnaire distribution, targeting departments where employees have regular direct guest contact, such as sales and marketing, front office, housekeeping, and food and beverage (Karatepe et al., 2007). Hotel HR managers were invited via professional networks to assist in distributing online questionnaires to the four previously identified guest-facing departments. To be eligible, participants had to (1) be employed in one of the targeted departments, (2) have at least three years of experience in the hospitality industry, and (3) work full-time within a defined team. These criteria were set to ensure that respondents had sufficient industry knowledge and guest interaction experience. Within each team, 4 to 10 members completed the questionnaire, a sample size considered adequate to achieve reliable data aggregation and inter-rater agreement (Bliese, 2000; Morgeson et al., 2010).

Data collection proceeded in three stages. First, 240 valid questionnaires were collected for EFA, exceeding Hair's (2010) recommended sample size of five times the variables. An additional 810 valid samples were collected for instrument development and validation using CFA. Finally, 629 questionnaires from frontline employees were analyzed using multiple regression to test the predictive validity of the TOHR practices scale.

Participants were informed of the study's purpose and their right to decline participation or withdraw at any time, either at the start of the interview or before the survey began. The study adhered to ethical guidelines for research involving human subjects, ensuring participants' anonymity and confidentiality. Ethical approval for the study was obtained from the university's Human Subjects Ethics Review Board, in accordance with institutional ethical standards.

4. Study 1: Qualitative scale development

4.1 Domain of construct specification

A review of existing TOHR literature informed the specification of the construct domain. Prior studies identified various dimensions of TOHR practices, such as team competency development, motivation, organizational design, and empowerment (Huang & Lin, 2006), teamwork training, team-based rewards, feedback systems, and participation programs (Chi et al., 2009). Song (2014) further validated three key dimensions focused on the team as the unit of analysis: competency formation, reinforcement, and maintenance. While these studies provide valuable insights into TOHR practices, only Bouwmans et al. (2019) explicitly applied the AMO framework, making their model particularly relevant to this study. However, it was developed in the education sector, where the emphasis lies in professionalization and internal coordination, limiting its direct applicability to hotels.

A targeted review of HR practices in the hotel sector revealed distinctive team-oriented practices, such as linking salaries and bonuses to team performance and prioritizing internal promotions within departments (Haldorai et al., 2019; Kweku Otoo & Mridula, 2018; Marin-Garcia & Tomás, 2016; Silvia, 2017). In hotel settings, TOHR practices must address both internal dynamics and external performance outcomes, such as guest satisfaction and employee retention. For instance, team evaluation in hotels often incorporates customer-facing metrics and staff turnover rates. Additionally, alignment between individual values and team culture, as well as department-specific career advancement opportunities, play a critical role in shaping team performance.

Integrating these insights with the foundational model by Bouwmans et al. (2019), this study proposed an initial conceptualization of TOHR domains within the AMO framework: ability-focused TOHR practices (recruitment, team development), motivation-focused TOHR practices (team evaluation, team pay, internal promotion) and opportunity-focused TOHR practices (teamwork facilitation).

4.2 Initial items generation

TOHR practices items were generated through in-depth interviews with nine HR experts from both the hotel industry and academia (See Supplementary Material 1 for HR expert profiles). The interviews focused on aligning the scale with current hotel HR practices. Recruitment ceased at nine participants when responses became repetitive, indicating data saturation. Sample interview questions included “Please classify HR practices that you perceive as team-oriented in accordance with the ability-motivation-opportunity framework” and “Do the proposed scale items align with the respective AMO dimensions?”

Based on expert input, ability-focused practices included team learning, improving team competence, and overall team development. Motivation-focused practices encompassed rewards linked to team performance, while opportunity-focused practices involved facilitating collaboration through regular meetings and team-building activities. Expert feedback led to several adjustments to the initial items. While most classifications from Bouwmans et al.’s (2019) study was retained, “team evaluation” was replaced with “team rewards” to better reflect the reward-focused HR practices common in hotels. Items such as “team pay”, “bonus”, and “internal promotion” were consolidated under this domain to reduce overlap. Experts also highlighted the importance of team values and cohesion, leading to the inclusion of additional items.

The refined scale consisted of three dimensions. The Ability dimension consisted of two subdimensions: Recruitment (5 items), and Team development (4 items). The Motivation dimension comprised one subdimension: Team rewards (6 items). The Opportunity dimension featured one subdimension: Teamwork facilitation (5 items). (See Supplementary Material 2 for the adjustments made to the initial TOHR practices items)

5. Study 2: Scale development and validation

5.1 Demographic profile of the samples for EFA

Data were collected from frontline employees at six participating hotels across three major city clusters in China. A total of 240 usable responses were obtained, comprising 55.8% female and 44.2% male respondents. 74.1% of the participants were aged between 25 to 39. Regarding education, 38.3% held a university degree or higher, 35.8% had completed high school, 22.5% had middle school education, and 3.3% had completed primary school. In terms of job positions, 77.5% of respondents were entry-level employees, followed by 15% in supervisory roles, 6.6% in managerial positions, and 0.8% at executive level (See Supplementary Material 3 for the demographic profile of respondents).

5.2 Results of EFA

EFA with principal component extraction was conducted to identify the underlying dimensions of TOHR practices. This method maximizes variance by transforming original variables into a new set of uncorrelated components (Abdi & Williams, 2010). The suitability of factor analysis was confirmed with KMO value of 0.936 (>0.7) and Bartlett's sphericity test (chi-square value=1410.598, df=120, $p<0.001$). Four items with communalities and factor loadings below 0.5 were eliminated (Chen & Tsai, 2007; Hair, 2010).

Based on EFA results, the original four factors (recruitment, team development, team rewards and teamwork facilitation) were consolidated into three: Talent acquisition and development, Team rewards, and Team facilitation. Post-rotation eigenvalues were 3.507, 3.013, and 2.373, explaining 21.92%, 18.83%, and 14.83% of the variance respective, with a cumulative variance of 55.58%. All item factor loadings exceeded 0.5, indicating strong alignment. Reliability analysis showed Cronbach's alpha values of 0.857, 0.773, and 0.714, all above the 0.7 threshold, demonstrating strong internal consistency. These findings confirm the scale's reliability and alignment with the AMO model, supporting its validity in assessing TOHR practices (Table 1).

