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Innovations in the Accommodation Sector in Kenya, During the Covid-19 Era

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Abstract

The purpose of the research was to investigate the effects of creativity and innovation as a survival strategy in the accommodation sector in Kenya during the covid-19 era. The specific objective of the study was to document services innovations products innovations and technological innovations applied and their effects on the performance of selected accommodations in Kenya. The research adopted both exploratory and descriptive designs. This research samples hotels in Nairobi, the Kenyan coastal and Naivasha regions. The target population was accommodation facilities which are rated between 3 and 5 stars rated. The study collected both qualitative and quantitative data. Quantitative data was collected using researcher administered questionnaire while qualitative data was collected through interviews, observation, and group discussions. The cluster sampling method was used. The first cluster represented accommodation located at the Kenyan coast, the second cluster those from the Nairobi region, and the third cluster those in the Naivasha region. A total of 402 respondents participated in the study. About 61% (249) of those who participated in the study were married as compared to 31 % who were single. The majority (64%) of these respondents were aged between 25 years and 30 years with a minority of 6% being above 46 years. The study found that most establishments invested in service, product, and technological innovations in their operation in the front office, guest rooms' dining rooms and restaurants Gym and wellness centers, and conference facilities. These innovations and creativity are among the reasons most of these accommodations managed to reopen and survive the pandemic period. The findings indicated that the majority of accommodations (68%) had fixed a transparent glass at the reception and the front desk which minimized contact between them and the front office personnel. The study noted that 51% of respondents introduced an express check-in/out process while a majority (68%) introduced contactless payments for all services rendered in their facility. The finding showed that 54% of respondents did not introduce digital menus as

compared to 46% who had it. Only 20% of the respondents said they use UV light for disinfection although they do not use robots. A minority (35%) said they use chat-bots as compared to 65% who said they have not invested in this technology. About 76% of the respondents said they have invested in teleconferencing equipment and infrastructure. All establishments said that they have embarked on extensive marketing and customer recovery strategies as they adapt to living with the virus. The study concludes that the above innovations and creativity should continue so that the accommodation industry will survive. This will call for high investment and change of business model to cope with changing consumer behavior. Further study is recommended to determine the best suitable business models to survive the pandemic as it keeps mutating

Keywords: hotel, technology, products, services, innovations, Covid-19 period

1. Introduction

The tourism and hospitality sector in Kenya has been seriously affected by the coronavirus. As the government of Kenya and the global community put up measures to manage the pandemic casualty on both economic and social systems, most of these mitigations disrupted the existing operational systems in the accommodation sector in the pre-Covid era. In response to the pandemic and the protocols put in place, some accommodation sectors have through innovation and creativity changed their business model to suit the new normal environment. Some establishments have introduced disruptive innovation, sustaining innovation while others have introduced either, and product or service innovation. Others have now embraced new technology that is serving them more efficiently and economically.

Bilgihan and Nejad (2015), Rajeswari and Sathish Kumar (2019) and Angeloska-Dichovska et al. (2021) in their study have noted there exists several technologies that an accommodation can invest on. Example of such technical innovations are phone-as-key-cards, mobile self-check-in, mobile booking, self-service check-in kiosks, lobby media panels, electronic luggage tags, hotel service optimization systems, and guest device connectivity tools. Despite some of these technological being in place the rate of adoption varies from one establishment to another.

Many scholars and practitioners in the tourism sector have documented the impacts of the pandemic on their business but limited studies have been conducted to examine the innovation put in place in the accommodation sectors and how effective they are. This is the gap the research intended to fill.

1.1 General Objectives of the Research

The purpose of the research was to investigate the effects of creativity and innovation as a survival strategy in the accommodation sector in Kenya during the Covid-19 era. The research documents the types of innovations applied in the accommodation sectors in Kenya and evaluate the success of these innovations with the aim of sharing the finding with other stakeholders in the sector

1.2 Specific Objectives

The specific objective of the study was therefore be:

1) Examine types of services innovations in Kenya in the Covid-19 period

2) Examine influence of products innovations as a survival strategy of accommodation facilities in Kenya

3) Examine types of technological innovations adopted within the Covid-19 period

1.3 Scope and Limitations of the Study

The study was limited to the innovation in the above objectives alone but acknowledges that there exist other types of innovations. The respondents of the study were those employees working in three and to five stars in selected regions in the country. The finding may also be

limited to the sampled facilities which in one way may affect the replicability of some findings. However, the study gives a lot of insight that will be useful to stakeholders in the tourism industry among others.

2. Literature Review

Covid-19 pandemic has greatly affected the tourism sector worldwide more than any other pandemic in the 20th century. Studies by Yang and Chen (2020), Strielkowski (2020) and Günay et al. (2020) indicated that the pandemic has led to reduced international and domestic travel, closure of hotels and social amenities, loss of employment, and unprecedented travel restrictions. The pandemic has necessitated the government to put in containment measures such as containment lockdown and curfews imposed at different times as infection numbers increase. This has had a significant impact not only on potential travelers but also on the whole supply value chain including agro-processing, and transport among others. Whereas the tourism sector has shown great resilience to major shocks over the years, Covid-19 emerges as one of the greatest challenges facing the sector in recent times globally.

