



Managerial Responses to Workforce Shortages in Hotel Operations: A Department-Level Analysis

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Abstract

Hospitality organizations continue to experience workforce shortages that affect operational performance, service quality, and employee well-being. These pressures may vary substantially across hotel departments, yet limited empirical attention has been given to how managers respond to department-specific staffing constraints. This study examines workforce shortages and managerial response strategies in hotel operations from a department-level perspective and investigates how specific workforce pressures relate to managerial responses. A mixed-method research design was employed, combining survey data from 70 hotel managers in Kazakhstan with qualitative evidence from seven semi-structured interviews. Descriptive statistics, the Friedman test, and Spearman's rank correlations were used to examine departmental differences and associations between workforce pressures and managerial responses. The highest level of shortage was observed in housekeeping ($M = 3.73$, $SD = 1.01$), followed by food and beverage ($M = 3.30$, $SD = 1.22$), kitchen ($M = 3.26$, $SD = 1.21$), and front office ($M = 3.07$, $SD = 1.36$); the lowest value was recorded in Engineering ($M = 2.37$, $SD = 1.05$). The correlation analysis revealed a positive relationship between burnout and salary increases ($\rho = .422$, $p < .001$), a shortage of skilled workers and automation ($\rho = .337$, $p = .004$), as well as seasonality and a reduction in the volume of services ($\rho = .417$, $p < .001$). The results show that management measures in the hospitality industry should consider the nature of the personnel problem and the department's specific characteristics, combining compensation, technological, and organizational tools.

KEYWORDS

Business, Hotel Business, Hospitality Industry, Workforce, Labour Market, Hotel Management, Managerial Response

1 | INTRODUCTION

Hospitality organizations continue to face persistent workforce shortages that challenge service continuity, operational performance, and workforce stability. The problem is particularly acute in a labor-intensive industry marked by high employee turnover, demanding working conditions, irregular schedules, and reliance on direct service interaction (Baum, 2015; Baum et al., 2020). Post-pandemic changes in employee expectations, career preferences, and labour-market conditions have further intensified recruitment and retention difficulties (Popa et al., 2023; Magnini et al., 2024). Recent evidence also identifies persistent skill shortages, difficult working conditions, and limited career progression as important barriers to sustainable hospitality workforce development (Giousmpasoglou et al., 2025).

Workforce pressure, however, is not distributed uniformly across hotel operations. Departments differ in workload intensity, skill requirements, working schedules, customer contact, and opportunities for technological substitution. Labour-intensive units such as Housekeeping, Kitchen, and Food and Beverage may therefore experience different staffing constraints from front office or engineering. Yet much of the hospitality workforce literature has examined turnover, recruitment, and retention at the organizational or industry level rather than differences within hotel operations.

Previous research identifies multiple sources of hospitality workforce instability, including workload and burnout, skill shortages, compensation, career perceptions, and labour mobility (Baum et al., 2020; Popa et al., 2023; Magnini et al., 2024; Giousmpasoglou et al., 2025). However, understanding the sources of workforce instability does not fully explain how managers respond when these pressures affect daily operations. Managerial responses may include compensation adjustments, alternative recruitment strategies, service adjustments, and greater use of digital technologies and automation. Recent hospitality research indicates that automation and digital workers are increasingly considered in the context of labour scarcity, staff shortages, upskilling, and operational efficiency (Aluri et al., 2025). At the same time, technological change may generate employee uncertainty and job-related concerns (Chen & Cai, 2025).

Despite growing attention to hospitality workforce challenges, empirical evidence on managerial responses at the department level remains limited. In particular, it remains unclear whether managers rely on similar response strategies across hotel departments and how specific workforce pressures are related to the strategies adopted. Quantitative evidence is also rarely integrated with managers' explanations of how they implement workforce responses in operational settings.

Accordingly, this study examines workforce shortages and managerial response strategies in hotel operations from a department-level perspective and investigates how specific workforce pressures relate to managerial responses. The study addresses the following research questions:

RQ1. How does the perceived severity of workforce shortages vary across core hotel departments?

RQ2. Which workforce pressures and managerial response strategies are most prominent in hotel operations?

RQ3. How are workforce pressures related to managerial response strategies, and how do managerial interview insights help explain these relationships?

By shifting attention from workforce shortages as an industry-wide phenomenon to managerial responses within hotel operations, this study provides department-level evidence on staffing pressures and integrates quantitative survey findings with qualitative managerial insights. The findings also offer practical guidance for developing workforce responses that better reflect department-specific operational conditions.

