

DIGITAL TRANSFORMATION IN THE HOTEL BUSINESS: A CASE OF FIVE STAR HOTELS IN DAR ES SALAAM- TANZANIA

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ABSTRACT

The world is now experiencing the fourth industrial revolution, a period marked by emerging technologies such as artificial intelligence, robotics, virtual reality, the Internet of Things, and fifth-generation wireless technology. This period has significantly transformed our hotel industry and will continue to do so. Recently Covid-19 pandemic has accelerated digital transformation resulting in a widening technology-mediated customer experience. This study assessed the digital transformation in the hotel business with specific objectives to ascertain hotel business situation prior to the digital transformation process, evaluate the digital transformation process; and then recognize hotel business situation after the digital transformation process in the period of Covid19. Semi structured questionnaires for interviews and observations were used to collect primary data. The target population consisted of 50 purposively selected hotel senior staff in Johari Rotana, Ramada Resort and Kilimanjaro Hyatt Regency five star hotels in Dar es Salaam City, Tanzania. Data collected were edited, coded, tabulated and analyzed using NVIVO based on study objectives. Descriptive statistics were computed and study findings presented using tables and percentages and interpretations were made and the report was written. It is recommended that more and quick digital transformation are necessary for the hotel business The hotel business executives must endeavor to use digital technology in their plans and operations of their businesses in order to satisfy customers expectations as well as increase revenue generation

Key words: Digital, transformation, Hotel business, Covid 19, technological innovation, Dar es Salaam

Introduction.

Unrealistic changes, unseen fear, unprecedented time, unpredictable behavior of Corona virus (Covid 19) on different human beings led to social distancing, masking and another preventive measure. The world-wide lockdown led to the closure of hotels, loss of business, redundancy of employees and lean hospitality staff were a few of the measures adopted by the hospitality and tourism industry to control the spread of Corona virus. The hospitality industry became standstill for almost three years (2020 to 2023). Cruise lines stopped sailing, flights all across the globe were grounded, railways stopped ferrying people, these changes led to swift changes i.e. revenue and job losses. This led to opting for new avenues to encompass the revenue losses (UNWTO, 2020).

Digital technology was embraced by the service industry to boost its accessibility and sustaining the business. Robotic infrastructure and tech appliances were adopted to provide contactless services in hospitality services to ensure safe and hygienic practices, for example, Pedal and Sensory dispensers for emitting sanitizer. All major programs such as FHRAI webinars, /HE webinars, BW Hotelier Indian Hospitality Summits were conducted on a virtual platform under an unlimited umbrella of technology (Maitra. 2021)

The contactless technology (near field communication) offers the feasibility of hosting mega gatherings with attendees from all over the world. The digital platform has become a preferred way of conducting

business with people connected on digital platforms i.e Zoom, WebEx, Ms teams, Google meets etc. Working from home, attending office virtually was accepted as the safest way to avoid personal meetings for work-related options (UNWTO,2020). Digital transformation in hotel businesses will be helpful in better up keeping growth of businesses.

According to UN Secretary, - Genera/Antonio Guterres (UNWTO,2021) "Tourism and hospitality industry is a key pillar of world economic generator. Therefore, we must rebuild the hospitality sector for its sustainability through digital transformation." In the post-COVID-19 phase, digital overdrive for the hospitality sector in Africa including Tanzania is rising gradually. The hospitality sector is working on the digital platform for survival and sustainability. In that case, the five star hotels in Tanzania have become virtual and major hotel companies adopted the digital transformation for enhancing the visibility business growth.

The COVID-19 pandemic has increased the need to innovate and generate a source of maintenance for operations, business models and jobs (Gregurec, *et al*,2021) The latter has been particularly important in hotels in different parts of the world, which have experienced, due to the pandemic that has not yet ended, a decrease in demand, and they currently need to be visible and show availability at all times and places. In this sense, the incorporation of a digital transformation of hotel businesses has allowed them to develop innovations that

provide the sustainability that this industry require(Alrawadieh.*et al*,2021)

According to Alrawadieh, *et al*, (2021), the increasing dependence on digital technology is acknowledged in hotel industry is no exception. In this sense, it is possible to analyzing the digital transformation of companies associated with the hotels, as a dynamic process that allows transforming the main activities of companies and their value propositions through the effective use of digital technologies.