In Kenya, the containment measures greatly affected the sector as the Government introduced an economic stimulus program to safeguard the sector (Siddik, 2020; Odhiambo et al., 2020; Shikuku et al., 2021). In addition, the sector developed tourism and hospitality protocols on health and safety alongside Ministry of Health protocols to mitigate the effects of the disruptions caused by the coronavirus disease in business and people's livelihoods. The tourism industry was brought to a halt as world mobility stopped. With the realization that the virus was taking longer than anticipated, tourism stakeholders amongst them the accommodation sector have come up with creativity and innovation strategies to revive their business and sustain employees' livelihood. Since growing numbers of countries around the world are easing restrictions on travel, the World Tourism Organization launched a Tourism Recovery Tracker to support global tourism. The key tourism performance indicators on how a destination was recovering could be ascertained through data on international tourist arrivals, seat capacity in international and domestic air routes, air travel bookings, hotel searches and bookings, occupancy rates and demand for short-term rental travel, and finally Covid-19 14-day notification rate per 100,000 population.

Only destinations that adopt innovation and creativity will survive the pandemic and Kenya is at the forefront. This paper examines the degree in which accommodation sectors in Kenya adopted services, products and technological innovation in this hard times of Covid-19 era.

2.1 Service Innovation in the Accommodation Sector

Service innovation in the accommodation sector is a new or enhanced intangible offering that involves the firm's performance of a task/activity intended to benefit customers (Thomas et al., 2013). It refers to the underlying process of devising new or improved service concepts that satisfy the customer's unmet needs (Tuomi, 2021; Pappas et al., 2021; Cheng et al., 2021). Digital innovations, like mobile booking, check-in, payment and in-room service, have now become more popular with busy travelers, particularly the younger generation. These innovations have changed the concept and necessity of the tradition front desk and other

service aspects of the hospitality industry as guest expects services they used to get at the front office through other digital channels. The presence of human to serve guests in a hotel has been replaced by technology but guests still expect high standard of services and customer care. Today's consumers are more sophisticated and better educated than they were a decade ago. They are comfortable when being served through available technology as long as there is a helpline to get additional information and assistance if necessary.

2.2 Technological Innovation in the Accommodation Sector

Tidd and Bessant (2020) define technology innovation as the combination, the integration and interaction of different technologies that make the product or service. Lau (2020) in their study noted during this Covid -19 era, most hotels have invested in technology so that guests can access their rooms via a digital key. The innovation in check-in process has made it safer and more efficient by removing the requirement for face-to-face interaction at the front desk.

The robot butler has proved to be very popular among the hotel's guests and is an effective way to reduce face-to-face interactions with staff (Steyn & Hasnat, 2020; Mariani & Borghi, 2021; Lukanova & Ilieva, 2019). It has also become a tool for generating revenue, with the robot charging a fee for delivering items, such as coffee from the lobby cafe that would not have been able for delivered before. Yang et al. (2020), Jiang and Wen (2020), Marković et al. (2020) found that during the pandemic, some hotels use Artificial Intelligence (AI) technology to improve their service quality.

Event facial check-in services with artificial intelligence (AI) temperature checks is a reality today in many accommodation facilities in the developing and developed world. Due to the COVID-19 pandemic, facial recognition hardware companies have developed a solution for non-contact body temperature measurement plus facial recognition to meet the rapid need to control the virus in time (Sunnihitha & Priyanka, 2022; Khanam et al., 2021; Lynch, Campbell, et al., 2020)

It is acknowledged that (AI) has high efficiency in the check-in and check-out visitors experience and has improved hotel guests access to their rooms and other venues using facial recognition software. This technology is found to have not only reduced the risk of cross-infection but also improve traffic efficiency in a hotel and saved time. It has also reduced the congestion among hotel employees and guests.

2.3 Product Innovation in the Accommodation Sector

Product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses (Romero & Tejada, 2020). In Kenya just like in other parts of the world, Jiang and Wen (2020) and Rodríguez-Antón et al. (2020) found that under Covid-19 restrictions, many communal areas such as hotel spas had been forced to close. It was observed that usage of areas such as the hot tub, sauna, steam room, and relaxation room has been limited to individuals and family groups that are traveling together. This trend is changing as most hotels have noted that they have to adapt to the new normal to survive. Some hotels still advise customers that these facilities must be pre-booked for time slots throughout the day (Kham, 2020). During those times, individuals

and family groups have exclusive use of the facilities. That turns a challenging situation into a unique opportunity for guests to enjoy those luxurious surroundings all to themselves.

Rimmer and Chatfield (2020) found that some hotels are still offering special rates for local people who want to self-isolate in comfort away from their families and friends. This is believed to provide useful service for the local community, and at the same time generates income for a hotel. With ongoing travel restrictions, people are getting bored being at home but still want to live their lives and experience something different. It has also been noted that some hotels are still helping visitors by offering discounted prices on luxurious rooms so that local people can experience their hospitality in a new way.