[TABLE 1 HERE]

6. Study 3: Scale Validation

6.1 Demographic profile of the samples for CFA

CFA was conducted to confirm the measurement items identified through EFA. Participating hotels invited frontline employees to complete a questionnaire, yielding 810 valid responses from 21 hotels. Participants evaluated 16 items across three TOHR factors. The questionnaire also included items on team innovation to assess the criterion-related validity of the TOHR construct (see Appendix 1 for the full scale items).

The demographic profile of the participants showed a higher representation of females (63.8%) compared to males (36.2%). The largest age groups were 25 to 29 and 30 to 39, comprising 59.1% of respondents. Regarding education, 45.1% held a university

degree, 27.4% a high school diploma, 21.4% a middle school qualification, and 5.9% a primary school qualification. In terms of job levels, entry-level employees made up 53.3% of respondents at, followed by supervisory-level employees (28.8%), managerial-level employees (13.3%), and executives (4.4%). The sample, composed primarily of frontline employees, was comparable to the EFA sample: a higher proportion of females, a majority holding university degrees, and a focus on entry-level roles. This demographic composition supports the relevance and generalizability of the CFA findings (See Supplementary Material 4 for the demographic profile of respondents).

6.2 Results of CFA of the measurement model

One item "Our rewards are linked to the degree of professionalism with which the team works" was removed due to a factor loading below 0.5. The remaining items showed loadings between 0.667 to 0.814, indicating satisfactory reliability. The average variance extracted (AVE) values ranged from 0.514 to 0.535, confirming convergent validity. Composite reliability (CR) values ranged from 0.810 to 0.873, exceeding the 0.70 threshold. Model fit indices indicated a good fit (see Table 2). The χ^2/df ratio was 2.078 (recommended <5), RMSEA = 0.036 and SRMR = 0.026 (both <0.08), and CFI = 0.979, TLI = 0.975 (both >0.90), supporting the model's reliability, validity, and overall fit (Bentler & Bonett, 1980; Hair, 2010).

7. [TABLE 2 HERE]

6.3 Model comparisons and dimensional structure

Defining the dimensional structure is a critical step in scale development. To identify the optimal model for the hotel TOHR scale, five competing models were tested. As shown in Table 3, the three-factor model demonstrated the best fit, with a χ^2/df ratio of 2.149 (below the recommended threshold of 5), and strong fit indices: RMSEA = 0.038, SRMR = 0.026 (both < 0.08), CFI = 0.980, and TLI = 0.976 (both > 0.90). In contrast, all alternative models—including one- and two-factor solutions—showed poor fit, with RMSEA > 0.10 and CFI/TLI values below 0.90. These results confirm the three-factor model as the best-fitting structure and support the construct validity of the TOHR scale in the hotel context.

8. [TABLE 3 HERE]

6.4 Correlations and discriminant validity

Discriminant validity was examined using the Fornell-Larcker Criterion. As shown in Table 4, the squared root of the average variance extracted (AVE) for each construct (0.7 for A1, A2, A3, and C) is greater than the corresponding inter-construct correlation coefficients. For example, the highest correlation among constructs is 0.48, which is lower than the square root of the AVE for each construct. This result indicates that the variables under investigation exhibit favorable discriminant validity. In addition, all constructs demonstrated acceptable internal consistency, with Cronbach's α values

larger than 0.8, exceeding the commonly accepted threshold of 0.7. The means of the constructs ranged from 4.06 to 4.26, and standard deviations were between 0.57 and 0.67, suggesting relatively consistent responses with moderate variation.

[TABLE 4 HERE]

6.5 Criterion-related validity

Criterion-related validity refers to the extent to which a measure correlates with an external criterion, with higher correlations indicating stronger validity. (Arthur et al., 2003). In this study, team innovation was selected as the criterion variable due to its established relevance to TOHR practices (Lau & Ngo, 2004; Nieves & Osorio, 2017). Team innovation was measured using five items (Van Woerkom & Croon, 2009). The model fit indices for the team innovation construct indicated satisfactory levels ($\chi2$=13.282， df=5， $\chi2$/df=2.656， RMSEA=0.045， SRMR=0.014， CFI=0.995， TLI=0.990). Reliability was strong, with Cronbach's alpha and composite reliability (CR) both at 0.862, exceeding the 0.70 threshold. The AVE value was 0.556, surpassing the 0.50 benchmark, confirming good reliability and convergent validity (see Supplementary Material 5 for the reliability and validity of team innovation).

To test criterion-related validity, a multiple linear regression analysis was conducted with team innovation as the dependent variable and the three TOHR dimensions as predictors. As shown in Table 5, variance inflation factors (VIFs) were all below 5 (maximum VIF = 1.332), indicating no multicollinearity concerns (Hair & Alamer, 2022). The regression results revealed that Talent Acquisition and Development (β = 0.287), Team Reward (β = 0.223), and Teamwork Facilitation (β = 0.276) each had a significant positive effect on team innovation ($p < 0.001$), supporting the criterion-related validity of the TOHR scale.

[TABLE 5 HERE]

6.6 Test of predictive validity

Predictive validity assesses the extent to which a measurement scale can accurately forecast outcomes (Kline, 2016). To evaluate the predictive validity of the TOHR scale, multilevel SEM was performed following the factor analysis.

