

TOMORROW IS NOW- INNOVATIONS IN HOTEL ROOMS – VISION 2025

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ABSTRACT

Background: *The hospitality industry has undergone a sea change in the last decades. Some of the changes include competitive pressures, shifting consumer preferences and consumption patterns, technological advances and new distribution channels. Continuous renewal and adaptation are required to stay in business. The cry ‘Create, innovate or die!’ is a common phrase used by today’s managers. Objective:* *To identify the innovative technological advancements which can be incorporated in rooms, their acceptance by guests and to highlight the varied technological positive and negative impact on creating guest experience* **Methodology:** *Survey method through a questionnaire was primarily used for research. The study was conducted in three leading star hotels of Kolkata and data was collected by questionnaire technique. The sample comprised of people from housekeeping and front office department and hotel guests. Results:* *The employees were found to be aware and sensitized about the concept of latest innovations in hotel rooms which will benefit them as well as the industry in the long run. Conclusion:* *The study indicates that the hotels can include the latest innovations and technological advances in detail in rooms, which would be visionary for the hotels which are existing and upcoming in the near future without a doubt as these are the future of smart hotel features.*

Key Words: *Hospitality Innovation, Application of Innovation, Competitiveness*

INTRODUCTION

In this fast changing world of automation, it's a challenge to cope up with time because of the varied usage of fascinating technology. According to *Theodore Levit*- "Creativity is thinking of new things, innovation is doing new things". Thus one of the prime needs of the hotel industry is to be attractive and at the same time innovative so as to fascinate more number of guests through their services and products and at the same time need to retain existing customers. Over the last few decades there has been an exponential growth on the application of customary practice and usage of technological enhancement among the industry stakeholders. In relation with the organization and its customers an important factor to emphasize is its contribution to efficient information management. This in regard improves an organization's productivity standards by creating alertness, minimizing cost and adds value to improve customer service (Kasavana, 2005).

In today's service industry the data could be processed quickly and efficiently due to technological advancements which lead to more guest satisfaction along with the human touch necessary for service industry. With the advent of new gadgets and software guests are made to feel more comfortable which brings world class services at guest's fingertips. New parameters need to be built to incorporate these tech toys into the service industry for betterment of hotel standards. One of the reasons for gaining high revenue is equipping hotels with latest technology which leads to enhancing customer experiences. Moreover because of diverse tastes of people there is a dire need to improve the quality of hospitality services (Casado, 2015).

One of the best ways to appeal digital savvy guests is to cater to their tech needs by allowing them to browse, plan and pick activities as per their choice for better experiential tourism. The current technological framework needs to be revamped by providing sound technological infrastructure base with communication capabilities. Due to the advancement of Internet of Things (IOT) technology the present scenario of hospitality industry is evolving leading to comfortable and customized stay. Due to the implementation of IOT hotels are getting converted to smart buildings which in turn lead to collection of real time data. The features of in room technologies like environment monitoring, body area sensor network calls for new prospects. The hospitality industry needs to create a platform and facilitate partnership between guest and hotel (Jones, 2007).

The Indian hospitality industry is booming in leaps and bounds and in a way the world is going digital and it is necessary to be with the running pace. One needs to take care of the support system which in the long run will facilitate happy guest in hotels. Since technology is evolving day by day this paper focuses on its application and its transformation from hi-tech with a hi-touch (Tucker, 1998).

One of the premier institutes Cornell Centre for Hospitality Research in 2014 found that 50% of travellers would be represented by the millennial generation by 2025. This leads us to Innovations

in services to attract the millennial generation by being able to provide services exceeding their expectations. This will also help to attract target segments like generation X too. To a huge extent they have changed the parameters of luxury and service by providing more emphasis on the unforgettable experience than tangible products. Importance is more on creating memories and moments than purchasing expensive items. The millennial has a stressed and conscious environment around them. They are widely exposed to the web based lifestyle through which they have a huge overview of the hospitality facilities, best hotels, innovations in services, traveller's experiences etc. which help them to choose the destination along with the hotels and allied services. Subsequently the traveller also promptly posts bad reviews, which uncovers reputed hotels brand value and image in the market.