2 | LITERATURE REVIEW

Workforce shortages in hospitality represent a persistent structural challenge affecting service quality, operational efficiency, and employee well-being (Baum, 2015; Baum et al., 2020). Due to the labour-intensive nature of hotel operations, workforce stability is critical for service continuity, particularly in frontline departments. Recent research indicates that staffing difficulties continue to reflect problems related to compensation, working conditions, career preferences, and changing workforce expectations (Popa et al., 2023; Magnini et al., 2024). Recent career research further emphasizes the combined role of individual, organizational, and socio-cultural factors in hospitality employee retention and career sustainability (Akosa et al., 2025).

The present study focuses on five recurring workforce pressures—wage competitiveness, migration, seasonality, burnout, and skill shortages—which capture both organizational demands and external labour-market constraints. Wage competitiveness affects the ability of hotels to attract and retain employees, while skill shortages constrain the availability of qualified workers (Baum, 2015; Magnini et al., 2024). Migration influences labour supply in a sector traditionally dependent on mobile workers, while seasonality creates fluctuations in staffing requirements. Recent tourism research also demonstrates the growing role of foreign workers in addressing labour shortages, while highlighting integration, language, and institutional challenges associated with reliance on migrant labour (Nnubia et al., 2025). Burnout reflects the consequences of sustained workload and demanding working conditions.

The Job Demands–Resources (JD-R) model provides a theoretical basis for understanding these pressures (Bakker & Demerouti, 2007). Sustained job demands can contribute to exhaustion and negative employee outcomes when adequate resources are unavailable. This is particularly relevant to hospitality, where irregular schedules, emotional labour, and intensive service interaction place considerable demands on employees. Hospitality research has linked such conditions to burnout, reduced engagement, and turnover-related outcomes (Karatepe, 2013; Karatepe et al., 2021). Workforce shortages may therefore become self-reinforcing as staffing deficits increase demands on remaining employees and further undermine workforce stability.

Skill availability represents a related challenge because hotel operations depend on occupational and service-specific competencies that cannot always be replaced rapidly. Recent research identifies skill shortages, difficult working conditions, and limited career progression as barriers to sustainable hospitality workforce development (Giousmpasoglou et al., 2025). Recent evidence from Kazakhstan similarly identifies skill deficiencies and seasonality-related turnover as persistent barriers to tourism workforce development, reinforcing the relevance of these pressures in the present study context (Özoğul Balyali et al., 2026). Research on the future of tourism work also emphasizes the interaction between labour shortages, skills constraints, migrant workers, and technological change (Yeoman & McMahon-Beattie, 2024).

Less attention, however, has been given to managerial responses when workforce shortages become an operational constraint. Managers may use wage adjustments, recruitment, migrant labour, process adaptation, and digital technologies or automation (Acemoglu & Restrepo, 2020; Davenport & Ronanki, 2018; Benbya et al., 2020). These responses may provide only partial solutions. Compensation does not necessarily address workload, burnout, or skill availability (Magnini et al., 2024), while technology can support efficiency without eliminating the need for skilled human labour and may create concerns related to job insecurity (Vrontis et al., 2022; Chen & Cai, 2025). Technology may therefore complement constrained labour supply rather than universally substitute for hospitality employees (Yeoman & McMahon-Beattie, 2026).

Another limitation is the tendency to examine workforce issues at the organizational or industry level rather than across individual hotel departments. Departments differ in workload intensity, skill requirements, customer interaction, and opportunities for technological support. From a JD-R perspective, these differences imply variation in job demands and available resources, making department-level analysis relevant to managerial decision-making. Moreover, the structural nature of hospitality workforce instability suggests that isolated interventions may be insufficient and that more coordinated responses are required (Iverson & Deery, 1997; Richardson & Butler, 2012; Baum et al., 2020; Magnini et al., 2024).

Despite these insights, three gaps remain. First, existing research focuses predominantly on the antecedents of turnover and workforce instability rather than managerial responses once shortages affect operations. Second, limited evidence examines how workforce pressures and responses vary across hotel departments. Third, quantitative assessments are rarely combined with qualitative managerial evidence explaining how responses are interpreted and implemented.

To address these gaps, this study adopts a department-level mixed-method perspective, integrating survey evidence from hotel managers in Kazakhstan with qualitative insights from senior managers representing multiple international hospitality contexts.

