

## **The moderating effect of digital transformation on the influence of job satisfaction of frontline hotel staff on employee engagement**

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**Abstract** The rapid transformation of the global business landscape has highlighted the vital role of employee engagement in achieving organizational success, particularly in the hotel industry characterized by fierce competition and rapidly evolving customer expectations. This study explores the dynamic mechanism by which job satisfaction of frontline hotel employees influences their engagement levels, while deeply analyzing the moderating effect of digital transformation on this relationship. Data were collected through questionnaire surveys from 700 frontline employees at Jinjiang hotels, yielding 600 valid questionnaires with an effective response rate of 85%. The data analysis employed descriptive statistics, reliability and validity analysis, correlation analysis, and regression analysis. Results indicate that job satisfaction is significantly positively correlated with employee engagement ( $r = 0.729$ ,  $P < 0.01$ ), while digital transformation similarly exhibits a significant positive correlation with employee engagement ( $r = 0.753$ ,  $P < 0.01$ ). Regression analysis further reveals that job satisfaction has a significant positive effect on employee engagement (coefficient

= 0.836,  $P < 0.001$ ), and digital transformation also positively impacts employee engagement (coefficient = 0.804,  $P < 0.001$ ). More importantly, interaction term analysis demonstrates that digital transformation positively moderates the relationship between job satisfaction and employee engagement (coefficient = 0.078,  $P < 0.001$ ), indicating that digital transformation enhances the positive influence of job satisfaction on employee engagement. This study enriches related research by incorporating digital transformation as a moderating variable in the analytical framework, providing new perspectives for hotel management practice. Limitations include the cross-sectional design's inability to establish causality, while future research could adopt longitudinal designs and explore the differential impacts of various types of digital technologies.

**Keywords:** • Job Satisfaction • Employee Engagement • Digital Technology Transconformation • Questionnaire Survey • Hotel Frontline Employees.

## 1 INTRODUCTION

In today's era of digital disruption, the hospitality industry faces unprecedented challenges and opportunities that fundamentally reshape operational paradigms and employee dynamics. Hotels worldwide increasingly leverage digital technologies to enhance guest experiences, streamline operations, and respond to intensifying market competition [1]. Within this rapidly evolving landscape, frontline employee engagement emerges as a critical determinant of service quality, customer satisfaction, and organizational performance. Research indicates that engaged hotel employees demonstrate higher productivity and profitability while generating superior customer satisfaction ratings [2]. Despite these benefits, the hospitality sector continues to struggle with employee engagement challenges, recording engagement rates lower than cross-industry averages [3].

The study focuses on frontline hotel employees who interact directly with guests, significantly influencing overall customer experience. The primary elements under scrutiny encompass job satisfaction, digital technology progression, and their combined impact on employee engagement. Modern hotels are progressively adopting digital solutions to enhance operational efficiency and customer service [4]. Consequently, it's vital to explore how these technological advancements affect employee engagement, particularly concerning job satisfaction.

Despite extensive literature examining the relationship between job satisfaction and employee engagement in traditional environments, a significant research gap

exists regarding how this relationship functions within digitally transforming hospitality contexts. The moderating role of digital transformation in potentially amplifying or altering the effectiveness of established engagement drivers remains largely unexplored [5]. This oversight represents a critical blind spot in current hospitality management literature, as hotels invest substantially in digital transformation initiatives without adequate understanding of how these investments influence employee psychological mechanisms.

This study contributes to hospitality management literature by providing empirical evidence from the Chinese hotel context regarding the relationship between job satisfaction and employee engagement. It offers a nuanced understanding of digital transformation's direct influence on employee engagement. The research introduces and tests a theoretical model positioning digital transformation as a moderating variable that potentially transforms the effectiveness of traditional employee engagement strategies.

This research addresses how job satisfaction influences frontline hotel employee engagement, explores the direct impact of digital transformation on employee engagement levels, and investigates whether digital transformation moderates the relationship between job satisfaction and employee engagement. The following literature review systematically examines theoretical foundations and empirical evidence regarding these constructs, establishing the basis for the study's hypothesized relationships and research methodology.

## **2 LITERATURE REVIEW**

### **2.1 Job Satisfaction**

Job satisfaction represents a multifaceted concept encompassing a worker's comprehensive view of their employment. Judge et al. [6] define it as feelings of happiness derived from work experiences, involving various factors including core job aspects, compensation, advancement opportunities, supervision, and colleague relationships. Dreer [7] further characterizes job satisfaction as the collective result of an employee's psychological, emotional, and behavioral responses to their work environment, highlighting its significance in organizational behavior research.

Assessment instruments typically examine multiple facets of job satisfaction. Hunter [8] developed the Job Descriptive Index evaluating job status, remuneration, career progression, supervision, and peer relationships, while Bhagwandeem [9] created the Minnesota Satisfaction Questionnaire addressing both internal and external satisfaction aspects. Karaferis et al. [10] developed the

Job Satisfaction Survey, which comprehensively examines workplace factors including physical comfort, resource adequacy, communication efficiency, and digital technology integration.

Research consistently demonstrates job satisfaction's impact on organizational outcomes. Wahyono and Riyanto [11] identified significant connections between satisfaction and work efficiency, organizational commitment, and turnover intentions. Casu et al. [12] observed correlations between job satisfaction and reduced absenteeism, decreased turnover, improved productivity, and enhanced organizational citizenship behaviors. In the hospitality context specifically, Kurdi et al.[13] found that satisfied employees deliver superior customer service, enhancing guest satisfaction and loyalty.

Critical examination reveals methodological limitations in job satisfaction research. Most studies rely heavily on self-reported measures that may not fully capture the complexity of employee experiences. Cross-sectional designs predominate in the literature, limiting understanding of how satisfaction develops and changes over time. Measurement approaches vary significantly across studies, from single-item global measures to multi-dimensional scales, creating challenges when comparing results across different hospitality contexts. Additionally, Western-developed instruments often require adaptation when applied in Eastern contexts, as collectivist cultural values may influence how employees conceptualize and express job satisfaction in hotel settings.

