Crime Occurrence and Hotel Operating Performance: An Empirical Investigation in Ibadan Municipality, Nigeria

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Article History	Abstract
	The incidence of crime and the effects it has on the operating performance of hotels has received a lot of attention, but it is hardly researched in African contexts. The study aims to examine the effect of crime on the hotel operating performance in Ibadan, Nigeria. Questionnaires were used to collect the data for the study. A systematic sampling technique was used in the selection of hotel staff for this study. Mean, correlation, ANOVA, and Stepwise regression were used in the analysis and interpretation of data. The study discovered that theft was the most occurring crime in hotel settings. The use of Stepwise regression shows that guest satisfaction, guest loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organization goals, and sales of hotel products were the significant parameters of hotel performance that were affected while wastage of organizational resources was not. The study showed that there is a correlation between crime and hotel operating performance. It was concluded based on the findings that the incidence of crime strongly affected the operating performance of the hotel business in the study area. This study addressed both theoretical implications that provide support for the framework (routine activity theory and hot spot theory) and practical implications that offer suggestions for effective crime prevention strategies.
	Keywords: Crime occurrence, Crime types, Operating performance, Hotel, Ibadan

INTRODUCTION

Nigeria, according to World Bank (2016) was reported by all criteria as a home of organized crime. This was supported by OSAC (Overseas Security Advisory Council) (2019) which observed Nigeria as a nation that is part of the global south with a high level of crime compared to other countries in the global north. Moreover, different broadcasts on crime occurrence both at the national and international level may not only affect Nigeria's image as an international tourism destination, it may also hinder hotel development and operating performance (Hua & Yang, 2017; Hammett, 2014). These might cause most tourists, guests, and visitors among others to dislike Nigerian tourism destinations as well as hotel industries which

provides paid accommodation and other additional services like bars, eateries, pools for swimming, conference halls, and banquet halls, among others. Although some of these reports on crime occurrence are undeniable, however, one may not categorically say that crime takes place every time in Nigeria or that all places in the country are hotspots for crime (Oladehinde et al., 2023; Badiora, Oluwadare, & Dada, 2014). In view of the foregoing submission, the fact that crime rate is controlled and relatively stable in some locations does not mean it does not occur in other places. Furthermore, Leung, Yang, and Dubin (2018) emphasized that it is very important to examine issues of crime occurrence, especially with respect to the tourism and hospitality industry. Thus, this paper provides information on crime occurrence and hotel operating performance with experience from Nigeria.

The concepts of crime and hotel crime have been at the center of discussion for a long time in literature (Adler, Muellier & Lauifer, 2001; Botterill & Jones, 2010; Farodoye et al., 2021; Leung et al., 2018). For instance, Adler et al., (2001) referred to it in their work as any human activity that breaks criminal regulations or fails to observe the law, or code of conduct of any governing society. It was also regarded by Botterill and Jones (2010) as a violation of the law. In this situation, crime is regarded as any activity that violates the law of the land. These activities include robbery, murder, burglary, theft, kidnapping, homicides, and assaults among others. Hotel crime, on the other hand, refers to deviance and crime regarding life and properties within and around the hotel (Leung et al., 2018). Studies have shown that the hotel business is vulnerable to crime (Ho, Zhao & Brown, 2009). This is because hotels are semi-public locations that operate business around the clock and enable potential offenders to commit crimes against guests, visitors, and tourists in hotels with ease (Burstein, 1994). Most of these guests are less familiar with the local surroundings compared with daily residents (Ho, Zhao, & Dooley, 2016; Jones & Groenenboom, 2002). Although hotel guests may not be victims of crime directly, but they frequently have an overall terrible experience due to their fear of crime and measures against becoming a victim. Continuous crime occurrence and guest negative experiences might have a strong effect on the hotel operations and overall performance (Hua & Yang, 2017).

One of the first steps to effective and efficient crime monitoring and prevention is understanding how hotel crime occurs. Previous studies have grouped and examined hotel crime patterns based on police reports (Ho, Zhao & Brown, 2009; Ho, Zhao & Dooley, 2016), and online reviews (William, Burnap & Sloan, 2017). Nevertheless, police-recorded crimes have been condemned by criminologists as being incomplete and biased as they excluded a significant amount of crime that was not reported (Botterill & Jones, 2010). Some scholars have therefore proposed a survey on crime occurrence in capturing crime patterns (Badiora, Oluwadare & Dada, 2014). This type of data gathering is considered useful as it provides more valid measures of the overall experience of the rate of crime occurrence (William, Burnap & Sloan, 2017). It is a way of integrating a bottom-up strategy to formulate crime monitoring and prevention policies (Oladehinde & Olayiwola, 2021).

Crime is a frequently discussed issue in academic and policy discussions in the fields of criminology and social science. However, to date, a dearth of studies exists on how crime rates affect the performance of hotel operations both inside and outside of hotels in sub-Saharan Africa, particularly in Nigeria. Although some studies have investigated issues of crime

(insecurity) in the hotel industry. For example, in Nigeria, Nwokorie and Igbojekwe (2019) examined security challenges in the hotel industry and their effect on guest loyalty and discovered a weak relationship between security conditions and guest patronage. Similarly, Ajayi et al (2021) assessed the effects of insecurity on the hospitality industry and found that insecurity has declined the level of guest patronage in the selected hotels. Using one parameter such as guest patronage and loyalty may not be sufficient in measuring the operating performance of hotels. Some other studies in USA and Europe with similar findings were also discovered (Huang, Kwag & Streib, 1998; Hua & Yang, 2017; Yang & Hua, 2020). For example, Hua and Yang (2017) examined the impact of crime on hotel operations, measuring hotel operating performance with reference to revenue per available room (RevPAR) while other parameters were not considered. This study and other studies, such as Chay and Greenstone (2005), Pope (2008), and Zabel (2015), have omitted some vital variables in measuring the effect of crime on hotel operating performance. In addition, most of the studies left a critical gap in the literature with reference to empirical and theoretical linkages between crime and hotel operating performance. Moreover, evidences from studies in developed countries (Jones & Groenenboom, 2002; George, 2012; Mawby & Jones (2004)) have shown that crime has a strong effect on hotel operating performance. It has not yet been proven whether crime can affect hotel operating performance using different parameters in developing countries, especially Nigeria. There still exist till now an unfilled gap in the literature regarding research that measures the influence of crime on hotel operating performance in Ibadan, Nigeria. Hence, there is a need to examine the effect of crime on the operating performance of hotels in cities of Sub-Saharan Africa with evidence from Ibadan, Nigeria.

In light of the foregoing, this study investigates the effects of crime on the operating performance of hotels in Ibadan, Nigeria. The focus of the study is to assess the significant effect of crime incidence on the hotel business performance in relation to the following parameters; guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization resources. In order to achieve the highlighted objective, the following questions are addressed by the study: 1) what are the types and frequency of crime occurrence? 2) what are the effects of crime occurrence on the parameters of hotel performance? 3) Is there any correlation between crime incidence and hotel performance parameters in the study area?

Literature Review and Theoretical Framework
Hotel Operating Performance

Hotel operating performance refers to the financial and operational metrics used to measure the success and efficiency of a hotel's business operations (Parkan, 1996). Extant studies exist on operation performance (Isaac et al., 2019; Russell & Russell, 2011; Wiley, 2010; Nwagbala et al., 2022). Operation performance according to Isaac et al. (2019) involves improving the efficiency and effectiveness of business which exceed customer expectations. It is regarded as the organization's output that is measured in terms of profits, such as cost savings, a decrease in the amount spent on fixed assets, an increase in the amount of tax paid, and an increase in turnover (daily sales), achievement of organizational goals, and revenue generation among others. Kotabe (2018) observed three indicators for measuring operation

performance. These include strategic, financial, and quality measures. Other dimensions that were used by some studies include customer patronage, customer satisfaction, cost saving, and employee turnover among others (Malhorta & Goldstein, 2019; Oladele 2022;). Despite the numerous studies on operation performance, however, most of the studies have not been able to establish the nexus between crime occurrence and the operation performance of hotel business.

Crime and Hospitality Industry

Several studies have reported strong empirical relationships between crime and tourism (Ajagunna, 2006; Holcomb & Pizam, 2006) with tourists being the major victims. This relationship led to the categorization of crime typology in the tourism industry. For instance, Ryan (1993) observed five types of categories; namely, tourist destinations serve as crime scenes, visitors fuel the need for crime, tourists are ideal targets for terrorists, and tourists are inadvertent victims of crime. Pizam (1999) also proposed another tourism-related crime and identified three attributes of crime effect (e.g. magnitude, expanse, and duration), five attributes of criminal acts (e.g. motive, victim, location, severity, and frequency), ten preventive methods (e.g. legislation, enforcement, safety, and security training for employees, installation of security devices, tourist education, citizens' awareness, crime prevention through environment design, social change, political solutions, and international agreements), and three recovery methods (e.g. Information dissemination, publicity and public relations, and marketing). Tynon and Chavez (2006) further modified the crime typology that was developed by Pizam (1999). Findings from the study of Albuquerque and McElroy (1999) who examined different types of crimes when it comes to residents and tourists discovered that while residents are more likely to experience violent crime, tourists are more vulnerable to property crime and robbery. In addition, studies have examined crime and tourists' perceptions when traveling (Simpson & Siguaw, 2008; Milman, Jones & Bach, 1999; George, 2003; Omisore, Badiora & Fadoyin, 2013). The submission of these studies was that visitors' perceptions of safety in tourist destinations were influenced by previous experience with crime and also tourists fear crime in dark places and when using public transport. Multiple studies have concentrated on the impact of crime on tourists' behaviour (George, 2003; Walker & Page, 2007), destination choice (Holcom & Pizam, 2006), tourist arrivals (Alleyne & Boxill, 2003) and tourists' satisfaction (Goodrich, 1991). Observations from these studies showed that crime has a severe effect on the tourism industry as a whole.

