

Analytical Study of Technological Upgradation in the Post-Pandemic Era of Nagpur City's Hotel Industry.

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Abstract

The COVID-19 pandemic has accelerated the technological advancements in the hospitality industry that transformed the manner of doing business and providing services to an immense extent. The paper is going to provide a comprehensive discussion about the advancements in technology in the hotel industry in Nagpur City in the post-pandemic environment. It considers digitalization of the company, which involves contactless check-in and check-out procedures, online booking, automated services, electronic payment systems, and data-driven management systems. It is a combination of the primary materials in the form of a structured questionnaire and the interviewing of the workers and managers of the hotel and secondary materials in the form of industry reports and academic literature. The results indicate that the change of technology consumed was significant, which brought about an increase in the efficiency of the operations, customer satisfaction, and safety. Furthermore, the article shows that there is a growing demand among technologically sensitive employees for the transition to automation and smart services. However, other problems such as the high cost of implementation, employee resistance, and training are all present. Lastly, the paper emphasizes the significance of technological modernizations in maintaining competitiveness and sustainability in the hotel industry of Nagpur, where new innovations and investment in the digital infrastructure should be made regularly.

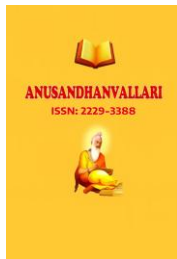
Keywords: Technological Upgradation, Hospitality Industry, Digital Transformation, Post-Pandemic, Nagpur Hotels.

Introduction:

The hotel business is a dynamic, service-based industry that needs innovation and flexibility at all times to make it competitive and customer-satisfied. The past few years have seen technology being pertinent in changing the old forms of operation in the hotel industry to efficient, customer-centric, and data-driven operations. The new cities such as Nagpur, which is a major business and transit center in Maharashtra, have been experiencing a consistent growth in the hotel sector, and it has necessitated the need to modernize and introduce technology in the hotel industry.

The COVID-19 that started in 2020 placed the world in a new dimension of complications in the hospitality industry. It was caused by the decrease in hotel occupancy and revenues, travel restrictions, lockdowns, and health problems. To address these challenges, the speed at which hotels were forced to make technological adjustments was to ensure that they had continuity to their operations, safety, and customer confidence. The pandemic enhanced the transition to non-contact services, electronic payment systems, online booking, and automation of the majority of processes in the hotels.

Technological upgrading is one of the most important factors of expansion and maintenance within the hotel industry in the post-pandemic environment. The mobile check-in, smart room, artificial intelligence-based customer service, and data analytics are also among the new technologies that Nagpur hotels are investing in to



deliver a customized guest experience. The innovations have not only increased the efficiency of the operations, but also they have improved the level of hygiene and service quality.

The author tries to develop an analytical study of technological upgradation in the hotel industry in the city of Nagpur in the post-pandemic era in this paper. It focuses on the degree of technology usage, its outcomes regarding operational performance and customer satisfaction, and the challenges of new technologies' adoption by hotels. Findings of this research will provide useful data to the hotel management, policymakers, and researchers in the further evolution of successful digital change and ensuring sustainable growth in the hotel sector.

Objectives of the Study:

- 1) To determine the level of technological changes in the Nagpur hotel industry.
- 2) To investigate how technology influences the level of operational efficiency.
- 3) To examine how digital transformation has changed the nature of customer service.
- 4) To identify the issues that are faced during the adoption of new technologies.
- 5) To provide feasible solutions for the adoption of new technologies.

Research Methodology:

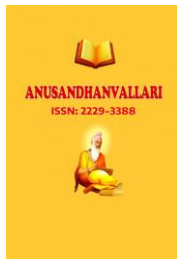
The given research design could be characterized as both descriptive and analytical since the study is devoted to the analysis of technological upgradation of the hotel industry in Nagpur after the pandemic. Primary and secondary data were utilized. Questionnaires and interviewing of 284 hotel employees and managers were used to collect the primary data. The secondary data were gathered by use of journals and reports. The convenience sampling was applied. Data analysis was done using the percentage, tabulation, and comparative analysis in order to establish the effect of technology on efficiency and customer satisfaction.