## **2.2 Digital Technology Transconformation**

Digital transformation involves comprehensive integration of technologies across business operations, fundamentally changing operational systems and customer value delivery. This encompasses cloud computing, artificial intelligence, big data analytics, and IoT applications. Primary objectives include operational efficiency enhancement, customer experience improvement, and innovative business model creation.

Nwankpa [14] emphasizes that effective digital transformation requires both technology adoption and organizational culture shifts. The argument posits that organizations must foster environments encouraging experimentation, agility, and learning from failure. Choudhury [15] further highlights the necessity of strategic alignment between technology application and employee engagement, proposing that organizations must integrate technologies in ways that align with strategic goals while ensuring employees are adequately trained and supportive of these initiatives.

Empirical research supports systematic approaches to digital transformation assessment. Djavanshir [16] found that organizations adept at incorporating digital

technologies experience notable improvements in operational effectiveness and client satisfaction. Philip [17] determined that transformation effectiveness depends significantly on employee attitudes and technology adoption readiness. Organizations with robust digital environments promoting innovation and experimentation achieve greater transformation success. This underscores the importance of comprehensive assessment approaches that evaluate both technical implementation and organizational cultural readiness.

The research on digital transformation presents unique methodological challenges. Most studies employ qualitative case methods that, while offering deep insights, lack broader applicability. There is a notable divergence in the research methodologies used between larger and smaller enterprises. While larger hotel chains utilise more complex techniques, smaller organisations seem to prefer descriptive approaches. Furthermore, most designs suffer from a static capture issue, as transformation is based on singular snapshots rather than dynamic processes, hindering insights into the developmental and mature stages of digital initiatives within hospitality organisations.

### **2.3 Employee Engagement**

Employee engagement represents a worker's emotional and psychological dedication toward their organization and its objectives. Nicholas [18] characterizes engagement as the integration of organizational members' identities into their occupational responsibilities, where individuals express their physical, mental, and emotional identities in their roles. This highlights engagement's complex nature, encompassing both physical effort and psychological dedication.

Contemporary research supports categorizing engagement into distinct dimensions. Gwamanda et al. [19] identify three principal components through Utrecht Work Engagement Scale analysis: vigor, dedication, and absorption. These components represent the engagement spectrum from enthusiasm to task focus. Pincus [20] contends engagement evaluation should address multiple facets: state involvement (energy emotions), behavioral involvement (proactive actions), and trait involvement (conscientiousness attributes). This multidimensional approach provides comprehensive insights into employee-workplace interactions.

Research consistently demonstrates engagement's organizational impact. Ghlichlee and Bayat [21] revealed significant correlations between engagement and key business outcomes including customer satisfaction, productivity, and profitability. Talebzadeh and Karatepe [22] found consistent relationships between heightened engagement, enhanced performance, and reduced turnover across various sectors. Nagori [23] reported that organizations with significant engagement levels experience 21% productivity increases and 22% profit growth

compared to low-engagement counterparts, providing compelling evidence for investment in engagement-enhancing strategies.

Engagement research exhibits methodological diversity but significant limitations. Quantitative approaches with self-report surveys predominate, potentially introducing measurement biases. Operationalization varies considerably, with some researchers adopting unidimensional approaches while others employ multi-dimensional frameworks. Cultural considerations affect measurement validity, with Western-developed scales potentially functioning differently in Asian contexts. Additionally, longitudinal designs remain scarce, limiting understanding of how engagement develops and fluctuates over time in response to organizational changes.

## **2.4 The Synergy Between Variables and Research Gaps**

Research indicates strong relationships between job satisfaction, digital transformation, and employee engagement. Delina [24] found significant correlations between job satisfaction and engagement, with satisfied employees demonstrating greater vigor, dedication, and workplace involvement. Elayan et al. [25] highlighted satisfaction's role in creating positive workplace atmospheres that enhance employee enthusiasm and engagement.

Digital technology significantly influences both satisfaction and engagement. Oyekunle and Boohene [26] found successful digital transformation enhances satisfaction by simplifying processes and introducing efficient work tools. Implementation quality and employee involvement in change processes significantly determine transformation success. Hooi and Chan [5] showed that firms successfully integrating digital technologies and fostering a supportive digital setting tend to have higher levels of employee engagement. Martínez-Caro et al. [4] emphasize the significance of effectively adopting digital technologies to enhance job satisfaction and participation, thus boosting organizational productivity.

Despite substantial literature on these variables individually, critical research gaps exist. Most studies employ single-level analyses, neglecting the nested nature of hospitality organizations. Research predominantly focuses on large hotel chains, with limited attention to smaller operations. Measurement inconsistencies across job satisfaction instruments, engagement measures, and digital transformation operationalizations limit cross-study comparisons.

Most significantly, while studies have examined bivariate relationships between these variables, research has neglected their potential interactive effects. The moderating role of digital transformation on the established satisfaction-engagement relationship remains unexplored in hospitality contexts. This

knowledge gap is particularly critical given the hotel industry's rapid digitalization and the need to understand how traditional engagement drivers function in transformed environments.

This study addresses these limitations by examining how digital transformation shapes the satisfaction-engagement relationship among Chinese frontline hotel staff. This approach extends beyond direct relationships explored in previous research and offers practical implications for managing engagement in increasingly digitalized hospitality environments.

## **2.5 Research Questions and Hypotheses**

Based on the identified research gaps and theoretical foundations, this study addresses the following research questions:

Q1: In what ways does the job contentment of hotel staff on the front lines affect their engagement?

Q2: What impact does digital change have on the involvement of employees in hotels?

Q3: What role does digital transformation play in bridging the gap between job satisfaction and engagement in frontline hotel workers?