3 | METHODOLOGY

This study used a mixed-methods design that combined quantitative survey data with qualitative interview evidence (Creswell & Plano Clark, 2017). The quantitative survey was conducted between 7 December 2025 and 28 March 2026 and included 70 hotel respondents in Kazakhstan. Participants occupied managerial and operational positions and had direct knowledge of hotel operations and workforce-related challenges.

The study used purposive sampling to recruit respondents with relevant practical experience in staffing conditions and workforce management. Given the exploratory scope of the study, the survey aimed to identify patterns and associations rather than produce nationally representative estimates for Kazakhstan’s hospitality industry. The sample size was considered adequate for the descriptive, comparative, and correlational analyses applied in this exploratory study, including comparisons of perceived workforce shortages across hotel departments and examination of associations between workforce pressures and managerial responses. The findings should therefore be interpreted as exploratory rather than nationally representative.

The qualitative component comprised seven semi-structured interviews with senior hotel managers representing six national contexts. The interviews contextualized and interpreted the quantitative findings. Survey and interview data were analyzed separately and subsequently integrated during interpretation of the results.

The profile of survey respondents is presented in Table 1.

Table 1. Sample profile of respondents

Category	Subcategory	Frequency
Position	General/Senior Management	9
	HR Management	11
	Department/Functional Management	38
	Other Operational Roles	12
Hotel Category	3-star	12
	4-star	38
	5-star	19
	Other	1
Total respondents		70

Note: compiled by the authors

The authors developed the questionnaire specifically for this study, based on workforce factors identified in the hospitality and workforce-management literature. The questionnaire consisted of three groups of variables: workforce shortages across hotel departments, workforce pressures, and managerial responses to staffing challenges.

Before the main survey, the authors reviewed the questionnaire to assess the

clarity, logical sequence, and comprehensibility of the questions. No separate formal pilot study involving an independent group of respondents was conducted. Workforce shortage severity was assessed across five hotel departments: Front Office, Housekeeping, Food and Beverage Service, Kitchen, and Engineering. Respondents evaluated perceived staffing shortages using a five-point Likert-type scale ranging from 1 (no shortage) to 5 (severe shortage). Workforce pressures included low wages, migration, seasonality, burnout, and skill gaps. These factors were assessed using a five-point scale ranging from 1 (very low impact) to 5 (very high impact). Managerial responses included wage increases, the use of digital tools and automation, the hiring of migrant labour, and reductions in service scope. The reported frequency of these responses was measured using a five-point scale ranging from 1 (never used) to 5 (very frequently used).

Table 2 summarizes the variables included in the analysis.

Table 2. Measurement of key variables

Category	Variable	Description	Scale
Workforce shortages	FO_Deficit	Front office staffing shortage	1 = no shortage; 5 = severe
	HK_Deficit	Housekeeping staffing shortage	1 = no shortage; 5 = severe
	FNB_Deficit	Food and beverage staffing shortage	1 = no shortage; 5 = severe
	Kitchen_Deficit	Kitchen staffing shortage	1 = no shortage; 5 = severe
	Engineering_Deficit	Engineering staffing shortage	1 = no shortage; 5 = severe
Workforce pressures	Low_Wages	Impact of low wages	1 = very low; 5 = very high
	Migration	Impact of labour migration	1 = very low; 5 = very high
	Seasonality	Impact of seasonality	1 = very low; 5 = very high
	Burnout	Impact of burnout	1 = very low; 5 = very high
	Lack_Skills	Lack of qualified workforce	1 = very low; 5 = very high
Managerial responses	Wage_Increase	Use of wage increases	1 = never; 5 = very frequently
	Automation	Use of digital tools and automation	1 = never; 5 = very frequently
	Migrant_Labour	Hiring of migrant workers	1 = never; 5 = very frequently
	Reduced_Services	Reduction of service scope	1 = never; 5 = very frequently

Note: compiled by the authors

Seven semi-structured interviews were conducted online with senior hotel managers (E1–E7) from six national contexts. Participants were purposively selected based on their senior managerial roles, direct experience with hotel workforce and operational decisions, and accessibility through direct professional contact. Each participant was contacted individually, and the interviews lasted approximately 15–20 minutes. The interviews focused on workforce shortages, managerial responses, technological adaptation, and the perceived effectiveness of different strategies.