To date, hotel owners are putting a greater emphasis on health-related features such as indoor/outdoor architecture, antimicrobial finishes, and high-performance ventilation systems to reassure guests and heighten their sense of well-being and safety.

3. Methodology

3.1 Research Design

The research adopted both exploratory and descriptive designs. Descriptive research was found appropriate choice as the study's aim was to identify characteristics, frequencies, trends, and categories of variables. Exploratory research was also used as most of the information sought was in a preliminary stage.

3.2 Study Areas

This research had four study areas in this case referred to as regions that were conveniently selected. These are the Nairobi region, the coastal region, and the Naivasha hotels. These areas are the business hub for both local and international visitors vising for leisure or business reasons. That it was the reason why these areas were selected and may affect the replicability of the findings.

3.3 Target Populations

The target population was accommodation facilities which are rated between 3 and 5 stars by Kenya's Tourism Regulatory Authority (TRA). From these facilities, at least two respondents preferably those in were used in management and supervisory position were used in the sample and completed the questionnaires. In other cases, those in operations from different sections in the hotels were used and shared their experience on the survival strategies being applied by their facilities during the pandemic period.

3.4 Data Validity and Reliability

Pilot test and test-retest methods were used to validate the data collection tools and techniques applied in the study.

3.5 Data Collection Method

The study collected both qualitative and quantitative data. Quantitative data were collected using researcher administered questionnaire while qualitative data were collected through

interviews, observation, and group discussions. Additional data was sourced online

3.6 Sampling Procedures

The cluster sampling method was used in the selection of the accommodations used in the study. The first cluster represented accommodation located at the Kenyan coast, the second cluster those from the Nairobi region, and the third cluster those in the Naivasha region. The accommodation selected in some cases were those that remained open during this pandemic period and selected using snowballing. This sampling method may affect the generalization of the findings but will however give a base from which other scholars may continue.

3.7 Sample Size

This study targets to have at least more than 384 respondents. As shall be noted in the respondent's rate section more than 412 people responded to the questions and were found satisfactory.

3.8 Data Analysis Methods

Several data analysis methods were used according to the objective. Binary logistics and correlations were used to analyze the data. In general, quantitative data were analyzed using SPSS while qualitative data was analyzed using a thematic and content analysis method.

3.9 Data Presentation.

Data are presented using graphs pie charts and tables as guides by the objective and information to be presented.

4. Discussion of Findings

This section presents the analysis of data followed by a discussion of the research findings. The findings relate to the research questions that steered the study. Data were analyzed to explore the effects of innovation on the performance of accommodation sectors during the Covid-19 period. Data were obtained from administered questionnaires, completed by 402 respondents (n = 402) which translates to (98%) out of 411 eligible respondents approached from hotels, Resorts, Game Lodge, Restaurants, and Tented Camp in Kenya.

The questionnaire comprised of seven sections and the data generated were presented as follows: The first section comprises respondent profile data such as type of establishment, position held, marital status, Age, Academic qualification, size of family, and gross income. The other sections examined innovations in the front office where customers check in a hotel, innovations in swimming pools and wellness centers, rooms innovations and creativity, innovations in the dining rooms and restaurants, changes in booking policies, and finally survival strategies adopted in establishments.

4.1 Data Findings and Analysis

Descriptive statistical analysis was used to identify frequencies and percentages to answer respondent profile questions in the questionnaire while correlation analysis was used to establish effects between variables. Not all respondents answered all of the questions

therefore percentages reported correspond to the total number of respondents answering the individual questions. The statistical significance of relationships among selected variables was determined using Fisher's exact test. The level of significance was set at 0.05.

4.2 Marital Status, Age, and Academic Qualifications of the Respondents

About 61% (249) of those who participated in the study were married as compared to 31% who were single. The majority (64%) of these respondents were aged between 25 years and 30 years with a minority of 6% being above 46 years. Most of the respondents (44%) had a certificate in tourism and hospitality career while 38% had a diploma. Worth noting is that a minority 16% (64) had a degree meaning that jobs in tourism and hospitality are performed by those with certificates and diplomas. This information may be of importance to training institutes and may guide them in knowing the level of training demanded by the market. (Table 1)

In terms of salary, 72% of respondents earned between Ksh 25,000 to Ksh 50,000 as their monthly gross salary. This amount is very low as compared to other careers in other sectors. Can the accommodation sector attract compete with other sectors in terms of human capital? This may require further studies

Table 1. Summary of respondent's profile

Respondent's profile		Number (n)	%
Marital Status	Married	249	60.6
	Single	131	31.9
Your Age	20 To 25 Yrs.	36	8.8
	25 To 30 Yrs.	141	34.3
	30 To 35 Yrs.	124	30.2
	35 To 40 Yrs.	49	11.9
	40 To 45 yrs.	29	7.1
	Over 46 yes	22	5.4
Academic Qualifications	Certificate	182	44.3
	Diploma	157	38.2
	Degree	64	15.6
Gross income per month	25 Ksh to 50 Ksh	294	71.5
	Ksh50 to 75	45	10.9
	Ksh 75 to 90	11	2.7
	Ksh 91 to 150	6	1.5
	Ksh 150 to 200	3	0.7
	Over Ksh 200	3	0.7
	Below 25	10	2.4

4.3 Positions Held by the Respondents

The study noted that the majority (55%) of those who completed the questionnaires were those in operation duties, about 27% were supervisors with only 6 % holding a management position. Only 2 respondents where accommodation owners (Figure 1).