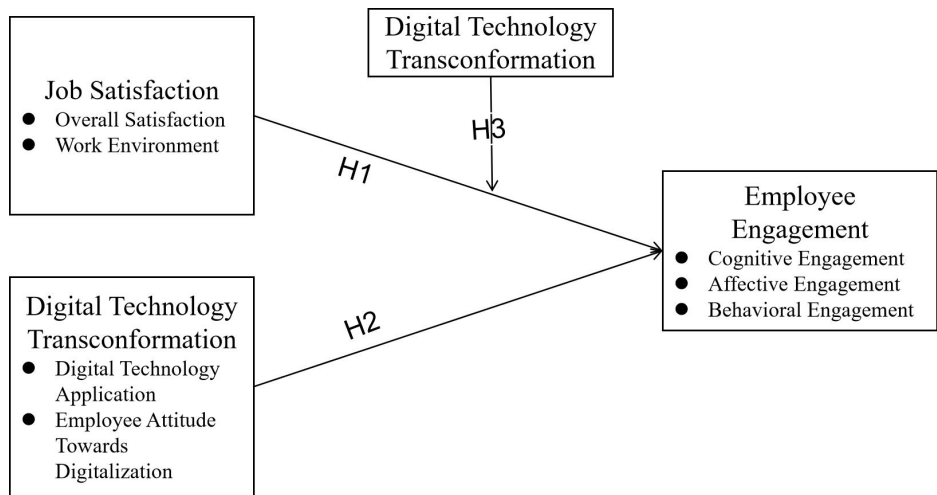
According to these research questions, three hypotheses are proposed:

Hypothesis 1 (H1): The job contentment of hotel staff on the front lines markedly and beneficially influences their engagement.

Hypothesis 2 (H2): The shift towards digitalization in hotel settings markedly and beneficially impacts staff involvement.

Hypothesis 3 (H3): The shift towards digitalization in hotel settings alters the dynamics between employee contentment and involvement in frontline hotel roles.

Based on the literature review and proposed hypotheses, this study develops a conceptual framework that illustrates the relationships among the key variables. Figure 1 depicts the theoretical model examining how job satisfaction and digital technology transformation influence employee engagement, as well as the moderating effect of digital transformation on the satisfaction-engagement relationship.



**Figure 1:** Research Conceptual Framework

Figure 1 presents the conceptual framework of this study, illustrating the hypothesized relationships among job satisfaction, digital technology transformation, and employee engagement. Job satisfaction comprises two dimensions: Overall Satisfaction and Work Environment; employee engagement consists of three dimensions: Cognitive Engagement, Affective Engagement, and Behavioral Engagement; while digital technology transformation includes Digital Technology Application and Employee Attitude Towards Digitalization. The framework depicts three hypothesized relationships. H1 represents the direct positive impact of job satisfaction on employee engagement, H2 indicates the direct positive influence of digital technology transformation on employee engagement. Notably, H3 demonstrates the moderating effect of digital technology transformation on the relationship between job satisfaction and employee engagement, suggesting that the strength of this relationship may vary across different levels of digital transformation. This conceptual framework guides the empirical investigation into how these variables interact in the context of frontline hotel staff.

### 3 RESEARCH METHODOLOGY

#### 3.1 Research Design

This study employs a quantitative cross-sectional survey design to assess the interconnections between job satisfaction, digital transformation, and employee



engagement with respect to frontline hotel workers. This method allows for the exploration of multidimensional and complex relationships among variables using statistical techniques. Because of the refined relationships between constructs to be measured, a quantitative approach was preferred as it enabled the collection of uniform data from large samples that could yield valid statistical results, in addition to the claimed generalisability of results across the hospitality industry.

### **3.2 Sample and Data Collection**

The focus is on frontline staff working in Jinjiang hotels in China. Frontline staff include fit guest interacting roles such as reception, housekeeping, and other functions categorised as servicing or assisting positions necessary for meeting operational efficiency and customer satisfaction. A stratified random sampling method was applied to obtain adequate representation from various hotel properties and departments.

Sample size determination was carried out with attention to the statistical power of medium effect sizes for regression analysis. For a period of one month, data were collected and 700 questionnaires were handed out. Upon receiving 600 responses, 100 were disregarded due to being incomplete or invalid, resulting in an 85% effectiveness rate. With this response rate, the hospitality industry standard is assumed to be met and is high enough to enable the detection of any relationship for statistically significant results.

### **3.3 Measurement Instrument**

The survey instrument was developed based on comprehensive literature review and adapted from established scales to ensure content validity. All items utilized a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Job Satisfaction was measured using a 10-item scale comprising two dimensions: Overall Satisfaction (5 items) and Work Environment (5 items). KMO sampling adequacy value of 0.842 and Bartlett's test ( $\chi^2 = 3275.590$ ,  $df = 45$ ,  $P < 0.001$ ) confirmed the scale's suitability for factor analysis.

Digital Technology Transformation was assessed using a 10-item scale divided into two dimensions: Digital Technology Application (5 items) and Employee Attitude Towards Digitalization (5 items). The scale's psychometric properties were verified through KMO (0.856) and Bartlett's test ( $\chi^2 = 3901.986$ ,  $df = 45$ ,  $P < 0.001$ ).

Employee Engagement was measured using a 15-item scale encompassing three dimensions: Cognitive Engagement, Affective Engagement, and Behavioral Engagement. The scale demonstrated excellent psychometric properties with KMO value of 0.903 and Bartlett's test results ( $\chi^2 = 7366.969$ ,  $df = 105$ ,  $P < 0.001$ ).

3.4 Data Analysis

A systematic analysis was adopted to explore the research hypotheses. The analysis process started with calculating the descriptive statistics for the sample in order to outline the demographic profile and flag possible distributions of the primary variables. The reliability and validity of the measurement model were evaluated through factor analysis, KMO and Bartlett tests to check sampling adequacy and data suitability, among others.

