

Versatile Hospitality Industry Across the Globe A Case study on Modernisation & Modification in Hospitality Standards in ‘Germany’

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Abstract: *Maintaining systems and standards is very important in the hotel industry. Having the right systems in place and maintaining high standards is a direct reflection and creation of your brand, and how people will experience and remember your hotel. In the hospitality industry, providing amazing guest experiences is priority number one. But as technology heightens guest expectations, hospitality executives can no longer afford not to modernize their business operations. Systemic adoption of any kind of technology comes with its risks, but as long as you keep your business goals in mind, you will discover technology is a driver of your key performance indicators. ISO 9001: ISO 9001 is the leading quality management systems standard and is the most widely used of its kind in the world. It outlines a framework and set of principles that hospitality companies can use to manage their organization practically. As a result, you can gain effective employees, processes and services. Branding in the hospitality industry can build your credibility, giving your customers a valid reason to consider you above your rivals. Research also tells us that people prefer to associate with organizations with a credible, reputable brand than those that don't. The article presents the results of a study on the development of the service sector business management modernization concepts in the form of real practical measures in general and in relation to the corporate planning, programming, design their development. An algorithm for implementation of adaptive management as a priority the modernization tool in this area. Our study was based on the assumption that the management of the modernization and maintenance of technology in enterprises of hotel services will allow to fully realize the goals of the strategic stability of the enterprises of sphere of services, will contribute to the attainment of a new quality of development, to mobilize potentially available resources in the field of hospitality and the involvement in it of effective market mechanisms, convincingly proved that the modernization of the service sector - the update of the existing forms and methods of management, the implementation of new features companies within predictable limits. Under the modernization tools flexible management system now should be understood a process-functional management system to ensure the achievement of targets in different periods of organizational development of the company, without degradation of the resource potential, by adapting to the changing conditions of the hotel business..*

Keywords: Hospitality, Food, Changing, Business

I. INTRODUCTION

The Hospitality industry is the industry that is responsible for providing primarily food services and accommodations in places such as hotels, resorts, conference centers and theme or amusement parks. The catering industry, which overlaps with the hospitality industry, primarily provides food services to institutions (such as schools, hospitals, or governmental operations), private industry (such as corporate cafeterias or motion picture studios), and private parties. And also in a much boarder view, non-commercial institutional provide food and lodging. Hospitality means extending a welcome to travelers or offering a home away from home, and the word is derived from the Latin word “hospes” meaning visitor or stranger. The hospitality and tourism industry is a vast sector that includes all the economic activities that directly or indirectly contribute to, or depend upon, travel and tourism.

For many, the hospitality industry holds a certain glamour and sophistication.



This is partly due to the image most hotels choose, refine, and project to the public. Much of this image is created through architecture and design. Yet a building is really only bricks, mortar, steel, glass and furnishing. The property's architecture and style may be important in setting the theme, but other factors are also important in differentiating one hotel from another. These factors can include the property location, variety and quality of food service, special features and amenities, and perhaps most important, a staff that puts all of this together with service to create the overall image and competitive position.

Front office personnel are literally on the front line in creating that image. Reservations agents are often the first to have contact with the guest, while front desk agents, Concierges, bell attendants, and door attendants are among the first needed to satisfy guest needs make front office work interesting and rewarding. And since no two guest, two hotels, or – for that matter – two days are even the same, front office work can't help but be exciting and challenging. This chapter will outline some basics about the hospitality industry, as well as show how hotels can be classified by size, market, level of service, and ownership. The hospitality industry is part of a larger enterprise known as the travel and tourism industry. The travel and tourism industry is vast group of businesses with one goal in common: providing necessary or desired products and services to travelers. Hospitality can be termed as a deliberate, planned and sustained effort to establish and maintain mutual understanding between an organization and the public i.e., the business of making and keeping friends, and promoting an atmosphere of better understanding. As per the Oxford Dictionary Hospitality is defined as: Reception and entertainment of guest, visitors or strangers with liberality and goodwill.' The word hospitality is derived from the Latin word —Hospitalities. The travel and tourism industry can be segregated into five main parts and further it shows the various sub components of each part. The hospitality industry consist of lodging and food and beverage operations – plus institutional food and beverage services which do not cater to the traveling public. Lodging operations stand apart from other travel and tourism businesses since they offer overnight accommodations to their guests. Many lodging properties provide food and beverage service, recreational activities and more. The hospitality and tourism industry is a vast sector that includes all the economic activities that directly or indirectly contribute to, or depend upon, travel and tourism. This industry sector includes: Hotels & Resorts. Restaurants & Catering. Night Clubs & Bars.