Apart from the demonstrated nexus between tourism and crime. Researchers have established the connection between hospitality and crime and have shown that crime has a negative effect on the demand for hotel products and hotel guests, tourists, or visitors. For instance, Allen (1999) established that theft and robbery against hotel guests in Australia were the most common crimes. Also, Jones and Groenenboom (2002) discovered that close to forty crimes occurred daily in Central London hotels, and burglaries from hotel rooms are the most frequent crimes. In addition, Zhao and Ho (2006) discovered that robbery victims in Miami, Florida were likely to be foreign tourists who were not familiar with their surroundings. Hotel guests who experience crime may likely develop a negative image of a destination (hotel) if they feel unsafe or insecure (George, 2012). This in turn may cause a decrease in demand for hotel

products and thereby affect hotel business. In another dimension, hotel guests may present a good opportunity for crime occurrence. It is observed that most of the hotel guests, visitors, or tourists do carry huge amounts of money or valuable items like gold, jewelry, cameras, and credit cards and they usually engage in nighttime activities in the bars and at clubs but are somehow unaware of the prevailing local crime issues in the area. This corroborates the submission of Paliska et al (2020) who noted that foreign visitors or guests are more likely to be victims of crime, especially in hotels while crimes against domestic visitors or guests are likely to take place in bars, and restaurants. This shows that hotel guests, visitors, or tourists sometimes may have behavioural or personal attributes that contribute to crime occurrence or create opportunities for crime to occur.

Crime and Hotel Operating Performance

Some findings have revealed that crime occurrence affects hotel operating performance in few studies, particularly with reference to hotel revenue (Hua & Yang, 2017; Yang & Hua, 2020), customer satisfaction (Ajayi et al., 2021; Nwagbala et al., 2022), staff turnover (Motta, 2017), hotel service sales (Wambua, 2014), customer loyalty (Nwokorie & Igbojekwe, 2019), among others. It does not just endanger the lives of customers and employees but also affects the smooth operation of the hotel business. The high occurrence of crime in the hotel industry may expose guests, visitors, and tourists to numerous risks, which may result in their dissatisfaction with hotel services and a high level of customer turnover. Thus, driving most of the hotels out of the business. Mawby and Jones (2004) observed different factors contributing to crime in hotel settings. These include inadequate hotel security measures; ignorance of crime issues in hotel settings and lack of partnership with local police. It was further concluded that before crime can be reduced in hotel settings, there must be an established partnership between hoteliers, local government, and local police in taking preventive measures (Groenenboom & Jones, 2003; Mawby & Jones, 2004). Gill, Moon, Seaman, and Turbin, (2002) added different preventive measures in curbing criminal activities, such as the use of electronic key cards with audit trails to stop guest theft, carefully controlling prostitution and illicit use of drugs in public places to avoid upsetting visitors, and others. In order to reduce crime occurrence in hotels, Nwokorie and Igbojewe (2019) observed that hotel security is advancing into the cybersecurity field with a focus on customer data protection, but physical security and awareness are still essential for hotel guests' safety. Irrespective of the robust security procedures and policies put in place, hotels are still prone to cybercrime, theft, fraud, break-in, and robbery among others. Despite the multiplicity of studies investigating crime and tourism, crime till now remains a relatively understudied issue in the hotel industry, especially with reference to hotel operating performance in cities of developing countries like Nigeria.

Theoretical Framework

The routine activity and hot spot theories could be used to explain the aforementioned illustration.

Routine activities theory as developed by Cohen and Felson (1979), argued that at least three factors must come together for crime to occur in time and space, namely; a suitable target, likely motivated offenders, and the absence of capable guardians against crime. In the absence of any of these elements, a crime may likely not occur. In routine activities theory, a suitable

target could be hotel location as well as hotel guests, visitors, or tourists. The target of crime may be a person or an object in a hotel setting, and his/her position in time and space is more or less risky for criminal attack. Likely offenders can be potential criminals who are capable and willing to commit crimes. Guardians here are not only security agents or police officers but rather anybody whose presence can prevent crime from occurring. Routine activities theory suggests that crime prevention strategies should focus on disrupting the convergence of the three factors that lead to criminal behavior. This could involve increasing surveillance and security measures in high-crime areas, implementing neighborhood watch programs, and encouraging people to vary their routines to make themselves less predictable targets for offenders. The literature has suggested that hotel guests, visitors, or tourists are suitable targets because of their appearance, behaviour, and unfamiliarity with the local environment (Cohen 1987; Allen 1999; Michalko 2004; Boakye 2010). Moreover, it was reported by Allen (1999) that most hotel guests, visitors, or tourists often carry large sums of money and other valuables and the likelihood of reporting crime tends to be lower.

Hot spot theory, on the other hand, centres on the criminology of place (Crotts, 1996). These places or hot spots are generally associated with high levels of crime. They provide convergent opportunities in which predatory crime can occur. Hot spot theory focuses on the concentration of crime in specific geographic areas, especially hotel settings, known as 'hot spots.' This theory suggests that crime is not evenly distributed throughout a city or community, but rather tends to cluster in certain locations. Hot spots can be identified based on high rates of criminal activity, such as theft, vandalism, drug sales, or violent crimes. Routine activities and hot spot theories are very useful in understanding the concept of criminology of place where different opportunities converge for predatory crime to occur. For instance, guests, visitors, or tourists with limited understanding of the destination (hotel) may stumble into a known hot spot by chance or may prefer to make use of the hot spot such as bars, and nightclubs. They may also stumble in locations that lack capable guardians. Several studies have used theories of routine activities and hot spots to investigate the connection between crime and the hotel industry (Zhao & Ho, 2006; Zhao *et al.,* 2004; Omisore, Badiora, & Fadoyin, 2013; Crotts, 1996). Zhao et al. (2004) examined routine activities and hot spot theories and explained why hotel settings are seen as a suitable target for criminal activities where hotel guests, tourists, or visitors are vulnerable to attack. This is probably due to their inability to adjust to the behaviour of the local setting to prevent criminal victimization in different environments, particularly in areas that are associated with high criminal activities (hot spots)

Empirical Review of Past Studies

This subsection focuses on the empirical review of previous studies on crime and hotel operating performance. Previous studies in the literature have focused on crimes in hotel settings. These studies include Ho, Zhao, and Dooley (2016), Oladehinde et al. (2023), Akintade, Oluwole, and Aina (2022). Ho et al. (2016) examine hotel crime: an unexplored victimization in the hospitality industry. The study is based on 997 hotel-related incidents that were reported to the Miami-Dade Police Department (MDPD). The study classified hotel crime and observed that most of the hotel crimes were property-related. It was discovered that only 5 hotel-related incidents of crime against person such as armed robbery or physical assault were commonly reported to the police in the study area. The study further found that 3 major criminal activities

(e.g. theft, burglary, and car break-in) were carried out against hotel guests within the hotel settings. In the study of Leung, Yang, and Dubin (2018), it was recorded that theft, fraud, and burglary were common in high-class hotels while prostitution and drug-related activities were encountered in low-class hotels. It was also observed that most of the hotel guest generated a higher fear of crime when crime occurred inside guest rooms, especially in cases of burglary, theft, or fraud. According to Oladehinde et al. (2023), robbery was revealed as one of the major crimes experienced in hotels. Other hotel crimes that frequently occur were sexual abuse, burglary, theft, and internet scams while vandalization, kidnapping, fraud, and pickpocketing were the least occurring hotel crimes. The study concluded that robbery, sexual abuse, burglary, theft, and internet scam were the common crimes in hotel settings. Akintade, Oluwole, and Aina (2022) assessed recent crime trends and implications on hotel selection criteria in Ondo State, Nigeria. Results from the study through descriptive statistics on data that were obtained from 30 hotels showed that the most recent crimes experienced in the hotel range from theft, murder, and assault. The study further emphasized that most of these hotel crimes were done in collaboration with the hotel management. The study recommended the need for hotels to be protected at all times against criminality as it dents their images.

