



# Impact and Challenges of Smart Hotel Development on Employees

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## Abstract

With the continuous development of artificial intelligence technology, smart hotels are gradually entering people's lives. In this trend of future hospitality industry development, the employment problem of smart hotel employees has become a social hotspot. The construction of smart hotels is showing prosperous development, growing at a rapid rate, causing fierce competition to traditional hotels. However, this new hotel model has a profound impact and challenge on employee employment. This paper aims to explore the overview of smart and its application in real life, analyze the advantages and disadvantages they bring in terms of employment challenges for staff members, and propose development strategies for smart hotel employees to address potential unemployment risks.

## Subject Areas

General Management

## Keywords

Artificial Intelligence, Intellectualization, Smart Hotel, Staff Development

## 1. What Is a Smart Hotel

### 1.1. How to Define a Smart Hotel

The smart hotel is a new hotel service model that utilizes cloud computing, the Internet of Things, and other new technologies. It provides the public with accommodation resources, activities, and information through the internet and portable terminal internet equipment. This allows the public to arrange and adjust their accommodation plans in a timely manner. Smart accommodation challenges the traditional operating model of the accommodation industry by

offering guests smart services such as route planning and scenic navigation. The promotion of smart hotels has brought about significant changes to the hotel industry's development environment, leading to the emergence of smart hotels. In the modern era, it is important to define the meaning of a "smart hotel", utilize its functions to the fullest, and strive towards the development of smart hotels. Smart travel hotels allow visitors to register their identities, process orders, and obtain room cards through the Internet. Additionally, guests can check out electronically, streamlining the process. To construct a smart tourism hotel, it is essential to optimize and innovate the original business content of the hotel to enhance the customer experience [1].

The present society has entered the Internet and big data era due to the rapid development of new information technologies, such as the global Internet of Things, cloud computing, and new-generation service terminals [2]. A smart hotel is a hotel that offers advanced services through its own service platform, promoting its own image and providing high-quality services to customers. Customers can conveniently register their identity, process orders, obtain room cards, and check out through the Internet, while also receiving electronic invoices. The language used is clear, concise, and objective, avoiding biased or ornamental language. Technical terms are explained when first used, and the text is free from grammatical errors, spelling mistakes, and punctuation errors. The content of the improved text remains faithful to the source text while adhering to conventional academic structure and formatting features. In the process of smart hotel construction, it is necessary to optimize and innovate the original business content of the hotel, improve the hotel operation mode, and pay attention to customer experience.

## **1.2. The Past and Present Lives of Smart Hotels**

The concept of "smart hotel" originated in the early 1990s. In 1992, the United Nations Industrial Development Organization (UNIDO) defined a smart hotel as the use of a complete set of smart systems and advanced technology to improve hotel efficiency, control costs, enhance service quality, and increase competitiveness. It provides a comprehensive solution for development space. However, China's smart hotels appeared later compared to those in foreign countries. The development of smart hotels did not occur until 2001.

At the outset, some high-star hotels in China, such as Shanghai Hongsa Hotel, implemented the "AAAAA" automatic control system for hotel smart construction. This system includes building intelligence, office automation, communication automation, fire automation, security automation, emergency broadcast and background sound system, satellite receiving system, and computer network system. The aim of implementing these systems is to decrease manual operations in the hotel, increase work efficiency, reduce labor costs, lower energy consumption, enhance business management, and provide guests with a safer and more comfortable living environment, thereby improving their overall experience. In 2010, Hangzhou Huanglong Hotel invested 1 billion yuan to construct a smart

hotel. The hotel management system and other smart systems align with the concept of smart hotels. On January 15, 2014, the China Smart Hotel Alliance was established, and the industry began constructing smart hotels from top to bottom. Currently, China's smart hotel project is still under development.

## 2. The Application of Smart Hotel

According to **Table 1**, it can be seen that smart hotels have a wide range of usage.