II. LITERATURE REVIEW

- The hospitality industry in Germany is dynamic and growing. In 2018, the industry witnessed an addition of more than 16,000 rooms and 200 hotels.
- With the increasing number of tourist arrivals, the hospitality industry is projected to grow further in the future. Travelers from abroad spent more than 39 million nights in the country during the first half of 2019, which was 3% more when compared to the same period in 2018, according to Germany's Federal Statistical Office.
- Domestic tourism is also increasing rapidly in the country. In the first half of 2019, the overall overnight stays by Germans within their home country rose by 4% to around 182 million, as compared to the same period in 2018.
- Germany has been recording an increasing number of leisure trips and business trips. The country is home to a number of companies, with more than 200 brands that are spread across Germany.
- Germany is also home to a large number of independent hotels with more than 20,000 hotels that perform independently and cover all the segments. The international brands have their footprints all over the leading tourist destinations, with a high number of rooms; however, domestic brands have their presence in the tier-II cities, with good market coverage.

III. CASE ANALYSIS

History of Hospitality and Tourism in Germany

The history of tourism in Germany goes back to cities and landscapes being visited for education and recreation. From the late 18th century onwards, cities like Dresden, Munich, Weimar and Berlin were major stops on a European Grand tour.

Spas and Seaside resorts on the North and Baltic Sea (e.g. Rugia and Usedom islands, Heiligendamm, the islands Norderney and Sylt) particularly developed during the 19th and early 20th century, when major train routes were built



to connect the seaside spas to urban centers. An extensive bathing and recreation industry materialized in Germany around 1900. At rivers and close to natural landscapes (along the Middle Rhine valley and in Saxon Switzerland for example) many health spas, hotels and recreational facilities were established since the 19th century.

Since the end of World War II tourism has expanded greatly, as many tourists visit Germany to experience a sense of European history and the diverse German landscape. The country features 14 national parks, including the Jasmund National Park, the Vorpommern Lagoon Area National Park, the Müritzer National Park, the Wadden Sea National Parks, the Harz National Park, the Hainich National Park, the Saxon Switzerland National Park, the Bavarian Forest National Park and the Berchtesgaden National Park. In addition, there are 14 Biosphere Reserves, as well as 98 nature parks.

The countryside has a pastoral aura, while the bigger cities exhibit both a modern and classical feel. Small and medium-sized cities often preserved their historical appearance and have old towns with remarkable architectural heritage – these are called Altstadt in German.

Modernization theory

is used to explain the process of modernization within societies. The "classical" theories of modernization of the 1950s and 1960s drew on sociological analyses of Karl Marx, Emile Durkheim and a partial reading of Max Weber, and were strongly influenced by the writings on Harvard sociologist Talcott Parsons.[1] Modernization theory was a dominant paradigm in the social sciences in the 1950s and 1960s, then went into a deep eclipse. It made a comeback after 1991, when Francis Fukuyama wrote about the end of the Cold War as confirmation on modernization theory and more generally of universal history. But the theory remains a controversial model.

Modernization refers to a model of a progressive transition from a "pre-modern" or "traditional" to a "modern" society. Modernization theory suggests that traditional societies will develop as they adopt more modern practices. Proponents of modernization theory claim that modern states are wealthier and more powerful and that their citizens are freer to enjoy a higher standard of living[citation needed]. Developments such as new data technology and the need to update traditional methods in transport, communication and production make modernization necessary or at least preferable to the status quo. That view makes critique difficult since it implies that such developments control the limits of human interaction, not vice versa. And yet, seemingly paradoxically, it also implies that human agency controls the speed and severity of modernization. Supposedly, instead of being dominated by tradition, societies undergoing the process of modernization typically arrive at forms of governance dictated by abstract principles. Traditional religious beliefs and cultural traits, according to the theory, usually become less important as modernization takes hold.

The theory looks at the internal factors of a country while assuming that with assistance, "traditional" countries can be brought to development in the same manner more developed countries have been. Modernization theory both attempts to identify the social variables that contribute to social progress and development of societies and seeks to explain the process of social evolution. Authors such as Daniel Lerner explicitly equated modernization with Westernization.

The legacy of technology debt:

Many travel and hospitality companies have retained legacy mainframe systems which support their core-business processes, applications and data. Besides being inflexible and cost intensive, these legacy systems prevent the adoption of agile development with CI-CD methodologies which are necessary to quickly update software and applications to include new features or revise products and services in response to market situations.

Despite the urgency of modernization, the overhaul of a complex legacy system is a mammoth task. It needs a carefully calibrated approach that minimizes risk and impact on business continuity, with room for an easy rollback in the event of a failure.