Preliminary insights into hypothesised relationships were obtained through correlation analysis regarding job satisfaction, digital transformation, and employee engagement. They were used to analyse bivariate relationships within the constructs. For hypothesis verification, hierarchical regression analysis was primarily employed. This analysis allowed for the determination of direct relationships between the constructs which were employee engagement and job satisfaction (H1), digital transformation and employee engagement (H2) and the moderating role of digital transformation on the relationship between job satisfaction and employee engagement (H3). The moderation effect was assessed by adding an interaction term of Job Satisfaction and Digital Transformation to the regression equation. This was done in order to test the claim that Job Satisfaction moderates the effect of Digital Transformation on employee engagement. This set of analysis simultaneously enabled evaluating the bounded scope of the theoretical framework and research hypotheses.

4 ANALYSIS RESULT

This chapter presents a detailed examination of the research results. The first section provides a comprehensive statistical analysis of the variables employed in the study. The second section explores the empirical findings derived from the regression analysis of various hypothesis tests. Finally, an overview of all hypothesis tests is furnished.

4.1 Descriptive Statistics and Sample Characteristics

Table1: Analysis of Subject's Personal Information

Variable	Classify	Frequency	Percent(%)
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Gender	male	311	51.8
	female	289	48.2
	total	600	100
Marital Status	Single	92	15.3
	Married	245	40.8
	Divorced	185	30.8
	Widowed	78	13
	total	600	100
Age	Under 20	204	34
	20 - 40	248	41.3
	41- 60	148	24.7
	total	600	100
Educational Level	Bachelor degree and below	130	21.7
	Undergraduate course	419	69.8
	Undergraduate course or above	51	8.5
	total	600	100

Note: \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$

Table 1 presents a detailed analysis of participants' demographic characteristics, examining variations in gender, marital status, age, and educational attainment. The gender composition in the sample is relatively balanced, comprising 311 males (51.8%) and 289 females (48.2%), totaling 600 participants (100%). This balanced gender ratio suggests a gender-representative distribution, minimizing potential gender bias in the findings.

Significant variations in marital status were observed among participants, including 92 singles (15.3%), 245 married individuals (40.8%), 185 divorced persons (30.8%), and 78 widowed individuals (13%), collectively totaling 600 participants (100%). The substantial proportion of married respondents (40.8%) indicates that family dynamics may significantly influence their perspectives on job satisfaction and engagement.

Age distribution analysis reveals that the predominant age bracket includes individuals between 20 and 40 years (248 participants, 41.3%), followed by those under 20 years (204 participants, 34%), and finally, the 41 to 60 year age bracket (148 participants, 24.7%). The substantial representation of younger age groups suggests that a considerable segment of the sample may be more adaptable to digital transformation and contemporary workplace dynamics.

Regarding educational attainment, most participants possess an undergraduate degree (419 individuals, 69.8%), while 130 individuals (21.7%) hold a bachelor degree or below, and 51 individuals (8.5%) have qualifications above undergraduate level. The relatively high educational level observed in the sample may influence their job satisfaction perceptions and receptiveness to digital advancements in the workplace.

4.2 Preliminary Analysis

**Table 2:** Correlation among Job Satisfaction, Digital Technology Transconformation and Employee Engagement

Variable	Job Satisfaction	Digital Technology Transconformation	Employee Engagement
Job Satisfaction	1		
Digital Technology Transconformation	0.695**	1	
Employee Engagement	0.729**	0.753**	1

Note: \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$

All measurement scales demonstrated adequate reliability with Cronbach's alpha values exceeding the recommended threshold of 0.70. The Kaiser-Meyer-Olkin (KMO) measures and Bartlett's tests further confirmed the data's suitability for factor analysis across all constructs. Table 2 illustrates the correlation analysis among job satisfaction, digital technology transformation, and employee engagement. The study reveals a robust positive relationship between job satisfaction, digital technology transformation, and employee engagement levels. Specifically, a significant association exists between job satisfaction and employee engagement ( $r = 0.729$ ,  $P < 0.01$ ), suggesting that job satisfaction frequently leads to higher employee engagement. Additionally, a notable relationship exists between digital technology transformation and employee engagement ( $r = 0.753$ ,  $P < 0.01$ ), indicating that embracing digital technologies enhances employee engagement through improved work processes and productivity. Furthermore, a significant positive relationship exists between job satisfaction and digital technology transformation ( $r = 0.695$ ,  $P < 0.01$ ), suggesting that employees satisfied with their roles tend to perceive digital changes more favorably. Collectively, these results emphasize that enhancing job satisfaction and adopting digital technology can mutually reinforce one another, resulting in increased employee engagement.

4.3 Hypothesis Testing

### 4.3.1 The Effect of Job Satisfaction on Employee Engagement (H1)

**Table 3:** Regression analysis of Job Satisfaction on Employee Engagement

	Model 1-1	Model 1-2
Job Satisfaction	0.836*** (0.032)	
Overall Satisfaction		0.439** (0.036)
Work Environment		0.397*** (0.036)
Constant	0.705 (0.123)	0.705 (0.123)
R-Squared	0.729	0.729

Note: \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$

Table 3 presents the regression analysis examining the influence of job satisfaction on employee engagement. Model 1-1 identifies job satisfaction as the predictor variable, demonstrating a coefficient of 0.836 (SE = 0.032,  $P < 0.001$ ). This suggests that job satisfaction significantly and positively influences employee engagement. With an R-Squared value of 0.729, it is inferred that job satisfaction accounts for 72.9% of the variance in employee engagement within this model. Model 1-2 incorporates Overall Satisfaction and Work Environment as predictor variables. Overall Satisfaction demonstrates a coefficient of 0.439 (SE = 0.036,  $P < 0.01$ ), compared to Work Environment's coefficient of 0.397 (SE = 0.036,  $P < 0.001$ ). With an  $R^2 = 0.729$ , this indicates that incorporating these dimensions does not alter the explained variance in employee engagement.