A number of studies exist on the relationship between crime and hospitality industry (Shchokin et al., 2023; Ukwayi et al., 2012; Matakovic & Matakovic, 2019; Mussa, 2023). Shchokin et al. (2023) investigated the impact of crime rate on the hospitality and tourism industry in the EU Countries. The study involved the use of system approach, descriptive analysis, systematic sampling, doctrinal approach, statistical analysis, and forecasting. The study revealed a positive correlation between crime and hospitality and tourism industry. The study further noted that the impact of crime on hospitality and tourism is multidimensional in nature and requires the development of special preventive policies. Pelfrey (1998) examined the relationship between tourism and crime. The study observed an inverse relationship between the number of visitors and the violent crimes of murder and robbery but a direct and significant relationship to aggravated assault in Honolulu. The study also observed that there was no significant correlation between any of the four serious violent crimes (murder, rape, robbery, aggravated assault) and the number of visitors to Las Vegas. Ukwayi et al. (2012) assessed the impact of crime on sustainable tourism in Cross River State, Nigeria. The study was based on data that were obtained through questionnaires from 200 residents. The study discovered that Tinapa Resort environment recorded the highest number of crimes against tourists. This shows that residents in the Tinapa area are more vulnerable and victimized by perpetrators of crime in the area. Matakovic and Matakovic (2019) examined the impact of crime on security in the tourism industry. The study showed that the impact of crime could be seen on two levels: the macro and micro levels. The study found that the most significant impact of crime on a tourist destination is the negative image of the destination, resulting in reduced tourist demand. The study also observed that the impact of crime on the micro level is evident in the influence on the behaviour and attitudes of tourists, and their decision to visit or revisit a destination where criminal incidents happen. The study recommended the need to prevent crime and create a safe environment for tourists. Mussa (2023) discovered through the use of descriptive statistics that tourist areas where crime occurs often experience setbacks in tourism development. The study recommended the use of ammunitions such as guns to protect

tourist areas to prevent crime occurrence. Although, the aforementioned studies have focused on hotel crime, crime and hospitality and tourism industry. It was observed that most of the studies were does not examine the relationship between crime and hotel operating performance.

Studies on the relationship between crime and hotel operating performance in developing countries, especially in Nigeria are scarce in the literature. The ones that were examined were limited to Houston, Texas (Hua & Yang 2017; Yang & Hua, 2020). Hua and Yang (2017) investigated the effects of crime on hotel operating performance. The study discovered that violent and property crimes exert significant and negative impacts on hotel operating performance, while the impact of violent crimes was higher. Yang and Hua (2020) went further to examine the place of hotel class in moderating the relationship between crime and hotel operation. The study discovered that hotel class moderates the effect of crime on lodging performance and revealed that high-end hotels are less influenced by crime incidents. Although these studies have examined the impact of crime on hotel operations, it was observed that the studies were restricted to developed countries. Information on the impact of crime on hotel operating performance in developing countries is scarce in the literature. Also, studies have shown that crime has a strong effect on hotel operating performance using one or two parameters. It has not yet been proven whether crime can affect hotel operating performance using different parameters in developing countries, especially Nigeria. This reveals a gap in the literature, calling for further evidence. Apart from this, most of the reviewed studies left a critical gap in the literature with reference to empirical and theoretical linkages between crime and hotel operating performance. This study attempts to fill this gap by examining the relationship between crime and hotel operating performance in Ibadan, one of the major cities in Nigeria. The choice of Ibadan is justified by Ogundiran (2019) and Oladele et al (2023) who noted that crime occurrence and other social vices within Ibadan Municipality are on the increase and this is affecting lodging business or hotel operations

Based on the gap that has been established in the literature on the influence of crime on hotel operating performance in countries of Sub-Saharan Africa like Nigeria. This study, therefore, proposes hypotheses with reference to crime and hotel operating performance.

H_1 There is no significant relationship between overall crime type and the parameters of hotel operations

H_2 There is no significant relationship between overall crime type and overall parameters of hotel operating performance.

RESEARCH METHOD
The Study Area

This study was carried out in Ibadan, Oyo State, Nigeria. Ibadan, which is the third largest city by population in Nigeria after Lagos and Kano, is the capital of Oyo State. It has an estimated population of 3,756,000 in 2022. It is located between longitudes $7^0 20^1 E$ and $7^0 40^1 E$ of the Greenwich Meridian and latitudes $3^0 35^1 N$ and $4^0 10^1 N$ of the Equator. It shares boundaries with Benin Republic in the West, Kwara State in the north, Osun and Ogun State in the east and south respectively. Ibadan was selected for this study because it offers different array of resources and it is known as the center of attraction for tourists or visitors from far

and near who can stay, have fun, and spend the night, especially in hotels (Helen & Praise, 2020). Despite the fact that it is at the center of attraction to tourists or visitors, it has been argued that crime occurrence and other social vices within Ibadan Municipality are on the increase and this is really affecting lodging business or hotel operations (Ogundiran, 2019). The state of crime in Ibadan, hence the need for this study with its effects on hotel operating performance.

Eleven local government areas (LGAs) make up Ibadan. Five of these eleven LGAs—Ibadan North, Ibadan North West, Ibadan North East, Ibadan South East, and Ibadan South West—combine to form the municipality of Ibadan (see Figure 1). According to Adeyeni et al. (2016), the remaining six LGAs—Akinyele, Egbeda, Ido, Lagelu, Oluyola, and Ona-Ara—are considered to be less urban. The five LGAs that make up the municipality of Ibadan are the focus of this study. The five LGAs are renowned for their diverse economic activities, which have drawn residents and visitors from far and wide to settle there as well as spawned ancillary businesses, particularly in the hotel sector, where those from a distance can have fun, stay, and spend the night. Most of the hotel industry is vulnerable to attack because of the municipality's high crime rate and other social vices (Ogundiran, 2019; Oladele et al., 2023).
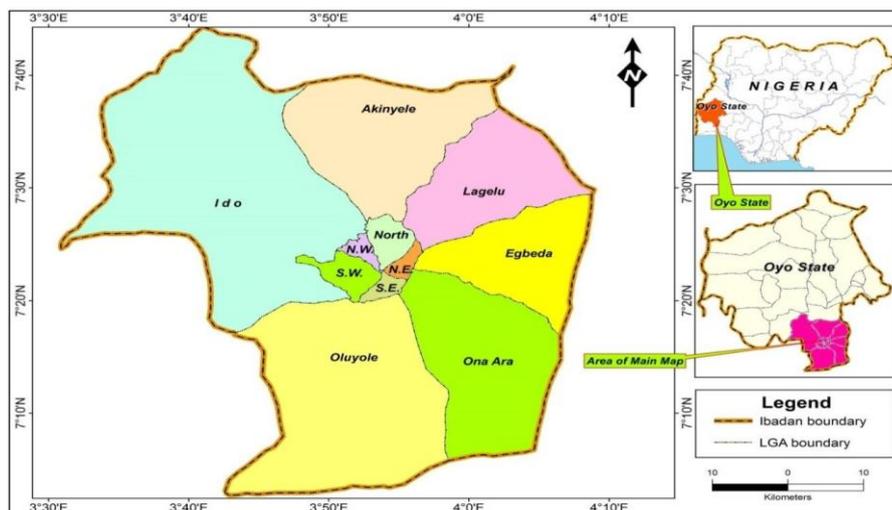

Figure 1: Map of Nigeria and Oyo State depicting the local government areas in Ibadan
Source: Ministry of Lands, Physical Planning and Urban Development, 2021.

Data was obtained from primary sources. Primary data sources included physical observation and questionnaire administration. The study was carried out in selected hotels. According to Mustard Insight (2023), there were 651 hotels in Ibadan, Oyo State. However, five hotels were randomly selected. Random sampling was adopted in this study in other to allow for unbiased data collection, which lets studies arrive at unbiased conclusion. Consequently, the study cannot consider all the hotels in Ibadan due to limited resources and time frame. The procedure involved random selection of one hotel in each of the selected local government areas without replacement. This sampling selection is supported by the study of Nwokorie and Igbojekwe (2019). For security, secrecy, and ethical issues, the names of the selected hotels for this study were written in acronyms as follows: Hotel A—PH, Hotel B—BOPH, Hotel C—OCH, Hotel D—FH, and Hotel E—HEHA (See Fig. 2). The staff of the selected hotels was considered as the respondents for this survey because of they have been in the system for a minimum