The three-phase approach:

Modernizing IT infrastructure and applications can be carried out in three strategic phases - transform, coexist and eliminate. In the transformation phase, applications that can be easily migrated to cloud-native solutions are modernized. Cloud service providers such as AWS offer numerous solutions for seamless migration. Compute capabilities such as AWS Serverless Lambda enable developers to choose their tooling platform and transform each feature of the legacy monolith while maintaining the data synchronization with data replication capabilities using AWS

Data Migration Services (DMS). AWS messaging tools make this communication more flexible and reliable. The microservice acts as the publisher and Amazon's Simple Queue Service acts as the subscriber, eventually pushing messages to the monolith. This minimizes business disruptions as it allows applications to coexist in the legacy and cloud-based environment.

Incrementally replacing specific functionality requires a façade that intercepts requests to the backend system(s). During migration, the façade routes these requests either to the legacy application or to the new services. This coexistence allows features to be migrated gradually, and consumers can continue using the same interface, unaware that a migration has taken place.

The eliminate phase begins when most functionalities have been added to the new system at a desired pace and the legacy system gets 'strangled' and made redundant. Once this process is complete, the legacy system can safely be retired.

Creating an event-driven ecosystem:

The nature of travel business is such that the IT systems need to support multiple interrelated events and functions. This is best served by using a microservice-based model that can 'publish' and 'consume' events through multiple components.

Let us look at a simple use case of seat reservation for an airline carrier. It has three functions: 1. seat selection 2. payment 3. meal booking. Each functionality is accomplished by microservices implemented in the respective domain using individual datastore. Failure in any functionality requires the system to roll back the entire transaction – and the company might lose out on a related transaction too.

If we look at how these functions are choreographed at the IT backend, we find a series of interrelated microservices. While AWS Managed Kafka Service (MSK) could be chosen as the main event broker, each microservice could be implemented in any desired AWS compute platform. If we choose an appropriate cloud design pattern considering all necessary scenarios, we can continue to achieve consistency across multiple data domains despite maintaining separate datastore per service.

The workflow of a designated process (saga) could be realized in the form of interrelated events in a defined manner to provide scalability and resilience while maintaining data consistency. The seat reservation process should be able to provide not just a smooth experience to an individual customer, but also be scalable to manage the holiday season rush. Higher scalability requires microservices to maintain individual datastores.

The approach of creating such a choreographed saga is well proven in the AWS ecosystem using the compute and persistence services chosen from multiple options supported by Amazon's highly resilient backbone infrastructure. While AWS takes the responsibility of managing the platform availability and resilience, designers and developers can concentrate on applying appropriate business logic to consume every event pertinent to address the workflow. Based on the skill sets or preference, microservices could be implemented in one or more languages while running over a single platform.

In summary, we addressed two aspects of legacy modernization in the travel sector. One, migrating in a calibrated manner to ensure business continuity; and second, using microservice-based architecture of cloud-native solutions to choreograph a seamless and scalable experience for customers. Leveraging top of the line solutions from cloud service providers such as AWS for both these aspects helps travel companies achieve key benefits including:

- Lower capital expenditure of migration to cloud infrastructure
- Faster deployment and scalability of applications
- Improved protection and security
- Less hardware to manage means a more sustainable IT infrastructure

Add to this the advantages of legacy modernization – eliminating cost of maintaining legacy hardware, inventing business models at speed, building partner ecosystems, and achieving purpose-driven customer centricity. The move to cloud is a flight path to growth and innovation for travel and hospitality companies.

How modernization can help the hospitality industry in Germany 2022:

Modernization is becoming more and more popular over time, and it is even more critical now that the world is facing a global economic, health and environmental crisis.



With the pandemic, the issue of global warming seemed to have been put on the back burner to tackle something more urgent and imminent. But in 2021, nations around the world have come together again at COP26 to find solutions to this problem and understand what each can do to achieve zero emissions in the coming decades.

The hospitality industry is a growing multi-billion dollar market. Technology has confined the market, so continuous innovation is needed to keep hotels relevant and competitive.

Renovating instead of building new is a way of trying to fight against the current crisis which is hitting the hotel industry hard.

What is retrofit?

Retrofitting is the addition of new technology or functionality to older systems, for example, energy retrofitting a home or upgrading existing buildings with energy efficient equipment. These modifications are intended to improve energy efficiency or decrease the energy consumption and demand of building use, thereby improving the performance of the commercial building. Energy efficiency retrofits also reduce operating costs because they can use technology and technological automation to optimize operational efficiency.

Modernization in the hospitality industry can include, for example, additional technology that allows guests to customize their room heating, cooling and lighting to create their ideal environment without having to adjust and change each device manually. At the same time, hotel owners can also take advantage of these technologies that will help them save on energy costs, be more environmentally sustainable, and save on operating costs.