Technological Upgradation in the Post Pandemic Era of Nagpur City's Hotel Industry:

The hotel industry in Nagpur city has undergone an immense transformation after the pandemic period, particularly in the field of technological improvement. The COVID-19 pandemic became a catalyst, and hotels needed to undergo a process of transition to more modern technology-focused systems than the traditional and labor-consuming ones. The new important needs of the pandemic period were safety, hygiene, and minimum contact, and the use of contactless technologies, in particular, mobile check-in and check-out, the use of digital keys in the rooms, the use of QR codes as a service, and automated billing systems were quickly adopted. Booking systems and built-in reservation systems also gained relevance, and customers could receive real-time information and transact in a hassle-free manner.

In addition, the use of online payment platforms such as UPI, mobile wallets, and contactless card usage has become a norm, which ensures protection and ease of financial transactions. Hotels have begun automating different parts of their enterprises, such as housekeeping management systems, AI-powered customer support, and smart room technologies that enable guests to operate their lighting, temperature, and entertainment systems with the help of mobile devices. The analytics of data and customer relationship management (CRM) tools have assisted the hotels to understand customer preferences, customize service, and improve decision-making.

Such technological advances have made operational efficiency very high by reducing the number of manual errors and time and resource use. There is also the improvement in customer satisfaction as they will have faster service delivery, greater convenience, and increased safety standards. Nevertheless, such a transformation has resulted in the workforce's needs to change. Technologically competent, flexible, and capable of working in diverse positions are now expected of the employees, and this has increased the role of the training and skill development programs.



Although these are the advantages, a number of challenges still exist. The greatest challenges facing the use of technology include the high costs of start-up and maintenance, lack of technical skills by the staff, and resistance to change, especially among the small- to medium-sized hotels. In addition, the problem of data security and reliability of the system should be reduced to ensure smooth operations.

Overall, the technological modernization of the post-pandemic time has been turned into one of the drivers of the hotel industry development and competitiveness in Nagpur. It has not only enhanced performance and customer experience but also developed a future-ready and robust hospitality industry. To ensure long-term success, progress and continuous innovation, training of the employees, as well as strategic investment in the technologies, will be needed.

Technological Up-gradation in the Post-Pandemic Era:

The advent of technological improvement in the post-pandemic period has highly transformed the hotel industry in Nagpur with the adoption of high-level digital systems in most areas of operation. Among the most notable changes is the introduction of contactless experiences such as mobile check-in and check-out, digital room keys, and QR-based services that guarantee security and reduce physical contact. Moreover, the online booking and reservation systems have been improved by connecting with travel applications, real-time availability monitoring, and dynamic pricing strategies that help the hotels to control the demand in a better way. Automation has also taken its place in the hotel industry, and automated housekeeping systems, AI-powered customer support, and smart room systems have been introduced to improve the comfort of guests and the efficiency of the hotel operations.

Moreover, online payment systems, including UPI, mobile wallets, and contactless card payments, have become widely accepted, guaranteeing safe and convenient payments. CRM tools and data analytics have helped hotels to provide their customers with personalized experiences, carry out demand forecasting, and review customer feedback so as to continually refine it. The operational efficiency has been increased positively by these technological developments, as they have ensured that service delivery is increased at a faster rate, with fewer human errors and cost optimization. This has also led to improved customer satisfaction in terms of the added convenience, safety, and personalized services.

