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Introduction:

The modern phenomenon of technological use in the hotel and hospitality industry can be described as digital solutions that have been implemented and integrated into different areas to improve the standards of services for guests and effectiveness within an organization. This theme is also of immense importance since it completely changes the current practices which result in better guest experience, efficient operation management, and global competitiveness for this sector. Technology certainly is in the driver's seat within the hotel and hospitality industry since it provides state-of-the-art solutions that consider not only guest requirements but also adapt to business objectives. Technology is an essential component in ensuring that reservations and check-ins are done effortlessly, personalized services must be seen and data on how their behavior arises from analytics developed (Martínez-Béjar, and Brändle, 2018). The hotel and hospitality industry are quite a vast field that involves all facets of service that can be categorized from accommodation to entertainment as well as even events. It is an indispensable entity within the world economy; it includes all types of establishments from small specialty boutique hotels to medium and large-scale resort & international chains. The industry is characterized by fierce competition, followed by dynamic consumer demands all the while it strives to track emerging trends. At the same time, it provides prospects in the guise of technological innovativeness and global market growth, as well as an increase in research demand for sustainable and worthwhile travel.

The focus on smart application technologies such as mobile apps, contactless systems, and messaging platforms is provided because of the disruptive effect they have within this field. This represents innovative innovation that can give challenges arising because of the contemporary business environment. Smart application technologies provide solutions to the needs and demands of this industry because their practicality increases guest engagement, safety as well as operational efficiency. Mobile-friendly apps offer effective communication and standardized services, contactless practices provide hygiene and comfort ability factors with minimal interactions between guests are hotel staff to be achieved through messaging channels (Tardaguila et al, 2021). Thus, the choice of these trends is also brought under the industry's objective to achieve the desire

of contemporary tourists and improve internal consistency for achieving top-notch performance.

Literature Review:

SWOT Analysis:

Strength:

In the hospitality and hotel sector, smart applications help to enhance the speed of services. This speed helps the business grow and helps to enhance customer satisfaction. Smart services also give the solution to every problem that occurs in the hospitality and hotel industry, like it solves customer queries and helps to gain customer feedback. This smart application also provides location flexibility so that customers can easily trace the location without any problems (Wang et al, 2020). Moreover, it has become one of its strengths in that it provides advertising opportunities to all the hospitality sectors and other industries, that are helpful for marketing and more customers can easily engage with the industries through advertisement.

Weaknesses:

One of the weaknesses of smart applications in the hospitality industry is they reduce human employees because smart applications can do all things faster than a normal human being. It reserves the human employee's jobs. The other weakness is that it needs a highly skilled employee because without skillful employees the smart application is unable to operate (Hein et al, 2020). Moreover, sometimes it causes some security issues because in this digital era, every other person knows about smart applications, and they can easily hack the data of the hospitality and hotel industry.

Opportunities:

There are significant opportunities for smart applications in the hospitality and hotel industry through the combination of smart technology with smartphones, RFID chips, biometric technologies, and 3D holograms. These combinations help to enhance the growth of business. It also allows marketing and advertisement (Cobanoglu et al, 2021).

This technology in the hospitality and hotel industry has a positive impact on customers and more customers can engage with the hotel industry.

Threats:

In this modern world, smart devices are increasing day by day, and security threats are also increasing. There is one software that is known as malware, this software can easily corrupt the device and can interrupt the overall data and down the network (Fu et al, 2020). There are also insider attack increases, in these attacks, the individual can steal all the data and operate according to their way that is illegal. These are sudden attacks and unfortunately, these attacks are undetectable.

Theoretical Framework:

The technology Acceptance Model (TMC) is one of the significant models that measure customers' attitudes toward the adoption of emergent technology. The TMC theory is based on how the users accept modern technology (Mortenson, and Vidgen, 2016). This TMC model suggests that when individuals or industry use the technology, several challenges raise questions about how this technology will be used and what their impacts on the industry. These factors may be behavioral intentions, external factors, and others.

Smart applications are used in the hospitality and hotel sectors, these are some of the modern technologies that the hospitality and hotel sectors are used. This technology has significant impacts on the growth of business and sometimes this technology becomes challenging for the users. Skillful users are required to run this technology otherwise the technology becomes useless (Sharma, and Tiwari, 2016). Technology also harms industry, sometimes the operating system fails so it does not work, and all the data is missing. The data may also be hacked from the smart application. These are the impacts of smart applications.