Facing the climate crisis:

One of the biggest problems faced by the hospitality industry is the energy crisis, as the world moves towards clean and green energy. Renovation can not only make the hotel guest experience more enjoyable, but it can also help solve energy problems and reduce their energy costs by up to 30%.

When staying in hotels, guests expect great comfort, ease, luxury and convenience. With new post-pandemic standards and interests, older hotels need to be strengthened, and this is where renovation can help improve hotel quality and efficiency without major capital investment.

Meeting the demands of the pandemic:

With the pandemic still ongoing, hotels in Germany would consider using technology to improve the safety of their space. When planning this year's renovation, for example, hotel managers may consider adding an oxygen saturation monitor that constantly monitors the number of people in the hotel room. This can be beneficial as it can help ensure the room's ability to meet health and safety standards.

The use of technology can also apply to different situations; for example, automated door locking systems and automated light switches can help avoid direct contact with other people and meet Covid safety requirements.

Recent years have brought many changes and challenges in the hospitality industry to revive tourism and better guest experience. At SensorFlow, we strongly support modernization in the hospitality industry with our smart solutions for hotels.

With SmartREM, for example, SensorFlow installs occupancy sensors that detect when a guest is no longer occupying the room, which then sends data to the room thermostat to turn off or switch the HVAC system to a more energy-efficient setting. When the guest returns to the room, SensorFlow's occupancy sensor identifies the guest's return and automatically resets the HVAC to the original setting.

If you want to apply for a smarter and more sustainable hotel, complete this application form and we will be happy to help you.

- **Modernization:** The process of replacing legacy technologies with newer, more innovative platforms and services to streamline rule-based business processes, alleviating strain from the human workforce. Learn more about modernization
- **Transformation:** Often referred to as "digital transformation" specifically. The act of transformation enables businesses to update and evolve both internal practices and interactions with customers and/or partners.
- **Innovation:** Innovation in business involves the adoption of more intelligent, flexible and agile methodologies

to better harness/use data, devices and emerging technologies. Learn more about innovation

Modernization in hospitality industry – Key Findings, Benefits & Roadblocks

The report indicates that 94% of the surveyed organizations are actively modernizing their current business processes.

Though innovation in business isn't a completely new phenomenon, most organizations are still in the early stages of modernization in a general

sense. However, there is a sizable percentage of businesses in certain industries that are actively modernizing, or have even finished modernizing their legacy systems.

German hotel market leading in Europe:

Globally hotel markets are facing huge changes. Europe and in particular Germany can be measured in terms of renewals and smart future hotels. Currently 595 hotels are in the pipeline for Germany. Thereof about a third of all hotel construction projects in Europe are being built in Germany. This data has been revealed by TOPHOTELPROJECTS, the worldwide leading provider for global b2b hotel data.

Overview of selected hotel markets in Europe:

Europe – 1.572 projects with 269,085 rooms

Germany: 595 projects / 77,142 rooms

UK: 183 projects / 31,393 rooms

France: 72 projects / 14,402 rooms

Spain: 78 projects / 15,821 rooms

Italy: 68 projects / 9,949 rooms

For comparison:

USA – 1.189 projects (238,835 rooms)

China – 764 projects (208,307 rooms)

The structural transformation of the hotel industry in Germany continues vigorously. According to market experts, more hotel chains will be aggressively expanded in five years, which will increasingly badger the middle class. In addition, the qualitative demands of the guests will change and rise further in the next few years. Mediocre businesses will find it increasingly difficult and just good companies will do good business, so the analysis of the prestigious hotel adviser Prof Stephan Gerhard.

Still on the rise is the low-budget hotel chain Motel One. 13 new hotels are currently in the pipeline in Germany, thereof in Berlin, Munich, Cologne, Frankfurt and Leipzig. Next spring the Motel One Berlin Upper West will open its doors and 580 rooms. The hotel will be located in the new Atlas Tower in Berlin.

TOPHOTELPROJECTS collects and manages data on hotel projects and chains worldwide and offers their clients a comprehensive overview of new projects and refurbishments, as well as renovations and other building projects in the hotel industry. Besides the actual number of 5,000 hotel projects worldwide, the database also lists more than 2,000 hotel chains.

New Hotel Technology & Tech Trend in Germany:

Below you find an overview of the newest hotel technology trends. Some innovations are due to general changes in consumer behavior and the progress of technical developments, and some changes accelerated due to a shift in consumer behavior to the coronavirus pandemic.

A. Contactless Payments

Contactless payments are among the single most crucial hotel technology trends, helping to improve the speed of transactions. In the past, this was restricted to contactless cards. Still, the more recent emergence of mobile wallets and wearables has expanded this area, providing customers with options even when they do not have their cards with them.