A positive hotelier would communicate with these upset travellers and try to rectify the complaint and ensure that the complaints are not repeated in the near future. The interaction that takes place between the guest and the hotel is actually at the hotel and the guests experience will always decide the online reputation of the hotel. So we would look forward to how hotels are utilizing technology to keep the guests engaged during their stay in the hotel. A recent report by Oracle Hospitality surveyed almost 3,000 US and European travellers to understand the importance of technology for a hotel guest experience and it gives an interesting outcome that 64% of U.S. hotel guests said that it is "Extremely important" for hotels to continue investing in technology to enhance guest experience (Carter 2017).

To provide importance for addressing the guests changing and innovative desires, the hospitality industry is updating and taking the assistance of technology. Improvement in technology will empower hotel owners to rise in the fraternity and invite new customers in the business. A good hotel experience will not only make a guest happy but will in return ensure a better behaviour and positive online survey after their stay. The impact of word of mouth publicity remains very high and hoteliers should not undermine it, despite other promotional strategies (Kasavana, 2017).

The technological advancements lately observed are as follows:

AUTOMATED CHECK-IN AND CHECK-OUT: With a goal to enhance efficiency, hotels are looking forward to automatically process the check- in and check- out process. In the near future mobile check-ins and check-outs will be the preferred way for most of the travellers. This will ensure that guests save time on the check- in and check-out procedure and will have more time to explore other hotel services and products which are on offer. Staff will focus more on guest experiences and guest interactions and provide more customized services. A recent study shows that 60% of the guests still prefer interacting with the hotel staff at front desk or concierge. So the hotels are working hard to create a balance between technology and personal interaction (Carter 2017).

KEYLESS ENTRY TO ROOMS: The non-reliable computerized key cards will be outdated shortly and is expected to be substituted by a smart phone application which will be the future way to have access in guest rooms. The Hilton group of hotels is driving the move of key less entry to rooms. They have already launched the Hilton Digital Key App in 2015 and they have introduced keyless entry benefit in 2500 hotels. It is expected in near future that facial acknowledgement, retina scanner and finger print check software will be the ideal way to gain access in guest rooms (skift.com, 2016).

BRAND REPUTATION CREATED BY HOTEL SPECIFIC INTELLIGENCE: Voice technology in hotels and gadgets are connecting virtual partners and guests have a tendency to appreciate tech savvy spaces which leads to less interaction with accommodation staff. This is also one of the reasons why the hotels have started developing hotel guest check-in and check-out via mobile apps. The concept of virtual mechanism empowered with mobile applications, enables the tech- friendly guests to control the air conditioners, control of drapes, light settings in different moods and other controls. Presently the trend of all in one gadget has already started with virtual help to treat guests with a personalized customer experience. They are able to acquaint the guests with hotel luxuries, amenities, exceptional attractions and so on. Systems in this practice will result in robotized guest services for upscale hotels, consequently making a much better future for accommodation brands. As because guests wish for more innovative services, the hospitality establishments which execute voice technology will be among the most preferred facility providers (www.outlooktraveller.com).

THE ROBOTIC ERA IN HOTELS: Worldwide organizations have forecasted development of hotel robots to provide guest amenities and clean guest rooms. There may be discovery of Maid robots cleaning rooms in the future years. Developments in these spheres are aggravated by reducing technology costs which gives the opportunity to hotels to lessen operational costs. As mentioned by Oracle Hospitality Report, room cleanliness is vital for overall guest satisfaction. Technology can assist hotel operations only if hotel owners are willing to invest. The study specifies 35% of guests want planned room cleaning and 26% guests said they want to get notification to see whether their room was cleaned or not. The tech- friendly guests feel that technology is exceptionally successful for serving guests. In the future we expect to see robots serving food to guests, providing toiletries and doing luggage handling for the guests. We do understand that these might be an unexpected dream project right now in selected international hotels, but there is no uncertainty that robots will soon be a common feature in hotels. In Japan, robots are not a novelty but a reality. Hen nana Hotel opened in 2015 and is the world's first hotel staffed by robots.

CREATING PERSONALISED EXPERIENCE: It is observed through surveys that personal data is the number one commodity for organizations. Utilizing this information, it helps the hotels

to provide a personalized touch to the guests which makes the guests feel a “WOW” service. For example a Information technology software can retain a person’s comfort preferences and keep the room ready for the next visit with his choices like temperature set up, lighting moods, TV shows and channels preferred, innovative supplies and flowers liked by the guests. The guests could also be welcomed by an automated TV screen message with his name or wishing the guest on a celebration like a birthday or anniversary which would make the guest feel very special.