Critical Examination:

The trends in hospitality technologies which one can recognize have a dual effect on customer satisfaction and the efficiency of staff. On the other hand, technologies in mobile apps and contactless solutions contribute highly to customer satisfaction as they offer customers a perfect journey with minimal difficulties. It enables reservations to be managed soundly, and information access and interaction with services emerge from its

utilization, contributing to increased levels of satisfaction (Kansakar et al, 2019). Moreover, the effects on the efficiency of organizing personnel and performance term resale made through systemized activities are obvious. In the past years, it has been possible to automate routine tasks with which experts can spend more time delivering decent quality services, personalized. Thus, such automation creates an environment for optimal service delivery (Sukach et al, 2021). On the other hand, issues involving problems such as technological setbacks and depersonalization of guest communications must be adequately controlled to ensure proper synchrony between technology-oriented efficiency and emphasizes that underlie excellent hospitality.

In this dynamic world of the hotel business, it is particularly important to attend to increased standards for filthy making sure that all deep to constraining departments such as the room cleaning department are found. This will deal with evaluating the practical effects of the modern 'Technology' theme, namely smart applications, in the hospitality domain space-wise and not within a specified sphere but rather housekeeping as one of the most important segments within it. Secondly, examples of the adoption of problems of today that revolve around technology issues will also be presented alongside this piece's critical reflection on their effectiveness, strong suit, and shortfall (dos Santos et al, 2020). The guest's experience also relies upon the housekeeping department because it is a critical and contributing influence on their comfort while in such an environment. As soon as smart application technology was invented, a rise in the shift of paradigms occurred to how housekeeping operations are conducted, and much more prominently today better efficiency and accuracy as well leads to guest satisfaction.

Application to the hotel and hospitality sector:

Housekeeping operations have been made more efficient by automating room preps and scheduling with smart applications. By using integrated systems in everyday cleaning practices, one can allow the staff to easily ensure that tasks are prioritized correctly based on incoming and outgoing guest patterns, hence improving workflow rates as well as reducing turnaround time.

The smart applications enable real-time tracking of the status and quantity of housekeeping supplies resulting in efficient management. When supplies are exhausted,

the system can automatically create orders for pickup at intervals you set. This assures that the housekeeping team has the resources to maintain an elevated level of cleanliness (Christl, 2023). These programs allow a guest to request their choice of preferences directly to the housekeeping management. It is the provision of their cleaning materials, temperature regulation in rooms, or specific amenities among others that smart applications ensure that the housekeeping staff is tailored to suit individual guest needs. This then has an implication when it comes to improving the quality and standards of service, hence being able to provide a better experience for guests.

1. Integration of Smart Housekeeping Management Systems:

The progressive management responses are intensive smart housekeeping management system integration that aims at providing a cost-effective control solution that will integrate all energy sources (Hamid et al, 2020). Besides, these systems do not only automate mundane tasks but also produce housekeeping performance analytics as well as household technical information while allowing timely decisions on process improvement backed by data.

2. Addressing Sustainability Concerns:

Modern concerns regarding the environment give rise to responses in workforce thinking concerning housing service management efforts that are seeking to minimize the carbon footprint associated with housekeeping activities. Smart applications, including those to observe energy-usage efficiency, introduce green policies in cleaning, and trace the use of sustainable products to stay consistent with contemporary dynamic needs for ethical hospitality (Stylos et al, 2021). Smart applications improve business efficiency since most of the operations are handled by automation to leave less strenuous tasks that will require more time and attention to participants.

Additionally, personalized services according to guest preference led to an increase in overall customer satisfaction and promote positive reviews following a loyal platform (Aagaard, 2023). With analytics furnished by smart applications, management would be able to make good decisions because of which they will establish a regular process for the betterment of housekeeping services.

Limitations and Challenges:

Smart technology has a high entry-level cost since substantial investment is required from both the hardware and the software side. Further, it is important to engage in staff training to enable proper assimilation of this information that might prove difficult since often scarce resources and time may be a challenge (Ullah et al, 2023). Smart applications are not liable to technical delays, just as would be the case with any technology. Although not completely devoid of hitches, these errors may cause a temporary slowdown in housekeeping operations. Sufficient foundations and arrangements to get rid of the need for downtime are required.