While contactless payments have typically been seen as a convenience, they have emerged as much more of a necessity in the wake of the coronavirus pandemic. Many customers are reluctant to handle cash or use keypads to enter their PIN, while using contactless methods as much as possible can also help to keep your employees safe too.

B. Hotel Robots

The use of robots is among the fascinating hotel technology trends, because it is a technology that is improving rapidly. Already, there are examples of hotels that have used robots for things like greeting guests upon arrival, or providing tourist information on a 24/7 basis. Still, the uses are now extending far beyond this too.

Hotel robots have the potential to assist with housekeeping activities, such as vacuum cleaning floors and killing germs, which can be especially important for making your property COVID secure. However, some hotels are also utilizing robots for luggage transportation, security, room service and restaurant waiting.

It is a technology that is also likely to continue to expand in the years ahead, as robots become more reliable and better equipped to improve performance over time through artificial intelligence and machine learning.

C. Chatbots

Chatbots and online widgets are standard on many websites and can form a vital part of a modern hotel marketing strategy. However, they are also now being deployed on things like Facebook Messenger and WhatsApp too. The main benefit here is the ability to provide customers with swift answers to questions at all times of the day.

Some chatbots can be configured to communicate in different languages too, offering a more comprehensive customer support experience. The importance of chatbots has also grown in the wake of COVID, because customers will often have questions about policies and procedures, and these can usually be answered effectively by bots.

D. Hotel Virtual Reality Tours

Virtual reality, or VR for short, is a technology which involves creating a digital environment for users to explore. It is especially effective for those in hotel management, because it allows you to present a digital recreation of your hotel for users to check out from the comfort of their own home.

In many ways, VR is the ultimate way to experience a hotel before making a booking and many hotel websites are turning to VR tours and 360 videos during the booking process to attract additional sales. With concerns about COVID, VR tours can be especially useful, helping customers to understand exactly what to expect during their stay.

Most virtual reality tours can be viewed in a standard web browser on a computer, mobile or tablet, making it a widely accessible hotel technology. However, the experience can be enhanced with a dedicated VR headset.

E. Mobile Check-In

Mobile check-in technology allows customers to check-in using a mobile app. In this sense, it shares similarities with contactless payments, because they both aim to reduce friction for customers. Additionally, both of these hotel tech trends can improve convenience and enhance the customer experience by reducing waiting times.

The option for mobile check-ins can help hotels to move away from having set times where guests need to check-in, because the check-in process can be carried out without the need for human interaction. For this reason, it is also a good piece of hotel technology to highlight in your COVID related marketing efforts.

F. Voice Searches

The rise of home-based gadgets such as Alexa and Siri has illustrated that the mechanics behind basic voice searches have incredibly evolved during the past few years. Not only are more detailed answers provided, but it is much easier to employ these systems as a means to augment existing hotel technology. In a hands-free world, this makes a great deal of sense. Guests can now book reservations or immediately contact a hotel representative using dedicated voice-activated applications. This is quite beneficial while out and about. Voice technology is certainly set to replace more traditional options such as a static telephone number. In an era partially defined by electronic immediacy, it only stands to reason that voice searches have been included within this list.

G. Cyber Security

Hotels are at an ever-increasing risk of running into cybersecurity problems, ranging from loss of customer data, through to more malicious threats, such as phishing, DDoS attacks and ransomware. For this reason, you need to make sure you invest in training and make use of cybersecurity tools.

The importance of having the right cybersecurity protocols is heightened if your hotel has some of its employees working from home in response to the pandemic. In these situations, employees may be using their own devices, or connecting to your network remotely, and this can introduce additional security risks that need to be taken into account. The hotel industry is a particular target for these threats, because hotels handle a large amount of customer data and also tend to have a large number of employees, each with accounts that could potentially be compromised.

H. Smart Hotels

It seems as if “smart” technology has become an inextricable component of our daily lives. Its importance has not been lost within the hospitality sector. Automated checkout services, customised environmental settings within each room, the use of the Internet of Things (IoT), and wireless data linking are now all becoming commonplace. The ultimate goal is to provide guests with a fully customised experience. This will help to reinforce the brand identity of the hotel in question and as a result, they are more likely to return in the future[1].

I. Service Automation

Self-service automation intends to place the decision-making process in the hands of the guests as opposed to hotel staff. This directly follows trends which have been witnessed across multiple sectors. Self-service kiosks, online registration, targeted feedback questionnaires, and options to pre-set the amenities within a room are now beginning to take center stage. However, this is not to say that traditional staff have been removed from the equation. Their services are rather being augmented with a heightened sense of in-house automation.