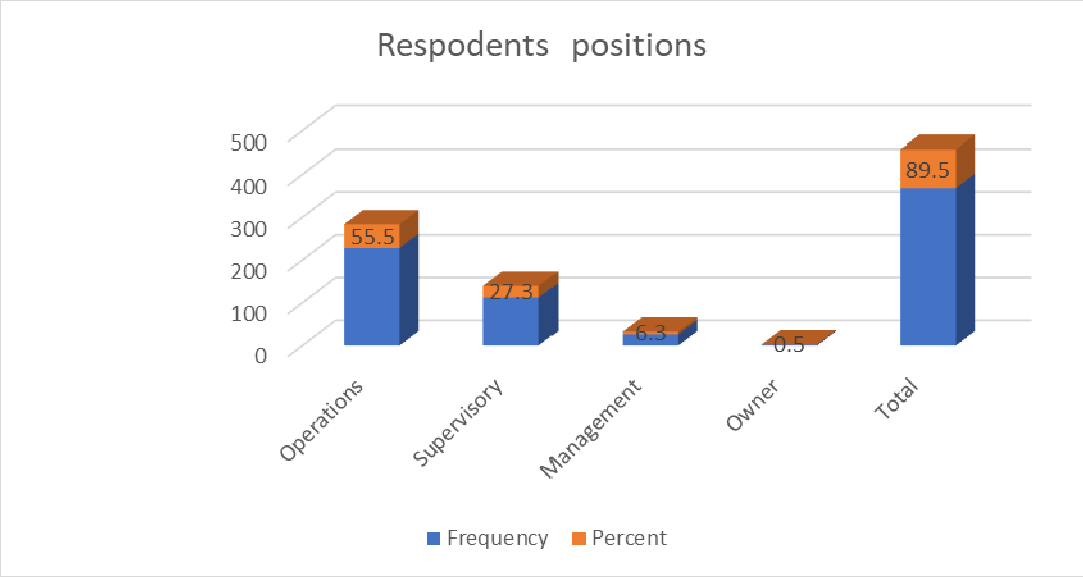

Figure 1. Respondent position in the workplace

4.4 Service Innovation at the Check-In Counter and the Front Office

The first objective examined the types of innovations introduced in the different guest contact areas at the front office. It was found that the majority of accommodations (68%) had fixed a transparent glass at the reception and the front desk which minimized contact between guests and the front office personnel. The study noted that 51% of respondents introduced an express check-in/out process while and the majority (68%) had introduced contactless payments for all services rendered in their facility. In most cases, guests were given payment options such as Bank transfers, credit card payments, mobile payments, and digital wallets such as Mpesa to pay to limit contacts during payments for their services. About 54% introduced digital keys while about 54 % introduced software and technologies that link smartphones with QR codes which they scanned to get information (Figure 2).

Mobile key allowed guests to unlock a door using an app on their smartphone, offering safer, more convenient, and more sustainable room access than a traditional plastic room key. Express check-in enabled guests to check themselves into rooms, without having to visit the front desk. Guests often accessed this through their mobile phones.

