

DIGITAL TRANSFORMATION IN CHINA'S HOTEL INDUSTRY: URGENT ISSUES AND SOLUTIONS

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Abstract. The digital transformation in the hotel industry has experienced a notable increase, with advanced intelligent technologies including self-service terminals, automated robots, smart room management systems and artificial intelligence-based platforms being widely used. However, the rapid implementation of these technologies results in some operational difficulties which affect both the employees' welfare and the service quality provided. This research is based on in-depth interviews with 25 frontline and junior managers from high-end hotels in China. From these interviews, five main issues have been identified. Using the data obtained from the interviews and related academic papers, a comprehensive solution framework has been developed. This framework includes technical improvements, staff capability-building programs and management enhancements. The findings of this study not only enhance the theoretical understanding of the relationship between humans and technology in the hospitality field but also provide practical suggestions for hotel managers.

Keywords: *digital transformation, hotel industry, employee experience, operational challenges*

Introduction

The global hospitality sector is experiencing a significant change towards informatization due to the advancement of artificial intelligence (AI), the Internet of Things (IoT), robotics and cloud computing[1,2]. The Chinese government has implemented supportive policies to integrate digital technologies into the tourism industry through measures such as "5G + Smart Tourism". The aim of this policy is to establish a nationwide smart tourism system before 2025[3].

Despite the bright prospects and encouraging policies, the prompt application of intelligent technologies in the hotels causes serious conflicts in operation. The staff who deal with both the technology and the guests often encounter system failures, complicated procedures and mental stress. Such circumstances influence the service quality and working environment [4,5]. As skilled users of technology and front-line service providers, they are important in solving the key problems during the hotel's informatization process.

The current study seeks to fill the gap by investigating the informatization from the employees' perspective in the high star hotels of China. The primary objective of this investigation is to identify the major difficulties caused by the implementation of intelligent technologies in Chinese hotels and to propose practical solutions based on the frontline employees' experience. By analysing the qualitative data obtained from 25 in-depth interviews, this paper contributes to the hospitality literature. It provides an employee-oriented view of the challenges in the hotel's informatization and presents a complete framework to handle these issues.

Literature Review

The alterations in the hotel sector concerning information technology cover several aspects such as intelligent hotel appliances, automatic service procedures, decision-making based on data and the influence of technology on people's views. Lynda and Boris mentioned that there are five key points of intelligent hotel management: Smart Infrastructure System, Intelligent Service Automation, Data-Driven Decision Making, Smart Customer Experience Management and Sustainable Intelligent Operation[6].

The introduction of intelligent technology has the advantages of improved operational convenience, cost reduction, energy saving, personalization and stability. However, it also encounters some difficulties including security issues, opposition from employees, shortage of skilled workers and high expenses [6,7].

From the perspective of intelligent systems, hotels apply various intelligent devices such as property management systems, self-service machines, service robots, smart room controllers, artificial intelligence assistants and inspection instruments. But the implementation of these devices usually meets with problems such as system compatibility, network facilities and coordination with old systems [8,9].

Regarding the intelligent systems, the staff feel that technostress may cause emotional tiredness, uncertainty about their positions and decrease in job satisfaction [10,11]. As for the relationship between humans and robots, the workers consider the advantages of robots in doing routine work. At the same time, they are worried about the possibility of losing their jobs, increase in maintenance fees and reduction of personalized services. These worries may result in greater job insecurity and stronger intention to quit their jobs [12,13,14].

Moreover, the training and skill enhancement is also an important problem. Although most managers realize the significance of digital skills, only a small number of them pay enough attention to the training. Some employees are not familiar with the customer relationship management (CRM) software and the use of electronic technologies. This situation is complicated by the fast development of technology and the different systems used in different hotels and departments [15,16].

Research Methodology

This study employs qualitative semi-structured interviews to investigate the hotel staff's views on intelligent technology. This method is selected due to its ability to fully understand their opinions, feelings and adjustment methods. The subjects were selected by theoretical sampling and finally twenty-five people were chosen, who were all employed in high-star Chinese hotels with intelligent technologies for at least six months and held either frontline or junior management positions.

