Journal of Tourism and Hospitality Studies
ISSN: 2976-7598
DOI: 10.32996/jths
Journal Homepage: www.al-kindipublisher.com/index.php/jths

JTHS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Effects of Facility Competitiveness on Financial Performance: The Mediation of Green-Technology Application

Henry Mogaka Nyamogosa[1]✉, George Otieno Obonyo[2], and Beatrice Chepngetich[3]
[1]Hospitality and Tourism Educator, *ECOHIM, Maseno University, Kisumu, Kenya*
[2]*George Otieno Obonyo Lecturer, ECOHIM, Maseno University, Kisumu, Kenya*
[3]*Beatrice Chepngetich, ECOHIM, Maseno University, Kisumu, Kenya*
Corresponding Author: Henry Mogaka Nyamogosa **E-mail**: henrynyamogosa@gmail.com

| ABSTRACT
Although facility competitiveness in service delivery (compared to alternative firms both within and beyond the destination) is linked to firm performance and profitability, the contribution of green-technology application to this relationship has been underexplored in the literature on hospitality firm competitiveness, particularly in the context of developing economies like Kenya. This study aimed to employ the Kenyan context to enhance knowledge on the effects of facility competitiveness on financial performance and the extent to which green-technology application mediates the process. Anchored on resource-based view theory, this study adopted a partial least squares structural equation model (PLS-SEM) to test hypotheses utilizing 206 data samples from managers of accredited hospitality facilities in Kenya. The results of path coefficients indicated service quality (β = .18, t = 2.05, p = .04), location (β = .17, t = 2.58, p = .01), innovation capacity (β = .18, t = 2.79, p = .01) and quality of human resources (β = .12, t = 2.26, p = .02) dimensions of facility competitiveness to have a direct and significant effect on financial performance of accredited hospitality facilities in Kenya. Moreover, green-technology application mediated service quality (β = .11, p = .00), innovation capacity (β = .09, p = .00), quality of human resources (β = .12, p = .00) and location (β = .05, p = .03) effects on financial performance of hospitality facilities. As such, green-technology application is a fundamental mechanism through which other hospitality facility resources and capabilities improve financial performance. The study gives strategic interventions for enhancing the financial performance of hospitality facilities via fostering facility competitiveness and applying green technologies.

| KEYWORDS
Facility competitiveness; Green-technology application; Financial performance; Accredited hospitality facilities

| ARTICLE INFORMATION
ACCEPTED: 01 December 2025 **PUBLISHED:** 15 December 2025 **DOI:** 10.32996/jths.2025.3.5.1

1. Introduction

The tourism and travel sector provided 9.1% of the global Gross Domestic Product (GDP) and directly generated 27 million additional jobs, and increased domestic and international visitor spending by 18.1% and 33.1%, respectively, in 2023 (World Travel & Tourism Council (WTTC), 2024). Despite a significant increase in visitor spending by both domestic and international tourists and an increase in occupancy rates in the previous few years to 2023, the increase in occupancy rates has not been reflected in the net earnings of hospitality facilities. Literature has attributed this to fierce global competition in the hospitality and tourism industry, which affects operational strategies, customer satisfaction, and profits (Gooroochurn, 2022; Kapil & Varghese, 2024; Luís et al., 2024). Intense competition makes hospitality businesses innovate, improve service quality, and maintain market share, which, in turn, leads to increased operational costs as businesses work to differentiate themselves (Кувіка, 2024). Operating costs in

hospitality venues, such as hotels, resorts, safari guest lodges, safari camps, palaces, and forts, have risen to 55.2% of turnover before rent and are likely to increase to 67% by 2030 (Louis Thomas, 2022). This increase in operational costs is likely to lower profit margins or generate losses for hospitality facilities, leading to poor financial performance.

Recent studies acknowledge facility competitiveness as a critical issue in the study of the financial performance of hospitality facilities because it directly contributes to the attraction and retention of guests, thereby affecting the profit margins and overall financial performance of these facilities (Bii et al., 2023; Soesetio et al., 2024). Facility competitiveness is a hospitality facility's ability to acquire and maintain comparative advantages that make it possible to attain, sustain, and enhance a particular position in the market and gain greater performance within the industry. Competitiveness enables hospitality facilities, such as hotels, to improve their market share and competitive position, acquire advanced technologies, and improve their performance (Bii et al., 2023). Process innovation and business competitiveness are linked to micro, small, and medium-sized businesses' (MSMEs') financial performance (Soesetio et al., 2024), indicating the significance of competitiveness in improving the financial performance of firms.

Although the topic of facility competitiveness in hospitality management has gained maturity recently, different researchers have offered different perspectives. Some researchers argue that facility competitiveness provides unique and superior services that enable the firm to differentiate itself from its competitors, resulting in customer loyalty and increased market share (Chikán et al., 2022; Kuo et al., 2022; Tajeddini et al., 2023). Technology innovations, adoption, and applications have been viewed by other researchers as sources of change in consumer preferences, which in turn drives the competitiveness and performance of hospitality firms (Anning-Dorson & Nyamekye, 2020; Bilgihan & Wang, 2016; Musiello-Neto et al., 2021). Learning organization, interaction abilities, technology, and human resources are some factors that influence competitiveness (Lacap, 2014). Hence, with these differences in facility competitiveness perspectives, there was a need to look into facility competitiveness in the context of accredited hospitality facilities to clearly understand its contribution to improving these facilities' financial performance.