In the hotel industry, employee engagement and service performance are critical outcomes. Engaged employees are more committed to their work and the organization's goals. They tend to go above and beyond their basic job requirements to provide exceptional service, enhancing the guest experience. Service performance directly impacts guest satisfaction, loyalty, and the hotel's reputation. Engaged frontline service employees who demonstrate dedication and perseverance significantly enhance customers' experience and satisfaction (Chen & Peng, 2021). Prior research shows that HR practices such as training, recruitment, selection, performance appraisal, and compensation positively influence engagement, which in turn mediates their effect on service performance (Chahar & Hatwal, 2018). Although no study has directly examined the impact of TOHR practices on employee engagement and service

performance, Kehoe and Wright (2013) found that employees' perceptions of high-performance HR practice use at the job group level positively influenced their attitudes and behaviors in food service organizations. Also, Liu et al. (2022) proved that organizational empowerment, leadership and collaboration atmosphere have positive impact on employment engagement and ultimately improved performance outcomes. Therefore, employee engagement and service performance serve as relevant criteria for testing the TOHR scale's predictive validity in hotels.

Based on the literature, the following hypotheses were formulated to assess the predictive power of the TOHR scale:

H1: TOHR practices positively influence employee engagement.

H2: TOHR practices positively affect service performance.

H3: Employee engagement positively impacts service performance.

H4: Employee engagement acts as a mediator between TOHR practices and service performance.

To test predictive validity, data were collected from a new sample of 629 frontline hotel employees from 18 participating hotels (See Supplementary Material 6 for the demographic profile of respondents). The TOHR scale contains three dimensions: talent acquisition and development, team rewards, and teamwork facilitation, with a total of 15 items, demonstrated good model fit ($\chi2$=163.048，df=87，$\chi2$/df=1.874，RMSEA=0.037，SRMR=0.028，CFI=0.981，TLI=0.977). Cronbach's alpha values (0.878, 0.826, and 0.847) and composite reliability (CR) scores (0.879, 0.829, and 0.847) all exceeded the 0.70 threshold, while AVE values (0.548, 0.548, and 0.526) were above 0.50, indicating strong reliability and convergent validity across all dimensions.

Employee engagement scale, containing nine items (Schaufeli et al., 2006), also showed good model fit ($\chi2$=130.476，df=27，$\chi2$/df=4.832，RMSEA=0.078，SRMR=0.031，CFI=0.967，TLI=0.955). The Cronbach's alpha coefficient was 0.917, and the CR was 0.917, both exceeding 0.7, with an AVE of 0.552, indicating good reliability and validity. Therefore, employee engagement scale has good reliability and validity. The service performance scale, with seven items (Liao & Chuang, 2004), demonstrated a good model fit ($\chi2$=130.476，df=27，$\chi2$/df=4.832，RMSEA=0.078，SRMR=0.031，CFI=0.967，TLI=0.955). The Cronbach's alpha coefficient was 0.910, and the CR was 0.910, both exceeding 0.7; with an AVE was 0.592, indicating good reliability and validity. Scale items are listed in Appendix 1. (See Supplementary Material 7 for the validity and reliability of the scales).

As TOHR is conceptualized at team level, individual responses were aggregated across 72 teams. Common indicators for aggregate analysis are within-group agreement (Rwg), and within-group consistency (ICC). The minimum value of ICC(1) for each variable is 0.317>0.059 (Wen & Chiou, 2009), the minimum value of ICC(2) is 0.800>0.60 (Kozlowski & Klein, 2000), and the minimum value of Rwg mean is 0.908>0.7 (James et al.,1993). These results suggest that the individual data in this study is suitable to be

aggregated into team-level data for hypotheses testing. (See Supplementary Material 8 for the aggregation results)

Multilevel CFA was conducted in Mplus 8.3 to validate latent structures across multilevel data (Lin & Hsu, 2023). The three TOHR dimensions: talent acquisition and development, team rewards, and teamwork facilitation are modeled at the team level using the average values of each team members' responses to construct the team level measurement model. At both individual and team levels, the variables employee engagement and service performance were used to establish corresponding measurement models. The model fit indices were as follows: χ^2=637.807，df=527，χ^2/df=1.210，RMSEA=0.018，CFI=0.982, TLI=0.980, $SRMR_w$=0.037, $SRMR_b$=0.065. These results indicate an excellent fit for the multilevel CFA model. Additionally, all standardized factor loadings exceeded 0 (Figure 2), with P<0.001. In summary, the structures of team-level talent acquisition and development, team rewards, and teamwork facilitation structures are validated, and the nested relationships between employee engagement and service performance are well-supported.

[FIGURE 2 HERE]

A multilevel SEM approach was adopted to examine the relationships between the team-level independent variable (TOHR), the individual-level mediator (employee engagement), and individual-level dependent variable (service performance). The model in Figure 3 employed a 2-1-1 mediation structure, with employee engagement and service performance analyzed at the individual level, and TOHR examined at the team level. Introducing the cluster mean as a Level 2 predictor and group mean centering the Level 1 predictor is a typical method used to divide Level 1 effects into within and between components (Preacher et al., 2011).

[FIGURE 3 HERE]

The hypothesis testing results are presented in Table 6. Employee engagement is significantly and positively impacted by talent acquisition and development, team rewards, and teamwork facilitation (P<0.01, unstandardized coefficients (γ) of 0.304, 0.241, and 0.282, respectively), supporting H1. Additionally, talent acquisition and development and teamwork facilitation significantly enhance service performance (P<0.05). This is supported by unstandardized coefficients (γ) of 0.243 and 0.236, respectively, supporting H2. However, team rewards showed no significant effect on service performance (P>0.05), partially supporting H3 is only partially valid. Service performance is significantly enhanced by employee engagement (P<0.01, B=0.377), confirming H4.

9. [TABLE 6 HERE]

The mediating effect of employee engagement was further tested. Since this study is a multilevel model, the bias-corrected nonparametric percentile bootstrap method is not applicable. Instead, the Monte Carlo method was used through R software to test the mediating effect. The results are shown in Table 7. The 95% confidence intervals for

the mediating effects of employee engagement between talent acquisition and development, team rewards, teamwork facilitation and service performance were [0.010, 0.331], [0.020, 0.189], [0.018, 0.230], respectively. None of the 95% confidence intervals contained 0, indicating that employee engagement has a significant mediating effect between talent acquisition and development, team rewards, teamwork facilitation and service performance. The mediating effect sizes were 0.115, 0.091, 0.106, respectively.