Simultaneously, the technological modernization has caused the workforce to shift dramatically, whereby there is a demand for employees with technical expertise and, hence, the need to advance multi-skilled staff and lessen the reliance on manual labor. Nevertheless, even though these advantages are evident, hotels have to encounter some difficulties in implementing new technologies, such as significant upfront costs, inadequate skilled labor supply, resistance to change among staff, and maintenance and cybersecurity problems. These findings are further supported by the comparative data analysis, which reveals that high technology use has significantly increased to 70% in the post-pandemic period compared to 25% in the pre-pandemic period; customer satisfaction has been improved to 80% as compared to 60%; and the operational efficiency has likewise been advanced to 75% as compared to 55%. This is a clear indication that technological renovation has been very instrumental in promoting digital transformation and enhancing overall performance within the hotel industry of Nagpur.

Statistical Data:

Table 1: Level of Technology Adoption (n = 284).

Technology Adoption Level	Percentage (%)	No. of Respondents	Total Respondents
High	60%	170	284
Moderate	25%	71	284
Low	15%	43	284

Table 2: Use of Contactless Services.

Response	Percentage (%)	No. of Respondents	Total Respondents
Yes	75%	213	284
No	25%	71	284

Table 3: Impact of Technology on Operational Efficiency.

Impact Level	Percentage (%)	No. of Respondents	Total Respondents
High	65%	185	284
Moderate	25%	71	284
Low	10%	28	284

Table 4: Impact on Customer Satisfaction.

Satisfaction Level	Percentage (%)	No. of Respondents	Total Respondents
High	70%	199	284
Moderate	20%	57	284
Low	10%	28	284

Table 5: Types of Technology Used.

Technology Type	Percentage (%)	No. of Respondents	Total Respondents
Online Booking Systems	80%	227	284
Digital Payment Systems	75%	213	284
Contactless Check-in/out	70%	199	284
Smart Room Technology	50%	142	284
CRM & Data Analytics	55%	156	284

Table 6: Challenges in Technological Adoption.

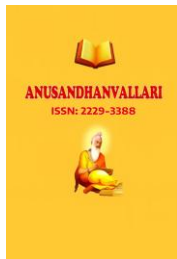
Challenge	Percentage (%)	No. of Respondents	Total Respondents
High Cost	65%	185	284
Lack of Skilled Staff	60%	170	284
Resistance to Change	50%	142	284
Maintenance Issues	45%	128	284

Table 7: Training and Skill Development.

Training Availability	Percentage (%)	No. of Respondents	Total Respondents
Yes	68%	193	284
No	32%	91	284

Table 8: Overall Impact of Technology.

Impact Level	Percentage (%)	No. of Respondents	Total Respondents
Positive	72%	204	284
Neutral	18%	51	284
Negative	10%	29	284



Findings of the Study:

Within the study findings, one can see that the role of technological upgradation has been extremely significant in the activities of the hotel industry in Nagpur in the post-pandemic period. Most of the respondents (170 out of 284, or 60%) indicated that their technology adoption was high, implying the high rate of the digital transformation. Besides, 213 respondents (75) affirmed that they were using contactless services, which indicates the greater importance of safety and convenience in the operations of hotels.

The impact of technology on the operational efficiency is certainly favorable, as 185 respondents (65%) confirmed that technology has made the operations very efficient, with just 28 respondents (10) saying that it has not. Similarly, customer satisfaction has been increased, and 199 respondents (70) said that they are very satisfied with the use of digital services.

The other crucial problem identified in the study is that online booking systems (227 respondents, 80%), digital payment systems (213 respondents, 75%), and contactless services and CRM tools are the most popular technologies. However, certain difficulties remain, and high price (185 respondents, 65%) and lack of trained personnel (170 respondents, 60%) are the main challenges to the technological integration.

Moreover, 193 (68 percent) respondents said that their organizations have training and skill development programs, which means that they are also trying to adapt to the changes in technologies. On the whole, 204 (72 percent) of the respondents think that technological upgrades have positively influenced operations in hotels. The findings of this study show that, despite the fact that technology has helped in ensuring that efficiency and customer satisfaction have been enhanced, the accelerated growth and difficult circumstances necessitate the continuous investment and training of the employees.