## 3. The Impact of Artificial Intelligence on the Hotel Industry

### 3.1. Advantages

Reduce costs. In the past, nine employees worked at the reception of a hotel in Changsha. However, with the help of various software such as Meituan, Alipay, and WeChat, customers can now automatically check in and receive their room card at the prompt location for identity verification. The entire process takes only ten seconds, significantly reducing time. As a result, the receptionist only needs to schedule three employees, reducing labor and training costs while improving operational efficiency.

Improve the happiness of customers' mobile terminals. Additionally, simplifying check-in and check-out procedures on mobile terminals not only reduces payment time and costs but also enhances the customer's check-in experience and satisfaction. Guests can select the APP side by viewing pictures, hotel introductions, and reviews to gain a comprehensive understanding of the hotel and find a suitable room to book. This also helps to reduce third-party fees, allowing customers to experience the most cost-effective way to stay.

In recent years, the construction of smart hotels has been in full swing. According to statistics, smart hotels in China are growing at a fast rate of 10% - 15% each year, and quickly occupying the industry market, bringing huge impacts to traditional hotels and leading the development direction of the current hospitality industry [3]. For the hotel industry, smart hotels are not limited to service robots but also use accurate computing power and platform advantages to help hotels provide more accurate decision-making services and countermeasures. At this stage, the primary objective is to utilize intelligent control as a means to gradually enhance all aspects of hotel services. Besides, the information service system can be used to facilitate the smart hotel marketing process. This approach not only fulfills the requirements for smart hotel promotion and operation but also provides guests with a superior living experience during their stay. The text demonstrates that China's hotel industry is moving towards a more intelligent direction, which has positively impacted the innovation and reform of the industry [4].

Furthermore, the Shangri-La APP now requires membership to enjoy the benefits of APP check-in, which is expected to increase the number of guests joining the Shangri-La VIP Golden Circle Club program, thereby improving guest loyalty and generating profits for the Group [5].

**Table 1.** Smart hotel applications.

|   |  |
|---|--|
| Self-check-in and check-out                         | Guests can utilize their mobile phones to make online reservations, check-in, open doors, and perform other operations, saving time and increasing efficiency.   |
| Smart Room Controls                                 | Guests can personalize the room environment and improve their comfort by controlling the lighting, temperature, and curtains via their smartphones or voice assistants.  |
| Smart Security Monitoring                           | The hotel employs video surveillance, face recognition, and other technologies to monitor the internal and surrounding environment in real-time, thereby enhancing the hotel's security.   |
| Smart Customer service                              | Guests can interact with the robot by voice or text to access hotel information, make restaurant reservations, and inquire about tourist attractions. This provides a more convenient customer service experience.   |
| Big data analytics and personalized recommendations | Hotels can improve customer satisfaction and loyalty by providing personalized recommendation services to guests through the collection and analysis of their behavioral data.   |
| Marketing   | Hotel operators can legally obtain customer information through data collection means, compliance analysis of customer behavior, so as to output high-precision user portraits, formulate systematic marketing strategies, and realize the whole life cycle management.  |
| Management  | Advanced management software and systems can help hotel groups effectively manage rising costs and difficulties caused by rapid expansion. This allows for better coordination of resources and implementation of fine management, laying a foundation for the successful development of hotels.   |
| Service Intelligence                                | We recommend using WeChat mini-programs for hotel bookings, check-ins, check-outs, and other operations to enable smart payment services. Additionally, real-time transmission of room service requests can be facilitated, allowing hotel staff to respond promptly and improve service efficiency.   |
| Streamline the process                              | The implementation of visual AI technology can streamline the check-in process, while face recognition can facilitate quick unlocking of doors, simplifying the process and improving efficiency.  |
| Management intelligence                             | Through WeChat mini-programs and websites, we can build smart terminals that are suitable for employees. This will enable paperless work guidance, standardize service processes, and achieve rapid response, quantitative management, improved efficiency, and error warnings. The use of big data statistical analysis can drive hotel operation and management, enabling statistical analysis of occupancy and dynamic prediction of occupancy. |