[TABLE 7 HERE]

These findings confirm the predictive validity of the TOHR scale. TOHR practices significantly influence employee engagement and service performance, with engagement serving as a key mediating mechanism. The validated multilevel structure further supports the TOHR scale's application in hotel team settings.

7. Discussions, implications, and limitations

7.1 Discussions

Through a rigorous process involving expert reviews, pretests, EFA, and CFA, three dimensions of team-oriented HR (TOHR) practices aligned with the AMO model were identified: (1) Ability-focused (team talent acquisition and development), (2) Motivation-focused (team rewards), and (3) Opportunity-focused (teamwork facilitation).

Despite rigorous evaluation, the findings differ from Bouwmans et al. (2019), likely due to industry differences. While their education-focused model emphasized academic growth and innovation (Tohidi & Jabbari, 2012), hotel HR practices prioritize academic customer-focused team performance and service excellence (Cheng et al., 2018; Rauch et al., 2020).

The TOHR scale demonstrated strong reliability and validity across multiple samples. It showed criterion-related validity by positively influencing team innovation and predictive validity through multilevel analysis. Aggregated team-level data revealed strong within-group agreement (Rwg) and sufficient between-group variance (ICC), supporting the robustness of the scale. Multilevel analysis further showed that aggregated TOHR practices significantly predicted employee engagement and service performance, further proved predictive validity

Notably, perceptual and impact differences emerged among the three TOHR dimensions. Ability-focused practices had the strongest positive influence on employee engagement. In the hospitality industry, where teamwork is vital for guest service, HR practices that emphasize recruiting and developing team-oriented employees are especially effective. Such individuals value collective success, adapt quickly to team environments, and engage actively with the organization’s culture and goals. Findings also revealed that the effect of team rewards on service performance is fully mediated by employee engagement. As external motivators, rewards may only influence

performance if they enhance intrinsic attitudes like engagement. Since service performance requires ongoing effort and emotional investment, rewards alone may not address deeper motivational drivers such as purpose and commitment. Therefore, it is crucial to design reward systems that engage employees meaningfully, e.g., involving staff in shaping team incentives to ensure alignment with shared values and motivators.

Recruitment and development are closely intertwined in hospitality. For instance, Four Seasons Hotels places recruitment and development on a single page on their website, signaling to guests and candidates alike that the hotel highly values the selection and development of its staff to build passionate, empathetic, and creative teams that provide exceptional customer service. Similarly, Prism Hotels & Resorts Headquarters employs a Director of Talent Acquisition & Development, responsible for overseeing and administering recruitment efforts for all positions, as well as the training and development of staff. This unique integration, stronger than in other sectors, underscores the findings that combine recruitment and development into a single construct, "Talent Acquisition and Development." These findings highlight the distinct nature of TOHR practices in hospitality. The strategic integration of ability, motivation, and opportunity-focused HR practices ensures organizational success. By prioritizing team-oriented approaches, hotels can enhance employee satisfaction, performance, and guest experiences, ultimately driving revenue and growth.

7.2 Theoretical implications

This study makes several key theoretical contributions to HR management in hospitality. First, it is the first to develop a standardized measurement scale for TOHR practices tailored to the hotel industry. Existing HR practices scale often lack consistency and vary across industries (Chi et al., 2009; Huang & Lin, 2006). Unlike other sectors, hotels are labor-intensive, fast-paced and heavily reliant on teamwork (Hayes & Ninemeier, 2009). Effective collaboration in hotels fosters a positive work culture, enhances job satisfaction and retention, and ultimately improves guest experiences and business performance (Majeed & Jamshed, 2021; Narangajavana & Hu, 2008; Qu & Sit, 2007). The new scale addresses the gap by providing a reliable tool to empirically examine TOHR practices in hotel teams, moving beyond abstract discussions to precise measurement and comparison across settings.

Second, the study advances application of the AMO model in hotel HR research. While the AMO framework is widely used to classify HR practices (Marin-Garcia & Tomas, 2016), most hotel-related AMO studies have focused on green HRM (Ahmed et al., 2021; Pham et al.,2020; Pham & Hung, 2019; Pham & Tuckova, 2018) or financial outcomes (Ružić, 2015), with little attention to team-level dynamics. By aligning TOHR practices with AMO dimensions, ability-enhancing (Talent Acquisition and Development), motivation-enhancing (Team Rewards), and opportunity-enhancing (Teamwork Facilitation), this study provides a theoretical structure for analyzing how team-based HR strategies operate in service-intensive contexts

Third, the study contributes to multilevel HR research by validating the TOHR scale through empirical testing across individual and team levels. Criterion-related validity

showed all TOHR dimensions positively impact team innovation. Predictive validity, assessed using multilevel SEM, showed that TOHR practices influence individual service performance through employee engagement. A multilevel CFA further supported the scale's applicability in nested data structures.

By addressing the prior lack of validated tools to measure team-based HR practices in hospitality, this study opens new research directions into how TOHR practices shape employee attitudes, behaviors, and organizational outcomes in high-contact service settings.

7.3 Practical implications

The study offers valuable practical insights for hospitality organizations seeking to enhance employee engagement and service performance through a TOHR framework grounded in the AMO model. The three dimensions: ability-focused (team talent acquisition and development), motivation-focused (team rewards), and opportunity-focused (teamwork facilitation), offer HR professionals an evidence-based framework for building high-performing teams and optimizing guest satisfaction.

Ability-focused practices had the strongest impact on employee engagement, a key outcome in hospitality where team coordination and frontline service are critical. Hotels that recruit and develop team-oriented individuals foster cohesive, high-performing teams whose members integrate quickly, contribute proactively, and align with organizational culture. Managers can strengthen these practices by incorporating teamwork assessments in recruitment and offering training that develops both technical and interpersonal skills.