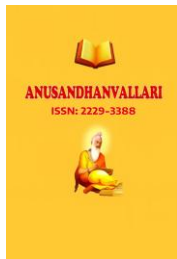
Discussion:

The study results show that the technological upgrade has had a transformative effect on changing the workings of the hotel industry in Nagpur in the post-pandemic period. The positive rate of technology adoption indicated by 60 percent of the respondents is the sign of a drastic approach to digital transformation, and it indicates that the hotels have identified the role of technology as one of the key survival and competitiveness factors. The statistic that three-quarters of people surveyed have access to contactless services also emphasizes the way that the industry responds to the health and safety concerns, as well as how it makes customers more convenient and confident.

Technology has also had a positive impact on the operational efficiency, with most of the respondents (65 percent) saying that there has been a significant improvement in operational efficiency. This means that the processes have been made simpler and reduced human errors, and the services are becoming faster with the use of digital tools and automation. Similarly, customer satisfaction has also gone up, with 70 percent of the surveyed customers reporting that they are very satisfied, and this means that as a result of the technological advancements, general guest experience has been enhanced in terms of convenience, personalization, and safety.

There is also the growth of online reservation systems and electronic payment systems, which indicate the growing trend of digital mediums to conduct customer contact and transactions. Not only have the technologies made accessibility and efficiency, but the hotels have also been able to expand their market reach with the help of the technologies. However, it is also shown in the study that there are certain major challenges that cannot be overlooked. Implementation cost and lack of skilled labor are also yet another significant factor that limits the potential of technological integration, particularly for the small and medium hotels.

The 68 percent of organizations that have been conducting training and skill development programs is a pointer that there is a positive initiative towards the challenges and how to prepare the employees to work in a technology-based work environment. This shows that there has been a gradual shift in human resource practices, which is founded on upskilling and flexibility. Overall, the view with the greatest frequency (72%), which is that



technological upgradation has had a positive impact on the industry, helps substantiate the idea that the digital transformation has had a positive influence on the industry.

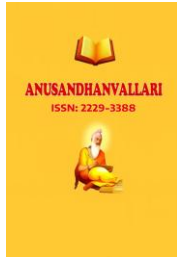
In conclusion, the discussion shows that despite the fact that technological upgradation has significantly improved the efficiency of operations and customer satisfaction of the hotel industry in Nagpur, long-term success of the upgradation process will be attained only with the help of long-term investment, training of employees, and management of various challenges that might appear, such as cost and knowledge gaps.

Conclusion:

The critical analysis of technological upgradation in the post-pandemic phase of the hotel industry in Nagpur shows a significant change in the mode of operation, which is largely driven by the need to be safe, efficient, and able to please the customers. The COVID-19 pandemic was one of the driving forces that changed the adoption of digital technologies, such as contactless services, online booking systems, digital payments, automation, and data-driven management tools. The developments have not only made the operations of the hotels easier but have also enhanced the quality of the services and experience of the customer. The outcomes of the study indicate that operations efficiency has been improved through the use of technology through minimization of manual errors, increase in speed of service delivery, and maximization of resources utilization. In the meantime, increased convenience, safety, and personalized services have improved the level of customer satisfaction. The move towards the online platform has further increased market penetration as well as the competitive edge of hotels within Nagpur. However, other significant issues associated with technological integration, such as high implementation costs, lack of specialists, and change resistance, are also defined in the article and can slow the entire potential of technology integration. However, despite those challenges, the increased attention to training employees and their career development is a favorable trend to the process of adapting to the technology. Overall, technological modernization has already turned out to be a condition of the development, existence, and competitiveness of the Nagpur hotel market in the post-pandemic setting. Hotels must not cease their investment in new technologies, staff potential, and exploration of new strategies to ensure success in the long run as the industry requirements and trends alter with the needs of the customers.

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