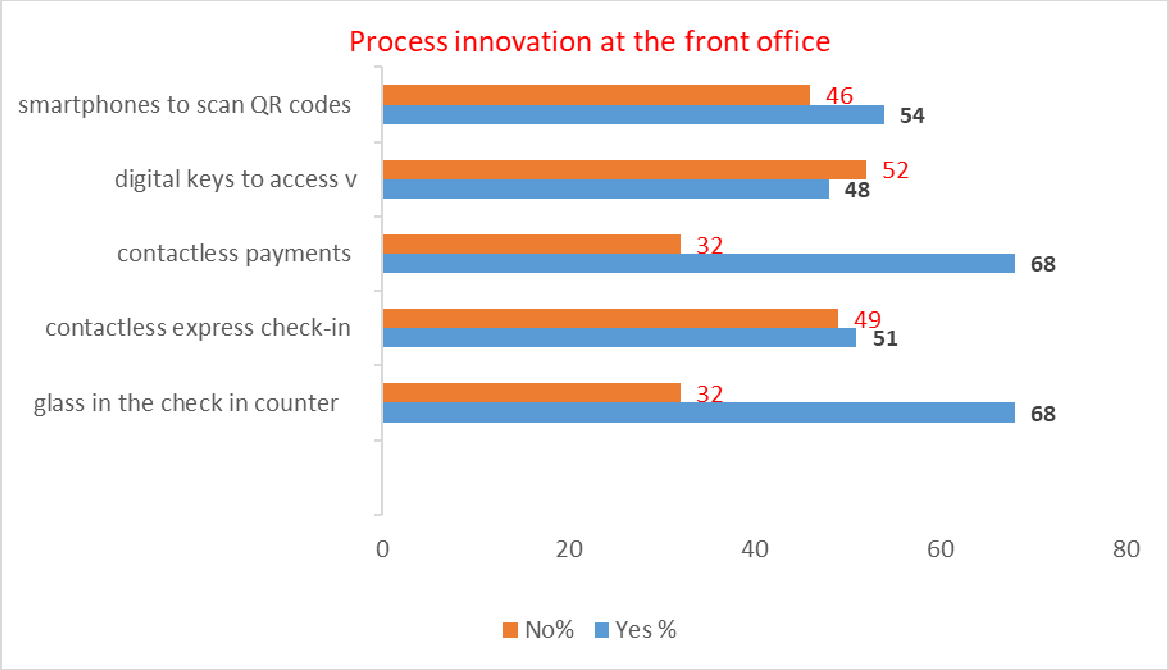

Figure 2. Innovation at the front office

The study noted that in Kenya, no hotel had introduced robot butlers despite knowing their existence. These are humanoid robotic butlers capable of autonomously completing a variety of tasks in a hotel. Robots are deployed to provide information, front desk services, storage services, as well as check-in and check-out services, with technology including voice and facial recognition. This technology is missing in the accommodation sector. In other parts of the world, robot butler has proved to be very popular among the hotel's guests and is an effective way to reduce face-to-face interactions with staff. It has also become a tool for generating revenue, with the robot charging a fee for delivering items, such as coffee from the lobby cafe that would not have been able for delivered before.

About 66% of respondents indicated that they had set aside isolation rooms for those infected and wanted to isolate themselves from others. These rooms were discounted and the guest enjoyed room services at a discounted rate.

For those requiring fitness services normally offered in a wellness center or a gym, these facilities were offered upon booking. The majority of respondents (51%) had such arrangements while the remaining (49%) of respondents indicated that they had closed their gym, spa, and wellness center. The scenario is different today as many accommodations have complied with the government ministry of health protocol that gives health and safety guidelines in these service areas.

The study further found that as Hotels & Spas re-open they have ensured the Spa website is updated with the most current information, including expected re-opening date, reduced hours of operations, or limited facilities available where applicable. The study noted that

usage of areas such as the hot tub, sauna, steam room, and relaxation room have to date been limited to individuals and family groups that are traveling together. These facilities must be pre-booked for time slots throughout the day. During those times, individuals and family groups have exclusive use of the facilities. That turns a challenging situation into a unique opportunity for guests to enjoy those luxurious surroundings all to themselves.

The study found that 49% of respondents said that they are selling some of their rooms as workstations where visitors can book and conduct their business. Workstations are set up and butler service to handle work-related tasks such as scanning and printing, and even organizing tutoring and babysitting for children.

The study noted that most of the accommodation facilities were still using traditional TV which uses a remote control to interact. Only 46% of the respondents had this technology. Interactive TV increases engagement levels by allowing user participation and feedback. It can also become part of a connected living room and be controlled using devices other than the remote control, like mobile phones and tablets.

4.5 Service Innovations in the Dining Rooms and Restaurants

The study investigated how service innovations and creativity were applied in the dining areas and restaurants during the pandemic period. The finding showed that 59 % of respondents introduce digital menus as compared to 41% who did not. Hotels advised their customers to scan the menus using a smartphone while others used their waiters to verbally inform guests on available menus. More than 59% advised guests to use hand gloves in the self-service buffet, while 41% used their dedicated chefs to serve meals even for the buffet.

The majority (88%) of respondents indicated that all guests, as well as staff working at any shift, went through healthy and temperature checks, and those employees returning to the hotel after every shift were checked. The dining room and restaurants had foot-operated water and sanitizer dispensers that limited hand contact. Only 29% of respondents said that guest rooms were equipped with voice ordering capabilities that did not require face-to-face contact. Some establishments introduced exclusive bush diners and breakfast where visitors had their meals in an open area with no human contacts and enough space for social distancing. This experience comes with a cost.

All respondents said that they changed sitting arrangements in dining rooms and restaurants. They reduced the dining capacities and meals schedules according to the number of guests and tables could only be shared by guests who had some affinity as relatives or friends who travelled together for business trip or holidays.