period of three years and have an understanding of the dynamics of crime and its possible effect on the hotel operating performance. The adoption of hotel staff and management as the respondents is supported by the works of Cruz-Milán (2022), Nzei and Ekeke (2021), Stella et al. (2022), Ajayi et al. (2022), Groenenboom and Jones (2003), and Gill et al. (2002). Based on the pilot study, it was observed that the staff strength of the selected hotels varied. Systematic random sampling was used in the selection of staff for the survey. Systematic sampling is a probability sampling method in which members of the population are selected according to a random starting point but with a fixed, periodic, or regular interval (or k) from a larger population. In this wise, if the population order is random or random-like, then the method will give a representative sample that can be used to draw conclusion about the population under consideration. In order to adopt this procedure, the list of the names of staff members was collected from the hotel management. Staff were selected at random from the hotel staff list provided using systematic sampling. The procedure involved random selection of the first staff member from the Kth hotel staff list, while the subsequent unit of investigation was every fourth staff member on the hotel staff list. This represented 25% of the staff in the surveyed hotels. The staff selected were accessible and available for the survey (Nwokorie & Igbojekwe 2019). Staff who were surveyed were ready and willing to participate in the research on crime and its possible effect on hotel operations and development. Using this sampling, out of 335 list of staff, a total of 134 staff were contacted and surveyed across the selected hotels. Data were elicited on the rate of crime occurrence and its effects on the hotel operating performance. Collected data were analyzed using descriptive and inferential statistics. The sample size is conceivable considering the homogeneity of the hotel setting and staff of the hotels. The adopted sample size is considered adequate. The adopted sample size is supported by Akintade, Oluwole, and Aina (2022) who used a lesser sample size of 30 respondents, and Nzel and Ekeke (2021) who utilized a lesser sample size of 124 respondents in a related study and yielded scientific and statistically acceptable results.
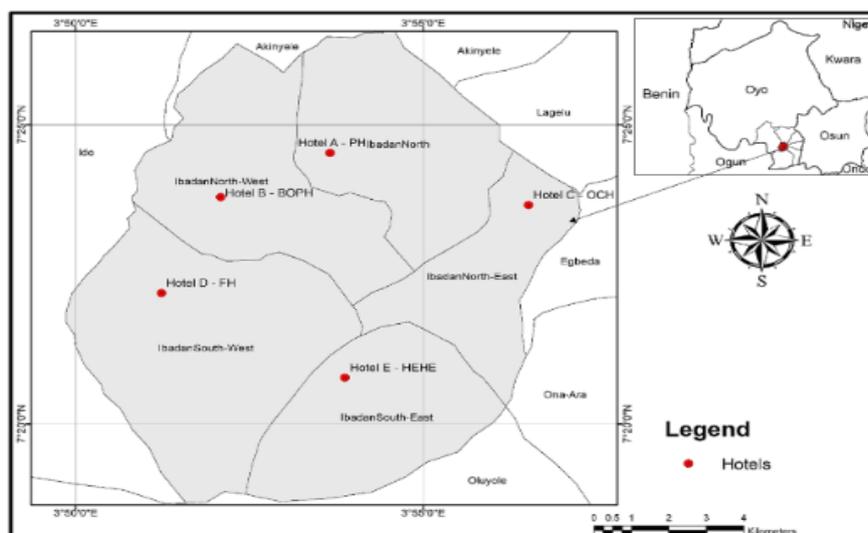

Figure 2: Map of Ibadan Municipality indicating selected hotels
Source: Ministry of Lands, Physical Planning and Urban Development, 2022.

Data were elicited on respondents' perception of the types and frequency of crime occurrence, and its effects on indices of hotel operating performance through the use of

questionnaire administration that were developed by the researcher. The questionnaire obtained information on the type and frequency of crime occurrence and the effect of crime incidence on hotel performance with reference to guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization. The questionnaire was self-administered. Before it was administered on the hotel staff, the designed questions and scale of the application were first reviewed by a social psychology expert. Later, a pilot study was carried out, and the scale's items were updated. Questions were asked from the hotel staff to know their perception regarding the frequency of crime occurrence in the hotel and their effect on the hotel operating performance based on the identified parameters from the literature. Respondents were instructed to rate their level of agreement with the following statements: Guest satisfaction can be reduced when crime occurrence is high; Patronage level of guests is reduced due to high crime rate; Security threats can lead to employee turnover; High rate of crime occurrence often prevents the achievement of organisational goals; revenue generation is worsened in the face of threat of security; High rate of crime occurrence often prevents the achievement of organisational goals; High crime occurrence can significantly reduce the level of sales on hotel product; crime has a strong effect on guest loyalty; and High crime occurrence leads to wastage of organisation resources. These statements which were rated on a 5-point Likert scale included statements about respondents' perceptions.

Data Analysis

Descriptive (mean) and inferential (ANOVA and Stepwise regression) statistics were used to analyze the data collected. Descriptive statistic was used to assess the types and frequency of crime occurrence as well as the effects of crime occurrence on the parameters of hotel performance identified in literature such as guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization resources. On the other hand, through the development of the hypothesis, inferential statistics, particularly ANOVA and Stepwise regression model, were employed to analyse the relationship between overall crime type on the parameters of hotel performance (Oladehinde et al., 2017; Fagbohunka & Oladehinde, 2021). Stepwise regression is the step-by-step iterative construction of a regression model that involves the selection of independent variables to be used in a final model. It involves adding or removing potential explanatory variables in succession and testing for statistical significance after each iteration (Oladehinde et al., 2017). Stepwise regression could be classified into three such as forward selection, backward elimination, and bidirectional elimination. The adopted stepwise regression in this study is forward selection. Forward selection begins with no variables in the model, tests each variable as it is added to the model, and then keeps those that are deemed most statistically significant—repeating the process until the results are optimal. Previous studies that have used forward selection stepwise regression include Adeyeni et al. (2017), Fagbohunka and Oladehinde (2021).

Hypotheses formulation: Two hypotheses were formulated under the empirical review. Stepwise regression was used to test the first one which states that "there is no significant relationship between overall crime type and the parameters of hotel operations." Hypothesis

question that was raised to test the formulated hypothesis was "What is the relationship between overall crime and eight identified hotel operating performance?" Stepwise regression was used in the literature to check the specific relationship between dependent variable and independent variables (Oladehinde et al., 2017; Adeyeni et al., 2016). The regression was used in this study to test the relationship between variables of overall crime types and their effect on each of the parameters of hotel performance. It was also used to show the proportion of the contributing effect of overall crime types on the eight parameters of hotel performance as well as to identify areas of the significant impact of overall crime types on hotel performance parameters. The identified areas of impact on hotel performance include guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization resources. Below is the equation of the stepwise regression model which is used to test the relationship between overall crime type on the parameters of hotel performance.

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_8 x_8 + \varepsilon$$

where Y denotes the variables of overall crime type; x_1, x_2, x_3, x_4, and x_5 represent guest satisfaction, guest loyalty, patronage level, employee turnover, and achievement of organizational goals respectively; x_6 indicates revenue generation, x_7 means sales of hotel products, while x_8 connotes wastage of organization resources. Moreover, α indicates the constant, β_1, $\beta_2 \ldots \beta_8$ stands for the respective independent variable coefficients, while ε is the model's error term.

The second hypothesis stated that "there is no relationship between overall crime and overall hotel operating performance." A hypothesis question was raised to test the formulated hypothesis: what is the relationship between overall crime and overall hotel operating performance? Pearson's Product Moment Correlation Coefficient was applied to test the hypothesis (Fagbohunka & Oladehinde, 2021). Pearson correlation coefficient assumes that both variables are on an interval or ratio level of measurement. It also assumes that data from both variables should follow normal distributions. Pearson's Product Moment Correlation Coefficient has been used to test the relationship between crime and hotel industry in different studies (Shchokin et al., 2023; Ukwayi et al., 2012; Matakovic & Matakovic, 2019). In this case, all the identified crime types were summed up together as one variable (overall crime types). Hotel performance parameters were also combined as one variable (overall hotel performance). Later, a correlation between the variables of overall crime type and overall hotel performance was used to determine their link.

RESULT AND DISCUSSION

The results of the findings from this research have been examined in the sections that follow. Unless otherwise specified, the tables used to present and summarise the data were created as a result of a survey the author(s) conducted in 2022.

Types and Frequency of Crime Occurrence

To examine respondents' perceptions of the types and frequency of occurrence of crime in the study area, respondents were provided with the list of crime varieties that were identified in the literature. Respondents were instructed to rate the frequency of occurrence of each of the identified types of crime. They were to rate their perceived experience of crime based on a 5-point Likert scale such as Very Frequent - (VF), Frequent - (F), Just Frequent - (JF), Infrequent - (I), Very Infrequent - (VI). The "Frequency of Crime Occurrence Index" (FCOI) was developed using analyses of the ratings obtained from the Likert scales adopted through respondents' opinions. 'Very Frequent' (VF), 'Frequent' (F), 'Just Frequent' (JF), 'Infrequent' (I), and 'Very Infrequent' (VI) were assigned the weight values of 5, 4, 3, 2, and 1, respectively. The weighted value summation (WVS) for each type was calculated through the addition of the product to the weight value assigned to each rating by the number of responses for each type.

This is mathematically expressed as WVS $= \sum_{i=1}^{5} x_i y_i$

Where:

WVS = Weighted Value Summation

x_i = Number of Respondents to rating 1

y_i = The weight assigned to a value (i = 1,2,3,4,5)

The FCOI for each of the variables on crime was calculated as follows

$$\text{FCOI} = \frac{WVS}{\sum_{i=1}^{5} i = X_i}$$

Where the value of FCOI can range from 1 to 5. The higher the FCOI of each variable on crime, the higher the level of frequency of crime occurrence made by the respondents (hotel staff) in the study area. The mean index was computed for the study area. This was obtained by adding the indices of FCOI of the hotels and dividing them by the total number of the identified types of crime (n = 10). Information on the findings is presented in Table 1.