Literature suggests that firm competitiveness drives green-technology application, and this enhances the financial performance of the firm (Novitasari & Agustia, 2022; Zhu et al., 2023). Green technologies are increasingly being incorporated into hotel operations as a means of reducing energy costs, saving water, and minimizing waste to increase a hotel's overall performance (Nwokolo et al., 2024). It has been noted that incorporating technology into business processes reduces costs and improves a firm's image in international markets, hence increasing the firm's financial performance (Agyabeng-Mensah et al., 2020). Pancholi et al. (2024) posited that emission reduction technologies impact the performance of manufacturing firms by lowering energy and water costs. Moreover, Cheng et al. (2024) affirmed that, unlike pollution control technologies that only minimize environmental damage, pollution prevention technologies can minimize environmental impacts and improve financial performance.

While existing studies have delved into one or two dimensions of facility competitiveness and their effect on financial performance (Bii et al., 2023; Soesetio et al., 2024), and the effects of green-technology application on overall firm performance (Cheng et al., 2024; Novitasari & Agustia, 2022; Nwokolo et al., 2024; Pancholi et al., 2024; Zhu et al., 2023), there is inadequate knowledge on the mechanisms via which green-technology application affects the interactions between facility competitiveness and financial performance of hospitality facilities. As firm-specific characteristics such as service quality, innovation capabilities, location and strategic human resources have been indicated to affect financial performance (Adanse et al., 2024; Chandran et al., 2024; Heskett & Schlesinger, 1994; Suvittawat, 2024; Zahra & Edris, 2016) and green-technology application (Cui, 2025; Doran & Ryan, 2016; Gersmann, 2022; Renwick et al., 2013; Sloan et al.,2014; Tanveer et al., 2024), the same way green-technology application has an influence on firm's bottom line (Cheng et al., 2024; Pancholi et al., 2024; Xie et al., 2019), it can be inferred that green-technology application facilitates the relationship between facility competitiveness and financial performance of hospitality facilities. However, it is still unclear to what extent green-technology application mediates facility competitiveness and financial performance of accredited hospitality facilities; hence, this study investigates this gap.

2. Literature review and hypotheses

2.1 Theoretical overview

The resource-based view framework provides an essential strategic management framework for understanding how well-organized businesses with valuable, rare, costly to imitate, and non-replaceable resources and capabilities can obtain a competitive edge in their industry and enhance their performance. Resources denote an organization's distinct tangible (physical, technological, human, and financial) and intangible (brand recognition, reputation, and patents) assets that drive firm success and foster innovations that outperform competitors (Drnevich & Kriauciunas, 2011). Resource-based view framework postulates that the organization's unique tangible and intangible resources that meet the valuable, rare, imperfectly imitable, and non-substitutable (VRIN) criteria can lead to sustainable performance (Barney, 1991; Wernerfelt, 1984). Barney (2001) posited that organizational structure and processes of a firm should be in a position to exploit the valuable, rare, and inimitable resources to realize its full competitive potential. The current study argues that the resource-based view manifests in the capacity of accredited hospitality

facilities to have valuable, rare, inimitable, and non-substitutable resources and capabilities that exert dominance in markets and reduce the cost of production, hence increasing their financial performance.

Resource-based view framework provides an important theoretical lens for grasping the effects of facility competitiveness on financial performance, as it provides a basis for understanding how an organization's structure and processes ought to exploit the valuable, rare, inimitable, and non-substitutable resources to enhance the financial performance of hospitality facilities. Zaman et al. (2025) presented the resource-based view as a holistic approach to resource management that includes both tangible and intangible resources to improve the performance of a hotel. Facility competitiveness (service quality, innovation capacity, quality of human resources, and location), a key resource in hospitality facilities, directly impacts the application of green technologies, which in turn influences financial performance (Janjua et al., 2025). A location as an aspect of facility competitiveness, for example, with a large number of environmentally aware tourists, strong environmental regulations, strong local government incentives for green construction or energy efficiency, can propel hospitality facilities to apply green technologies, which in turn leads to increased market appeal and enhanced financial performance (Sloan et al., 2014). Nevertheless, earlier studies have had flaws in examining the connection between a company's combined resources and its sustained edge over competitors and financial performance. The absence of replication of such investigations in diverse sectors and regions, such as accredited hospitality facilities in developing countries, as well as a lack of focus on current aspects of facility competitiveness and green-technologies for financial performance limit the capacity to rejuvenate and generalize resource-based view perspective via other important intellectual fields (Luján Salazar, 2017; Pham et al., 2019; Tajeddini et al., 2023). As such, one would expect resources to be developed to the benefit of hospitality facilities in developing countries, with particular focus on service quality, innovation capacity, quality of human resources, and location dimensions of facility competitiveness in terms of enhancing financial performance of facilities.