J. Facial Recognition Technology

Many consumers are just beginning to become accustomed to facial recognition technology; particularly in relation to smartphone security. Still, it is important to mention that these very same methods represent another important facet of modern hotel technology. There are several benefits which facial recognition applications are able to provide for hotel management:

- Enhanced levels of security and privacy
- Only authorized personnel will be allowed to enter specific areas
- This method can be used in conjunction with electronic payments as another form of verification

K. Artificial Intelligence (AI)

It can be argued that AI represents the most profound example of how hotel technology is advancing. This is due in no small part to the fact that its presence can be seen in the majority of the systems mentioned above. The ultimate goal of artificial intelligence is to provide guests with a more seamless and streamlined experience during their stay. There are several ways in which this can be accomplished:

- Collating and interpreting guest data
- Mapping and identifying user preferences to create a tailor-made accommodation package
- More targeted and effective marketing techniques
- The ability to proactively determine the efficacy of a publicity campaign
- Personalising the entire guest experience

Artificial intelligence plays a profound role in hotel technology and this method has only recently entered into the mainstream marketplace. As its presence grows, it is fully reasonable for customers to expect a one-of-a-kind experience.

L. Augmented Reality (AR)

Augmented reality is intended to enhance the physical environment of the end-user via devices such as smartphones and tablets. Some applications within the hotel sector include offering in-house interactive elements (such as maps and points of interest), providing a digital history of the property and supplying guests with relevant information when they are located within certain areas of the hotel (such as a menu if they happen to enter a restaurant).

**M. Guest Apps**

Smartphones have taken center stage in terms of daily communications. From chatting with friends to answering emails and purchasing products online, the fact of the matter is that the average consumer has come to depend upon such innovative applications. This observation has not been lost within the hospitality sector. Hotels are now developing their own selection of branded apps so that guests can enjoy an even greater level of connectivity and correspondence. Modern bundles offer features such as virtual payments, 360-degree tours of a room and immediate contact with a concierge.

N. Big Data

Big data represents one of the “catchphrases” of recent times, and for good reason. The ability to collect, interpret, disseminate, and react to this information is critical for hotels. This is particularly relevant for large properties that might cater to the needs of thousands of guests on a monthly basis. Through a combination of the data they gather themselves, and information available online, hotels can use big data to assist them with a revenue management strategy, identifying offers which might suit specific travellers or hotel guests or embracing the proper sales and hotel marketing approaches[2].

O. WiFi 6:

When it comes to hotel technology that has the potential to benefit guests and hotel staff alike, the emerging WiFi 6 is one of the single best examples. This represents the next generation of WiFi technology, and while it will not completely revolutionize how WiFi is actually used, it can greatly improve the user experience.

The data rate improvement associated with WiFi 6 is more than 30 per cent, while throughput improvement over an entire network is around 300 per cent. This means that a greater number of devices can be connected to the hotel WiFi and still perform as expected, facilitating video streaming, web browsing, smart device usage, and much more.

P. Hotel NFT Marketing Strategies

Non-fungible tokens, or NFTs, are still an emerging hotel technology, but they are showing particular promise in the field of hotel marketing. In particular, hotels have the opportunity to sell NFTs in partnership with local artists, or on behalf of business partners, and these NFTs can be thematically linked to the hotel itself too.

Taking this idea to the next level, NFT technology can also be used to help facilitate digital transactions, and this can be of benefit to hotels exploring the metaverse and the creation of interactive virtual worlds. Furthermore, NFT technology can be used to power a customer loyalty programme or to boost brand awareness on social media.

Technology in the hospitality industry – exploring the very latest trends

Technology is advancing at a faster pace than ever before, and this is changing both the expectations of patrons as well as the way in which the hospitality industry conducts its business. Some of the trends in industry are leading to great improvements and savings for hospitality industry companies; while some are changing how hotel developers plan their buildings, infrastructure, management structure and staffing requirements.

In this article, Aurecon’s experts look at some of the latest trends in industry.

Wi-Fi infrastructure overhauls

Nowadays, hotel guests who travel with devices such as phones, tablets and computers no longer see Wi-Fi as a perk, but as a must-have when they check in at a hotel.

Hotel guests expect to be able to connect to the internet seamlessly and without too many interruptions, leading hotels to invest in better, faster Wi-Fi infrastructure so that people can do business and use their technology devices with ease when they book their stay.

Hotels are also starting to move away from user pay models. In the past, hotels could charge exorbitant rates and guests knew they would have to pay if they wanted to go online.

Installing and maintaining a hotel-wide wireless network may be coupled with costs, but many leading hotel groups have started to install high density Wi-Fi and started to offer in- building mobile phone coverage as guests have come to

expect these services during their stay (not only for themselves, but also for their guests if they are hosting a conference or function at the hotel). It might not yet be financially feasible for hotels to completely abandon the user pay model, but many of them are rethinking their current infrastructure and pricing models.