With regard to hotel businesses, different digital tools have changed the way business is done. Social networks, for example, have made it possible for guests in specific accommodations to share their experience with potential customers from different parts of the world, generating a new scenario to boost the company's visibility (awareness) and brand (Ristova, and Dimitrov, , 2019).Social networks, as a means of communication and hotel service marketing, Internet and mobile applications, as digital channels that facilitate service marketing and customer feedback, plus information technology that enables the optimization of administrative processes (reservations, service payment, guest check-in and check-out, etc.), improve not only consumer experience and company visibility but also the company's back office activities, thus providing an opportunity to improve its performance.

On the other hand, the use of information and communication technology (ICT) has led to ongoing innovation in hotel services, thus better catering to the needs of different client niches, while at the same time improving the

efficiency and reliability of hotel business operations (Stankov, *et,al*, 2019).

Digitalization and Innovation in Hotels Business.

Digital transformation could be understood as the dynamic adjustments observed in the core activities, processes and revenue models of firms through the effective use of digitalization or incorporation of digital technologies (Alrawadieh, *et al*,2021). Digital transformation has become essential for companies in any sector, including the hospitality sector, to achieve business objectives, improve service quality, reduce costs and gain a competitive advantage. Currently, communication supported by hotel digitization is an integral element of the service experience. The use of digital solutions can cover various contexts, from actions to interact with hotel guests, improved visual communication with the use of virtual reality, functions on hotel websites or the incorporation of innovations in operational processes of each firm. In the hotel sector, new information technologies foster business innovation, contribute to sustainability, improve the accessibility of hotels and landmarks and increase the productivity, profitability and quality of services. Digital transformation in the hotel business could include artificial intelligence and robotics that would result in jobs shifting from human to nonhuman employees, thus transforming tourism and hospitality from a labor-intensive industry into a technology-intensive industry (Alrawadieh, *et al*,2021).

According to Westerman, and Bonnet, (2015) a series of assumptions must be

reviewed when thinking about the digital transformation of hotel business, since the vision of the technologies of the last century should not be the same as in the current digital world. It is necessary now hotel sector to use digital marketing strategies that brings the value proposition to customers, the changes and improvements in key business processes and the use of critical and competitive resources

Benefits of Digitalization in Hotel Sector.

Furthermore, from the customer's perspective, technology has facilitated the development of new hosting options, thus making access to the market more appealing to new competitors (Airbnb, HomeAway, Wimdu). As a result, the industry has become much more competitive, forcing companies in the sector to improve their performance in order to boost revenues and profitable growth (Popescu, *et al*,2015).

The benefits that technology brings to the hotel business are so important that different countries have developed training programs regarding the use of information technology for this type of business. In China, for example, and due to the significance that tourism has as a major source of income for the country, the government has developed a training program for tourism companies in general, and for accommodation companies in particular, in different regions of the country, focusing its efforts on small, medium and large enterprises in the sector (Sernatur,2020).

As a result, certain businesses have become more appealing, particularly those in the hotel business, which not only makes the

activity livelier but also reaches a potential market of a much wider range of consumers. According to Tóth *et al*, (2019), the transformation of the organizational practices in a business environment adjusted to the use of digital media, including social media, allows to manage not only activities facing the customer, but also behind the counter (back office). For example, research is being carried out on aspects such as the active management of suppliers with social media, which generates significant contributions (Tóth *et al*,2019). This active management is also fundamental in hotel companies, where the benefits of incorporating new technologies and applications that improve customer satisfaction and greater demand also generate positive effects on all back-office activities that have this type of business. This allows both to generate a particular value proposal to a greater number of potential customers, and also to make the value chain of the firm more efficient.

The Internet of Things.