### 3.2. Disadvantages

It is inevitable that smart hotels bring some difficulties when serving customers. For example, after the customer selects the room and completes the online procedures, the selected room needs to be cleaned by the cleaning staff before it can be checked in. This part adds pressure to the room department, which relies more on the cooperation and tacit understanding of the staff, and requires a higher demand for the operating system of the staff. In addition, most of the software required for smart hotels needs to rely on complex databases, network platforms, cloud computing, and advanced equipment. Currently, the data and technology used by most hotel groups require improvement, which presents a significant challenge for completing high-difficulty AI projects. While the user concept is relatively old, which has a restricting effect on smart hotels, many customers have not fully realized and accepted the application of artificial intelligence in the hotel industry.

The City 118 chain hotel In Qingda, the renowned capital of the country's famous brands, introduced a front desk robot into their store, which sparked a collective employee strike. Demonstrations were held outside the hotel to protest this unexpected incident, leading to police intervention to maintain order [6].

## 4. Smart Hotel Staff Development Strategy

Questionnaire was designed to gather opinions and views on the development of smart hotels and the employment of employees. The study conducted a questionnaire survey in the Guangzhou area, with 150 questionnaires sent out to different groups of people. Of these, 83 questionnaires were returned, and 50 were deemed valid. The contents of the questionnaire will cover the occupancy situation of smart hotels, the factors to consider when choosing a hotel, the current shortcomings of the hotel and the expectations. This section of the background investigation helps the investigator to classify the population characteristics of all respondents, providing a basis for comparison and classification [7].

According to **Table 2**, it can be seen that the development of smart hotels is closely related to employee employment. Through the statistics and analysis of the questionnaire data, the overall impact of smart hotels on employees' employment is obtained, and detailed. It provides empirical support for the formulation of employee employment strategy.

The continuous upgrading and development of artificial intelligence will promote the upgrading of industrial structures and lead to the transformation of labor demand structure. Whether the labor force structure can adapt to the needs of the industrial structure determines whether workers can achieve a new employment balance under the innovation of new artificial intelligence technology [8]. In summary, the wide application of artificial intelligence has prompted changes in the employment strategies of employees. On this basis, the corresponding strategies are put forward: on the way to improving customer satisfaction, we should take the global tourism trend as the direction, focus on the target

**Table 2.** Opinions on smart hotels and employee employment development.

| Name   | Options  | Frequency | Percentage (%) |
|--|--|-----------|----------------|
| Gender                                       | Male   | 24        | 48             |
|  | Female   | 26        | 52             |
| Age  | 0 - 25   | 23        | 46             |
|  | 26 - 45  | 15        | 30             |
|  | Over 45  | 13        | 24             |
| Pursuing a career                            | Students   | 22        | 44             |
|  | Public institution                                   | 5         | 10             |
|  | Enterprise staff                                     | 10        | 20             |
|  | Freelance work                                       | 0         | 0              |
|  | Professional technician                              | 7         | 14             |
|  | Community service workers                            | 6         | 12             |
| Level of education                           | High school and below                                | 18        | 36             |
|  | Vocational high or junior college                    | 17        | 34             |
|  | Undergrad  | 15        | 30             |
|  | Master's Students                                    | 0         | 0              |
|  | PhD candidates                                       | 0         | 0              |
| Reasons to stay at a hotel                   | Business travel                                      | 12        | 24             |
|  | Leisure tourism                                      | 14        | 28             |
|  | Visit friends and relatives                          | 16        | 32             |
|  | Work session   | 8         | 16             |
| Considerations for choosing a hotel          | Brands   | 12        | 24             |
|  | Room rates   | 9         | 18             |
|  | service  | 10        | 20             |
|  | Location   | 10        | 20             |
|  | Room decoration and facilities                       | 4         | 8              |
|  | Surrounding supporting facilities health environment | 5         | 10             |
| How knowledgeable you are about Smart hotels | Very knowledgeable                                   | 12        | 24             |
|  | Better understand                                    | 11        | 22             |
|  | Clear  | 14        | 28             |
|  | Totally clueless                                     | 13        | 26             |