Table 1: Types and Frequency of Crime Occurrence in the Study Area

Forms of Crime	VF	F	JF	I	VI	WVS	FCOI	MD	Rank
	Frequency of Crime Occurrence and Weighted Values								
	5	4	3	2	1				
Theft	45	376	0	18	22	461	3.44	0.68	1st
Fraud	240	108	0	74	22	444	3.31	0.55	2nd
Pick Pocketing	45	264	0	78	22	405	3.02	0.26	3rd
Robbery	60	148	84	72	21	385	2.87	0.11	4th
Burglary	0	264	0	100	19	379	2.83	0.07	5th
Sexual Harassment	45	0	282	18	22	367	2.74	-0.02	6th
Internet Scam	45	0	198	74	22	339	2.53	-0.23	7th
Vandalisation	40	0	201	74	22	337	2.51	-0.25	8th
Assassination	0	0	225	74	22	321	2.40	-0.37	9th
Kidnapping	45	0	0	188	31	264	1.97	-0.79	10th
Total						**3702**	**27.62**		
Average Mean FCOI							2.76		

Note: FCOI –Frequency of Crime Occurrence Index; WVS –Weighted Value Summation; MD–Mean about Deviation

Source: Authors' Fieldwork 2022.

The summary of findings presented in Table 1 shows that the mean frequency of crime occurrence index (FCOI) within the hotel was 2.76. It could be observed that the rate of occurrence of criminal activities within the hotel premises is relatively high. Moreover, the frequency of crime occurrence indices in the study area reveals two groups of identified crime from the average occurrence of index FCOI. These include the group with positive deviation and the group with negative deviation. While positive deviation reveals those crimes with a high frequency of occurrence making it to have a high magnitude of threat within the hotel premises, negative deviation with a lower level of occurrence reveals that those crimes have a lesser magnitude of threat within the area.

Information from the types of crime occurring in the study area shows that theft as a form of crime has the highest frequency of occurrence. The occurring index for theft was 3.44. in the same vein, it was observed that fraud, pick-pocketing, robbery, and burglary were the next occurrences after theft. The occurring index of fraud, pick-pocketing, robbery, and burglary were 3.31, 3.02, 2.87, and 2.83 respectively. The positive mean deviations of theft (MD = 0.68), fraud (MD = 0.55), pick-pocketing (MD = 0.26), robbery (MD = 0.11), and burglary (MD = 0.07) show that they are the highest occurring forms of crime within the hotel. The next occurring forms of crime were sexual harassment, internet scams, vandalization, assassination, and kidnapping. Their occurring indices include 2.74, 2.53, 2.51, 2.40, and 1.97 respectively. These indexes were associated with negative mean deviations of -0.02, -0.23, -0.25, -0.37, and -0.79 respectively. These indices with negative mean deviation indicate that they have a lesser magnitude of threat in the study area. It could be inferred that the first three types of crime occurrence with positive deviation in the study area were violent related while the last two forms of crime occurrence with positive deviation were property related.

Perception of the Effects of Crime on Hotel Performance in the Study Area

Having examined the types and frequency of crime in the study area. This subsection, therefore, examines the perceived effects of crime on hotel performance in the study area. To examine the perceived effects of crime occurrence on hotel performance, respondents were provided with a list of parameters that were identified in the literature. These include guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and organization resources. Respondents were notified to rate their level of agreement on the identified parameters. They were to rate their perceived effect of crime based on a Likert scale of 5-point such as 'Strongly Agree' (SA), 'Agree' (A), 'Partially Agree' (PA), 'Disagree' (D), 'Strongly Disagree' (SD). The analyses of the ratings that were obtained from the adopted Likert scales through respondents' ratings were developed into an index called the 'Relative Agreement Index' (RAI). To ascertain the weight value, 5,4,3,2, and 1 were attached to 'Strongly Agree' (SA), 'Agree' (A), 'Partially Agree' (PA), 'Disagree' (D), 'Strongly Disagree' (SD) respectively. The weighted value summation (WVS) for each of the indicators was obtained by summing the product of the number of responses to each parameter and the corresponding weight value attached to each rating.

This is mathematically expressed as WVS $=\sum_{i=1}^{5} x_i y_i$
Where:
WVS = Weighted Value Summation

x_i = Number of Respondents to rating 1
y_i = The weight assigned to a value (i = 1,2,3,4,5)
The RAI for each of the variables on crime was calculated as follows

$$RAI = \frac{WVS}{\sum_{i=1}^{5} i = X_i}$$

Where the value of RAI ranges from 1 to 5. The higher the RAI of each variable on hotel performance, the higher the level of effect of crime incidence on hotel performance made by the respondents. The study area's mean index was calculated. This was calculated by adding the hotel RAI indices and dividing the result by the total number of parameters that were identified (n = 8). Information on the findings is presented in Table 2.

Table 2: Effects of Crime Occurrence on Hotel Performance in the Study Area

Effects	Relative Agreement Index								
	SA	A	PA	D	SD	WVS	RAI	MD	Rank
	5	4	3	2	1				
Guest Loyalty	615	0	15	2	5	637	4.75	0.97	1st
Guest satisfaction	340	208	27	0	5	580	4.33	0.54	2nd
Guests Patronage level	270	92	171	0	0	533	4.16	0.37	3rd
Revenue Generation	225	168	141	0	0	534	3.99	0.20	4th
Employee Turnover	365	36	156	0	0	557	3.98	0.19	5th
Sales of Hotel products	275	88	141	0	10	514	3.84	0.05	6th
Achievement of organization goals	105	232	84	32	11	359	2.68	-1.11	7th
Wastage of organizational resources	50	200	84	32	30	346	2.58	-1.21	8th
Total						**4060**	30.30		
Average Mean RAI							3.79		

Note: RAI –Relative Agreement Index; WVS –Weighted Value Summation; MD – Mean about Deviation;
Source: Authors' Fieldwork 2022

Information on the analysis presented in Table 2 above shows that the average relative agreement index (RAI) within the hotel was 3.79. It was revealed that the relative agreement index was relatively high as two groups of indices could be observed in the study area, namely: indices with positive deviation and indices with positive deviation. Variables with positive deviation indicate variable with major effect while variable with negative deviation means variables with lesser effect in the study area.

Information on the effect of crime occurrence on hotel performance shows that Guest loyalty was the major effect on crime occurrence in the selected hotels. This indicates that crime incidence in the study area has a strong effect on guest loyalty in the hotel. The relative agreement index (RAI) was 4.71 (MD = 0.97). Next to this were guest satisfaction, guest patronage level, revenue generation, employee turnover, and achievement of organization goals. The RAI of guest satisfaction, guest patronage level, revenue generation, employee turnover, and sales of hotel products represented 4.33, 4.16, 3.99, 3.98, and 3.84 respectively while the positive mean deviations were 0.54, 0.37, 0.20, 0.19, and 0.05 respectively. The positive deviations indicate that they were the major effect on hotel performance in the study area. However, on the other hand, two variables with less magnitude of effect were discovered.

These include achievement of organisation goals (RAI = 2.68) and wastage of organization resources (RAI = 2.58). The values of the negative mean deviation were -1.11 and -1.21 respectively. This means that the effect of occurring crime has a lesser effect on the achievement of organizational goals and the wastage of organizational resources.

Testing of Hypothesis

Presented in Table 3 is the model summary of the significant impact of crime occurrence on the different parameters of hotel performance (such as guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization resources). The stepwise regression model used in the study's analysis reveals that crime had a substantial impact on seven out of the eight performance parameters for hotels. These variables include guest satisfaction (29.7%), guest loyalty (22.7%), patronage level of guests (6.2%), employee turnover (5.4%), revenue generation (3.1%), achievement of organization goals (1.9%) and sales of hotel products (1.9%). The model result of overall crime shows a 70.9% (R^2 = 0.709) effect on all the hotel performance parameters. This means that overall crime contributed 70.2% of the effects on hotel performance while the remaining proportion could be explained by other unknown factors. At a level of confidence of 0.05, the correlation coefficient between the independent and dependent variables was 0.842, which was very significant. The model result showed that wastage of organization resources was excluded from the output model. This suggests that the impact of overall crime was not felt significantly on the wastage of organization resources in the model.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.545[a]	.297	.292	4.59390	.297	55.831	1	132	.000
2	.724[b]	.524	.517	3.79456	.227	62.471	1	131	.000
3	.766[c]	.587	.577	3.55053	.062	19.626	1	130	.000
4	.800[d]	.640	.629	3.32374	.054	19.346	1	129	.000
5	.820[e]	.672	.659	3.18900	.031	12.132	1	128	.001
6	.831[f]	.691	.676	3.10681	.019	7.862	1	127	.006
7	.842[g]	.709	.693	3.02314	.019	8.127	1	126	.005

a. predictors: (constant), guest satisfaction
b. predictors: (constant), guest satisfaction, guest loyalty
c. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest
d. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest, employee turnover
e. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest, employee turnover, revenue generation
f. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organisational goals
g. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest, employee turnover, revenue generation, achievement of organisational goals, sales of hotel product

Furthermore, ANOVA test in Table 4 was used to determine whether the regression analysis had a significant impact. The table demonstrates that F = 55.8 in the first stage and F =

72.2, 61.5, 57.5, 52.4, 47.3, and 43.9 in the subsequent stages, respectively. At a 95% level of confidence (p = 0.05), each stage was significant. All the identified predictors in the ANOVA Table could be interpreted as being significant.