2.2 Service Quality and Hospitality Facility Financial Performance

The level of service provided to guests at a hospitality facility influences their level of satisfaction with their stay (Ali et al., 2021). Friendliness, timely response to service, tailored services, and professionalism from the hospitality personnel increase guest satisfaction (Mandić et al., 2023). However, there are inconsistencies in defining quality of service in hospitality facilities due to its subjective nature, differences in guest expectations, and intangible service delivery aspects. According to resource-based view theory, service quality is a strategic resource, but because of its intangibility and variation, it is difficult to designate it as a sustainable competitive advantage. Although some studies have positively linked service quality to financial performance (Heskett & Schlesinger, 1994; Zahra & Edris, 2016), some (Ahmad et al., 2011; Goni, 2018) found weaker or indirect effects. Furthermore, although previous studies have reported that the intangibility and variations of service quality can make it difficult to achieve a long-term competitive advantage, hospitality facilities can create guest loyalty by developing a strong service culture, implementing effective systems, and committing to continual improvement. Thus, there is a significant gap between generating quality of service hypotheses and implementing quality of service in hospitality facilities, laying the groundwork for the paper's theoretical framework. Therefore, this study posits that:

H0: There is no significant effect of service quality on the financial performance of accredited hospitality facilities in Kenya

2.2 Innovation Capacity and Hospitality Facility Financial Performance

Innovation capacity has been identified as a vital strategic resource for enhancing competitiveness in the hospitality sector. Kallmuenzer and Peters (2018) discovered that family businesses in the hospitality sectors benefit financially from innovation in the same way as non-tourism and non-hospitality sectors do. The ability to innovate has become a key issue in the hospitality business, as facilities attempt to differentiate themselves from competitors and meet the varying demands of guests (Shi et al., 2021). It has been proposed that adding innovation capacity as a strategic resource will enable hospitality facilities such as hotels to efficiently respond to market changes, fulfill new demand, and broaden the range of services offered (Santa et al., 2025). However, the high cost of innovation activities has hindered its potential benefits (Fatoki, 2021; İplik et al., 2014). Hjalager (2010) and Molina-Castillo et al. (2023) further indicated that the propensity of hotels to innovate does not immediately result in a positive effect but rather can influence mid- to long-term performance. There are long-term effects of improving innovation capabilities on hotel performance (Chandran et al., 2024). Therefore, this study posits that:

H0: There is no significant effect of innovation capacity on the financial performance of accredited hospitality facilities in Kenya

2.3 Quality of Human resources and Hospitality Facility Financial Performance

The quality of human resources is regarded as a strategic asset, with a direct effect on competitive advantage and service excellence. Human resource management practices determine employee behavior, which in turn affects consumer perceptions of service quality (Fitriyah & Sholihah, 2023). Strategic human resources have been proven to have a substantial correlation with revenue growth, indicating the effect of human resources on the financial performance of hospitality facilities such as hotels (Adanse et al., 2024). Furthermore, human resource management has been shown to influence staff attitudes and actions, which

shape tourists' views of service quality (Adanse et al., 2024; Chadwick & Flinchbaugh, 2021). Integrating quality management methods with human resource management has been connected to overall facility performance, particularly in the UK hotel industry (Maxwell, 1994). Highly trained employees can provide customized views, remember guest preferences, and anticipate guests' needs, resulting in a memorable and unique experience (Wirtz & Jerger, 2016). Furthermore, competitors encounter difficulties in imitating a highly skilled and guest-centric personnel, making the facility's human capital distinctive and a source of long-term competitive advantage (Bagadiya & Kathiriya, 2024). Trained and competent employees complete activities efficiently, with minimal errors, waste, and rework, hence improving the hotel's overall performance (Patwary et al., 2025).

Although theoretical justifications have presented human resources as a strategic advantage, research examining their actual relationship to hotel financial success has frequently yielded conflicting results. According to some studies, the quality of human resources does not directly result in increased revenue or reduced costs, but rather through a variety of mediating factors such as service delivery and guest satisfaction (Papademetriou et al., 2023), leadership style (Ahmad, 2021), and brand image (Ali et al., 2021). Further research has found that quantifying the indirect effects of quality human resources on financial performance is difficult, and that many financial performance indicators may fail to reflect the long-term benefits of higher-quality staff (Khan, 2021). Other human resource management studies have confirmed that effective human resource management practices directly and positively contribute to organizational performance metrics such as financial performance (Chadwick & Flinchbaugh, 2021; Delery & Doty, 1996; Rasool et al., 2019). Therefore, this study posits that:

H0: There is no significant effect of the quality of human resources on the financial performance of accredited hospitality facilities in Kenya

2.4 Location and Hospitality Facility Financial Performance

Location is an important strategic resource in hospitality firms that affects competitive advantage, operational efficiency, and profitability. Hotels in popular tourist regions receive greater demand, which leads to higher occupancy rates (Lado-Sestayo et al., 2014; Jawabreh et al., 2017). Furthermore, the competitive landscape can have a significant effect on a hotel's profitability (Bongani, 2013; Lado-Sestayo et al., 2014; Sharma & Upneja, 2005). High exposure of a hospitality facility from important roadways or pedestrian areas attracts more customers, increasing brand recognition and lowering marketing costs (Suvittawat, 2024). Businesses with a distinctive location, such as direct beach access, breathtaking panoramic views, or a historic structure, provide unique experiences, hence can frequently command greater fees (Valentin & O'Neill, 2019). Although some studies have highlighted the benefits of a prime location for hospitality facilities, others have identified significant costs associated with property taxes, rent, and purchase (DeFranco et al., 2022). Prime locations are known to generate a lot of competition; therefore, businesses must differentiate themselves. The strategic value of a distinctive physical location might be diminished if competitors deliver superior service, innovative technology, and a memorable experience that exceeds the locational advantage (Bhandari et al., 2022). Similarly, a strong online presence from a less visible location, along with excellent reviews and tailored online promotional initiatives, can help a hospitality facility acquire a competitive advantage (Kumar, 2021). This alone undermines the premise that hospitality facilities in prominent locations have a foot traffic advantage over others. Therefore, this study posits that:

H0: There is no significant effect of location on the financial performance of accredited hospitality facilities in Kenya

2.5 Green-technology Application

Green technology is defined as initiatives that incorporate environmental protection into the production process (Salem et al., 2020). Green technology also describes the development and use of environmentally friendly technologies to protect natural resources and mitigate negative environmental impacts (Bharwani & Mathews, 2021; Iravani et al., 2017). Green technology aims to reduce waste, pollution, and reliance on fossil fuels through activities like recycling, green chemistry, energy saving, and water saving (Cerović et al., 2012; Dipietro et al., 2010). Green-technology application refers to the incorporation and utilization of environmentally friendly technologies in firm operations, product production, or service delivery (Shahzad et al., 2022; Zhu et al., 2023). Green-technology applications include implementing technologies to reduce resource use and pollution while increasing sustainability (Zhu et al., 2023). Implementing green-technologies in areas such as energy conservation and waste management can yield cost savings, increase operational efficiency and competitiveness, and ultimately higher financial outcomes (Galeazzo et al., 2021; Xie et al., 2019). Applying waste reduction technology and energy management systems has been connected to considerable reductions in operational costs, hence increasing profitability (Khalil et al., 2024; Mandal et al.,2024).

2.6 Green-Technology Application Mediates the Relationship Between Service Quality and Hospitality Facility Financial Performance.

Service quality is an essential factor in the financial performance of hospitality facilities (Zahra & Edris, 2016). Pressure to meet guests' sophisticated needs and improve their loyalty drives hospitality facilities to invest substantively in advanced technologies and personalized services (Illescas-Manzano et al., 2023). The general perspective is that facility competitiveness (service quality), which is the facility's ability to provide professionally, timely, friendly, and tailored services that increase guest satisfaction, has the

potential to affect green-technology application. For instance, service quality has been found to have a positive indirect effect on the financial performance of firms via factors such as customer satisfaction and loyalty (Ahmad et al., 2011; Ijara, 2020; Noman et al., 2024). This corroborates Bagur-Femenias's et al. (2015) study that indicated a positive and indirect relationship between quality policies implementation and the financial performance of travel agencies. Employees who feel valued and empowered can contribute new ideas to enhance procedures, services, and guest experiences (González-González & García-Almeida, 2021). Cui (2025) affirmed that service quality positively and significantly affects green environmental, social, and governance performance, indicating the potential of service quality to affect performance via the application of green technologies. It is plausible that service quality interacts with hospitality financial performance via green-technology application. Put differently, green-technology application mediates the relationship between service quality and hospitality facility financial performance. There is a need to empirically test this postulation to determine the extent of this mediation. Hence, this study hypothesizes that:

H0: Green-technology application does not mediate the relationship between service quality and financial performance of accredited hospitality facilities in Kenya.

2.7 Green-Technology Application Mediates the Relationship Between Innovation Capacity and Hospitality Facility Financial Performance.

The ability to innovate has become a key issue in the hospitality business, as facilities attempt to differentiate themselves from competitors and meet the varying demands of guests (Shi et al., 2021). Hotels need to innovate in order to improve operational efficiency and guest satisfaction by adopting emerging technologies (Giannoukou, 2024). The general view is that innovation capacity, which is the facility's ability to efficiently respond to market changes, fulfill new demand, and broaden the range of services offered (Santa et al., 2025), has the potential to affect green-technology application. For instance, Dzhyndzhoian et al. (2024) underscore that integrating innovative tools and technology into various hospitality firm operations has enhanced operational efficiency and service delivery, which, according to Chandran et al. (2024), innovation capacity can improve hotel performance. Investing in new technologies and developing a culture of creativity and innovation can improve employee performance (Zárraga-Rodríguez et al., 2015). Integrating sustainability initiatives, such as green process innovation and green core competencies, into hospitality operations has seen hospitality facilities record positive performance (Ozilhan Ozbey et al., 2024; Yoopetch & Chareanporn, 2024). Similarly, integrating green innovation and green supply chain management has been reported to enhance firm performance in the hospitality sector (Novitasari & Agustia, 2022). A study by Cheng et al. (2024) to examine green innovation's effects on firms' FINPA and performance of the environment found that prevention of pollution patents is linked to enhancing financial performance, especially cost savings and growth of sales. Similarly, Xie et al. (2019) in their study to determine the mediation effect of green product innovation on the relationship between green process innovation and the financial performance of a firm, found that green product innovation significantly mediates the relationship between green process innovation and the financial performance of the company. It is evident that green-technology application and innovation capacity have indicated complementary or substitutive effects on the financial performance of hospitality facilities like hotels. It is plausible that innovation capacity interacts with hospitality facility financial performance via green-technology application. Hence, there is a need to test this postulation to determine the extent of this mediation. This study hypothesizes that:

H0: Green-technology application does not mediate the relationship between innovation capacity and financial performance of accredited hospitality facilities in Kenya.

2.8 Green-Technology Application Mediates the Relationship Between the Quality of Human Resources and Hospitality Facility Financial Performance.