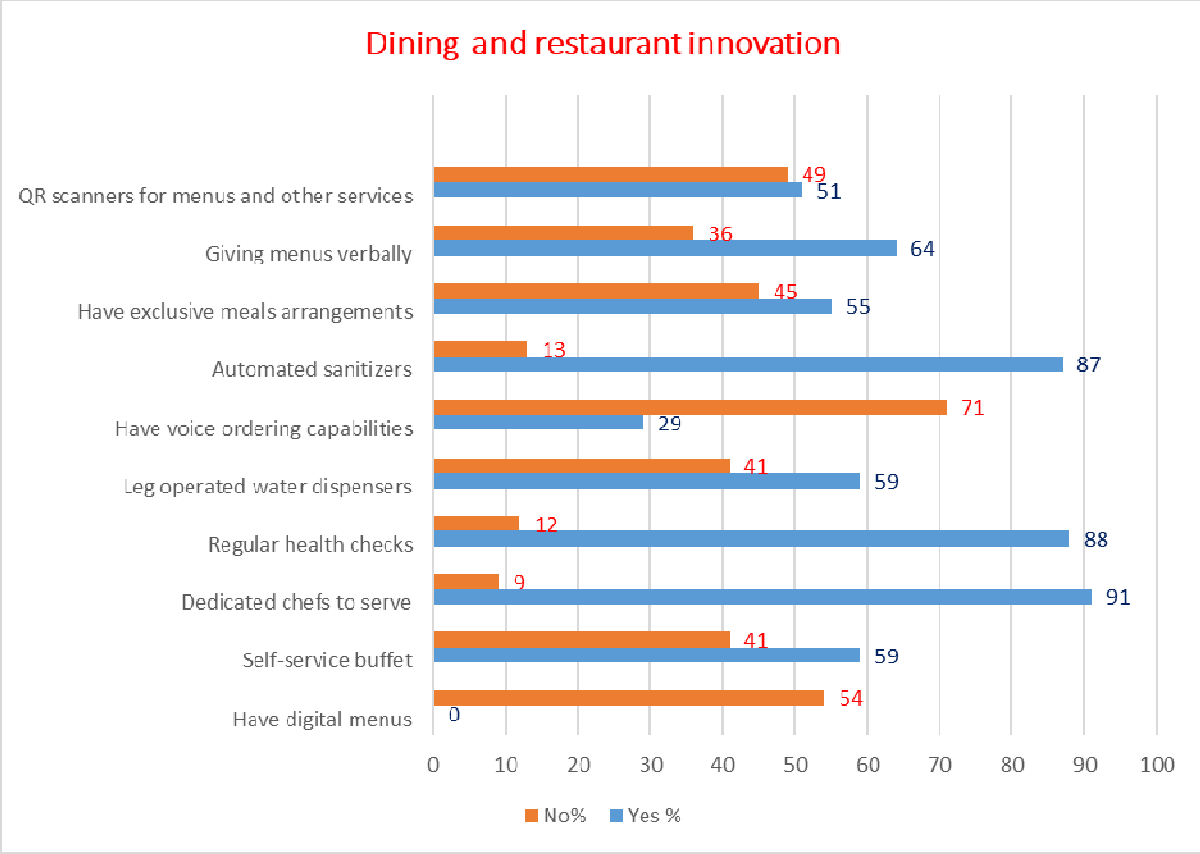

Figure 3. Innovations in the Dining Room and Restaurants

4.6 Survival Strategies Used by Most Accommodations to Date and Within the Pandemic Period

The study noted that about 49% of respondents said that at the initial stage, most hotels were closed. Later when operations started in 2021, 49% of respondents said some employees were working from home but there were some departments where they were working on shift (95%). This seemed to be the most effective survival strategy applied by most establishments. The study noted that 89% respondents reported that once business resumed, most of the establishments recalled them to work. A majority (56%) of respondents said that their colleagues lost their jobs and had to get jobs in others places while others started farming and other activities to help them earn a living. The study noted that most establishments lost some employees who were not available once business resumed. About 67% said that their company used the pandemic period to train their staff. A majority 87% said that they had their salary reduced to survive during the pandemic.

Finding from those interviews showed that most institutions have in place mechanisms and strategies to operate in the new normal environment. Some have already started aggressive marketing while at the same time offering flexible rates to the guests. Others are allowing guests flexible booking conditions and cancellations of reservations with no fees. To survive financial challenges, most hotels have embraced revenue and yield management that suits

them. Management of prices of products and services with reduction of cost and at the same time offering guests the highest level of experience and service.

In order to reduce operations costs, the respondents are seeking discounts from suppliers, distributors, and marketers as well as getting insurance for the business and employees. Hotels use all methods to reduce energy costs during downtime.

Establishing other methods of generating revenue for the hotel such as creating affordable packages for local communities to use the hotel's facilities like the gym membership forums.

The study found that most establishments are developing new products such as wellness, fitness, and health. Diversification into new markets is a trend which is target millennials, the business market, corporates, domestic tourists, and local travelers. Hotels are also revising their promotion strategies and distribution channels and are embracing mail, email, video, social media, the internet, and digital and virtual reality.