Internet of Things (IoT) refers to “an ever-growing network of connected devices which communicate with a central server as well as with each other” (Car et al., 2019, p. 163). In the hotel industry, IoT provides integrated services, such as automated door locks, light switches, electric blinds, and voice-assistant devices, which are connected on a network. These allow customers to control or monitor their devices from a central server, such as a mobile phone or a tablet. The hotel industry has already begun using IoT to improve their businesses and shape customer experience through operation efficiency and personalization. For example, customers can

use their mobile phones for self-check-in and check-out. Hilton already offers an option of digital check-in via mobile devices whereby customers can use electronic key cards or mobile room keys embedded in mobile phones to open the room door. Rooms also become “smart” with the help of IoT, which is also called the “connected room” at Hilton hotels. Customers can control many in-room features, such as lighting, room temperature, water temperature, curtains, and TV through their mobile phones or provided tablets. Customers can also use voice-controlled assistants, for example, the *Amazon Alexa*, to control those in-room features, and order food or drinks, which can be delivered by autonomous delivery robots. In addition, devices, such as luggage carts with GPS function and sensors in the parking lot, can help customers to locate their luggage and cars. Thus, IoT helps improve service processes and makes customer experiences smoother.

Moreover, IoT goes beyond convenience and provides more personalized and customized service. It obtains real-time data through continuous tracking from various devices, as well as a collection of customer information that was previously unavailable, such as preferences, routines, and habits (Marek & Woźniczka, 2017). On one hand, IoT can collect customers’ preferences for in-room features, and the data can then be used to customize the room settings for their next stay. On the other hand, IoT with locational information can send real-time personalized recommendations to customers based on their stored preferences. For example, customers

may receive messages or advertisements about nearby tourist attractions, local restaurants or transportation options when they are geographically close to the business or property, based on their preferences, thus improving customer satisfaction through personalized and customized recommendations. (Car *et al.*, 2019)

There is still plenty of scope for IoT in hospitality with more connected devices collecting customer data. Together, with new technologies such as AI, big data, and cloud computing, IoT will further enable hospitality practitioners to manage and analyze valuable data. Moreover, with 5G networks, high-speed internet can significantly enhance the power of IoT, resulting in a more connected hospitality world that benefits both providers and customers (Jingjie, 2022).

Conceptual Framework

Based on this research framework, this study is accomplishing the following objectives: to ascertain hotel business situation prior to the digital transformation process, evaluate the digital transformation process itself; and then recognize hotel business situation after the digital transformation process in the period of Covid19 in three five star hotels in Dar es Salaam city. This conceptualization is important to propose an action-led reaction from the reality and perceptual change as depicted in this below conceptual frame work