Evaluate future policy and management options for dealing with this issue:

Technology is the steering force of the evolution within the hospitality industry, with smart applications in housekeeping operations presenting both opportunities and challenges. Reflecting on developments in this area and based on the reflections above and evaluations, this section discusses future strategy options to overcome what has been discussed so far regarding the modern 'Technology' theme (Kansakar et al, 2019).

The process of policies defining the future should focus on how to create full training programs and their use within the hospitality industry, which will lead to the reduction of staff turnover. When daily operations are part of software-based systems, the skills necessary to operate and troubleshoot these technologies become a key focal point. On the other hand, continuous education and training of staff will make them adaptable to changing technology scopes in terms of knowledge changes automatically eliminate resistance factors that discourage people from accepting the smart application use and promote great efficiency towards its implementation (Kim et al, 2017). With the increasing use of smart applications running in the background, security and privacy protocols required for data cannot be emphasized anymore but are compulsory. More policies need to be put in place to control these activities through hard-liner rules and standards that govern guarding of the guest information as well as operational data. The adoption of encryption mechanisms, periodic conduct of such audits, and performance of due diligence to guarantee compliance with international data protection ordinances will not only protect confidential information but also enhance trust among guests who are

growing more concerned about data security. It is in reaction to concerns about sustainability and accountability in the global sphere that calls for future policy decisions aimed at promoting or mandating smart applications of the hospitality industry as business partners supporting green practices (Kim et al, 2019). This involves the use of technologies for tracking and shunning excessive utilization of energy, schemes to promote waste reduction also with ensuring sustainable methods of managing technology. Such commitment to sustainable brand smart technology business opportunity then can be used by hotels as a selling point. To remain a leader concerning innovation policies needs to be created that push the development of cooperation between the hotel sphere and technology providers. This, in turn, can enable the development of bespoke smart applications designed specifically for the markedly different requirements that diverse organizations would have (Sharma, and Gupta, 2021). Establishing open channels of communication with technology providers will allow hotels to be informed on updates and respond quickly when there are issues, which will also create an opportunity for the industry to provide feedback thus influencing directions in which future measures even before they are introduced (Awan et al, 2021). The role of governments and industry associations in promoting the development of smart applications becomes especially important when they give incentives to early adopters. The government may grant taxes, grants, or any other form of financial assistance to hotels and could also provide such incentives for those who show interest in involving technology in their business operations (Amer, and Alqhtani, 2019). This would not only trigger innovation within the sector but also facilitate quick adaptation of smart apps creating a more technology-savvy innovative terrain in hospitality. Management solutions should also be oriented at continuously reviving that customer's knowledge concerning the features and benefits of smart applications. Well-defined communication channels through the hotel's website, mobile apps, and in-room materials should clarify what the technology used is about and assist guests to get what their experiences improved by. Furthermore, every guest review and comment will be valuable in developing better and more effective smart application features. Hence, this will require collecting feedback from the guests and responding promptly to perfect the equally significant Smart application features. Even though it is possible to recognize and allow

for future technical misfortunes and downtime in the case of smart application program implementation, future policies should aim not only at addressing glitches but also stressing a need for well-formed contingency plans (Erdem et al, 2022). A contingency plan should be for hotels with backup systems coupled with the establishment of conceded guidelines to manage operations manual in case of technological breakdown. The hotels must work on developing their contingency plans so that they will always rehearse and have them ready, leading to the continuity of operations as they prevent disturbances in assistance provision even with unavoidable technology mishaps (Buhalis, and Leung, 2018).

Policies must promote AI and ML technologies as appropriate tools for use in such applications through their integration proactively. With technologies such as these, various advanced systems can improve predictive analytics, maximize resource distribution, and customize guest interactions (Abdelmoaty et al, 2020). Nevertheless, ethical aspects should not be overlooked either and it is important to incorporate policies addressing all those points to make sure that the AI and ML implementation meets both industry satisfactory standards as well as guest requirements.

Conclusion:

This research paper explains the contemporary technology in which smart applications are used in the hospitality industry and the focus of the hospitality industry is housekeeping. Smart applications have significant benefits in every sector, especially in the hotel industry. It helps to enhance the speed of services. This speed helps the business grow and helps to enhance customer satisfaction. Smart services also give the solution to every problem that occurs in the hospitality and hotel industry, like it solves customer queries and helps to gain customer feedback. Also, there are some threats to smart applications because this is the digital era and, in this era, data can be leaked out easily. Therefore, smart applications have advantages and disadvantages.

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