Human resource management practices determine employee behavior, which in turn affects consumer perceptions of service quality (Fitriyah & Sholihah, 2023). The general view is that the quality of human resources, which is the facility's ability to invest efficiently in human resource training and development and have enough skilled and experienced employees (Patwary et al., 2025), has the potential to affect green-technology application. For instance, recruitment of eco-friendly conscious individuals, green training, and empowerment of employees for sustainability practices often result in the adoption of green practices (Renwick et al., 2013; Tanveer et al., 2024). Although theoretical justifications have presented human resources as a strategic advantage, research examining their actual relationship to hotel financial success has frequently yielded conflicting results. According to some studies, the quality of human resources does not directly result in increased revenue or reduced costs, but rather through a variety of mediating factors such as service delivery and guest satisfaction (Papademetriou et al., 2023), leadership style (Ahmad, 2021), and brand image (Ali et al.,2021). Further research has found that quantifying the indirect effects of quality human resources on financial performance is difficult, and that many financial performance indicators may fail to reflect the long-term benefits of higher-quality staff (Khan, 2021). Other human resource management studies have confirmed that effective human resource management practices directly and positively contribute to organizational performance metrics such as financial performance (Chadwick & Flinchbaugh, 2021; Delery & Doty, 1996; Rasool et al., 2019). Furthermore, different researchers define the quality of human resources differently. While some studies focus on specific human resource strategies such as performance management, training, and remuneration (Hassan, 2022), others examine wider issues such as human capital efficiency, special skill sets, or

employee engagement (Desta et al., 2022). The mixed findings call for additional research that includes mediating variables, contextualizes the study, and employs financial performance indicators that represent the effect of intangible human resources on a hospitality facility. Therefore, this study posits that:

H0: Green-technology application does not mediate the relationship between quality of human resources and financial performance of accredited hospitality facilities in Kenya.

2.9 Green-Technology Application Mediates the Relationship Between Location and Hospitality Facility Financial Performance.

A hospitality facility's proximity to fresh produce markets, distribution facilities, and suppliers promotes prompt delivery of supplies, streamlines logistics, and lowers transportation costs (Gersmann, 2022). The general view is that location, which is the businesses' access to water, power, and the internet, as well as waste management and municipal services, has the potential to affect green-technology application. For instance, Antonioli et al. (2016) found that regional factors affect the emergence and adoption of green technologies in firms. Furthermore, Sloan et al. (2014) in their study found that destinations with a large number of environmentally aware tourists, strong environmental regulations, and strong local government incentives for green construction or energy efficiency can propel hospitality facilities to apply green technologies, which in turn leads to increased market appeal and enhanced financial performance. Prime locations are known to generate a lot of competition; therefore, businesses must differentiate themselves. While a prime location is crucial, it is not enough to ensure success; other resources, such as service quality, branding, innovation, and green technologies, need to be integrated with it to promote hospitality facility performance. The strategic value of a distinctive physical location might be diminished if competitors deliver superior service, innovative technology, and a memorable experience that exceeds the locational advantage (Bhandari et al., 2022). It is against this background that this study posits that:

H0: Green-technology application does not mediate the relationship between location and financial performance of accredited hospitality facilities in Kenya.

The conceptual model displayed in Figure 1 shows a direct relationship between facility competitiveness dimensions (service quality, innovation capacity, quality of human resources and location) and hospitality facility financial performance. Facility competitiveness can also interact with hospitality facility financial performance through green-technology application (mediation effect).

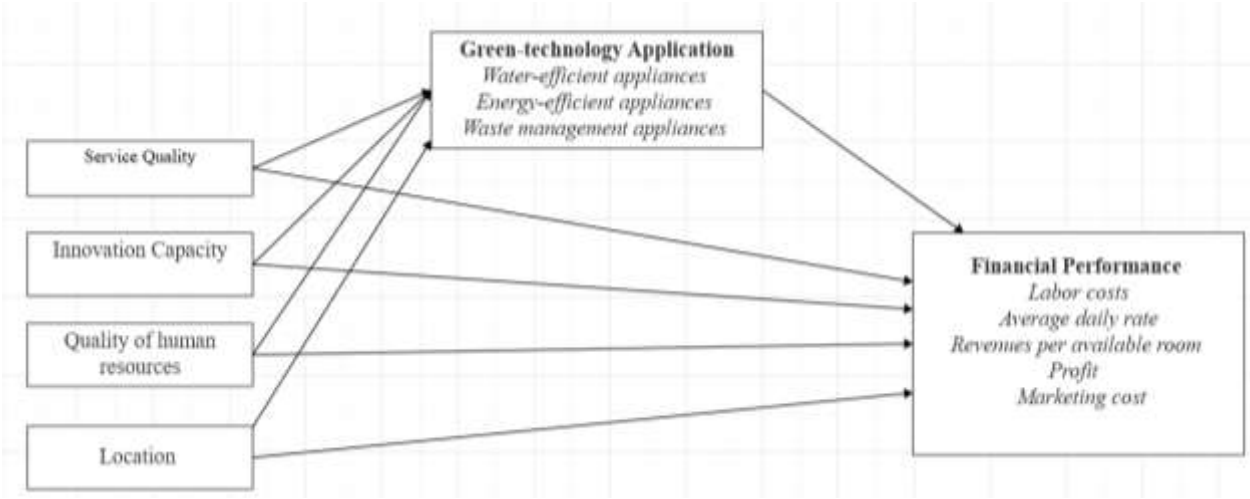

Figure 1 Conceptual model

3. Methodology

3.1 Research design and target population

The study utilized an explorative, cross-sectional design to investigate the effect of facility competitiveness (service quality, innovation capacity, quality of human resources, and location) on hospitality facility financial performance through green-technology application. A positivistic philosophy, a deductive approach, and a quantitative methodology were adopted to test the relationships existing between variables under study. Extensive literature involving facility competitiveness, green-technology application, and financial performance was conducted, and enabled the development of a survey instrument. An administration of a cross-sectional survey was done on accredited hospitality facilities in Kenya. Kenya was considered because hospitality facilities

with accreditation can be found all across the nation, and it is East Africa's key economic hub, which would have a significant effect on hospitality operations and profitability. The ease of use and ability to produce huge amounts of analyzable data within the shortest period made it possible to consider the survey instrument (Young, 2016).