Motivation-focused practices can boost morale through team-based performance appraisals, recognition programs, and incentives such as team bonuses and peer recognition. Opportunity-focused practices should foster open communication and collaboration via team meetings, cross-departmental projects, and knowledge sharing. Involving employees in decision-making enhances commitment and ownership.

The validated TOHR scale offers a diagnostic tool for managers to assess and improve HR practices and benchmark implementation across departments or properties. Importantly, the study reveals that team rewards influence service performance indirectly, fully mediated by engagement. This insight encourages managers to design rewards that foster genuine engagement, such as co-creating team incentive systems aligned with team values and intrinsic motivators like purpose and belonging.

By identifying how different TOHR practices affect engagement and performance, this study offers a practical roadmap for designing effective HR systems in hospitality. Applying these insights can enhance team cohesion, elevate service standards, and ultimately drive competitive advantage in the hotel industry.

7.4 Limitation and future research

This study is limited by its focus on major cities in China, which may affect the generalizability to other regions or international contexts. Future research should

explore whether these patterns hold across diverse cultural and geographic settings. Although a large sample and a wide range of hotels were included, selection was based primarily on hotel size, overlooking distinctions such as ownership type, brand affiliation, and star rating. Future studies should differentiate between hotel categories, including local vs. international brands, chain vs. independent operations, and varying service levels. While the scale showed good model fit and predictive validity, findings are based solely on this sample. Further validations using multiple samples and comparisons to established measures are needed. Future research could also examine the scale's effects on other team-level outcomes to inform tailored HR strategies. Overall, this study offers a foundation for refining team-based HR practices across different hotel segments.

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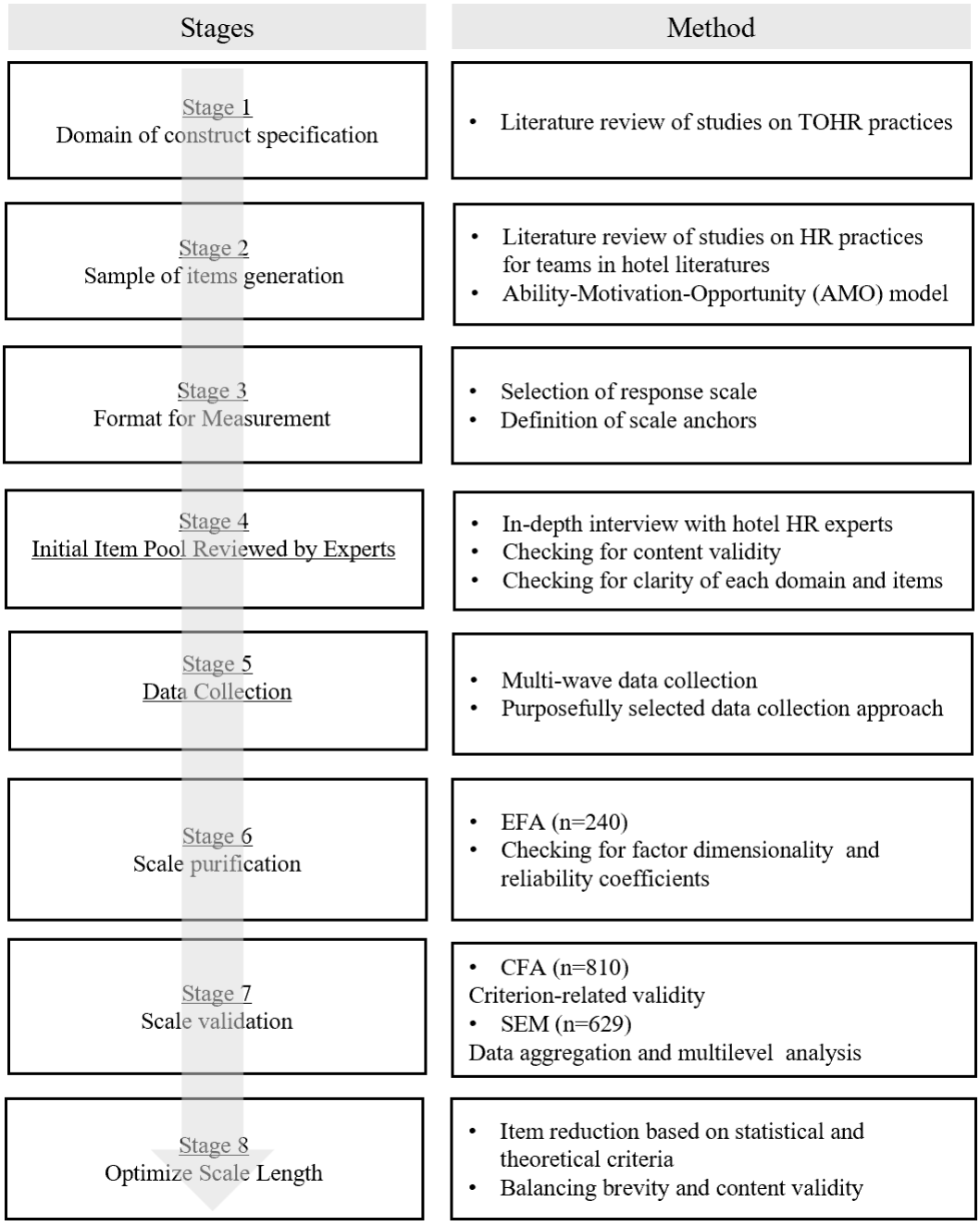