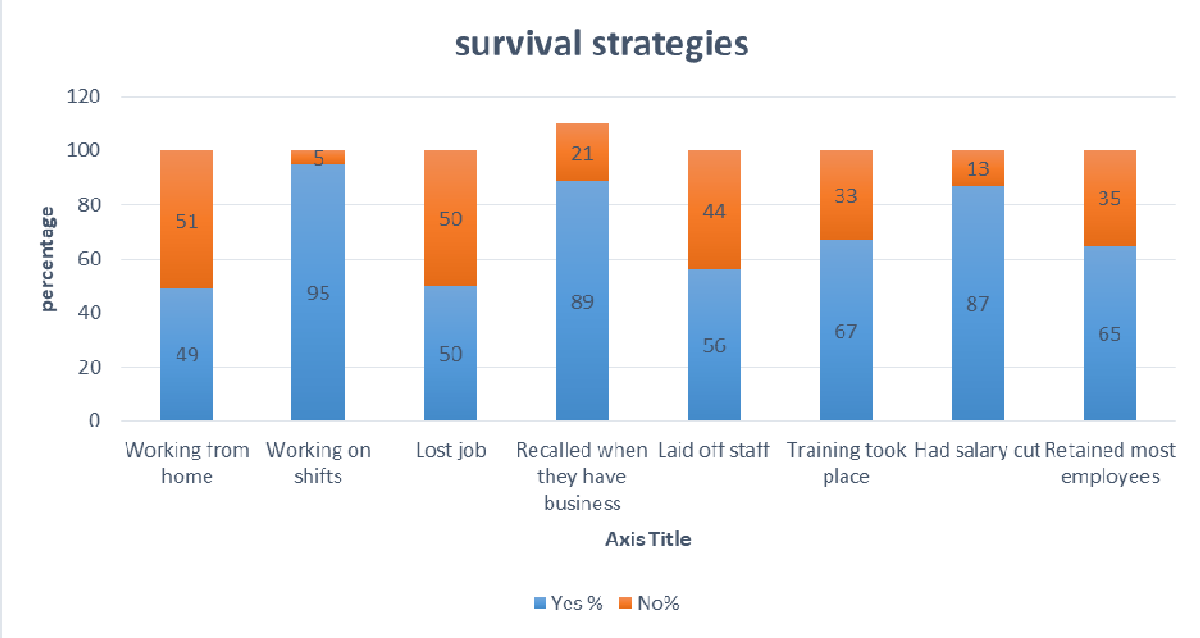

Figure 4. Survival strategies used by hotels amid the covid-19 period

4.7 Technological Innovation Hotel Rooms, Conference Facilities, and Equipment

The study further investigated the extent to which accommodation facilities had invested in a different form of technologies. It was found that technologies such as Artificial Reality, chat bots, interactive TV and UV light disinfectants have not been adapted by majority of hotels. Thirty-one (31%) of respondents have form of applications that visitors would use to communicate with the staff from their room The majority (69%) have not invested in these applications.

Guest Services App gives essential information to hotel guests and promote hotel services and facilities. These applications use GPS technology to determine hotel's location and will only serve content relating to the specific hotel.

More than 80% of the respondents do not use UV lights to disinfect rooms. Only 20% of the respondents use UV light for disinfection and robots. Russo et al. (2021) defines Disinfection Robot as an Autonomous Mobile Robot (AMR) fitted with Ultraviolet (UV) lamp emitter and capable of cleaning and disinfecting environments from bacteria and viruses. Likewise, Mehta (2022) in their study also reported that AMR are capable of navigating autonomously and use UVC Light to illuminate the environment and cleaning surfaces. The study found that this technology is not uses in many hotels in Kenya in management of spread of the virus due to the required capital investment.

A minority (35%) said they use chat-bots as compared to 65% who said they have not invested in this technology. A chat-bot is defined as a computer program that simulates and processes human conversation (either written or spoken), allowing humans to interact with digital devices as if they were communicating with a real person (Tadvi et al., 2020).

On self-service dispenser machines, 44% of the respondents use dispensers on gels, lotions, and disinfectors. Others have self-service machines that dispense snacks, beverages, and cigarettes.

The study found that about 39% of respondents have High Definition (HD) video communication in the conferences rooms which produces clearer, vibrant, and natural-sounding audio as compared to 61% who said they do not have. About 76% of the respondents said they have invested in teleconferencing equipment's and infrastructure, as compared to 30% who have not. Video Tele Conferencing (VTC), is a technology that facilitates the communication and interaction of two or more users through a combination of high-quality audio and video over Internet Protocol (IP) networks.

Asked whether they provide visitors with iPad and tablets, 28% have them available on request and are cleaned and sanitized after use. About 72% said they do not offer them to guests as they expect visitors to come with theirs.