The study population consisted of managers of accredited hospitality facilities in Kenya. Accredited hospitality facilities were considered, as they tend to have more elaborate formal organizational structures and mechanisms (Sepula, 2019), despite their apparent weak financial performance (Louis Thomas, 2022), a concern that needs attention. The Tourism Regulatory Authority of Kenya estimated that there are a total of 449 accredited hospitality facilities in Kenya. These accredited hospitality facilities are thought to incline more towards applying operational strategies because of the sophisticated needs of guests and the need to maintain and enhance their competitiveness (Fredrick, 2019).

3.2 Sampling and Data Collection

An extraction of a sample consisting of a manageable number of accredited hospitality facilities was drawn from the identified population. An online sample size calculator set at 95% confidence level and error margin of 5% was utilized to generate 208 sample size of accredited hospitality facilities from a population of 449 accredited hospitality facilities in Kenya. Consequently, 208 was the study's minimum sample size required. A sample of 216 respondents was chosen to account for the possibility of non-response. All managers of selected accredited hospitality facilities were reached out and requested to participate in the survey. These accredited facilities' managers were targeted because they were perceived to have a wide perspective regarding the facility's change in response to fierce competition (Jawabreh et al., 2022). Furthermore, facility managers are in charge of strategic development at the hospitality facility (Bharwani & Talib, 2017).

Structured questionnaires were utilized to gather data from the participants. A five-point Likert scale was developed to determine the extent of agreement of respondents with the given statements (Maree & Pietersen, 2016). Likert scales were used because they generate continuous ratings, which are better suited for conducting analyses based on standard linear processes like Structural equation modeling and factor analysis (Awang et al., 2015), which were preferred in this study. The Likert scale enabled respondents to select the option that best aligned with their perspectives. In addition, closed-ended questions provided an opportunity for respondents to answer promptly and save time in such a study with many items. Questionnaires were designed as easy-to-understand tools to describe each accredited facility's competitiveness and green-technology application. In addition, questionnaires were designed to describe the financial performance of accredited facilities.

A total of 216 survey questionnaires were distributed to facility managers of accredited hospitality facilities in Kenya by the main author and six research assistants. Some facility managers completed and handed over their copies immediately to researchers, while others asked researchers to collect questionnaires later. Over a period of 3 months, 206 out of the 216 questionnaires (representing a 95.37% response rate) were completed correctly and collected from facility managers. Facility managers were accessed at their workplaces, and those who were unable to be reached physically were reached via email and electronically submitted the filled questionnaire to the researcher and researcher assistants.

4. Respondents' demographic characteristics

The results show that the majority of respondents (51%) were male in accredited hospitality facilities, while the females accounted for 49%. This indicates a balanced workforce and contradicts some studies that show female underrepresentation at the top management level in the hospitality industry (Addison-Lavelle, 2016). The results show that the sample was primarily made up of respondents with a bachelor's degree (41.3%), followed by those with a diploma (21.4%), and those with a certificate (6.8%) were a minority. This demonstrates the prioritization of a workforce that is more formal and has a longer-term educational background. A higher percentage (35%) of the sample had managed a hospitality facility for six to ten years, followed by those who had managed a hospitality facility for eleven to twenty years (30.6%). Managing the hospitality facility for more than three years is considered adequate for respondents to provide relevant information for the study. The majority (44.7%) of the respondents had good knowledge of facility competitiveness and technology application. This implies that respondents were able to provide relevant information to the investigation as earlier anticipated.

5. Results

Researchers used partial least squares structural equation modeling (PLS-SEM) to determine if the collected data accurately described the suggested model. The study conducted PLS-SEM in SmartPLS 4.1.1.4 software. PLS-SEM conveniently accepts small sample sizes and does not require a normal distribution of data, works well with both formative and reflective construct analysis, and is appropriate for exploratory studies. The PLS-SEM is conducted at two levels: (1) measurement model assessment and (2) structural model assessment.

5.1 Measurement Model Assessment

The measurement model is evaluated by determining if the suggested indicator variables appropriately represent the latent constructs that they are intended to measure. As a result, internal consistency (reliability), convergent, and discriminant validity issues are tested. Researchers utilized Cronbach's alpha (α) coefficient to assess reliability. Cronbach's alpha coefficient of at least 0.7 demonstrates satisfactory internal consistency of measuring items. Convergent validity was determined by measuring the average variance extracted. Confirmation of convergent validity of a latent construct occurs when its indicator values show high levels of positive correlation (AVE greater than 0.5). The results of the two tests are shown in Table 1, and all of the constructs in the suggested conceptual model met the required thresholds for reliability and convergent validity.