Following data collection, the interview material was reviewed and thematically coded to identify recurring patterns across participants. Related codes were subsequently grouped into broader themes concerning workforce pressures, man-

agerial responses, technology implementation, and operational adaptation. The qualitative analysis was used to contextualize and explain the quantitative survey findings rather than to serve as a separate basis for statistical inference. Quantitative and qualitative data were therefore analyzed separately and integrated during the interpretation of the findings. The participant profile is presented in Table 3.

Table 3. Profile of qualitative interview participants

Code	Country	Hotel category	Position	Hotel type
E1	Kazakhstan	4★	General Manager	Independent
E2	Serbia	4★	Hotel Manager	Independent
E3	Kazakhstan	4★	General Manager	Independent
E4	Cyprus	5★	General Manager	Casino Resort
E5	Turkey	5★	Hotel Director	International Chain
E6	Montenegro	5★	General Manager	Independent
E7	Russia	5★	General Manager	Independent

Interview participants were anonymized and identified using codes E1–E7.

Note: compiled by the authors

Descriptive statistics were used to summarize workforce shortages, workforce pressures, and managerial responses. Differences in perceived shortage severity across the five hotel departments were examined using the Friedman test, appropriate for repeated ordinal measurements from the same respondents. Spearman's rank correlations were used to assess associations between workforce pressures and managerial response strategies.

Interview data were analyzed thematically to identify recurring patterns related to workforce pressures and managerial responses. Quantitative and qualitative findings were analyzed separately and integrated during interpretation, with interview evidence used to contextualize the statistical results.

4 | RESULTS

The section presents the main results of the analysis of staff shortages in hotels, the factors exacerbating staffing problems, and the management measures implemented in response to them. First, the differences between individual hotel departments are examined, followed by the main staffing factors and the management strategies used. The results obtained are supplemented by an analysis of the statistical relationships between the indicators under consideration.

Descriptive results indicate that perceived workforce shortages varied across hotel departments. Housekeeping reported the highest shortage severity ($M = 3.73$, $SD = 1.01$), followed by food and beverage ($M = 3.30$, $SD = 1.22$), kitchen ($M = 3.26$, $SD = 1.21$), and front office ($M = 3.07$, $SD = 1.36$). Engineering showed the lowest perceived shortage level ($M = 2.37$, $SD = 1.05$). A Friedman test confirmed that shortage severity differed significantly across the five departments, $\chi^2(4) = 65.69$, $p < .001$. The results indicate that perceived workforce shortage severity is

not uniform across hotel departments. Descriptively, Housekeeping showed the highest staffing pressure, whereas engineering showed the lowest.

The descriptive statistics and overall test results are presented in Table 4.

Table 4. Workforce shortages by department (N = 70)

Department	Mean (M)	SD
Housekeeping	3.73	1.01
Food & Beverage	3.30	1.22
Kitchen	3.26	1.21
Front Office	3.07	1.36
Engineering	2.37	1.05

*Five-point Likert scale (1 = no shortage; 5 = severe shortage). Friedman test: $\chi^2(4) = 65.69$, $p < 0.001$

Note: compiled by the authors

Descriptive results indicate that respondents perceived several workforce pressures as relevant to hotel operations. Low wages and burnout received the highest mean scores (both $M = 3.54$), followed closely by lack of skills ($M = 3.46$). Migration showed a moderate perceived impact ($M = 3.11$), while seasonality received the lowest mean score ($M = 2.91$). The relatively similar scores for low wages, burnout, and lack of skills suggest that workforce instability is associated with a combination of compensation, employee well-being, and skill availability rather than with a single dominant pressure.

The descriptive results for the five workforce pressures are presented in Table 5.

Table 5. Workforce pressures (N = 70)

Workforce pressure	Mean (M)
Low wages	3.54
Burnout	3.54
Lack of skills	3.46
Migration	3.11
Seasonality	2.91

*Values represent mean scores on a five-point scale (1 = very low impact; 5 = very high impact)

Note: compiled by the authors

The descriptive results show clear differences in the reported frequency of managerial responses to workforce shortages. Wage increases were the most frequently reported strategy ($M = 3.71$), indicating greater reliance on compensation adjustments than on the other strategies examined. Digital tools and automation ranked second ($M = 3.00$), suggesting a moderate level of use as an operational response to workforce pressure. Hiring migrant labour was reported less frequently ($M = 2.50$), while reducing the scope of services was the least frequently reported strategy ($M =$

2.40). Overall, managers reported greater use of compensation and technological responses than migrant labour or service reduction.