SERVICE INFORMATION THROUGH ONLINE WEBSITES

With the assistance of technology, the entire world has transformed into a global village. If a guest finds a strand of hair in the bath tub, gets towels which are not soft, gets a burn when turning on the shower, finds the chair broken in the room, he can write a review about these complaints in websites or in form of blogs which can be read by travellers worldwide. And the guests who plan to book the hotel room will read about these reviews and create a negative frame of picture about the hotel. Persistently if these complaints are not addressed by the hotel, they will eventually lose business with competitors.

INFORMATION ABOUT ACCOMMODATION IN HOTELS

With the help of technology guests would be able to view the types of rooms available in the hotel. They can have a virtual tour of the room to have a feel of the decor of the room and the level of luxury provided by the hotel. This would also assist the guest to make a choice for selecting the right hotel as per his expectations.

AFTER ARRIVAL AT HOTEL

After guest arrives in hotel, technology assumes a pivotal job in making extraordinary impressions which gives an unforgettable experience. To make the guest happy they can be given a chance to choose a particular room. Hotel television could be enabled with software which can help the guests with choices of local restaurants and arrange for table bookings too.

TECHNOLOGY HELPING ENERGY CONSERVATION

At present, most of the hotels are focused on ecological sustainability projects and reducing power consumption. In terms of lighting and air conditioning most of the hotels have or would be installing movement sensor technologies, lightings in which lights automatically get switched off or dimmed and temperature is regulated when any human movement is not there. Also Starwood hotels utilize the sunlight harvesting to light their rooms and other areas. In the rooms mini bars enabled with fuzzy logic technology also reduces power consumption as it cools the fridge based on the load in the fridge, if empty the cooling process automatically is reduced. Also the taps would need to be sensor enabled, as the guests can forget to close the tap and water is unnecessarily be wasted.

Thus this paper was important to understand the latest innovations in the hotel industry which will enhance the experience of guest stay which will lead to revenue generation. Hotels can integrate latest changes in all aspects as it is constantly unlocking new opportunities and it can be implemented in all touch points like pre- stay, hotel stay and post stay.

In order to carry out this focused research the following specific objectives were planned:

- To identify the innovative technological advancements which can be incorporated in rooms
- To analyze the acceptance of new trends in rooms of hotels.
- To highlight the varied technological positive and negative impact on creating guest experience.

METHODOLOGY

The study adopted mainly a quantitative research design. A structured questionnaire was prepared to collect the research data. It consisted of six questions which enquired about the feasibility of various innovations and its effectiveness in hotel rooms. Qualitative approach was appropriate to get meaningful and deep insight for analysis of data. Initially this study collected the secondary data primarily from books, journals and websites. Statistical analysis was also carried out.

This study consists of guests visiting leading hotels of Kolkata who were given questionnaire to fill up. Random sampling method was followed to get the questionnaires filled. The data collection was completed within 2 months. The sample size of the study was 120 out of which 100 samples were finally selected. Around 20 samples were discarded because of incomplete information and mistakes.

The details of the guests and staff are as follows:-

- Age group of guests
- Experience of hotel staff

Table 1: Age group of sample tourists

S.No.	Age Group (years)	Tourists (%)
1	20-25	22
2	25-35	31
3	35-45	16
4	45-55	18
5	55 and above	13

Table 2: Experience of staff members

S.No.	Work Experience of Staff Members	Percentage of Staff Members
1	1-3	15
2	3-5	22
3	5-8	16
4	9-12	17
5	12 and above	30

RESULTS AND DISCUSSION

The Research represents quantitative as well as qualitative findings.

During the study when it was asked to identify the innovative technological advancements which can be incorporated in rooms, the following insight was found. Figure 1 gave brief feedback whether robotic cleaning is effective over manual cleaning or not. There were two areas- a 250 square feet guest room and the other one a 600 square feet of banquet hall which was cleaned manually and also with the help of robots and the level of cleanliness was compared by the supervisors and analysed. Response - 65% of respondents said that robotic cleaning was effective. 25% of the respondents said that manual cleaning is effective. Rest 10% said they could not identify any difference in the level of cleaning which was done manually and by robots. Thus the study found that the effectiveness of cleaning by robot was more effective than of staff, the standardisation of cleaning was much better than the cleaning which was done manually as the Standard operating procedure were followed as per the programmed design in the Robot.