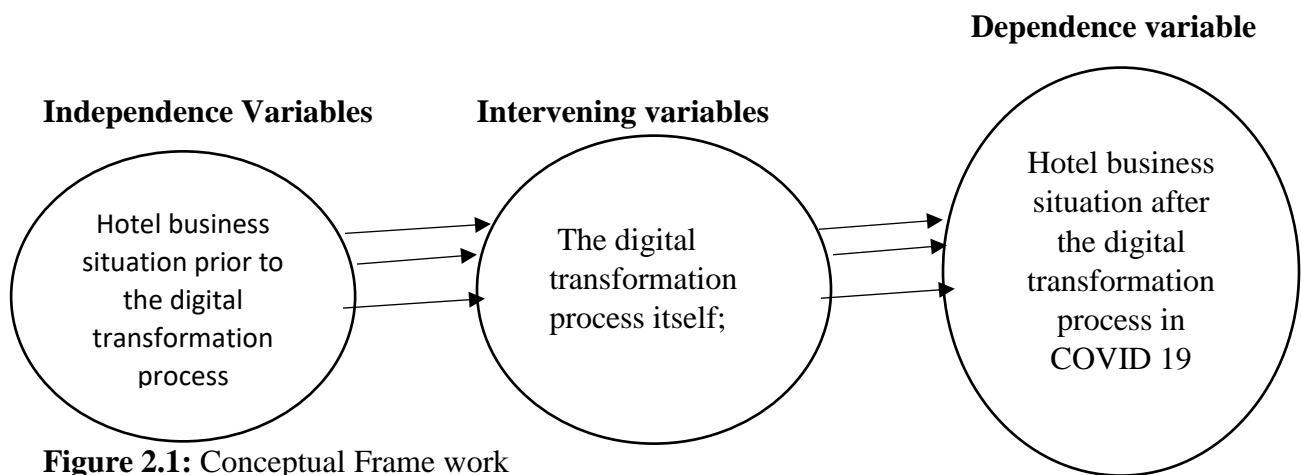


Figure 2.1: Conceptual Frame work

Source: Researcher’s own construction; 2022

Methodology

The research methodology used in this study is through an industry case study involving three five star international hotels in Dar es salaam. This qualitative study was developed through interviews with senior Managers from three hotels operating in Tanzania. According to Maxwell, (1998), case studies have been an essential form of research in the social sciences and particularly in management. One of the objectives of this case study is to explain empirical results by identifying a set of stable and independent elements that, within a specific context, allow setting, in an exploratory way and possible causal relationships between relevant variables (George, and Bernett.2005).

Three cases of hotel companies in Dar es salaam were studied, particularly Johari Rotana, Ramada Resort and Kilimanjaro

Regency Hyatt hotels located in Dar es salaam city, where business economic activities are largely done. The choice of this group of five star hotels was for convenience. Likewise, the cooperate organizations, government offices and international tourists depend on the operation of these hotels. Data were collected through face-to-face interviews conducted in end of September of 2022 using a semi-structured questionnaire designed for the study.

The interview questions comprised of three sections. Section one comprised of three questions addressed to ascertain hotel business situation prior to the digital transformation process. These questions were asked to achieve the first objective of this research. Section two comprised two questions and were asked to achieve the second objective of the research. Section three consisted of two questions to recognize

hotel business situation after the digital transformation process in the period of COVID19; and these questions were asked to achieve the third objective of this research. During the interview, the researchers communicated in English language given that most of respondents could communicate fluently in English language.

Also the data were collected by observation. According to Kothari (2004) observation is a method of collecting information by way of investigating by own observation without interviewing the respondents. This was a non-participatory observation and by using

this method the researcher was able to assess digital transformation in hotel business

Following Patton (2002), the data was analyzed according to the following sequence. First, a brief note was written at the margin when reading the responses to form themes. Next, relevant responses were sustained and written on a paper in which questions that were asked during the interview had been written in advance. Then, similar responses given by the respondents were color-coded. Finally, the responses that have been organized according to the same themes were transferred into a table form

Table 1: Features of hotel

	Kilimanjaro Hyatt	Johari	Ramada resort
	Regency	Rotana	
Number of stars	5	5	5
Size of hotel	Large	Large	Large
Number of rooms	182	253	139
Location	City center	City center	Beach
International chain hotel or Not	International chain	International chain	International chain
Family or Non-family hotel	Non family	Family	Non Family

The questionnaire applied provides a series of variables of interest for the literature on hotel business. These variables are related to six major areas of activity and the impact allied to digital transformation in different areas of these hotel business management and operation: The impact of digitalization

on sales and the visibility of companies in the industry, the effects on the management of key areas, both back office and front office, the integration of digital technology as a standard factor in order to be competitive in the industry, the difficulties that hotels must face while implementing digital technology.

After studied the performance of each of the case study based on the above variables, now this study presents a discussion of the results

Ethical Considerations.

The respondents were treated politely and with respect in order to avoid

misunderstanding between the enumerators and respondents and they were informed of the purpose of the study. Each respondent was politely requested to be interviewed and assured of confidentiality with regard to any information they provided.

Figure 2: Location of Dar es salaam city (urban area)



Source: Research get.net,2022

Results

This section presents the findings from interviews with senior managers from three hotel companies operating in Dar es salaam city. As shown in Table 1, all hotels are international chains, where the highest numbers of rooms per hotel in each one are highlighted, a feature that depends on the services provided by each hotel, which include the restaurant, bars, banqueting, gym, sauna, SPA and swimming pool, among others. However, in the case of Ramada

resort, they are much smaller in number of rooms and located in beach area.in the same cause, Johari Rotana is a family hotel business which is located in city center. All these hotels, they had already incorporated digital transformation in various sections such as front office, food and beverage, room division, banqueting, laundry, maintenance and among others.