Table 4: ANOVA Testa

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1178.250	1	1178.250	55.831	.000b
	Residual	2785.721	132	21.104		
	Total	3963.970	133			
2	Regression	2077.745	2	1038.872	72.151	.000c
	Residual	1886.226	131	14.399		
	Total	3963.970	133			
3	Regression	2325.152	3	775.051	61.481	.000d
	Residual	1638.818	130	12.606		
	Total	3963.970	133			
4	Regression	2538.871	4	634.718	57.455	.000e
	Residual	1425.099	129	11.047		
	Total	3963.970	133			
5	Regression	2662.247	5	532.449	52.356	.000f
	Residual	1301.723	128	10.170		
	Total	3963.970	133			
6	Regression	2738.129	6	456.355	47.279	.000g
	Residual	1225.841	127	9.652		
	Total	3963.970	133			
7	Regression	2812.407	7	401.772	43.961	.000h
	Residual	1151.563	126	9.139		
	Total	3963.970	133			

a. dependent variable: overall crime
b. predictors: (constant), guest satisfaction
c. predictors: (constant), guest satisfaction, guest loyalty
d. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest
e. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest, employee turnover
f. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guest, employee turnover, revenue generation
g. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organisational goals
h. predictors: (constant), guest satisfaction, guest loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organizational goals, sales of hotel product

Table 5 demonstrates the coefficient of regression analysis for the performance-related variables for hotels. The Table reveals the coefficients from stage one to stage seven of the stepwise regression analysis. The Table shows the standardized beta coefficients in stage one (guest satisfaction as 0.545); stage two (guest satisfaction as 0.553, guest loyalty as 0.476); stage three (guest satisfaction as 0.703, guest loyalty as 0.386, patronage level of guest as 0.306); stage four (guest satisfaction as 0.758, guest loyalty as 0.384, patronage level of guest as 0.299, employee turnover as 0.240); stage five (guest satisfaction as 1.026, guest loyalty as 0.278, patronage level of guest as 0.240, employee turnover as 0.288, revenue generation as 0.364); stage six (guest satisfaction as 0.907, guest loyalty as 0.338, patronage level of guest as 0.216, employee turnover a 0.363, revenue generation as 0.308, achievement of organization goals as 0.186) stage seven (guest satisfaction as 0.817, guest loyalty as 0.325, patronage level

of guest as 0.253, employee turnover as 0.341, revenue generation as 0.268, achievement of organizational goal as 0.257, sales of hotel products as 0.165). Each of the stages was significant at the level of 0.05. It could be observed from the findings that crime had a significant effect on seven parameters of hotel performance, namely; guest satisfaction, guest loyalty, patronage level of guests, employee turnover, revenue generation, achievement of the organizational goal, and sales of hotel products while wastage of organizational resources had no significant effect in the stepwise regression model. This means that the occurrence of crime within the hotel setting affects guests' level of satisfaction, guests level of loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organizational goals, and sales of hotel products.

Table 5: Coefficients of Regression[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	31.918	1.776		17.974	.000
	Guest satisfaction	3.111	.416	.545	7.472	.000
2	(Constant)	46.302	2.337		19.809	.000
	Guest satisfaction	3.156	.344	.553	9.175	.000
	Guest loyalty	2.987	.378	.476	7.904	.000
3	(Constant)	54.428	2.854		19.068	.000
	Guest satisfaction	4.012	.375	.703	10.687	.000
	Guest Loyalty	2.417	.376	.386	6.425	.000
	Patronage level of guests	1.829	.413	.306	4.430	.000
4	(Constant)	49.215	2.923		16.836	.000
	Guest satisfaction	4.328	.359	.758	12.066	.000
	Guest loyalty	2.405	.352	.384	6.830	.000
	Patronage level of guest	1.786	.387	.299	4.620	.000
	Employee turnover	1.455	.331	.240	4.398	.000
5	(Constant)	40.223	3.812		10.552	.000
	Guest satisfaction	5.856	.558	1.026	10.500	.000
	Guest loyalty	1.745	.387	.278	4.505	.000
	Patronage level of guest	1.434	.384	.240	3.729	.000
	Employee turnover	1.750	.328	.288	5.327	.000
	Revenue generation	2.392	.687	.364	3.483	.001
6	(Constant)	41.401	3.737		11.078	.000
	Guest satisfaction	5.177	.595	.907	8.703	.000
	Guest loyalty	2.117	.400	.338	5.292	.000
	Patronage level of guests	1.291	.378	.216	3.415	.001
	Employee turnover	2.203	.358	.363	6.145	.000
	revenue generation	2.019	.682	.308	2.960	.004
	Achievement of organisational goals	.855	.305	.186	2.804	.006
7	(Constant)	39.905	3.674		10.860	.000
	Guest satisfaction	4.663	.606	.817	7.690	.000
	Guest loyalty	2.040	.390	.325	5.229	.000
	Patronage level of guests	1.513	.376	.253	4.024	.000
	Employee turnover	2.069	.352	.341	5.880	.000
	Revenue generation	1.759	.670	.268	2.627	.010

Achievement of organisational goals	1.180	.318	.257	3.713	.000
Sales of hotel products	.791	.277	.165	2.851	.005
a. Dependent Variable: overall crime						

The significance of the association between crime incidence (overall crime types) and overall hotel performance parameters was further demonstrated in Table 6 using Pearson's Product Moment correlation coefficient. To achieving this objective, hotel performance parameters such as guest satisfaction, guest loyalty, patronage level, employee turnover, achievement of organizational goals, revenue generation, hotel service sales, and wastage of organization resources that were noted in previous studies have all been combined into one variable. The variables of the crime types were also summed up together as one variable (overall crime). The relationship between the variables of hotel performance and overall crime was later established through correlation. The result in Table 6 reveals that the correlation coefficient, r = 0.383, is significant at the 0.05 level of confidence (p-value = 0.000). Thus, the null hypothesis—which claimed that "There is no significant relationship between crime and hotel performance parameters in the study area"—was rejected and the alternative hypothesis, which asserts that "There is a significant relationship between crime and hotel performance in the study area," was accepted. This implies that the occurrence of the identified types of crime such as robbery, theft, fraud, burglary, and pick-pocketing among others have a strong effect on hotel performance with reference to guest satisfaction, guest loyalty, patronage level, and employee turnover, among others.

Table 6: Hypothesis Testing Using Correlation Coefficient To Show The Relationship Between Crime And Hotel Performance Parameters

Relationship		Overall crime	Overall hotel performance
Overall crime	Pearson Correlation	1	.383**
	Sig. (2-tailed)		.000
	N	134	134
Overall hotel performance	Pearson Correlation	.383**	1
	Sig. (2-tailed)	.000	
	N	134	134
**. Correlation is significant at the 0.01 level (2-tailed).			

CONCLUSION, DISCUSSION, and RECOMMENDATION

The study has examined the effect of crime on hotel performance and discovered that theft is one of the most occurring crimes in hotel settings in the study area. The study agrees with previous studies on the findings that one of the main crime issues is theft in hotel settings. (Mawby & Jones, 2004; Allen, 1999; Huang et al., 1998). The study also discovered a significant connection between crime and seven hotel performance parameters such as guest satisfaction, guest loyalty, patronage level of guest, employee turnover, revenue generation, achievement of organization goals, and sales of hotel products while there was no significant relationship between crime and wastage of organizational resource. This means that the occurrence of crime within the hotel setting affects guests' level of satisfaction, guests' level of loyalty, patronage level of guests, employee turnover, revenue generation, achievement of organizational goals,

and sales of hotel products. For example, crime occurrence affects guest satisfaction. Guest satisfaction according to Dominici and Guzzo (2010) involves creating value for customers, anticipating and managing their expectations, and demonstrating the ability and responsibility to satisfy their needs. Insecurity reduces customers' expectations and the ability to meet their needs. It also affects the patronage level of the hotel customers. Once security is breached within the hotel, level of patronage reduces as customers are more likely to be targeted by criminal activities. Moreover, crime affects employee turnover. Employee turnover is the percentage of workers who leave an organization within a period of time. Insecurity caused by crime could force hotel staff to quit their job. Hotel staff willfully terminate their appointment for different reasons. Insecurity caused by crime incidents as observed by Baumann and Engelhardt (2016) is one of the reasons why workers willfully terminate their appointment. Crime occurrence affects the achievement of the developmental goals of an organization. Every organization has different developmental goals to achieve be it weekly, monthly, or yearly goals. However, insecurity could limit the achievement of these goals. Generated revenue and daily sales of hotel services could be reduced in a situation where there is a high crime rate. Hotel revenue is generated through hotel room rentals and meeting space occupancy, while hotel service sale is made through food and beverage sales. Crime negatively affects the total revenue that a hotel earns from its room and meeting space renting through a reduction in the number of bookings as well as the daily sales made from food and beverages. Crime according to Nwagbala et al. (2022) is a threat to the lives of both workers and customer. It also affects the stable operations of the hotel business. The study concluded that the incidence of crime strongly affected the operating performance of the hotel business. This study is in consonant with other studies on the effect of crime occurrence on hotel operating performance with reference to hotel revenue (Yang & Hua, 2020), customer satisfaction (Nwagbala et al., 2022), staff turnover (Motta, 2017), hotel service sales (Oladele, 2022), customer loyalty (Nwokorie & Igbojekwe, 2019).