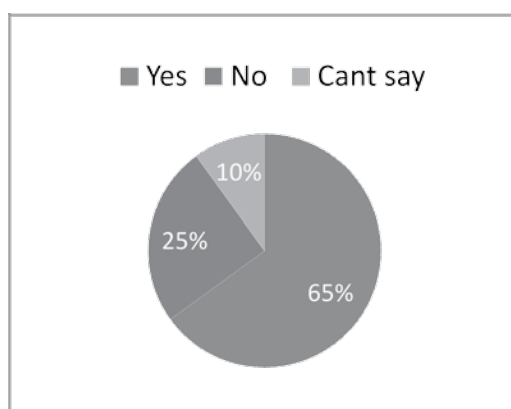


Figure 1: Effectiveness of Robotic cleaning over manual cleaning

Figure 2 represents the opinion from guests that whether the automated system are secured according to them. The response found was that 45% of the respondent felt that automated check-in system was secured and 40% felt that automated check-in system was not secured and remaining 15% said

'can't say' as they were unaware of the automated check in system in hotels. This shows that guest in future will go for technology secure automated check- in systems.

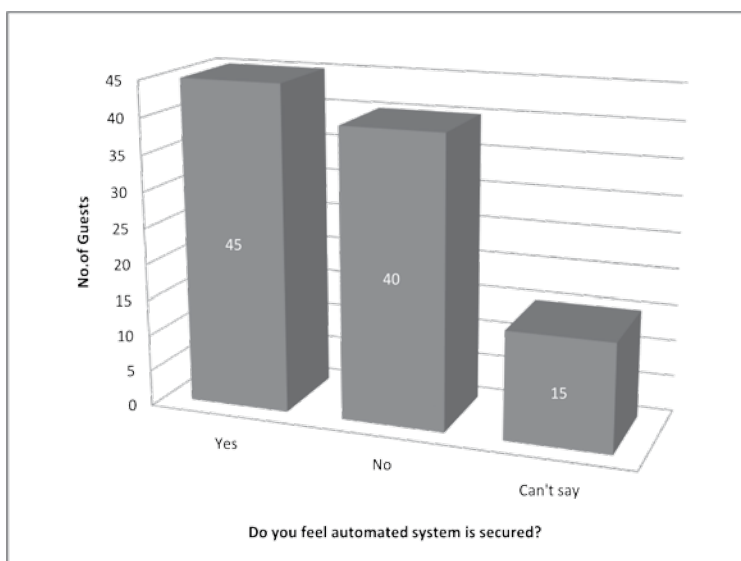


Figure 2: Preference of automated check-in system

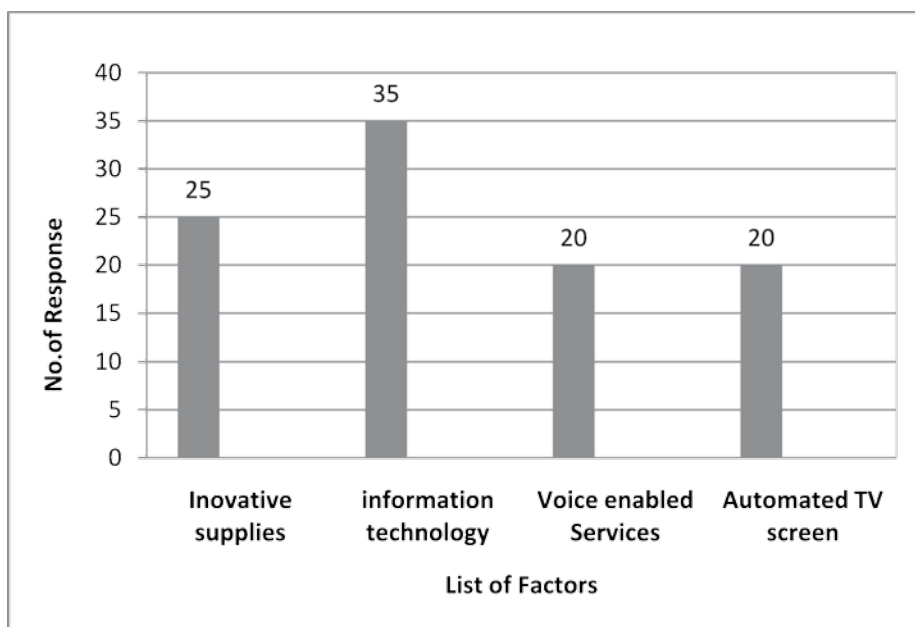


Figure 3: Preferred way of creating personalised experience

Figure 3 represents the different ways of creating personalised experience preferred by the guests. The current study found that 25% of the respondents said Innovative supplies in hotels were still a preferred method which helps in creating personalised experience. 35% of respondents said that Information technology helps in creating personalised experience for example we have discussed about a software which can retain a person's comfort preferences and keep the room ready for the next visit with his choices like temperature set up and lighting moods. Also 20% of the respondents