Furthermore, the extent to which the model's constructs differed from one another was evaluated. This is referred to as discriminant validity. Discriminant validity exists when indicators have strong factor loadings on the particular constructs that they represent and no item cross-loading across constructs. Table 2 reveals no indication of cross-loadings, supporting discriminant validity.

Table 1 Reliability and Convergent validity

Construct	Number of items	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
GTA	17	0.822	0.826	0.894	0.737
IC	4	0.867	0.869	0.909	0.715
LOC	4	0.885	0.895	0.920	0.742
QHR	4	0.910	0.910	0.937	0.787
SQ	5	0.912	0.914	0.934	0.740

Table 2 Outer Loadings

Indicator	Financial performance	Green-Technology Application	Innovation Capacity	Location	Quality of human resources	Service Quality
FINPA	1.000					
IC1			0.872			
IC2			0.830			
IC3			0.825			
IC4			0.853			
LOC1				0.866		
LOC2				0.875		
LOC3				0.859		
LOC4				0.845		
QHR1					0.903	
QHR2					0.886	
QHR3					0.879	
QHR4					0.880	

SQ1		0.849
SQ2		0.840
SQ3		0.875
SQ4		0.851
SQ5		0.885
EEA	0.847	
WEA	0.851	
WMA	0.879	

5.2 Structural Model Assessment

The coefficient of determination (R-squared), path coefficients, measures of strength of relationships between variables, and a measure of predictive power indicators were utilized to assess the structural model. A set of predictor variables explain the variance of an endogenous variable, which is measured by R-squared. R-squared value ranges from 0 to 1. As shown in Figure 2 and Table 3, facility competitiveness dimensions, service quality, innovation capacity, quality of human resources, and location accounted for 59.8% of the variance in green-technology application. Moreover, facility competitiveness dimensions, service quality, innovation capacity, quality of human resources, location, and green-technology application collectively explained 62.8% of the variance in hospitality facility financial performance. This represents a moderate predictive power and agrees with Hair et al. (2014) who proposed that R-squared values that range from 0.5 to 0.75 represent moderate predictive power of a suggested model. Thus, the proposed model in this study has moderate predictive power.

The strength of direct and indirect relationships between exogenous and endogenous variables was tested using path coefficients. The results of the hypothesized direct relationships include:

H0: Service quality -> Financial performance (β = .18, t = 2.05, p = .04), H0: Innovation capacity -> Financial performance (β = .18, t = 2.79, p = .01), Location -> Financial performance (β = .17, t = 2.58, p = .01) and Quality of human resources -> Financial performance (β = .12, t = 2.26, p = .02). This implies that service quality, location, innovation capacity and quality of human resources have a direct and significant explanatory influence on the financial performance of accredited hospitality facilities.

A bootstrapping procedure based on 5000 samples was conducted to ascertain the mediation effects of green-technology application on the influence of facility competitiveness dimensions: service quality, innovation capacity, quality of human resources, and location on the financial performance of accredited hospitality facilities. The mediation test results include; H0: Service quality -> Green-technology application -> Financial performance (β = .11, p = .00), H0: Innovation capacity -> Green-technology application -> Financial performance (β = .09, p = .00), quality of human resources -> Green-technology application -> Financial performance (β = .12, p = .00) and H0: location -> Green-technology application -> Financial performance (β = .05, p = .03) were significant. As such, green-technology application is a fundamental mechanism through which other hospitality facility resources and capabilities improve financial performance. This proves partial mediation, as the direct and indirect relationships between facility competitiveness dimensions, service quality, innovation capacity, location, quality of human resources and financial performance were statistically significant.

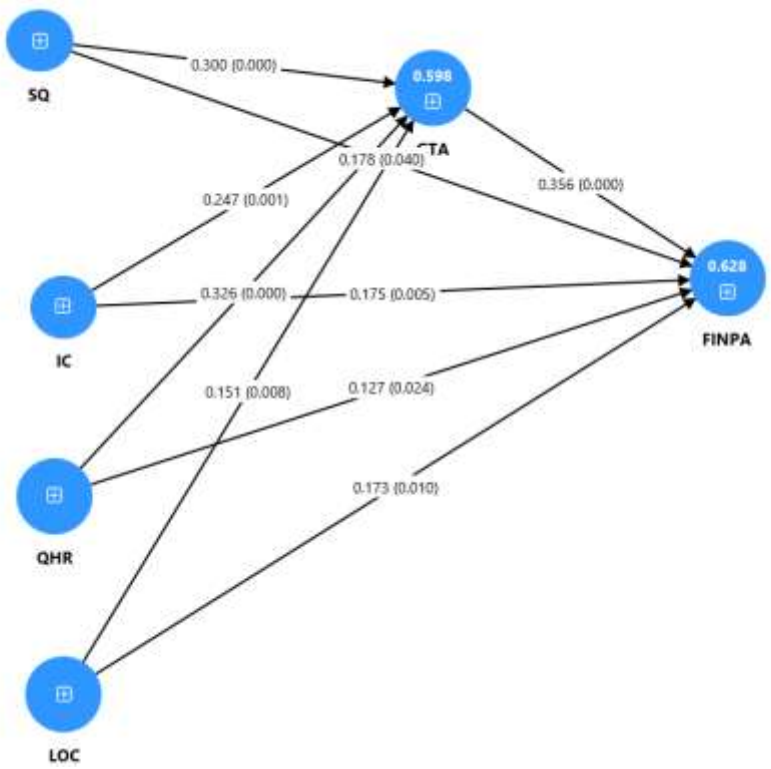

Figure 2 Path relationships and coefficients for Service quality (SQ), Innovation Capacity (IC), Quality of Human Resources (QHR), Location (LOC), Green-technology application (GTA) and Financial Performance (FINPA) mediation analysis (observed items hidden)