The descriptive results for managerial response strategies are presented in Table 6.

Table 6. Managerial response strategies (N = 70)

Managerial Response	Mean (M)
Wage increase	3.71
Automation	3.00
Migrant labour	2.50
Reduced services	2.40

*Values represent mean scores on a five-point scale (1 = never used; 5 = very frequently used)

Note: compiled by the authors

Spearman’s rank correlations were used to examine associations between perceived workforce shortage severity in each hotel department and the four managerial response strategies. The results reveal several department-specific associations. Front Office shortage severity was positively associated with wage increases ($\rho = .367$, $p = .002$) and automation ($\rho = .241$, $p = .045$). Housekeeping shortages showed the strongest association with automation ($\rho = .412$, $p < .001$). In Food and Beverage, shortage severity was positively associated with both wage increases ($\rho = .309$, $p = .009$) and automation ($\rho = .329$, $p = .005$), whereas Kitchen shortages were positively associated with migrant labour ($\rho = .240$, $p = .045$).

Engineering shortages were associated with automation ($\rho = .289$, $p = .015$), migrant labour ($\rho = .349$, $p = .003$), and reduced services ($\rho = .300$, $p = .012$). Other correlations were not statistically significant. Overall, the pattern of association between workforce shortages and managerial responses differed across hotel departments. The complete correlation results are presented in Table 7.

Table 7. Correlations between department-level workforce shortages and managerial responses (N = 70)

Department shortage	Wage increase	Automation	Migrant labour	Reduced services
Front Office	.367**	.241*	–.086	.099
Housekeeping	.184	.412**	.191	.224
Food & Beverage	.309**	.329**	.189	.154
Kitchen	.098	.211	.240*	.174
Engineering	.215	.289*	.349**	.300*

Note: compiled by the authors

Spearman’s rank correlations were used to examine associations between the five workforce pressures and four managerial response strategies. The results reveal several distinct patterns in how reported workforce pressures are associated with managerial responses.

Burnout showed the strongest positive association with wage increases ($\rho = .422, p < .001$), while low wages were also positively associated with this response ($\rho = .246, p = .040$). Lack of skills was positively associated with automation ($\rho = .337, p = .004$). Migration was positively associated with automation ($\rho = .247, p = .039$), migrant labour ($\rho = .329, p = .005$), and reduced services ($\rho = .303, p = .011$). Seasonality showed its strongest association with reduced services ($\rho = .417, p < .001$).

These findings indicate that different workforce pressures are associated with different managerial responses. Compensation adjustments are primarily associated with burnout and wage-related pressure, whereas skill shortages are associated with greater use of automation. Migration and seasonality show different response patterns, including migrant labour and service adjustment. The complete correlation results are presented in Table 8.

Table 8. Correlations between workforce pressures and managerial responses (N = 70)

Workforce pressure	Wage increase	Automation	Migrant labour	Reduced services
Low wages	.246*	.126	−.109	−.048
Migration	−.056	.247*	.329**	.303*
Seasonality	.127	.004	.134	.417**
Burnout	.422**	−.039	.112	.080
Lack of skills	.066	.337**	.194	.105

Note: compiled by the authors

The results obtained show that management measures in the hospitality business depend on the nature of personnel constraints and cannot be considered universal for all situations. More pronounced burnout and low levels of remuneration are primarily associated with the use of compensatory measures, while a shortage of qualified staff is linked to a more active use of automation. Migration processes and seasonality, in turn, are associated with the use of more flexible forms of adaptation, including the recruitment of migrants and changes in the volume of services provided.

From a business perspective, this means that the talent shortage affects not only personnel management but also operational decisions, cost structure, and technology selection. For hotels, rising wages increase staffing costs, automation requires additional investments, and a reduction in the volume of services may affect revenue and service quality. Therefore, managing the talent shortage should be considered part of the hotel's overall economic strategy, aimed at maintaining operational stability, controlling costs, and preserving service quality in a context of limited labor supply.