Fig 1. Process to develop TOHR practices scale for hotel industry

Source: Created by authors

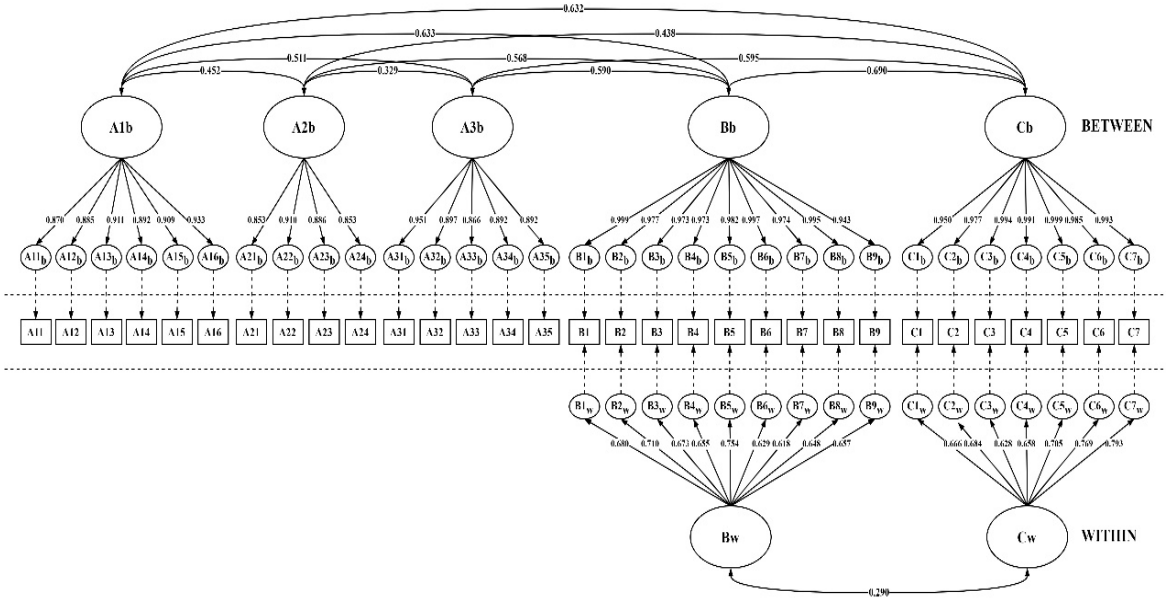

Fig 2. Multilevel confirmatory factor analysis model

Source: Created by authors

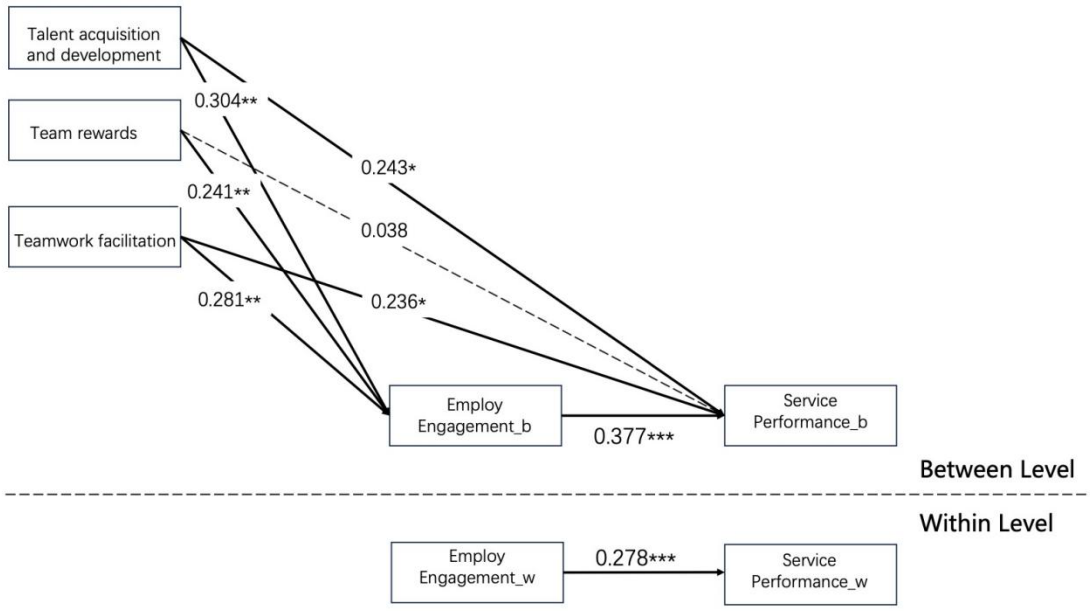

Fig 3. Structural model for predictive validity test

Source: Created by authors

Table 1. EFA of team-oriented HR practices scales in hotel industry(N=240)

	Component					
Items	1	2	3	Communalities	Cronbach's Alpha	N of Items
A1__2 Our ability to work in a team	.771			.659	.857	7
A1__1 The degree to which we have the potential to contribute to team performance	.713			.572		
A2__1 My employer offers development opportunities that meet the learning needs of our team	.633			.551		
A2__2 My employer offers development opportunities that enhance the overall qualities of our team	.615			.630		
A2__4 My employer offers training to improve our teamwork skills	.593			.475		
A1__3 The degree to which we are team players	.582			.538		
A3__3 Our rewards are linked to the degree of professionalism with which the team works.	.545			.520		
A4__1 Work together on our team tasks		.728		.642	.773	5
A4__4 Apply innovations/changes together		.688		.540		
A4__2 Hold meetings to discuss team's functioning		.661		.503		
A4__3 Think about solutions for problems/challenges together		.618		.514		
A4__5 Realize team importance by constantly emphasizing the teamwork and team spirit		.579		.507		
A3__6Our reward is linked to our team's turnover rate			.824	.694	.714	4
A3__2 Our rewards are tied to the initiatives taken by our team			.655	.604		

	Component					
Items	1	2	3	Communalities	Cronbach's Alpha	N of Items
A3__1 Our rewards are closely tied to the overall performance of the team			.516	.452		
A3__7 Our reward is linked to customer satisfaction with our team			.511	.491		
Eigenvalue	3.507	3.013	2.373			
% of Variance	21.919	18.833	14.829			
Cumulative %	21.919	40.752	55.581			

Source: Created by authors

Table 2. Confirmatory factor analysis result (N=810)