Digital conference facilities

Besides being able to offer high density Wi-Fi for conferences and meetings, hotels also need to be able to offer access to audio-visual (AV) and digital facilities for conferences. While the amount of AV and digital equipment that goes into a typical conference room is fairly minimal, staging companies are often hired for various projects in order to equip the facility as required.

A key component in designing effective conference facilities that can accommodate this type of technology is creating easily accessible, concealed pathways in ceilings and flooring where adequate power and data connectivity can be facilitated. If a hotel has extensive conference facilities, network design becomes critical to ensure indoor mobile phone coverage, Wi-Fi connectivity, VoIP, real time location services (RTLS) and internet protocol television (IPTV) as well as all the accompanying AV and digital equipment.

Mobile communication and automation

In many airports, it's no longer necessary to stand in a queue to check in and people are expecting the same kind of easy, technology-driven check-ins at hotels. Guests want to be able to do everything from checking in at a venue's automated kiosk to ordering room service with a digital device instead of standing in queues and moving around the hotel premises to order food.

Thanks to digital innovation and social media, guests also expect digital interactions with the hotel to be personalised. When investing in digital apps for check-ins, room service and other customer-oriented digital interactions, hotel operators are investing in systems and technologies that can personalise the experience for guests, including a guest's name being displayed on the welcome desk at a digital check-in station; their food preferences or past purchases being displayed in a digital room-service order system; and similar.

In addition, the 'concierge in your pocket' concept is fast gaining popularity due to its ability to allow operators to include useful information such as surrounding entertainment venues; medical facilities; and similar services.

Like many of the other technology trends in the hospitality industry, investing in a check-in/concierge app requires a small initial investment and can lead to greater efficiency and savings as hotel staff are able to focus on customer service and property developers don't have to create large static reception desks at each entrance and hotel location.

NFC technology

Near field communication (NFC) technology is the next-generation short-range high frequency wireless communication technology that gives users the ability to exchange data between devices. Communication between NFC devices can transfer data at up to 424 kbits/second and the communication is enabled when two devices touch each other, which makes mobile payments (by touching the smart phone to a credit card) an instant, secure process. This technology is also ideal for self check-ins by guests at hotels as well as the next trend in this article: smart room keys.

Besides payments and an easier way to gain entry to hotel rooms, NFC technology can also be used to personalise a guest's experience at a hotel or resort. For example, advertising can be targeted based on gender and age (so if a child walks by a digital sign in the lobby, the advertisement can change to promote a local theme park or the hotel's kids club) and this technology could also be used to track loyalty points from a guest's use of the conference facilities or room service. This opens many doors for hotels who want to offer a more personalised experience at their establishment[3].

Robots and infrared sensors

Some hotels are already offering more futuristic experiences, with robots delivering any items ordered through room service to a guest's door. A boutique hotel that is nestled between Apple's headquarters and other tech companies, called Aloft Cupertino, has a robot butler called Botlr that is able to move between the various floors of the hotel in order to take items such as toothbrushes, chargers and snacks to guests. These types of digital systems not only make it



easy for hotel staff to deliver items to guests, but it also offers a forward-facing digital experience to people who stay at the hotel.

Infrared scanners are now also used to minimise disruptions relating to housekeeping (which is a common complaint from customers). Instead of hanging a 'Do Not Disturb' sign on doors or having cleaning staff wake up traveling guests with knocks and phone calls, hotel staff can take a more innovative approach by using infrared scanners that will detect body heat within a room and tell cleaning staff that they should rather come back later if the room is currently occupied.

Smart room keys

Hotels will increasingly install smart room access systems that allow guests to unlock their doors by simply swiping their phones across a keyless pad on the door. Starwood (owner of the Sheraton, Weston and "W" hotel chains) has already upgraded 30,000 room locks across 150 hotels with this system and Hilton will be implementing a similar system at 10 of their US properties this year. In 2016, they will be deploying the smart room key technology globally. This technology will mean that guests don't have to worry about picking up keys and front desk staff won't have to issue new keys in the event that a guest loses their room key.

Another innovative way to offer a keyless experience is through fingerprint-activated room entry systems and retina scanning devices. Retina scanning is even more accurate and secure than fingerprint scans and hotels like the Nine Zero Hotel in Boston have already installed an iris scan system in place of key cards to control access to the hotel's presidential suite.

Entertainment on tap:

According to a Smith Micro Software trend report entitled The Future of Hotel In-Room Entertainment; people are increasingly plugging in their own devices for in-room entertainment. The hotel room's television, radio and clock are taking a backseat as travellers use their own technology to keep themselves entertained. An earlier survey by Smith Micro Software showed that 81% of respondents wanted access to mobile video content at hotels and 55% said that mobile content availability at a hotel would influence where they choose to stay.