The analysis indicates that job satisfaction levels significantly predict employee engagement, demonstrating a strong positive effect. When examining the dimensions, both Overall Satisfaction and Work Environment play crucial roles in job satisfaction, significantly impacting employee engagement. The high R-Squared value suggests that these factors collectively contribute substantially to the variance in employee engagement, highlighting the importance of a satisfying work environment in enhancing employee involvement.

### 4.3.2 The Effect of Digital Technology Transformation on Employee Engagement (H2)

**Table 4:** Regression analysis of Digital Technology Transconformation on Employee Engagement

	Model 2-1	Model 2-2
Digital Technology Transconformation	0.804*** (0.029)	

Digital Technology		0.164***
Application		(0.022)
Employee Attitude Towards		0.705***
Digitalization		(0.027)
Constant	0.914***	0.558***
	(0.107)	(0.099)
R-Squared	0.753	0.831

Note: \* P < 0.05, \*\* P < 0.01, \*\*\* P < 0.001

Table 4 presents the regression analysis focusing on the impact of digital technology transformation on employee engagement. Model 2-1 identifies Digital Technology Transformation as the predictor variable, demonstrating a coefficient of 0.804 (SE = 0.029, P < 0.001). This indicates that digital technology transformation significantly and positively influences employee engagement. With an R<sup>2</sup> = 0.753, digital technology transformation appears to explain 75.3% of the variance in employee engagement within this framework.

Model 2-2 incorporates Digital Technology Application and Employee Attitude Towards Digitalization as key predictor variables. Digital Technology Application shows a coefficient of 0.164 (SE = 0.022, P < 0.001), compared to Employee Attitude Towards Digitalization's coefficient of 0.705 (SE = 0.027, P < 0.001). The R<sup>2</sup> = 0.831, indicating that incorporating these additional variables explains 83.1% of the variance in employee engagement.

The findings indicate that digital technology advancement significantly enhances employee engagement, demonstrating a strong positive effect as illustrated in Model 2-1. When examining the dimensions of digital technology transformation in Model 2-2, both Digital Technology Application and Employee Attitude Towards Digitalization significantly contribute to enhanced employee engagement, as indicated by coefficients of 0.164 and 0.705, respectively. The increase in the R-Squared value from 0.753 to 0.831 suggests that these factors collectively provide a more comprehensive explanation of the variance in employee engagement, highlighting the importance of both practical application and employee perspectives on digital transformation in enhancing engagement.

4.3.3 The Moderating Effect of Digital Technology Transformation (H3)

**Table 5:** Regression results on the regulateing role of Digital Technology Transconformation

	Model 3-1	Model 3-2
Job Satisfaction	0.836***	0.727***
	(0.032)	(0.123)
Digital Technology		0.795***
Transconformation		(0.128)
Digital Technology		0.078***

Transconformation*Job Satisfaction		(0.033)
Constant	0.705	-0.682
	(0.123)	(0.429)
R-Squared	0.729	0.808

Note: \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$

Table 5 presents the regression findings investigating how digital technology transformation moderates the relationship between job satisfaction and employee engagement. Model 3-1 identifies job satisfaction as a key determinant of employee engagement, with a coefficient of 0.836 ( $P < 0.001$ ), suggesting that job satisfaction significantly enhances employee engagement. With a constant of 0.705 and an R-Squared value of 0.729, this indicates that job satisfaction accounts for 72.9% of the variance in employee engagement.

Model 3-2 incorporates digital technology transformation and its interaction with job satisfaction. Job satisfaction remains a significant predictor, with a coefficient of 0.727 ( $P < 0.001$ ). Digital technology transformation significantly enhances employee engagement, with a coefficient of 0.795 ( $P < 0.001$ ). Notably, the interaction term (Digital Technology Transformation  $\times$  Job Satisfaction) is significant, with a coefficient of 0.078 ( $P < 0.001$ ), suggesting that digital technology transformation amplifies the positive effect of job satisfaction on employee engagement. The R-Squared value increases to 0.808, indicating that 80.8% of the variance in employee engagement is accounted for by job satisfaction, digital technology transformation, and their interaction.

The study indicates that digital technology transformation not only enhances employee engagement but also intensifies the positive impact of job satisfaction on engagement. The substantial increase in the R-Squared metric from 0.729 to 0.808 highlights the crucial role of digital technology transformation in both directly boosting and moderating the relationship between job satisfaction and employee engagement. Organizations should focus on enhancing job satisfaction and implementing digital transformation strategies to boost employee engagement and optimize organizational effectiveness.

#### 4.4 Summary of Hypothesis Testing

**Table 6:** Summarized Outcomes from Testing Hypotheses

Investigative Theory	Is validated?
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H1:Job satisfaction of frontline hotel employees significantly and positively impacts their level of engagement.	YES
H2:Digital transformation in hotels significantly and positively affects employee engagement.	YES
H3:Digital transformation in hotels moderates the relationship between job satisfaction and engagement among frontline hotel employees.	YES

The results of hypothesis testing, as outlined in Table 6, robustly support the proposed relationships among job satisfaction, digital transformation, and employee engagement.

The study confirms that job satisfaction significantly enhances employee engagement, evidenced by a strong coefficient (0.836) and a significant p-value ( $P < 0.001$ ). This suggests that increased job satisfaction leads to greater engagement among frontline hotel employees. Satisfied employees tend to demonstrate greater motivation, dedication, and engagement in their tasks, aligning with current research on employee involvement.

Regression analysis supports the hypothesis regarding the significant positive effect of digital technology transformation on employee engagement. The strong coefficient (0.804) coupled with a significant R-Squared value (0.753) indicates that digital transformation efforts enhance employee engagement through improved work processes and efficiency. Deeper analysis of Model 2-2 reveals that both digital technology application and employees' favorable attitudes toward digitalization play major roles in fostering engagement.