Domain	Item	Factor loading	S.E.	t	P	CR	AVE
A1 Ability-focused team goal-oriented HR practices	A11	0.700	0.021	34.025	0.000	0.873	0.535
	A12	0.711	0.020	35.421	0.000		
	A13	0.738	0.019	39.211	0.000		
	A14	0.717	0.020	36.168	0.000		
	A15	0.702	0.021	34.196	0.000		
	A16	0.814	0.015	53.920	0.000		
A2 Motivation-focused team-oriented HR practices	A21	0.700	0.023	30.642	0.000	0.810	0.516
	A22	0.778	0.020	39.031	0.000		
	A23	0.720	0.022	32.587	0.000		
	A24	0.672	0.024	27.719	0.000		
A3 Opportunity-focused team-oriented HR practices	A31	0.716	0.021	33.881	0.000	0.841	0.514
	A32	0.757	0.019	39.208	0.000		
	A33	0.667	0.023	28.834	0.000		
	A34	0.731	0.020	35.812	0.000		
	A35	0.710	0.021	33.350	0.000		

Notes: Chi-square = 209.83, df = 101, RMSEA = 0.036, CFI = 0.979, TLI = 0.975, SRMR = 0.026.

Source: Created by authors

Table 3. Model comparison of hotel TOHR scale

Model		χ^2	df	χ^2/df	RMSEA	SRMR	CFI	TLI
3 factors	A1、A2、A3	186.944	87	2.149	0.038	0.026	0.980	0.976
2 factors a	A1+A2、A3	915.707	89	10.289	0.107	0.085	0.833	0.802
2 factors b	A1+A3、A2	1334.014	89	14.989	0.131	0.108	0.748	0.703
2 factors c	A1、A2+A3	890.121	89	10.001	0.105	0.081	0.838	0.809
1 factor	A1+A2+A3	1919.765	90	21.331	0.158	0.119	0.629	0.568
Criteria				<5	<0.08	<0.08	>0.9	>0.9

Note：A1=Ability-focused team goal-oriented HR practices，A2=Motivation-focused team-oriented HR practices，A3=Opportunity-focused team-oriented HR practices

Source: Created by authors

Table 4. Correlations, squared root of AVE, mean, and standard deviations

	A1	A2	A3	C
A1	1.00			
A2	0.42**	1.00		
A3	0.35**	0.40**	1.00	
C	0.48**	0.45**	0.46**	1.00
SQ of AVE	0.73	0.72	0.72	0.75
Mean	4.20	4.06	4.26	4.13
Std. Deviation	0.60	0.67	0.57	0.66
Cronbach's α	0.87	0.81	0.84	0.86

Note: Number of samples n=810; *P<0.05; ** P<0.01

Source: Created by authors

Table 5. Criterion-related validity test

	B	S.E.	Beta	t	P	Tolerance	VIF
Constant	0.516	0.170		3.035	0.002		
Talent acquisition and development	0.318	0.035	0.287	9.046	<0.001	0.784	1.276
Team rewards	0.222	0.032	0.223	6.871	<0.001	0.751	1.332
Teamwork facilitation	0.323	0.037	0.276	8.801	<0.001	0.803	1.245

Note：R^2=0.365，Adj R^2=0.363, F=154.485, P<0.001

Source: Created by authors

Table 6. Results of hypothesis testing

	Dependent Variable	
	Employee Engagement	Service Performance
Intercept	0.675	0.394
	（0.456）	（0.498）
Talent acquisition and development	0.304**	0.243*
	（0.105）	（0.121）
Team rewards	0.241**	0.038
	（0.079）	（0.09）
Teamwork facilitation	0.282**	0.236*
	（0.105）	（0.118）
Employee engagement		0.377**
		（0.126）
σ2	0.223***	0.271***
	（0.013）	（0.016）
τ00	0.08***	0.062***
	（0.013）	（0.016）

Note：* P<0.05，** P<0.01，** P<0.001

Source: Created by authors

Table 7. Results of the mediation effect test

		B	S.E.	95%CI	
				LLCI	ULCI
Talent acquisition and development →Service performance	Total Effect	0.358	0.121	0.120	0.595
	Direct Effect	0.243	0.121	0.006	0.481
	Indirect Effect	0.115	0.055	0.010	0.331
Team rewards →Service performance	Total Effect	0.129	0.090	-0.047	0.305
	Direct Effect	0.038	0.090	-0.138	0.215
	Indirect Effect	0.091	0.042	0.020	0.189
Teamwork facilitation →Service performance	Total Effect	0.343	0.119	0.109	0.577
	Direct Effect	0.236	0.118	0.005	0.468
	Indirect Effect	0.106	0.053	0.018	0.230

Source: Created by authors

APPENDIX 1

Scale Items of Selected Variables

Variables	Items	References
Team Innovation	C1.Our team develops new and improved ways of working C2.Our team develops new products or services C3.Our team constantly seeks out new products or services. C4.The innovation our team developed have caused significant changes in hotel industry C5.Our team frequently incorporates new techniques to improve our products or services.	Van Woerkom & Croon (2009); Nieves et al. (2014)
Employee Engagement	D1. At my work, I feel bursting with energy. D2. At my job, I feel strong and vigorous. D3. I am enthusiastic about my job. D4. My job inspires me. D5. When I get up in the morning, I feel like going to work. D6. I feel happy when I am working intensely. D7. I am proud of the work that I do. D8. I am immersed in my job. D9. I get carried away when I am working.	Schaufeli & Bakker (2003)
Service Performance	E1. Being friendly and helpful to customers. E2. Approaching customers quickly. E3. Asking good questions and listening to find out what a customer wants. E4. Being able to help customers when needed. E5. Pointing out and relating item features to a customer's needs. E6. Suggesting items customers might like but did not think of. E7. Explaining an item's features and benefits to overcome a customer's objections.	Borucki & Burke (1999)

Source: Created by authors

Supplementary Material

Supplementary Material 1. Profile of HR experts

No	Gender	Age	Position	Working experience（yrs)	Interview duration (mins)
1	Female	36-45	Hotel HR Director	20	25
2	Female	26-35	Hotel HR Manager	13	35
3	Male	36-45	Hotel General Manager	20	35
4	Male	36-45	Hotel General Manager	23	40
5	Female	36-45	Hotel HR Manager	22	30
6	Male	26-35	Hotel HR Generalist	11	25
7	Male	36-45	University teacher for hotel HR course	16	35
8	Female	36-45	University teacher for hotel HR course	12	30
9	Female	36-45	University teacher for hotel HR course	15	35