The interview outline mainly focused on four aspects: personal background and daily work routines, job satisfaction, effects of digitization and the coping methods of employees towards the related problems. The interviews were conducted either online or face to face, each lasting from 60 to 90 minutes. All the interviews were taped and later transcribed. For data analysis, a thematic analysis was used.

Results and Discussion

A comprehensive study of 25 interview transcripts shows that there are five important and urgent problems in the digital transformation of China's hotel industry. These issues are introduced below with the support of the interview data and relevant literature.

1) Deficiencies in System Stability and Reliability

All the interviewees mentioned that during the busy periods, the intelligent systems were unstable and not dependable. The staff using the self-service check-in kiosks found that there were many system slow-downs, payment mistakes and misidentification errors mainly in the morning when people are checking out and in the afternoon when people are checking in. One front desk employee recounted an incident in which "the system froze entirely, all self-service terminals ceased functioning, guests queued for over forty minutes, and staff were compelled to manually register each guest while facing complaints from frustrated patrons."

The housekeeping staff also experienced similar problems with the smart room management system, such as incorrect task allocation and delayed work order notification

messages. One housekeeper said, "Because of a system failure, I was assigned to clean three checkout rooms which belonged to another colleague's area. After completing the cleaning, I discovered the mistake and was first criticized by the supervisor." The engineering staff who relied on the intelligent inspection systems encountered system failures at critical times, so they had to return to manual inspections and spent much time in rebuilding the work records.

2) High Operational Complexity and Inadequate Training

All the interviewees emphasized that it was difficult to master the complex functions of the intelligent systems without a proper training. One member from the banquet service team said, "For a particular event, we needed to add several personalized holographic pictures and change the parameters to suit the lighting and sound effects."

The difficulty in learning also came from the shortage of comprehensive training courses. Most of the interviewees indicated that they only received some basic operation training when they started working in the company, and there were no further revision lectures or advanced skill training after that. A qualified concierge pointed out, "Our company only supplied us with some simple written manuals for the system. However, for tasks such as importing a large number of reservation data or dealing with unusual orders, I had to learn by myself or seek advice from the more experienced colleagues." This discrepancy between the required training and the actual training leads to an unsatisfactory situation. Therefore, the employees usually feel disappointed and uneasy about their ability to operate the technology.

3) Employee Job Displacement Anxiety and Identity Crisis

A kind of psychological problem found in the interview results is the concern about being substituted by the similar technologies used by the employees. This concern was particularly noticeable among the receptionists dealing with the self-service kiosks, the cleaners following the delivery robots and the waiters facing the application of the smart ordering systems. One receptionist stated, "When I discover that the system handles 70% of the daily check-ins and check-outs, I cannot help wondering about the significance of my work. Maybe I might lose my job in the future."

In addition, the interview answers indicated that this anxiety grew more intense because of the decrease in the manual operation skills resulting from the frequent use of intelligent systems. Some workers mentioned that when the systems failed, they could not recall the usual manual procedures, which lowered their work efficiency.

4) Techno-Invasion and Surveillance Pressure

Some employees from various sections say that they are always observed in their work. A server from the canteen said, "The system records the waiting time of the customers, the speed of food delivery and the efficiency of the payment procedure. If my work is not good enough, my supervisor will talk to me about it. I feel lonely when I do not receive any supervision."

Moreover, the employees pointed out that the application of technology leads to less communication between colleagues, which results in a feeling of loneliness. Another cleaner also added, "In the past, we usually discussed many things while delivering goods to the customers. Now, we only put the items into the robot and let it operate. There are few subjects to talk about during the free time."

5) Technology-Management Disconnect and Absence of Emergency Protocols

A kind of problem found from the interview results is the difference between the technical methods chosen by the managers and the working experiences of the on-site workers. All the interviewees thought that intelligent technology was mainly used in the hotels to reduce

the labor cost and improve the management efficiency. The benefit for the employees was regarded as an indirect effect. For example, one worker said, "Though the hotel has to control expenses and maintain its competitiveness, we should focus on our own work. For instance, it would be better to prepare reliable plans for possible equipment failures rather than leaving the staff to handle the dissatisfied guests' problems alone."