5 | DISCUSSION

The findings show that workforce shortages in hotel operations are unevenly distributed across departments and are associated with different managerial responses. The Friedman test confirmed significant differences in perceived shortage

severity across the five departments, with Housekeeping reporting the highest level of staffing pressure and engineering the lowest. This supports the view that hospitality workforce instability should not be treated solely as an organization-wide problem, because operational units differ in workload intensity, skill requirements, service interaction, and opportunities for technological support. These findings are consistent with research emphasizing the structural and operational nature of hospitality workforce challenges (Baum et al., 2020; Magnini et al., 2024). Recent department-level evidence similarly shows substantial staffing shortages in Housekeeping, Front Office, and Food and Beverage operations, reinforcing the need to examine hotel workforce constraints at the operational-unit level rather than only at the organizational level (Kwon, 2025).

The survey results also show that workforce instability cannot be attributed to a single pressure. Low wages and burnout received the highest mean scores, followed closely by lack of skills, while migration and seasonality were less prominent. This pattern is consistent with the Job Demands–Resources perspective, according to which sustained job demands can contribute to exhaustion when sufficient organizational resources are unavailable (Bakker & Demerouti, 2007). In labour-intensive hospitality environments, staffing shortages may therefore create a reinforcing cycle in which increased workload contributes to burnout and further undermines workforce stability (Karatepe, 2013; Karatepe et al., 2021). Recent empirical evidence similarly identifies low pay, demanding working conditions, and limited career opportunities as important drivers of employee turnover in labour-intensive hospitality operations (Ntwakumba & Nyathela-Sunday, 2026). Recent hospitality research further shows that burnout is associated with stronger intentions to leave, while job and career satisfaction contribute to organizational commitment and retention, supporting the need to address workforce instability through broader employment conditions rather than compensation alone (Holmes et al., 2025).

Managerial responses also differed in their reported frequency. Wage increases were the most frequently used strategy, whereas automation showed moderate use and migrant labour and service reduction were less frequent. More importantly, the correlation analysis indicates that these responses are associated with specific workforce pressures rather than being uniformly applied. Burnout showed the strongest association with wage increases ($\rho = .422$, $p < .001$), while low wages were also positively associated with compensation adjustments. These findings suggest that managers may use compensation not only in response to wage competitiveness but also when broader workforce strain becomes more pronounced. However, compensation alone may provide only a partial response when staffing instability is also related to workload, exhaustion, and skill availability (Magnini et al., 2024).

A different pattern emerged for technology. Lack of skills was positively associated with automation ($\rho = .337$, $p = .004$), while department-level analysis showed that Housekeeping shortage severity had the strongest association with automation ($\rho = .412$, $p < .001$). Food and Beverage, Front Office, and Engineering shortages also showed positive associations with automation. These results

suggest that digital tools may be used selectively where staffing constraints create opportunities for technological support rather than as a universal substitute for labour. This interpretation is consistent with research suggesting that technology can complement constrained labour supply while the need for human skills and service interaction remains important (Yeoman & McMahon-Beattie, 2026).

The qualitative evidence provides additional context for this pattern. One general manager explained that “AI is introduced as a response to rising costs and staff shortages, especially in repetitive and time-sensitive processes” (E3). This observation suggests that technological adoption may be motivated by immediate operational pressures as well as longer-term innovation objectives. At the same time, managers emphasized that implementation can generate employee uncertainty. As one participant noted, “The initial reaction among employees was characterized by significant apprehension and fear, especially regarding job security” (E4). Such concerns are consistent with research showing that technological change can create job insecurity and uncertainty among hospitality employees (Vrontis et al., 2022; Chen & Cai, 2025).

Migration and seasonality showed another distinctive response pattern. Migration was positively associated with migrant labour, automation, and reduced services, while seasonality showed its strongest association with reduced services ($\rho = .417$, $p < .001$). These findings indicate that managers may adjust workforce and service configurations differently depending on the source of operational pressure. Rather than supporting a single preferred response to workforce shortages, the results point toward a portfolio of managerial strategies shaped by specific staffing conditions.

From an economic perspective, the identified relationships show that the staff shortage is directly linked to the choice of the resource utilization model for a hotel enterprise. Increasing wages increases current personnel costs, automation requires investment expenditures, and a reduction in the volume of services can affect revenue, so personnel decisions should be considered part of an overall strategy for managing costs and ensuring operational stability.

The interviews further suggest that the effectiveness of these strategies depends on how they are implemented. Several managers emphasized gradual implementation and communication when introducing technological change. One manager stated, “We deliberately plan a gradual, phased introduction of technology to avoid major disruptions” (E5). Another observed that “Technology has significantly eased daily workload, and staff have adapted quickly to these tools” (E6). Together, these accounts suggest that technology may become more acceptable when employees experience practical workload benefits and when implementation is managed progressively rather than imposed abruptly.