Source: Created by authors

Supplementary Material 2. Adjustments of the initial team-oriented HR practices items

HR Practices	Original items	Modifications	Revised Items
Ability			
Recruitment	1.The degree to which they are willing to commit themselves to the team interest	Modified wording	1.The degree to which we are willing to commit themselves to the team interest
	2.The degree to which they have the potential to contribute to team performance	Modified wording	2.The degree to which we have the potential to contribute to team performance

	3.Their ability to work in a team	Modified wording	3.Our ability to work in a team
	4.The degree to which they are team players	Modified wording	4.The degree to which we are team players
		New item added	5.The selection of employees/managers emphasizes overall fit to the hotel team (personality, values, etc.).
Team development	1.The learning needs of my team	Modified wording	1.My employer offers development opportunities that meet the learning needs of our team
	2.Topics my team needs for further professionalizatio n	Deleted	
	3.Enhancing the qualities of my team		2.My employer offers development opportunities that enhance the overall qualities of our team
	4.Increasing team results	Deleted	
		New item added	3.My employer offers mentoring program for our new team members.
		New item added	4.My employer offer training that designed to improve our teamwork skills.
Motivation			
Team evaluation		Modified wording	Team rewards
	1.The performance of my team	Modified wording	1.Our rewards are closely tied to the overall performance of the team

	2.The initiatives taken by my team	Modified wording	2.Our rewards are tied to the initiatives taken by our team
	3.How the team works on professionalizatio n	Modified wording	3.Our rewards are linked to the degree of professionalism with which the team works.
	4.The extent to which the team is functioning properly	Modified wording	4.Our rewards depends on the extent to which the team is functioning properly
		New item added	5.Our reward is linked to our team's turnover rate
		New item added	6.Our reward is linked to customer satisfaction with our team
Team pay	1.Team members' pay and bonus are closely tied to the overall performance of the team	Deleted	
Internal promotion	1.Prioritize internal team candidates over external candidates for department job openings	Deleted	
Opportunity			
Teamwork facilitation	1.Work together on our team tasks		
	2.Meet to discuss the team's functioning		
	3.Think about solutions for problems/challeng es together		

	4.Apply innovations/changes together		
		New item added	5.Realize team importance by constantly emphasizing teamwork and team spirit

Source: Created by authors

Supplementary Material 3. Demographic profile of respondents (N=240)

Variable	Category	Percentage (%)
Gender	Female	55.8
	Male	44.2
Age	18-24	17.5
	25-29	40.0
	30-39	34.1
	40-49	6.2
	50-59	1.2
	60 and above	0.8
Educational level	Primary school	3.3
	Middle school	22.5
	High school	35.8
	University and above	38.3
Position level	Frontline	77.5
	Supervisory	15.0
	Managerial	6.6
	Executive	0.8

Source: Created by authors

Supplementary Material 4. Demographic profile of respondents (N= 810)

Variable	Category	Percentage (%)
Gender	Female	63.8
	Male	36.2
Age	18-24	20.7
	25-29	26.6
	30-39	32.5
	40-49	16.2
	50-59	3.7
	60 and above	0
Educational level	Primary school	5.9
	Middle school	21.4
	High school	27.4
	University and above	45.1
Position level	Frontline	53.3
	Supervisory	28.8
	Managerial	13.3
	Executive	4.4

Source: Created by authors

Supplementary Material 5. Reliability and validity of team innovation

Item	Std. Estimate	CR	AVE	Cronbach's Alpha
C1	0.720	0.862	0.556	0.862
C2	0.761			
C3	0.708			
C4	0.749			
C5	0.786			

Source: Created by authors

Supplementary Material 6. Demographic profile of respondents (N=629)

Variable	Category	Percentage (%)
Gender	Female	55.8
	Male	44.2
Age	18-24	4.5
	25-29	55.9
	30-39	32.1
	40-49	5.7
	50-59	1.9
	60 and above	0
Educational level	Primary school	0
	Middle school	3.7
	High school	35.4
	University and above	60.9
Position level	Frontline	89.4
	Supervisory	8.3
	Managerial	1.8
	Executive	0.6

Source: Created by authors

Supplementary Material 7. Validity and reliability of the scales

Construct	Item	Std. Estimate	CR	AVE	Cronbach's Alpha
Talent acquisition and development	A11	0.725	0.879	0.548	0.878
	A12	0.718			
	A13	0.754			
	A14	0.720			
	A15	0.695			
	A16	0.823			

Construct	Item	Std. Estimate	CR	AVE	Cronbach's Alpha
Team rewards	A21	0.714	0.829	0.548	0.826
	A22	0.800			
	A23	0.754			
	A24	0.688			
Teamwork facilitation	A31	0.724	0.847	0.526	0.847
	A32	0.763			
	A33	0.694			
	A34	0.725			
	A35	0.718			
Employee Engagement	D1	0.761	0.917	0.552	0.917
	D2	0.771			
	D3	0.746			
	D4	0.720			
	D5	0.817			
	D6	0.724			
	D7	0.700			
	D8	0.725			
	D9	0.713			
Service Performance	E1	0.726	0.910	0.592	0.910
	E2	0.765			
	E3	0.697			
	E4	0.748			
	E5	0.787			
	E6	0.816			
	E7	0.837			

Source: Created by authors

Supplementary Material 8. Aggregation test results

	ICC1	ICC2	RWG	
			Mean	Median
Talent acquisition and development	0.317	0.800	0.941	0.965
Team rewards	0.399	0.855	0.908	0.937
Teamwork facilitation	0.346	0.825	0.943	0.963
Employee engagement	0.322	0.810	0.960	0.970
Service performance	0.322	0.806	0.940	0.967

Source: Created by authors