said that voice enabled services like voice commands for food orders, TV channel surfing, Smart TV operations is preferred and the rest 20% said automated TV screen which has a message for the guests for welcoming the guest, or wish the guest on his birthday or anniversary would make them feel very special. Thus it is can be analysed that majority of guests want to have most of this amenities and services and can create enhanced guest satisfaction.

Figure 4 identified the preference from guests and rooms division staff about which is a preferred mode of entry to rooms, whether key less entry through apps or computerised key cards are more preferred. 60% respondents said that key less entry is more effective as it is more secured and user friendly. 30% respondents said that key less entry is not a preferred mode of entry to rooms as it could lead to complicated process and 10% respondents said that they did not have a clear idea about the concept of keyless entry. This result again shows that there will be rise in usage of technology by the guest in future.

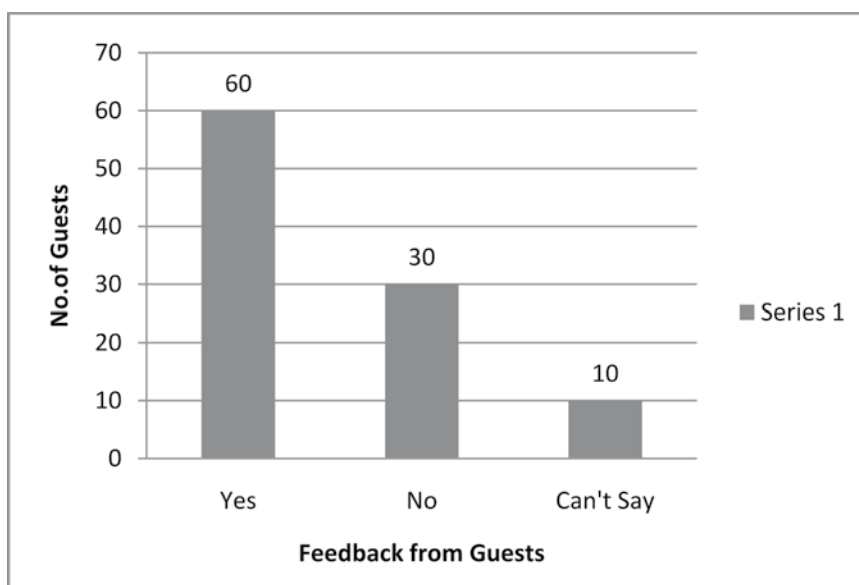


Figure 4: Preference of key-less entry over computerized key cards

Figure 5 represents the guest preference of room facilities which should be operated through software. 30% guests have chosen that AC temperature should be operated through software through which they can regulate the temperature being outside the hotel too. Only 20% respondents wanted to control channel surfing with the help of technology. And remarkably 50% of guests have opined that security systems should be operated through specialised software which would ensure enhanced security through which guest can see real time view of anybody entering the room and alert the guest if any security breach has happened or not. This shows the guest will definitely enhance their experience through technology.