The regression analysis reveals that digital technology transformation moderates the relationship between job satisfaction and employee engagement. The inclusion of the interaction term (Digital Technology Transformation  $\times$  Job Satisfaction) in Model 3-2, evidenced by a significant coefficient (0.078,  $P < 0.001$ ) and an increase in the R-Squared value from 0.729 to 0.808, validates this moderating influence. This suggests that the positive effects of job satisfaction on engagement are intensified by digital transformation, implying that the benefits of job satisfaction are amplified with the effective implementation of digital technologies.

Results from the hypothesis testing corroborate all three hypotheses, revealing the substantial beneficial effects of job satisfaction and digital transformation on employee engagement. Furthermore, digital transformation moderates the relationship between job satisfaction and engagement, thereby amplifying its beneficial impacts. The findings highlight the importance of enhancing job satisfaction and embracing digital advancements to boost employee engagement and overall organizational success.



## 5 DISCUSSION

The results of this study corroborate other works with regard to the impact of job satisfaction in the context of the transformation of digital technologies and employee engagement. The very high positive correlations among these components reinforce the need to improve employee satisfaction and digital transformation to raise engagement levels.

The findings confirm that job satisfaction significantly enhances employee engagement, demonstrating that content employees tend to be more dedicated, motivated, and efficient. These results align with Delina's [24] research, which found a notable correlation between job satisfaction levels and employee engagement. According to Turner [2], satisfied employees often exhibit increased vigor, dedication, and involvement in their responsibilities—key components of engagement. The research strengthens the concept that improving job satisfaction through better work environments, recognition, and growth opportunities can result in increased employee involvement.

The findings also confirm that the advancement of digital technologies significantly increases employee engagement. The use of digital tools and technologies improves the efficiency of the business and its communication and productivity, creating a more positive attitude towards work among employees. This aligns with Hooi and Chan's [5] study which showed that companies integrating digital technologies and supporting the development of a digital culture usually have increased employee engagement. With regards to... Digital transformation equips employees with new skills, improving the work experience, and promoting a more agile and cooperative atmosphere at work. As noted by Martínez-Caro et al. [4], the proper implementation of digital technologies increases job satisfaction and engagement with the organisation, increasing productivity.

It has been studied that changes in digital technology have moderating effects on the relationship between job satisfaction and employee engagement. The studied moderating effect suggests that digital transformation enhances the positive impact of employee satisfaction on participation in transforming organisations. To put it another way, the growing implementation of appropriate digital technologies accentuates the impact of job satisfaction on employee participation. This is consistent with Vial's [1] understanding of digital transformation as a type of change that ecosystems regard as a holistic amalgamation resulting in the reconfiguration of fundamental organisational processes and value proposition delivery. From these findings, it seems that increasing employee engagement requires enhancing job satisfaction while simultaneously pursuing digital change strategies.

These findings are particularly relevant for organisational leaders and managers. With respect to digital engagement, workforce engagement can be improved by focusing on employee satisfaction at work. Companies should aim to positively affect employees' perceptions through creating a positive organisational culture, providing career development opportunities, and recognising employees' contributions and achievements. This is in line with Borst et al. [3], where the results of the meta-analysis conducted showed that the degree of engagement of employees in an organisation correlated positively to the organisational performance. There is also enhancement in employees' engagement through the use of digital tools that improve workflow, communication, and remote work. As pointed out by Oyekunle and Boohene [26], successful digital transformations result in the simplification of steps, the reduction of tasks, and the provision of better tools for the work.

Moreover, the moderating effect of digital transformation underscores the necessity for a unified strategy. Organizations must focus not just on the individual elements of job satisfaction but also on integrating these elements with technological progress. The combined effect of job contentment and digital progress can lead to a work setting that is more vibrant, productive, and engaging, ultimately resulting in enhanced organizational performance and employee retention.

## **6 IMPLICATIONS**

### **6.1 Theoretical Implications**

This research analyses employee engagement from a novel perspective in the context of the hospitality industry. The inclusion of digital transformation as a moderating variable between job satisfaction and employee engagement broadened the analysis. This is especially valued in the modern context of hospitality where digital technologies are becoming prevalent.

The results deepen the understanding of the connection between job satisfaction and employee engagement by proving this relationship is multi-faceted. Prior literature showed engagement had direct relationships with these variables. This research reveals that both overall satisfaction and work environment dimensions contribute to engagement, thus expanding the understanding of how satisfaction impacts behaviour. This study adds to the theory of services industry digital transformations by demonstrating the functionalities of technological tools and how employees' perceptions regarding the technology impact attitude and engagement level, thus validating the framework's assumption of dual value. This framework discovery shows the strong influence of perceptions on the level of engagement adds to the understanding of human dimensions which influence the success of digital transformations. This illustrates the need to shift perspective

from technologically deterministic approaches towards socio-technical approaches which focus on human perception.

Particularly, this research contributes by confirming the moderating role of digital transformation regarding the relationship between job satisfaction and engagement, thereby proposing a new theory. With this interaction, the theory is further advanced because contextual technological elements can enhance more research-driven motivational factors. Therefore, this study integrates disparate domains of wireless network technology and hospitality industry theories—satisfaction with work theory and digital transformation theory while focusing on integration to represent today's reality of hospitality environments.

## 6.2 Practical Implications

The study results are highly applicable for hotel managers and organisations aiming to promote employee engagement within more advanced digital frameworks. The connection between job satisfaction and engagement is powerful; therefore, as a primary measure, comprehensive satisfaction-enhancing strategies should be put in place. Hotel management must improve recognition and advancement opportunities to increase overall satisfaction, as well as address the work environment satisfaction factors like resource adequacy and communication systems.