The automation of services is the most important for five star hotels especially this COVID19 period (automation of accesses,

services, connections with the guests own mobile phones). The service automation solutions are implemented for all hotels, for example, front desk operation solutions and tools for accessing rooms through digital mechanisms (electronic keys, RFID solutions, among others or electronic access to service rooms such as restaurants, gyms or spaces such as office guest workstation.


“In the period of COVID19, Ramada resort advances in digital transformation affect our core business processes, both to better understand our steady customers, and to manage each back-desk operation according to the demand of our guests. We are in a higher stage of digital transformation of the sector.” (General Manager, Ramada resort

).


Table.3; Digital transformation, sales and visibility

	Kilimanjaro	Johari Rotana	Ramada resort
	Regency		
Impact on sales and income			
Impact on revenues			
Impact on operational costs			
Customer experience and satisfaction			



Black circle indicates negative impact on the period of COVID19 ,  White circle indicates hotel was closed during COVID 19,



Blue circle indicates high operational costs during digital transformation.  Pattern

circle indicates customers satisfied with digital transformation

The impact of digital transformation on sales, revenues and visibility is diverse, depending many factors and each hotel strategy. Although all of them stated that during the COVID 19, the business was very low, thus reflected sales and revenues. For Johari Rotana hotel closed almost one and half years. In case of operation costs, all hotel managers responded that experienced high costs from digital transformation during the

period of COVID 19 and for their customers continue gaining knowledge and experience on digital transformation services.

Finally, in all these case studies, it appears that there is a great visibility of their business and therefore a great number of customer bookings through social media and other digital communication platforms

“With the help of data analytics, you can better understand your customer and get great information regarding their preferences and tastes” (Director of sales, Johara Rotana)