Cloud services:

Being able to provide entertainment on tap and mobile content has led to the trend of hotels investing in cloud services. While hotels want to be able to offer digital content, they don't necessarily want to invest in IT infrastructure and IT staff, making cloud computing the ideal solution[4].

Not only is the initial capital investment lower than IT infrastructure and servers, but it gives hotels the flexibility to expand and adjust their IT needs along with business growth, invest in upgrades without causing a complete IT system overhaul and it removes the administrative burden of managing an IT system in-house. Cloud computing is becoming the norm and we will continue to see hotel groups replacing their legacy IT infrastructure with cloud solutions.

Feedback on social media:

Technology has infiltrated almost every aspect of our lives and hotel developers need to realise that almost any person checking in at a hotel, resort, spa or lodge, will have a smartphone in their pockets.

Many companies in the hospitality industry are already using social media to their advantage as guests check-in on location-based social media apps, tweet about their experience on Twitter and share their holiday photos with friends and followers on Instagram and Facebook. This trend will continue and hotels can expect to see even more social media engagement from guests who use these platforms to give feedback about their experience, complain and give compliments about their stay. Hotel staff are also expected to provide feedback and address and complaints or queries from guests in real-time.

From an online, reputation management perspective, this is a trend that marketers and hotel management need to manage proactively. Consumers don't make decisions about where they're going to travel to or book a stay in a vacuum – they turn to community-developed content and rating systems such as Trip Advisor and social media to make decisions about holiday destinations, hotels and leisure. This shift has led to many hotel and leisure groups developing active social media monitoring and communication strategies in order to stay on top of what's being said about them online and making sure that both marketing and operational staff address feedback that has been given online.

An additional way in which operator can take full advantage of technology in this space is using it to communicate how well they are doing (in real time) with respect to their various environmental initiatives (such as real time electricity/water usage reporting, etc.)

Converged LANs to support multiple services:

Converged local area networks (LANs) will also help hotels to create more intelligent buildings. A variety of computer-based building services can be automated in order to control lighting, refrigeration, air-conditioning and heating. Besides reducing energy consumption, converged LANs can also be set up to provide a smarter, more personal experience. If a guest is known to prefer his or her room temperature at 18°C with the lights dimmed to 65%, for example, this can be programmed before the guest checks in at the hotel[5].

Integrated, seamless experiences:

Technology doesn't mean that customer experience can only happen online and through devices, check-ins and online comments. All of these experiences need to be part of an integrated, dynamic system so that the guests' experiences are at the forefront of the marketing and

operational team's mind. If a guest leaves a comment about their stay when they check-out of the hotel, for example, the right people need to reply and acknowledge this type of communication. If a guest leaves a complaint about not being able to stream mobile content during their stay, then processes should be put in place to ensure the right person follows up by communicating with the guest and solving the problem at the hotel.

Marketing, management and hotel developers can no longer work in silos and these technology trends are giving them the opportunities, tools and solutions they need to create memorable experiences that can lead to positive change and growth in the industry.

III. SUMMARY

The article presents the results of a study on the development of the service sector business management modernization concepts in the form of real practical measures in general and in relation to the corporate planning, programming, design their development. An algorithm for implementation of adaptive management as a priority the modernization tool in this area. Our study was based on the assumption that the management of the modernization and maintenance of technology in enterprises of hotel services will allow to fully realize the goals of the strategic stability of the enterprises of sphere of services, will contribute to the attainment of a new quality of development, to mobilize potentially available resources in the field of hospitality and the involvement in it of effective market mechanisms, convincingly proved that the modernization of the service sector – the update of the existing forms and methods of management, the implementation of new features companies within predictable limits. Under the modernization tools flexible management system now should be understood a process-functional management system to ensure the achievement of targets in different periods of organizational development of the company, without degradation of the resource potential, by adapting to the changing conditions of the hotel business[6].

IV. CONCLUSION

At the end I would like to conclude my topic with a saying " modernization is not an abstract thing ; it's a very specific task .Technology can help Hospitality industry to streamline their processes, reduce costs, lower staff workloads, increase revenue generation potential and improve the level of customer experience is delivered.

The hotel industry is one of the fastest-growing sectors of the world and an integral as well as an indispensable part of the Hospitality industry. In this case study we are going to discuss about how modernization and modifications in Hospitality industry in Germany has been changed over a period of time .

The Hotel industry has shown little signs of slowing down over the years even during economic recessions. However, the COVID-19 pandemic wreaked havoc to the industry which had not seen a downfall in decades.

While the hospitality and tourism industry has begun to rebuild itself after the worst year of 2020, there are challenges that still needs to be looked upon. These were existent from the past few years and will need immediately lookup in 2022 with the help of modernization and modifications.

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