Satisfaction-enhancing initiatives must be coupled with broad-scope attitude-cultivation efforts alongside technology deployment for effective change. The findings hint at the absence of these conditions severely restricting engagement benefits, which suggests adopting a more constructive stance. Digital transformation strategies in hotels need to be more holistic, incorporating heightened training, effective communications about technology usefulness, and active employee participation in decision-making on implementation procedures. The discovered moderating effect serves as especially profound guiding evidence for meeting engagement maximisation objectives. Managers need to leverage the satisfaction-enabling and digitally enabled transformation synergy to go beyond the anticipated outcomes. For example, serving tools that digitally diminish administrative tasks while augmenting service delivery enhance both satisfaction and the transformation of hotel services to achieve greater engagement outcomes.

In the case of human resource practitioners operating in the hospitality industry, the results of the study underscore the need to modify the recruitment and training programmes to include factors determining satisfaction as well as cultivating digital skills. Work performance evaluation systems should include measures of service provisioning alongside the range of digital tools used, thereby sustaining the dual pathway to engagement. These findings can assist understaffed hotel

organisations in directing limited resources to such expenditures that cumulatively meet the fulfilment and transformation parameters. Instead of treating these as piecemeal projects, taking integrated actions will achieve the highest yield on engagement and, therefore, improved service delivery, customer satisfaction, and organisational performance in a competitive environment.

## **7 CONCLUSION**

This study focuses on the relationships among job satisfaction, the impact of digital technology transformation, and employee engagement of frontline hotel employees. It was found that job satisfaction, both in terms of fulfilment and work conditions, significantly improves employee engagement. Furthermore, digital technology transformation affects engagement positively, but largely depends on how employees perceive and accept digitalisation. Importantly, digital transformation does moderate the relationship between job satisfaction and engagement where, in more digitally advanced settings, the positive impacts of satisfaction are greatly further enhanced.

These findings contribute to theoretical understanding by integrating job satisfaction and digital transformation perspectives, while providing practical insights for hotel management. Despite limitations of cross-sectional design and focus on a single hotel chain, the study underscores the importance of addressing both human and technological dimensions in creating engaged hotel workforces. Future research could explore specific digital technologies' differential impacts and investigate cultural factors influencing these relationships, extending knowledge of how hospitality organizations can optimize employee engagement in increasingly digital environments.

## REFERENCES:

- ial, G. (2021). Understanding digital transformation: A review and a research agenda. *Managing digital transformation*, 13-66.
- urner, P., & Turner, P. (2020). What Is Employee Engagement?. *Employee Engagement in Contemporary Organizations: Maintaining High Productivity and Sustained Competitiveness*, 7-56.
- orst, R. T., Kruiyen, P. M., Lako, C. J., & de Vries, M. S. (2020). The attitudinal, behavioral, and performance outcomes of work engagement: A comparative meta-analysis across the public, semipublic, and private sector. *Review of Public Personnel Administration*, 40(4), 613-640.
- artínez-Caro, E., Cegarra-Navarro, J. G., & Alfonso-Ruiz, F. J. (2020). Digital technologies and firm performance: The role of digital organisational culture. *Technological Forecasting and Social Change*, 154, 119962.
- ooi, L. W., & Chan, A. J. (2023). Does workplace digitalization matter in linking transformational leadership and innovative culture to employee engagement?. *Journal of Organizational Change Management*, 36(2), 197-216.
- udge, T. A., Zhang, S. C., & Glerum, D. R. (2020). Job satisfaction. *Essentials of job attitudes and other workplace psychological constructs*, 207-241.
- reer, B. (2024). Teachers' well-being and job satisfaction: The important role of positive emotions in the workplace. *Educational studies*, 50(1), 61-77.
- Hunter, A. J. (2023). Correlating Leadership Styles to Job satisfaction in the US Army's Parachute Rigger Community.
- hagwandeem, T. P. (2021). Relationship between intrinsic job satisfaction, extrinsic job satisfaction, and employee turnover intentions.
- Karaferis, D., Aletras, V., & Niakas, D. (2022). Job satisfaction and associated factors in Greek public hospitals. *Acta Bio Medica: Atenei Parmensis*, 93(5).
- Wahyono, I., & Riyanto, S. (2020). Effect of organizational commitment, job stress, and job satisfaction on turnover intention. *International Journal for Innovation Education and Research*, 8(10), 286-316.
- Casu, G., Mariani, M. G., Chiesa, R., Guglielmi, D., & Gremigni, P. (2021). The role of organizational citizenship behavior and gender between job satisfaction and task performance. *International journal of environmental research and public health*, 18(18), 9499.
- Kurdi, B., Alshurideh, M., & Alnaser, A. (2020). The impact of employee satisfaction on customer satisfaction: Theoretical and empirical underpinning. *Management Science Letters*, 10(15), 3561-3570.
- Nwankpa, J. K., Roumani, Y., & Datta, P. (2022). Process innovation in the digital age of business: the role of digital business intensity and knowledge management. *Journal of Knowledge Management*, 26(5), 1319-1341.
- Choudhury, A. (2023). STRATEGIC AGILITY, HRM PRACTICES AND DIGITAL TRANSFORMATION AT WORKPLACE. *IOORJA-International Journal of Management & IT*, 21(1).
- Djavanshir, G. R. (Ed.). (2023). *Digital Strategies and Organizational Transformation* (Vol. 4). World Scientific.
- Philip, J. (2021). Viewing digital transformation through the lens of transformational leadership. *Journal of Organizational Computing and Electronic Commerce*, 31(2), 114-129.