This study agrees with the submission of previous studies on the findings that crime occurrence tends to affect the smooth operation of the hotel business and continuous occurrence of crime may expose guests, visitors, and tourists to several risks which may result in hotel guest dissatisfaction with hotel services. Thus, leading to a high level of customer turnover. However, in order not to drive most of the hotels out of business, there is a need for the use of more robust security systems in the hotels. This will go a long way to prevent crime and secure life and properties within the hotel settings. This supports the submission of Piquero (2015) who noted that better prevention mechanisms tend to reduce crime opportunities and every other thing being equal. Mawby and Jones (2004) also added the need to improve security, vigilance, and awareness to prevent hotel crimes. According to the framework of hot spot theory, certain locations are associated with crime hot spots within the urban center especially the hotel settings as it provides convergent opportunities for which predatory crime can occur (Crotts, 1996). The finding of this study reinforced what was already established in the literature that some locations especially hotel settings are hot spots for crime (Schiebler et al., 1996, Paliska et al., 2020).

This study suggests that theft is more likely to occur in hotel environments such as pubs, restaurants, parking lots, among others. In the context of this study, hot spot theory has several

implications for crime prevention and management. Firstly, hot spot theory suggests that crime in hotel settings is not randomly distributed but rather concentrated in particular areas or "hot spots." These hot spots may include areas like parking lots, elevators, stairwells, and unmonitored corridors where criminal opportunities are more prevalent. Managers and security personnel can focus their resources and attention on these specific areas. This targeted approach allows for the implementation of tailored crime prevention measures, such as increased surveillance, improved lighting, and access control, to address vulnerabilities and deter offenders. Secondly, proactive policing strategies should be made. Hot spot theory emphasizes the importance of proactive policing strategies, such as directed patrols and targeted enforcement efforts, in high-crime areas of hotels. By concentrating law enforcement resources on hot spots, hotel managers can effectively disrupt criminal behavior, apprehend offenders, and create a safer environment for guests and staff. Lastly, there is a need for collaboration and partnerships with stakeholders. Applying hot spot theory to crime in hotel settings underscores the importance of collaboration and partnerships between hotel management, security personnel, law enforcement agencies, and other stakeholders. By working together to identify, address, and monitor hot spots of crime, hotels can enhance coordination, communication, and resource allocation to effectively combat criminal activities However, according to the framework of routine activity theory, crime in such a location could be prevented through the altering of at least one of the elements (potential offender, suitable target, and absence of capable guardians).

The best way to prevent crime in the study area is to put in place security measures - the presence of capable guardians. When security measures are put in place to protect hotel guests against crime, it will go a long way to boost the overall performance of hotel operations in the study area and also in other cities of developing countries in sub–Saharan Africa. Closed-circuit television (CCTV) and more employee training in crime prevention techniques could improve hotel security. To stop crime, hotel owners and managers must allocate enough resources, such as security guards and computer security equipment. This protects the hotels from any kind of loss both directly and indirectly. The use of modern computer surveillance systems and highly trained personnel as observed by Gill et al. (2002) in monitoring the hotel environment such as parking lots, swimming pools, lodges, and bars among others are suggested. This study also suggested the need for a collaborative effort between the government, security officers, communities, and hotel officials in improving the condition of safety around the hotel. Efforts should be put together to educate guests, visitors, and tourists about the safety and security of the destination. The short duration of time spent in a certain location often make them pay less attention to issues of their security and safety which may possibly create opportunities for crime. Hoteliers, hotel managers, local communities, guests, businesses, and law enforcement agencies should therefore collaborate to identify means or solutions to enlighten guests, visitors, or tourists and reduce crime opportunities.

As this is the first empirical study undertaken to examine the relationship between crime and hotel operating performance in Sub-Saharan Africa, especially Nigeria, the results presented here also provide a baseline against which the results of further research will be compared. Despite the fact that this study has examined the relationship between crime and hotel operating performance, there are some other areas that further studies can focus on.

Future studies can examine the moderating influence of control variables in the relationship between crime and hotel operating performance. Further studies can also compare the relationship between crime and hotel operating performance between two or more cities in developing countries

Conflicting Interests
Regarding the research, writing, and publication of this article, the authors have affirmed that there are no conflicts of interest.

Data Availability
Due to confidentiality concerns, the datasets created during and/or analyzed during the current study are not publicly available, but they will be made available on reasonable request

Contributions
The study's conception and design were contributed by all of the authors. (AFO) handled material preparation, data collection, and analysis. All authors offered feedback on earlier draft of the manuscript after [GJO] wrote the first draft. The final manuscript was read by all authors and got their approval.

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Ethical Approval
- The research was approved by Postgraduate Advisory Committee Research, Faculty of Environmental Design and Management, Lead City University, Ibadan, Oyo State
- The research was conducted in accordance with the applicable rules guiding the conduct of research in Lead City University in particular and Nigeria in general

Informed Consent
Consent was obtained from all the participants before they were involved in the survey of this study. Confidentiality of respondents' information was strictly observed

References
Adeyeni, G.O., Olayiwola, L.M. & Oladehinde, G.J. (2016): Challenges to Incremental Housing Development in Ibadan Municipality, Nigeria. *Asian Research Journal of Arts & Social Sciences.* 1(14): 1-10

Adler, F., Mueller, G. O. W., & Laufer,W.S. (2001). Criminology, 4th ed; NewYork: McGraw Hill.

Ajagunna, I. (2006). Crime and harassment in Jamaica: Consequences for sustainability of the tourism industry. International Journal of Contemporary Hospitality Management, 18(4), 253–295

Ajayi, E.A., Ojo, S.S., Jimoh, D.M. & Chinansa, J. (2022): Evaluating the Effects of Insecurity on Hospitality Industry in Northern Nigeria (2014-2019). International Journal of Social Science and Humanities Research. 10(2), 51-58

Allan, D. B. (2002). Race, crime and social exclusion: A qualitative study of women's fears of crime in Johannesburg.Urban Forum, 13, 59–79

Allen, J. (1999) *Crime against International Tourists*. Australia: Bureau of Crime Statistics and Research, http://www.lawlink.nsw.gov.au/bocsar1.nsf/pages/cjb43text.

Alleyne, D., & Boxill, I. (2003). The impact of crime on tourist arrivals in Jamaica. International Journal of Tourism Research, 5, 381–391.

Badiora AI, Oluwadare DB & Dada OT (2014). Nature of Residential Burglary and Prevention by Design Approaches in a Nigerian Traditional Urban Center, *Journal of Applied Security Research, 9 (4):418-436*

Botterill, D., & Jones, T. (2010). Introduction: Tourism studies and criminology. In D. Botterill & T. Jones (Eds), Tourism and crime: Key themes (pp. 1–18). Oxford, UK: Goodfellow Publishers Ltd

Burstein, H. 1994. *Introduction to Security*. Eaglewood Cliffs, NJ: Prentice Hall.

Cohen, I.E., & Felson, M. (1979): Social Change arid Crime Rate Trends: A Routine Activity Approach, American Sociological Review 44 (August 1979):588-608

Crotts, J.C. (1996): Theoretical Perspectives on Tourist Criminal Victimisation, *The Journal of Tourism Studies. 7(1);* 1-8

de Albuquerque, K., & McElroy, J. (1999). Tourism and crime in the Caribbean. Annals of Tourism Research, 26(4), 968–984

Farodoye, S.O., Olawuni, P.O., Oladehinde, G.J., Atoyebi, O.S., & Ayoola, L.O. (2021). Spatial Analysis of Residents' Response to Fear of Crime in Osogbo, Osun State, Nigeria. *Mediterranean Journal of Social Sciences.*12(2); 1 – 14

George, R (2012). International Tourists Perceptions of Crime-Risk and Their Future Travel Intentions During the 2010 FIFA World Cup in South Africa, *Crime Prevention and Community Safety Journal: An International Journal*, 15(2), 79–103.

George, R. (2003). Tourists' fear of crime while on holiday in Cape Town. Crime Prevention & Community Safety, 5(1), 13–25

Gill, M., Moon, C., Seaman, P. and Turbin, V. (2002) Security management and crime in hotels. *International Journal of Contemporary Hospitality Management* 14(2): 58–64.