The qualitative findings also reinforce the continuing importance of human service delivery. As one manager explained, “Success depends on finding the right balance between technology and the human touch” (E4). This is particularly relevant in hospitality, where efficiency gains must coexist with interpersonal service expectations. Technology should therefore be understood as one component of

workforce adaptation rather than as a complete replacement for human labour.

Overall, the combined findings extend existing hospitality workforce research in two ways. First, they demonstrate that workforce pressure differs significantly across operational departments, supporting a more granular approach than organization-level assessments alone. Second, they show that specific workforce pressures are associated with different managerial responses. Compensation, automation, migrant labour, and service adjustment therefore appear to perform different roles depending on the operational problem managers face. The integration of survey and interview evidence suggests that effective workforce management requires a context-sensitive combination of financial, technological, and human-resource responses rather than reliance on a single intervention.

6 | CONCLUSION

This study examined workforce shortages and managerial responses in hotel operations from a department-level mixed-methods perspective. The findings demonstrate that workforce pressure is not uniformly distributed across hotel departments, with Housekeeping reporting the highest perceived shortage severity and Engineering the lowest. Low wages, burnout, and lack of skills emerged as the most prominent workforce pressures, while wage increases were the most frequently reported managerial response.

Beyond these descriptive patterns, the study shows that specific workforce pressures are associated with different managerial responses. Burnout and low-wage pressure were associated with compensation adjustments, skill shortages with automation, migration with several adaptive responses, and seasonality particularly with service reduction. Department-level correlations further demonstrate that the relationship between staffing pressure and managerial action varies across operational areas.

By combining quantitative evidence from hotel respondents in Kazakhstan with qualitative insights from senior managers in multiple international hospitality contexts, the study contributes to a more differentiated understanding of workforce management in hospitality. The findings indicate that workforce shortages should not be treated as a uniform organizational problem, as different departments face different staffing pressures and may require different combinations of managerial responses.

Compensation remains an important managerial instrument, particularly because wage increases were the most frequently reported response and were positively associated with both burnout and low-wage pressure. However, compensation alone is unlikely to provide a comprehensive response when workforce instability is also related to workload, employee well-being, and skill shortages.

Technology also appears to have a targeted role. The association between skill shortages and automation, together with department-level associations between automation and shortages in several operational areas, suggests that digital tools may be most useful when applied to specific processes where they can reduce repetitive workload or support constrained skill availability. At the same time, tech-

nological solutions should complement rather than replace the human element of hospitality service.

Finally, migration and seasonality require different managerial responses. The associations between migration and migrant labour, and between seasonality and reduced services, indicate that workforce strategies should reflect the source of staffing pressure. Overall, effective workforce management requires a flexible combination of compensation, workforce development, recruitment, technological support, and operational adaptation tailored to department-specific conditions.

7 | LIMITATIONS AND FUTURE RESEARCH

Several limitations should be considered when interpreting the findings. First, quantitative analysis is based on managerial perceptions rather than objective operational or financial indicators and may therefore be affected by perceptual bias. Second, cross-sectional design identifies associations but does not establish causal relationships between workforce pressures and managerial responses.

Third, the survey sample comprised 70 respondents from hotels in Kazakhstan and was obtained through purposive sampling. The findings should therefore be interpreted as exploratory patterns rather than nationally representative estimates. In addition, the questionnaire was developed specifically for this study and was not subjected to a separate formal pilot study prior to the main survey. The seven interviews broaden the contextual perspective by including senior managers from several international hospitality settings, but the qualitative sample remains limited and was intended primarily to support interpretation of the survey findings.

Future research could examine these relationships using larger and more diverse samples across countries and hotel segments. Longitudinal designs could determine whether workforce pressures and managerial responses change over time, while objective indicators such as turnover, vacancy duration, labour costs, absenteeism, and service performance could complement managerial perceptions. Future studies could also examine whether hotel category, organizational size, and department characteristics moderate the relationships identified in this study.

Finally, further research should examine how artificial intelligence and automation reshape workforce responses, particularly whether technological support reduces workload and skill constraints or creates new challenges related to employee acceptance, job insecurity, and human–technology collaboration. Recent hospitality research suggests that AI may affect employee well-being while also generating job insecurity and technostress, reinforcing the need to examine both the potential benefits and risks of technological change (Sharif et al., 2025).

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