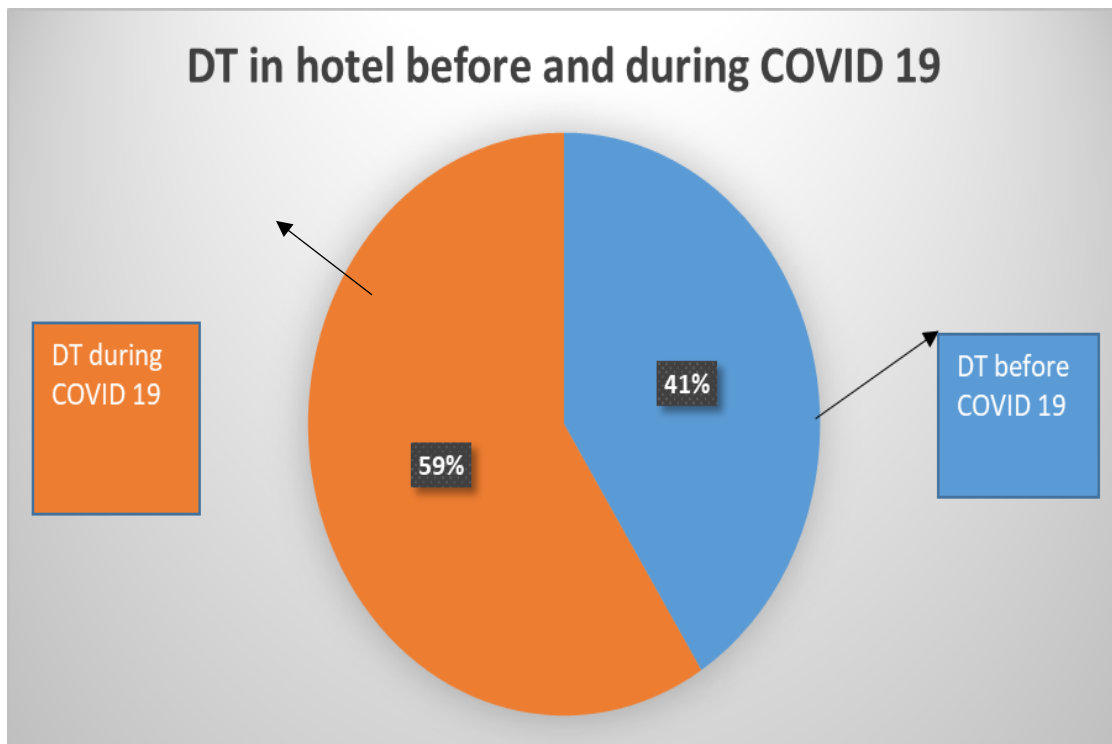


Table.4: Digital transformation and competitiveness



	Kilimanjaro Regency	Hyatt Johari Rotana	Ramada Resort
Investment in DT is now higher	●	●	●

The hotel is more competitive after investing in D



Hotel service before DT was not efficient



● Black circle indicates the investment in Digital transformation is now high and 
Cross circle indicates the hotel is more competitive after investing in DT and 
Point star indicates hotel service before DT was not efficient

The competitiveness of the hotel businesses under trend of digital transformation was measured in different aspects. First, Kilimanjaro Hyatt Regency and Ramada Resort claimed to be leaders in business, and according to their level of five stars, they invested more in new technologies. However, in case of Johari Rotana hotel, pointed out that, they invested in digital transformation because the other competitors did. Also for the business survival, there were no way to invest in new technologies during the period of COVID 19.










Likewise, all hotels joined the trend in digital transformation due to market pressures.




Similarly, all managers from the three hotels pointed out that before COVID 19, there were little investment in digital transformation

“Adopting a mobile strategy because of this is a must. You will be losing customers to your competitors that are far more responsive to customer’s needs.”(General Manager, Hyatt Regency)”

As stated by correspondents, greater training and investment in human capital, especially in the development skills, made it possible for people to be aligned with the objectives of each hotel in terms promoting the use of new technologies to enable the digital transformation of heart of the house and front office operations of each hotel. However, training was not sufficient for Johari Rotana hotel and, staff had to be replace

Table.5: Digital transformation and competitiveness

	Kilimanjaro Regency	Hyatt Johari Rotana	Ramada Resort
Investment in DT is now higher			
The hotel is more competitive after investing in DT			
Hotel service before DT was not efficient			

 Black circle indicates the investment in Digital transformation is now high and  Cross circle indicates the hotel is more competitive after investing in DT and  Point star indicates hotel service before DT was not efficient

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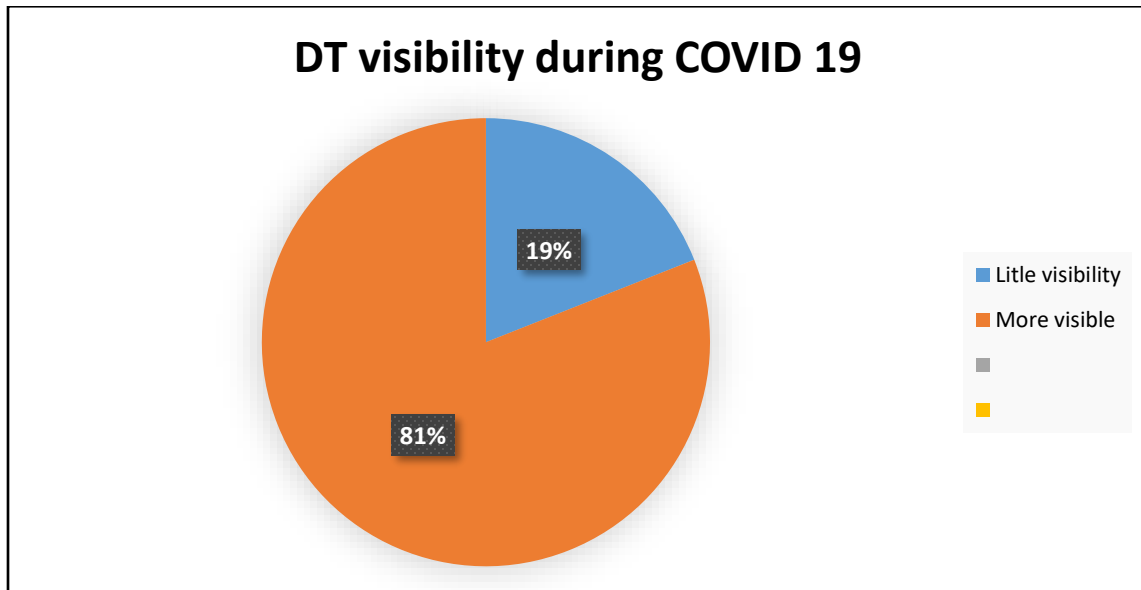
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Discussion