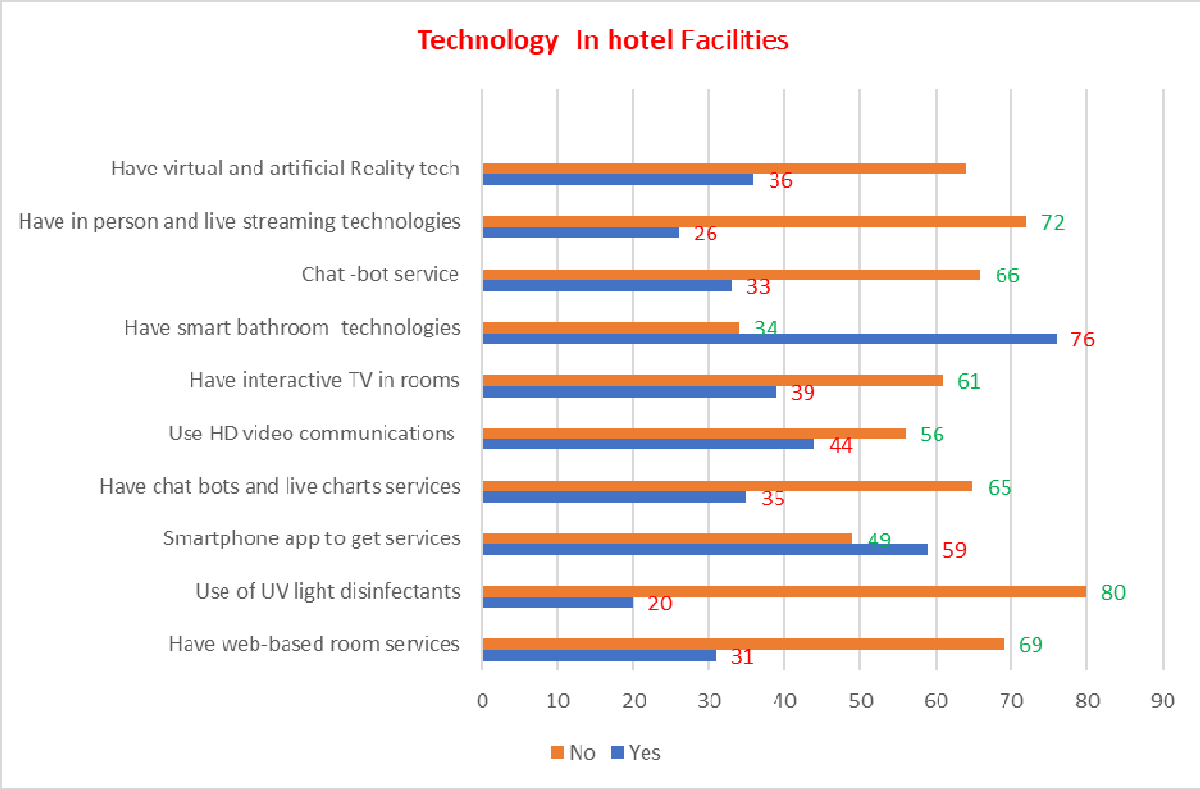

Figure 5. Technology in hotels

About 65% of respondents said that they have invested in infrastructure that supports in-person and virtual, live-streaming of events and conferences. Likewise, 68% of respondents said they have Artificial and Virtual Reality (AR/VR) technology which enable guests to view their facility online as they book.

The study found that 35% of the respondents have smart bathrooms in their hotels as compared to 66% who have traditional bathrooms. Smart bathroom connects with smartphones and voice control devices to provide a complete control and customization of bathroom experience. They have automatic temperature controls for children and sensitive visitors.

5. Conclusion and Recommendations

The study concludes that innovations and creativity in service provision, product innovations and adaptations of new technology is the way forward for accommodation sector in Kenya. This may require accommodations to change their business model, operations standards and policies such as cancellation in order to survive. It was also noted that innovations were in some cases done in an ad-hoc manner, without a clear understanding of their effectiveness, consumer reactions and financial implication.

Hotels have adopted new technology systems such as automated hotel check-in systems, mobile keys, and self-service check-in machines that permit social distancing. The adoption

of these innovation varies from one hotel to another.

The study noted that there is "no any size fits all" innovation and suggests that hotels to assess and implement only innovations and changes that positively affect them. Corona virus may take longer than was anticipated.

The Covid-19 pandemic has spread quickly around the world, causing significant disruptions and confusion across the global economic landscape. These innovations may have short term and long-term effect of business which will necessitate change of business operations. Hotels therefore need to re-assess current business practices, and speedily devise innovative strategies that safeguards the health and safety of guests as well as employees' welfare. Hotels should be keen when implementing cost cutting measures such as layoffs, reduced salaries, and reduced work hours to preserve liquidity. These measures will eventually have both short term and long-term effect of the hotels

Technological innovations have transformed tourism business from "high-touch and low-technology" to "low-touch and high-technology" experiences. Live-stream or virtual conferences and remote working has become common for both hotels and their guests. The Covid-19 pandemic has caused most businesses to use digital applications in their daily operations.

In some cases, hotels have employed Artificial Intelligence technology and Robots to improve their service quality. Check-in and check-out services have been upgraded by giving hotel guests access to their rooms/venues using facial recognition software. In other hotels, robots are being used to perform duties such as preparing food and beverage in room dining services, doubling as waiters in hotel restaurants, delivering housekeeping items, dispensing facemasks and hand sanitizers, robots are used on the frontline to protect hotel guests and employees and prevent the spread of COVID-19. The robots do not only help protect guest health and prevent the virus spread, but also enhance service quality and customer satisfaction. It's a matter of time for robotics innovations to be adapted Kenyan hotels.

The study further recommends more study on factors that influence innovations in the accommodation sectors in Kenya. It also recommends further study where more categories of innovations are investigated other than products, services and technological innovations.

5.1 Limitations and Future Research Directions

This study was limited by the sample size as only those hotels that were star rated were used. It was also limited by the method of data collections and analysis.

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