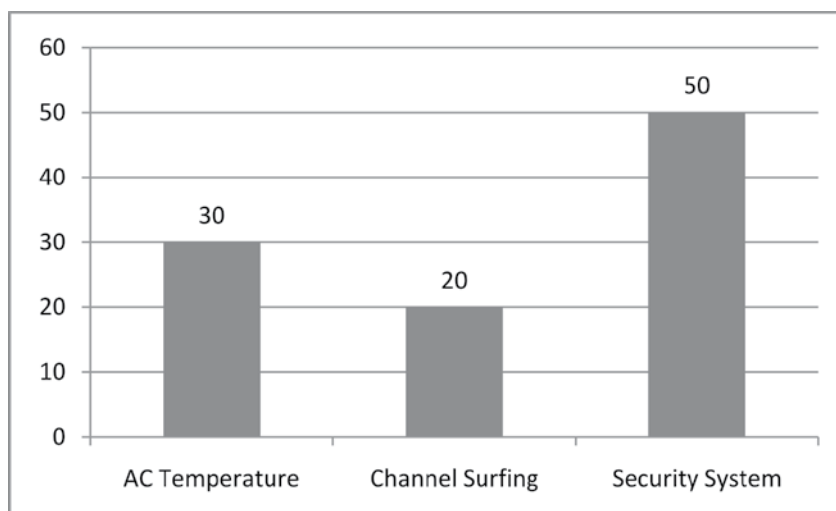


Figure 5: Enhancement of guest experience through technology

The above Figure 6 represents the guest's choice whether they will like to have human interaction or machine responses. 60% guests have responded that they prefer human interactions as human touch ensures more personalised services, only 40% guests have responded that they are more comfortable with machine responses. As the sample population was not much technology savvy the preference was high towards human touch in various facilities.

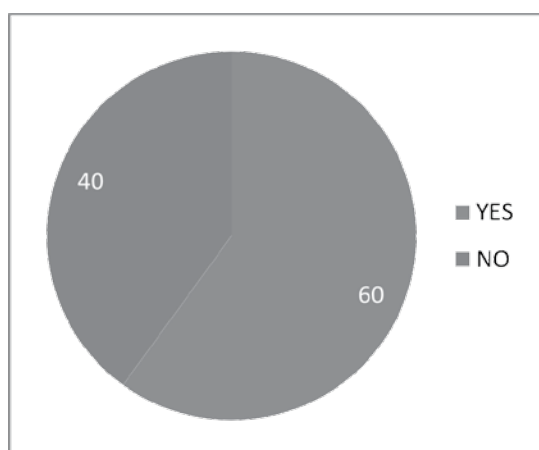


Figure 6: Human interaction better than machine

The third objective of the study was to highlight the varied technological positive and negative impact on creating guest experience. The positives found were:

- i) **Descend of mistakes:** Technology promises a prominent level of accuracy, for example the robots can be fed with information and are directed to investigate, which can reduce errors and helps in accurate guest room billing.
- ii) **Solutions to tiring jobs:** Same jobs which are not so interesting can be performed with the help of machines. Machines will always think faster than humans and can perform multiple

tasks. It also saves time as work is done more speedily. These mind boggled machines can be utilized for difficult or risky activities such as exterior glass cleaning etc. Due to the programmed work of the robots, they can execute difficult tasks with better results compared to the human output.

- iii) **Application in day-to day activities:** In daily activities we are completely dependent on technology. For example, when we are driving towards an unknown destination we would surely move with the assistance of GPS. Nowadays with the advancement of technology we need not type the person's name also on the cell phone but just announce the name in the phone and it is automatically connected.
- iv) **Absence of Breaks:** It is true to the core that machines like human beings do not require refreshments or meal breaks. They are designed and customized for long period of functioning and can consistently perform without being worn out, exhausted or disturbed which results in better output in work.

The other side of the coin i.e negative results of the effect of technology were:

- i) **High expenses:** Involvement of technology requires huge expenses. It is incurred not only at the time of purchase and installation but they cost a huge amount to repair and support too. Software programs require regular up gradation to have the latest changes and to become quicker in operations too. In case there is serious mal functioning it results in irreparable loss if the data and useful information is deleted.
- ii) **Unemployment:** It is undoubtedly a fact that machines will replace or reduce human requirement in the hotel industry which will in turn lead to joblessness. It is a sure phenomenon the human touch will be missing in the services provided so technology needs to be used judiciously.
- iii) **Lack of creativity:** It is observed that creative ability is missing in using technology in different areas. It can investigate, calculate and analyze the data but it can never outshine the human creativity, intelligence and imaginative ideas. The humans can feel, think and react to different situations which are not possible by the gadgets and human natural capacities can't be reproduced too.

CONCLUSION

The behavioral pattern of guests is ever evolving and one needs to update regarding the usage of latest gadgets. This calls for hotels to keep a track of the changing trends. In the distant future the

Innovation in rooms and the expansion of technology will be the leading force for innovation related enhancements in creating guest experience to be simply a wow experience. Hoteliers need to utilize technological advances so that standards of the organization increase. This paper critically analysed the need for personalisation and customisation which has been streamlined by the advancement in technology. Adoption of latest innovations will enhance the hospitality industry at its best. It also helps to smoothen the operational nitty-gritty and in a way increase reliability in the brand. There will be many operational glitches which one needs to adjust. Thus to conclude we can say that the glamorous industry will be going through a revolutionary phase which no sooner than later will become a technologically driven industry.

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