- Nicholas, R. C. E. (2020). Leadership and Employee Engagement: The Lived Experience of Leaders in Large Public Institutions.
- Gwamanda, N., Mahembe, B., & Jano, R. (2024). The psychometric properties of the Utrecht Work Engagement Scale on a Zimbabwean population. *SA Journal of Human Resource Management*, 22, 2492.
- Pincus, J. D. (2023). Employee Engagement as Human Motivation: Implications for theory, methods, and practice. *Integrative Psychological and Behavioral Science*, 57(4), 1223-1255.
- Ghlichlee, B., & Bayat, F. (2021). Frontline employees' engagement and business performance: the mediating role of customer-oriented behaviors. *Management Research Review*, 44(2), 290-317.
- Talebzadeh, N., & Karatepe, O. M. (2020). Work social support, work engagement and their impacts on multiple performance outcomes. *International Journal of Productivity and Performance Management*, 69(6), 1227-1245.
- Nagori, R. (2022). Improving Employee Engagement in Small and Medium Enterprises. In *Small Business Management and Control of the Uncertain External Environment* (pp. 151-177). Emerald Publishing Limited.
- Delina, G. (2020). A study on the interrelationships between employee engagement, employee engagement initiatives and job satisfaction. *International Journal of Business Excellence*, 20(2), 242-268.
- Elayan, M. B., Albalawi, A. S., Shalan, H. M., AL-HOORIE, A. H., & Shamout, M. D. (2023). Perceived manager's emotional intelligence and happiness at work: The mediating role of job satisfaction and affective organizational commitment. *Organizacija*, 56(1), 18-31.
- Oyekunle, D. O. T., & Boohene, D. (2024). Digital Transformation Potential: The Role of Artificial Intelligence in Business. *International Journal of Professional Business Review*.

## Questionnaire

Dear Sir or Madam,

Grateful for your dedication to participate in this post-work questionnaire. Your responses will remain confidential, as will the format of the questionnaire, and the

The gathered data will be solely utilized to achieve the goals of the thesis. Kindly provide impartial and sincere replies to these questions. Your cooperation is greatly appreciated by us. Wishing for your continual success in your field.

Note: Please mark "√" on the corresponding option number.

### Part I: Demographic Fcators

1. Gender

☐ Male

☐ Female

2. Marital Status

☐ Single

☐ Married

☐ Divorced

☐ Widowed

3. Age

☐ Under 20

☐ 20 - 40

☐ 41- 60

4. Educational Level

☐ Bachelor degree and below

☐ Undergraduate course

☐ Undergraduate course or above

### Part 2: Measurement of Job Satisfaction

Please answer carefully and choose the option that best represents your opinion by marking with "√" on the rating scale provided. Use a scale of 5 for "Strongly Agree," 4 for "Agree," 3 for "Neutral," 2 for "Disagree," and 1 for "Strongly Disagree."

Question	S D	D	N	A	S A
1. Broadly speaking, this job has left me extremely content.	1	2	3	4	5
2. I am generally satisfied with the kind of work I do in this job.	1	2	3	4	5

Overall Satisfaction	3. My job provides me with a sense of accomplishment.	1	2	3	4	5
	4. I am satisfied with the working conditions in my job.	1	2	3	4	5
	5. I am satisfied with the growth opportunities in this job.	1	2	3	4	5
	6. The work environment is comfortable and pleasant.	1	2	3	4	5
	7.I possess every necessary resource to perform my duties efficiently.	1	2	3	4	5
Work Environment	8. Communication within the workplace is open and effective.	1	2	3	4	5
	9. The workplace culture promotes productivity.	1	2	3	4	5
	10. Applying digital technology in my work makes my job easier.	1	2	3	4	5

Part 3: Measurement of Digital Technology Transconformation

Please answer carefully and choose the option that best represents your opinion by marking with "√" on the rating scale provided. Use a scale of 5 for "Strongly Agree," 4 for "Agree," 3 for "Neutral," 2 for "Disagree," and 1 for "Strongly Disagree."

	Question	S D	D	N	A	S A
Digital Technology Application	1. The hotel bases its morning processes on digital technology.	1	2	3	4	5
	2. The hotel is changing its business processes by using digital technology.	1	2	3	4	5
	3. The hotel is transforming its business operations towards the use of digital technology.	1	2	3	4	5
	4. Digital technology has improved our work efficiency.	1	2	3	4	5
	5. Digital transformation has enhanced customer satisfaction.	1	2	3	4	5
Employee Attitude Towards Digitalization	6. I have mastered the digital tools and technologies required by the hotel.	1	2	3	4	5
	7. Applying digital technology in my work makes my job easier.	1	2	3	4	5



- |   |   |   |   |   |   |
|---|---|---|---|---|---|
|   | 1 | 2 | 3 | 4 | 5 |
| 8. The hotel provides sufficient training on learning and using digital technology.               |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 9. I believe digital technology contributes to the hotel's long-term development.                 |   |   |   |   |   |
|   | 1 | 2 | 3 | 4 | 5 |
| 10. I have a positive attitude towards the hotel fully adopting digital technology in the future. |   |   |   |   |   |

#### Part 4: Measurement of Employee Engagement

Please answer carefully and choose the option that best represents your opinion by marking with "√" on the rating scale provided. Use a scale of 5 for "Strongly Agree," 4 for "Agree," 3 for "Neutral," 2 for "Disagree," and 1 for "Strongly Disagree."

Employee Satisfaction Survey		SD	D	N	A	SA
Cognitive Engagement	My work is meaningful and valuable.	1	2	3	4	5
	I believe my work contributes to the achievement of organizational goals.	1	2	3	4	5
	I consider it my responsibility to perform well at work.	1	2	3	4	5
	My job is very motivating.	1	2	3	4	5
	I derive a sense of accomplishment from my work.	1	2	3	4	5
	I take pride in being a member of this company.	1	2	3	4	5
Affective Engagement	I hold my organization in high regard.	1	2	3	4	5
	I am willing to recommend the benefits of working here to others.	1	2	3	4	5
Behavioral Engagement	I am not likely to leave the company easily.	1	2	3	4	5
	I put a lot of effort into my job.	1	2	3	4	5
	I rarely get distracted when I work.	1	2	3	4	5

Time always flies when I'm working.	1	2	3	4	5
I often do more than what is required.	1	2	3	4	5
I tirelessly work without feeling exhausted.	1	2	3	4	5
I don't leave work until it's completed.	1	2	3	4	5