Another point frequently pointed out was the lack of definite emergency measures. When the intelligent systems failed, they discovered that there were no clear rules to handle such situations. They usually had to solve the technical problems and comfort the guests at the same time. Such dual performance of different tasks caused great stress to them. One front-desk worker told us, "The payment failure was because of the system delay, not the responsibility of an individual, but the guests insisted on discussing it with a manager."

6) Integrated Solution

According to the detected defects and the opinions of the interviewers and former investigations, this study proposes a whole project which consists of three parts: technological enhancement, personnel training and adjustment of the management structure. A table has been made to list the principal conclusions and suggested solutions.

As to the technology, hotels should focus on the reliability of the system. This can be guaranteed by performing preventive tests during the busiest periods, establishing spare systems and defining the steps of graceful degradation. These steps permit manual recovery operations when the system breaks down. Making the user interface simpler can considerably reduce the mental burden on the staff. Moreover, the setup of an off-line working mode and local data storage is essential to ensure the service continuity in case of network failures.

For human resources, it is crucial to establish a complete training scheme including basic operational abilities, dealing with unforeseen events and system administration. By adopting a micro-education approach suitable for the work schedule of the front-line staff, the training efficiency can be improved. Additionally, a specific career development plan should be arranged because technological competence is the basis for promotion instead of being a source of worry about job security. It is advantageous to form peer support groups and a technology ambassador program, in which experienced workers help new ones to learn technology.

From the perspective of management, hotels should provide convenient methods for the front-line staff to report system malfunctions and suggestions to the technical team. The emergency response procedures should be written down, practised frequently and modified according to actual experiences. Moreover, the evaluation standards should be flexible enough to consider the delay caused by uncontrollable technology.

Finally, in order to carry out an effective information technology reform, the hotel managers should treat the staff not only as users but also as active contributors to the digital service system.

Table 1. Summary of Urgent Issues and Proposed Solutions

Issue Category	Key Manifestations	Proposed Solutions
System Stability Deficiencies	Peak-hour crashes, data sync delays, payment failures, ID recognition errors	Pre-peak diagnostics, offline fallback modes, graceful degradation
Operational Complexity and Training Gaps	Complex exception handling, lack of advanced training, self-guided learning pressure	Differentiated training curricula, microlearning modules, peer mentor networks
Employee Job Displacement Anxiety and Identity Crisis	Fear of replacement by technology, declining manual skills, identity crisis	Career pathway redesign, technology-as-skill framing, transparent communication
Techno-Invasion and Surveillance Pressure	Real-time performance monitoring, reduced colleague interaction, constant scrutiny	Balanced metrics with flexibility, offline periods, team-building activities
Technology-Management Disconnect and Absence of Emergency Protocols	Lack of emergency protocols, employee blamed for system failures, insufficient support	Formal feedback channels, documented emergency protocols, cross-functional teams

Reference: Authors' compilation based on interview data and literature review

Conclusion

This investigation studies the main problems faced by China's hotel industry during the process of digitalization from the employees' personal viewpoints. The findings indicate that though intelligent technologies can improve the operation efficiency and promote service innovation, there are some system defects in their current application. For example, the unreliability of the technology, lack of proper training, heavy mental pressure and management conflicts affect both the employees' satisfaction and the service quality.

From a theoretical aspect, this paper discusses technostress in detail by showing these phenomena in the digital transformation stage of China's hotel industry. At the same time, it contributes to the development of human-robot interaction research. It points out the dual attitude of the employees towards the service technologies and reveals the organizational factors leading to the negative attitudes.

In practical work, the proposed comprehensive solutions give useful advice for the hotel managers aiming at carrying out the digitalization in an effective way. By considering the aspects of technology, human resources and management, the hotels can establish an atmosphere where intelligent technologies can improve the working conditions of the frontline employees instead of damaging them. With the fast growth of the global hotel industry, the employee-oriented method presented in this study will become more important for achieving sustainable digital transformation.

However, this research also discovers some limitations. The sample consists of only high-end hotels in China, which might not be appropriate for budget hotels or other international situations.

Further research can use quantitative methods to evaluate the occurrence and severity of the found problems in a larger sample. Besides, comparative studies should be carried out to analyse the effects of different national environments and types of hotels on the employees' perception of technology.

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