In order to compete successfully, every hotel company must define an engaging value proposition for its customers (Shwab, 2017) and, at the same time, create a business model that allows it to obtain the necessary revenue in order to be profitable. The value proposition must address customers' needs in multiple areas within their experience, such as response time, access to products and services offered by the hotel, price, omni-channel, etc., Refer to Lemon, K. and Verhoef, C. (2016), must work to differentiate itself from its competitors in at least one of these aspects. However, even when the value proposition is appealing to the customer segment to which it is directed, the income that the hotel can generate also

depends on other key factors; among them are the advertising through different digital media, required to inform the customer and promote the products and services offered to create awareness, access to the goods offered by the hotel, the sales process itself and how the hotel provides customers with these goods and how it builds a profitable relationship with the customer over time.

In the hotel sector, technology has allowed the hotel business under analysis to use different tools to highlight and promote the products and services they provide. Both the Internet and social networks (social media) have become the preferred media for most of the clients of the hotel analysed, even considering that they represent the industry in general, in order to know the different

options offered (Nie, *et al*, 2020). If a guest wants to travel to a certain place, either for pleasure or for business, they simply need to enter a search engine and find out about all the accommodation options offered by the market, thereby making the hotel visible to millions of people around the world. At the same time, a good use of the Internet and social networks allows the hotel to promote their service (Nie, *et al*, 2020). thus influencing the purchasing attitude of the customer segment to which its value proposal is directed, at a lower cost. Internet promotion allows the hotel to show, at a low cost, the services offered and the recommendations (ratings or scores) of the users regarding these services. Something similar occurs with social networks where, in addition to the advantages offered by the Internet, the hotel can encourage word of mouth among those who have used the services and potential future customers (Leung, *et al*,2015)

A website with the appropriate usability can significantly improve customer access to the services offered by the hotel. From the user's point of view, having the possibility of booking and paying for the service virtually improves their shopping experience significantly, even more so if the hotel offers them different means of payment (Wang, *et al*,2015) Meanwhile, for the hotel, the sales process is simplified and there are fewer mistakes, which, in turn, reduces the customer's uncertainty as to whether the accommodation will be available upon arrival at their destination.

Technology can also facilitate the customer's access to the accommodation service itself.

For instance, hotels provide users with a virtual access codes to the hotel and the room they have booked, thus simplifying the check-in and check-out process. Another example relates to the use of applications to open a door to the assigned room and to access other services offered by the hotel (Sarmah,*et al*,2019). In both cases, the company speeds up its processes for the client and reduces the costs of the operation significantly.

All of Meeting the value attributes that the company has promised its customers makes it more likely for them to use the accommodation whenever necessary. In other words, a better hotel experience is more likely to generate greater customer loyalty, which is likely to lead to a stable revenue level and therefore less uncertainty regarding the company's competitive position in the future. Customer loyalty, thus achieved, provides a valuable opportunity to make the relationship profitable over time, using information technologies that enable the monitoring of the user's purchasing behaviour in order to customise the offer of new services and, therefore, extract more revenue from already loyal customers (Kandampully, *et.al*, 2015).The above occurred mainly in the three largest hotels analyzed in this paper.