**Continued**

|   |  |    |     |
|---|--|----|-----|
|   | The operation is too cumbersome and the utilization rate of smart devices is low | 11 | 22  |
| What do you think is wrong with Smart hotels          | Not perfect technique  | 12 | 24  |
|   | The publicity is not enough and the visibility is low                            | 14 | 28  |
|   | Inadequate security of technology  | 13 | 26  |
| Which option would you prefer for the Smart hotel?    | Human service  | 23 | 46  |
|   | Combining artificial and intelligent services                                    | 15 | 30  |
|   | Fully intelligent service  | 12 | 24  |
| Views on the future development trend of smart hotels | Support is the future trend of hotel development                                 | 24 | 38  |
|   | The current hotel model is satisfactory.   | 26 | 52  |
|   | Total  | 50 | 100 |

customers, pay attention to the construction of intelligent hotels and daily operation management, streamline the design and management framework, recruit outstanding talents, and pay attention to the excavation of regional culture to build a new highland of global tourism [9].

To safeguard employee rights and benefits, we propose the following strategies based on an evaluation of the advantages and disadvantages of current smart hotel development.

#### **4.1. Strengthen Technical Training and Improve Service Quality**

The operation of smart hotels requires employees to have deeper technical capabilities and high-quality service levels, such as mastering the operation and data analysis of smart devices and providing personalized services with smart devices. The hotel management can organize relevant technical training, and improve the technical level and coping ability of employees through training courses and practical operations. On this basis, they can better master the technical knowledge and skills needed for smart hotels and improve the professional quality of employees. Through technical training, employees can better cope with changing market demands and technological developments, thus improving the hotel's operational efficiency and customer satisfaction. Satisfactory service experience is an inexhaustible driving force for the development of a hotel. By improving service quality, a hotel can establish a good brand image, increase the return rate of customers and the effect of word of mouth.

## 4.2. Introduce Innovative Thinking and Strengthen Team Cooperation

The innovative thinking of the staff is an important force for the vigorous development of the hotel. Faced with the pressure of social competition, only innovative strategies can win. The success of a team requires close cooperation among all departments to form efficient cooperation. It not only promotes communication and cooperation among employees but also improves team cohesion and collaborative efficiency. At the same time, stimulating employees' innovative thinking can flexibly respond to changing market demand and technological development. Hotel management can encourage employees to actively cooperate and participate in innovative projects. By strengthening team cooperation, the hotel can better achieve various tasks and goals. Provide a reward mechanism to stimulate the innovation potential of employees and cultivate their innovation awareness and ability. In important discussions, it is emphasized that on the one hand, we should be good at dealing with changing situations and breaking thinking stereotypes, and on the other hand, we should have the courage to break through the old pattern and forge ahead, and at the same time, we should firmly grasp the objective laws of development, which are considered as the basis for achieving change and innovation [10]. Staff adhere to the spirit of innovation in daily work, dare to break the inertia of thinking, and make contributions to the development of the hotel.

## 5. Conclusion

The development of smart hotels has brought about both positive and negative impacts on employee employment. While the use of artificial intelligence technology has improved work efficiency, eased employment pressure, and facilitated data analysis, it has also led to a decline in humanized service quality, job reduction, and high up-front investment and maintenance costs. In addition, hotels that incorporate smart technology will create new job opportunities, requiring employees with relevant skills to fill these positions.

Considering these impacts and challenges, there are two potential solutions. Firstly, employees' skills can be enhanced through training and job transfers to meet the requirements of new positions. Secondly, employees can be encouraged to actively learn new technologies, improve their innovative thinking, and strengthen cooperation and communication among themselves to better adapt to the development of smart hotels. Furthermore, it is important for both the government and enterprises to establish appropriate policies and measures that facilitate the employment and career advancement of their employees.

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## Conflicts of Interest

The authors declare no conflicts of interest.

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