Goodrich, J. (1991). An American study of tourism marketing: Impact of the Persian Gulf War. Journal of Travel Research, 30(2), 37–41

Hammett, D. (2014). Tourism images and British media representations of South Africa. *Tourism Geographies, 16*(2), 221–236. https://doi.org/10.1080/14616688.2012.762688

Helen, O.O., & Praise, E. (2020). Assessment of Tourists' Perception and Satisfaction in Agodi Park and Gardens Ibadan as a Nature-based Tourism Attraction. International Journal of Research - Granthaalayah, 8(7), 144-159.

Ho T., Zhao J., Dooley B. (2017). Hotel crimes: An unexplored victimization in the hospitality industry. *Security Journal*, 30, 1097–1111.

Ho, T., Zhao, J., & Brown, M. P. (2009). Examining hotel crimes from police crime reports. Crime Prevention and Community Safety, 11, 21–33.

Ho, T., Zhao, J., & Dooley, B. D. (2016). Hotel crimes: An unexplored victimization in the hospitality industry. Security Journal. doi:10.1057/sj.2016.11

Holcomb, J., & Pizam, A. (2006). Do incidents of theft at tourist destinations have a negative effect on tourists' decisions to travel to affected destinations. In Y. Mansfeld & A. Pizam (Eds.), Tourism security and safety: From theory to practice (pp. 105–124). New York City, NY: Butterworth-Heinemann.

Hua N and Yang Y (2017) Systematic effects of crime on hotel operating performance. Tourism Management 60: 257–269.

Huang, W.S.W., Kwag, M., & Streib, G. (1998) "Exploring the Relationship Between Hotel Characteristics and Crime," *Hospitality Review*: 16(1); 81-93. Available at: https://digitalcommons.fiu.edu/hospitalityreview/vol16/iss1/9

Isaac, O. M., Murat, A., & Ohida, I. Y. (2019). Insecurity and Business Performance: The Operation Management Challenge in Ikot Ekpene, Akwa Ibom State of Nigeria. *American Journal of Environmental and Resource Economics.* Vol. 4, No. 4, 2019, pp. 132-138. doi: 10.11648/j.ajere.20190404.13

Jones, P., & Groenenboom, K. (2002). Crime in London hotels. Tourism and Hospitality Research, 4(1), 21–35

Leung, X.Y., Yang Y. & Dubin, E.A. (2018): What are guests scared of? Crime-related hotel experiences and fear of crime, Journal of Travel & Tourism Marketing, DOI:10.1080/10548408.2018.1473192

Mawby, R.I. and Jones, C. (2004) Evaluation of a Hotel Burglary Project, http://www. crimereduction.gov.uk/burglary72.htm, Home Office Online Report 16/04

Milman, A., Jones, F., & Bach, S. (1999). The impact of security devices on tourists' perceived safety: The central Florida example. Journal of Hospitality and Tourism Research, 23(4), 371–386.

Motta, V. (2017). The impact of crime on the performance of small and medium-sized enterprises: evidence from the service and hospitality sectors in Latin America. Tourism Economics., 23(5), 993–1010. doi: 10.1177/1354816616657940

Mussa, M. A. (2023). Perceptions Whether Criminal Activities Are a Setback to Tourism Development in Nungwi Village, Zanzibar. East African Journal of Management and Business Studies 3(1), 72-78. DOI: https://doi.org/10.46606/eajmbs2023v03i03.0026.

Nwagbala, C.S., Ifureze, P.C., Okafor, I. P. (2022). Insecurity in Nigeria and Business Sustainability in Selected Hotels in Awka, *International Journal of Trend in Scientific Research and Development (ijtsrd),* 6(3), 1571-1580.

Nwokorie, E.C., & Igbojekwe, P. (2019): Security Challenges for the Hotel Industry: implications for Selected Hotels in Owerri, Nigeria. *Academica Turistica,* 12(2) 193-205

Nzei, J. A. & Ekeke, J. N. (2021): Hotel Security and Safety and Hotel Brand Choice in Port Harcourt, Rivers State, Nigeria, *International Journal of Academic Multidisciplinary Research* (IJAMR), 5(2), 22-31.

Ogundiran, R.O. (2019): Pattern of Perceived Fear of Crime in Urban and Semi-Urban Areas of Ibadan, Nigeria. M.Phil Thesis submitted to the Department of Urban and Regional Planning, Faculty of Environmental Management, University of Ibadan

Oladehinde GJ, Popoola K., Fatusin A., Adeyeni G. (2017). Land accessibility characteristics among migrants in Yewa North Local Government area of Ogun State, Nigeria. Asian Research Journal of Arts & Social Sciences, 2(1): 1–12. ARJASS.30086.

Oladehinde, G. J., Oladele, A. F., Adeniyi, L. A., Lawal, O. L. (2023). Fear and Feeling of Insecurity in Hotels and Host Communities, Ibadan, Nigeria. Analele Universităţii din Oradea, Seria Geografie, 34(1), 15-32. https://doi.org/10.30892/auog.34102-908

Oladehinde, G.J., Oladele, A.F., Lawal, O.L. Kehinde, O.J. (2024). Place of hotel characteristics and security systems in hotel operations, Nigeria. *Security Journal,* https://doi.org/10.1057/s41284-024-00422-8

Oladehinde, G.J., Olayiwola, L.M. (2021). Land tenure security perceptions amongst Nigerian rural communities: a case of Atiba Local Government Area (LGA), Oyo State / Postrzeganie bezpieczeństwa własności gruntów wśród społeczności wiejskich Nigerii: Przypadek Obszaru Samorządu Lokalnego Atiba (LGA), Stan Oyo. Economic and Regional Studies, 14(2), 158-186. https://doi.org/10.2478/ers-2021-0012

Oladele A.F. (2022): Insecurity Outcomes of Hotel Development and Operations in Ibadan, Nigeria. M.Sc Thesis Submitted to the postgraduate college, Lead City University, Ibadan, Oyo State, Nigeria.

Oladele, A. F., Oladehinde, G. J., Adeniyi, A. L., & Lawal, O. L. (2023). Feelings of Insecurity in Hotels and Host Communities, Ibadan, Nigeria. *Journal of Studies in Social Sciences*, *22*.

Omisore, E., Badiora, A., & Fadoyin, P. (2016). Victim travel–to-crime areas: The experience from Nigerian international tourist attraction site. *International Journal of Criminology and Sociological Theory, 6*(4), 204–216

Oversee Security Advisory Committee ([OSAC]. (2019). *Nigeria 2019 crime & safety report.* Lagos, Nigeria: Regional Security Office at the U.S. Consulate General.

Paliska D., Mušič K., Ćeklić J., Mekinc J. (2020). Theft crimes against tourists and visitors in Slovenia. *Tourism and Hospitality Management*, 26(1), 15–32. https://doi.org/10.20867/thm.26.1.2

Parkan, C. (1996). *Measuring the performance of hotel operations. Socio-Economic Planning Sciences, 30(4), 257–292.* doi:10.1016/s0038-0121(96)00013-4

Pizam, A. (1999). A comprehensive approach to classifying acts of crime and violence at tourism destinations. Journal of Travel Research, 38, 5–12

Ryan, C. (1993). Crime, violence, terrorism and tourism: An accidental or intrinsic relationship. Tourism Management, 14, 173–183.

Shchokin, R., Maziychuk, V., Mykhailyk, O., Kolomiiets, A., Akifzade, S., & Tymoshenko, Y. (2023). The Impact of the Crime Rate on the Hospitality and Tourism Industry in the EU Countries. GeoJournal of Tourism and Geosites, 46(1), 135–147. https://doi.org/10.30892/gtg.46115-1009

Simpson, P. M., & Siguaw, J. A. (2008). Perceived travel risks: The traveller perspective and manageability. International Journal of Tourism Research, 10(4), 315–327

Tynon, J. F., & Chavez, D. J. (2006). Adapting a tourism crime typology: Classifying outdoor recreation crime. Journal of Travel Research, 44, 298–307.

Violence Team, Social Development Department, Washington, DC, USA

Walker, L., & Page, S. J. (2007). The visitor experience of crime: The case of central Scotland. Current Issues in Tourism, 10(6), 505–542

Wambua, D. K. (2014). *Factors influencing sales performance in the hotel industry: a case of three star hotels in Nakuru municipality* (Doctoral dissertation, Egerton University).

Williams, M. L., Burnap, P., & Sloan, L. (2017). Crime sensing with big data: The affordances and limitations of using open source communications to estimate crime patterns. The British Journal of Criminology, 57(2), 320–340

World Bank (2016). Understanding Violence in some cities in the World, Conflict, Crime and

Yang, Y. & Hua, N. (2020): Does Hotel class moderate the impact of crime on operating performance? *Tourism Economics*; 1-18; DOI: 10.1177/1354816620949040

Zhao J & Ho T (2006) Are foreign visitors more likely victimized in hotels? Policy implications. Security Journal 19(1): 33–44.

Zhao, J., Ho, T. and Chen, C.Y. (2004) Crimes against hotel visitors: An empirical study in Miami-Dade County, Florida. *Journal of Hospitality Legal, Safety and Security Research* 2: 1–12.
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