Providing an appealing value proposition is not sufficient; it also requires all hotels to adequately implement the strategy supporting it. A good application of the strategy requires efficient and effective management of the business processes that allow the implicit promise of the value proposal to be fulfilled in a profitable

manner. In other words, the management of each process must comply with the outputs for which it has been designed and, at the same time, should do so with the least possible resource consumption (Matt, *et al.*, 2015)

For hotel business to reap the full benefits of the digital transformation, they must undergo various stages of development (Venkatraman.2020). In the case of hotel companies, this is key. In the first stage, incorporating technology aims at performing a task in a more agile and efficient manner (Verhoef, *et al.*,2021) the application of standard information and communication technologies (ICTs) available in the market is standard practice at this stage (Pagani, 2017). In a second stage, in order to achieve a better economic performance, it is necessary to integrate the different business processes that operate transversally in the organization, both from a technical point of view (interoperability) and from the interdependence of the different functions that exchange information (Verhoef, *et al.*, 2021)

As previously discussed, key customer-facing processes are supported by information technologies; currently, the focus is on moving towards the adoption of smart technologies(Stankov, *et al.*, 2019) Automated booking and sales through the company's website or the application (app) it has developed (application development applies mainly to large hotels), check-in, check-out, room entry using the telephone and monitoring any services in addition to accommodation are managed on the basis of an information system containing customer data and the services hired

Conclusion

To qualify in the hotel sector today, as in any other industry, it is imperative for hotel companies to incorporate digital technology into business management because of the impact it has on their economic performance (Lam and Law, 2019 and Kane,*et al.*,2015). On the one hand, digital technology allows the hotel company to reach more customers (awareness), reduce costs, manage the relationship with its suppliers more smoothly and participate in networks with other companies that offer complementary services to hotels (Rotondo and Fadda.,2019). On the other hand, it enables the hotel company to provide the client with a better standard of service (Koo,*et al.*,2019), facilitating the various transactions that clients must carry out when interacting with the hotel company. In an industry where accommodation alternatives are varied and abundant, the client is in a position to demand compliance with the service standard provided by companies that have incorporated digital technology into the management of their business, so that their expectations are met (Lam and Law, 2019).

A hotel company must go beyond standard compliance to be chosen. To overcome this challenge, it is necessary for the hotel to use digital technology strategically, creating and co-creating value for its customers in an innovative and sustained way (Delpechitre,*et al.*,2020), while developing new business models that allow it to successfully deal with both the traditional accommodation service offered and new ways of providing accommodation, such as peer to peer accommodations, collaborative consumption

and the like (Konstantinou, 2016). In this scenario, the hotel must not only have incorporated digital technology into its business management or have the skills to use it efficiently and effectively but must also develop the skills to become a digital 4.0 company (Sousa, *et al*, 2019)

Despite the importance of incorporating digital technology for hotel companies, its full implementation in small and medium enterprises has not been as fast as business dictates. In this sense, and even though many of these hotel companies have the technology available on the web, its use is focused on managing the basic transactions that the operation of the accommodation service requires. However, even the majority of large hotels that have rapidly adopted the technology available on the market have not been successful in developing competitive advantages that are sustainable over time (Martin .2020).

In same cause matter, the hotel leaders must rethink the dimension of customer experience, internal operation, and new business model. They must have cohesive strategy in integrating digital and physical elements in order to be able to transform their business model and set direction for the entire industry. Hotel industry leaders must also

focus on two complementary activities: sharpening customer value proposition and transforming their managers must focus on factors such as digital market capabilities, digital leadership capabilities, and digital technology capabilities that determine the success of digital transformation in hotel businesses

Therefore, digital transformation in the hotel business has made it possible to survive in times of COVID 19 pandemic, maintaining the sustainability of businesses in uncertain environments, collaborating with the employment of thousands of people and allowing a production and logistics chain to keep businesses open in different cities of the world. In this study and in the choice of the three hotels analyzed, it is interesting that, regardless of their size and level stars, all hotel companies achieved business sustainability despite being threatened by market conditions with the COVID-19 pandemic. Without a digital transformation, these hotel businesses would not only have stopped operating, but also would have further decreased tourism in the Tanzania destination where they operate. Several results and discussions for researchers and practitioners emerge from this analysis that I believe are essential for further study.

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