5.3 Discussion

This study investigated the mechanisms via which green-technology application interacts with facility competitiveness to influence the financial performance of accredited hospitality facilities in Kenya. This topic is under-researched in developing countries, particularly in the hospitality industry context. The key study findings from the PLS-SEM were that green-technology application positively and significantly mediates the relationship between facility competitiveness dimensions (service quality, innovation capacity, quality of human resources, and location) and financial performance of accredited hospitality facilities. In support of this proposition, emission-reduction technologies have an effect on the relationship between competitiveness and performance of manufacturing firms (Pancholi et al., 2024). The findings show that green-technology application partially mediates the relationship between service quality and financial performance. In support of these results, Noman et al. (2024) and Ijara (2020) reported that service quality has a positive indirect effect on financial performance via factors such as customer satisfaction and loyalty. These results are further supported by Bagur-Femenias et al. (2015), who found that environmental policies and green innovation mediate the relationship between quality initiatives and the financial performance of travel agencies. This study further found out that green-technology application partially mediates the relationship between innovation capacity and the financial performance of accredited hospitality facilities. These results corroborate with Cheng's et al. (2024) findings that green innovation impacts pollution control technologies, which in turn leads to the financial performance of firms. Similarly, it corroborates with Li et al. (2020) who suggested that applying green technologies such as smart environmental controls, energy-saving devices and water-saving devices in hospitality facilities like hotels can result in a reduction of operational costs, an increase in brand reputation and financial performance.

Furthermore, this study found out that green-technology application partially mediates the relationship between location and financial performance of accredited hospitality facilities. This result corroborates Sloan et al. (2014) 's finding that destinations with a large number of environmentally aware tourists, strong environmental regulations, and strong local government incentives for green construction or energy efficiency can propel hospitality facilities to apply green technologies, which in turn leads to increased market appeal and enhanced financial performance. Similarly, a hospitality facility with better access to resources like renewable energy, waste management facilities, or skilled green technology suppliers is able to apply green technology in an easier and cost-effective manner, hence indirectly improving its financial performance (Suvittawat, 2024; Valentin & O'Neill, 2019). Finally, the study found out that green-technology application partially mediates the relationship between the quality of human resources and the

financial performance of accredited hospitality facilities. In support of this proposition, well-trained and environmentally aware employees are in a better position to apply green technologies in an effective way, take part in saving energy, reducing waste and promoting sustainable practices, all of which result in reduction of costs and improvement of green image of hotel, leading to improvement of overall financial performance of hotel (Pham et al., 2019; Renwick et al., 2013).

The findings of this study suggest that strategic deployment of specific, valuable, rare, and inimitable resources, such as green-technology application, enables hospitality facilities to improve their financial performance. As a result, the findings lend support to the resource-based view theory, which holds that a firm's competitive advantage stems from how it develops and leverages unique internal capabilities. Hospitality Facility Competitiveness can be viewed as a set of resources (for example, service quality, innovation capacity, human resource quality, and location) that enable a hospitality facility to compete effectively. However, simply being competitive in general, without applying particular unique resources or capabilities, may not result in enhanced financial performance. Based on the preceding discussion and the structural model's predictive validity, this study developed a research model (Figure 2) that integrates hospitality facility competitiveness (service quality, innovation capacity, human resource quality, and location) with green-technology application in predicting the financial performance of hospitality facility.

6. Theoretical implications

These study findings lend support to research on the competitiveness of hospitality enterprises and other businesses (Dwyer & Kim, 2003; Ma, 2006; Pirogova et al., 2023; Tavitiyaman et al., 2011; Tuclea & Padurean, 2008) and build on Barney's (1991) and Wernerfelt's (1984) Resource-based view framework of competitive advantage by including green-technology application variable in predicting financial performance of hospitality facilities. The study adds to the current understanding of the relationship between firm competitiveness and financial performance of firms by modeling facility competitiveness, green-technology application, and hospitality facility financial performance more comprehensively compared to the way it is in most empirical analyses. We specify the facility competitiveness factors contributing both directly and indirectly (via green-technology application) to the financial performance of the hospitality facility. The model corrects potential misinterpretations from previous studies that have only considered direct relationships between facility competitiveness factors like innovation capacity, service quality, and financial performance. Also, it confirms that the service quality, innovation capacity, location and quality of human resources directly and indirectly contribute to financial performance through green-technology application. The study supports the Resource-based view theory by underscoring that a competitive advantage is not only developed by just being competitive but also by building and leveraging valuable, rare, inimitable, and non-substitutable internal resources and capabilities, like green technologies to achieve greater financial performance.

7. Practical implications

These study findings provide solutions to many unresolved issues and concerns in hospitality management, especially in developing countries. Given the intense competition and the rising operational costs in the hospitality industry, hospitality facility operators need to come up with strategies that will enable them to thrive in an ever changing landscape of hospitality operations environment. While most firms have taken into account green practices as a strategic tool for improving their performance (Chan et al., 2020; Kallmuenzer & Peters, 2018; Mandal et al., 2024; Umrani et al., 2020), the resulting outcome has not been outright, with researchers indicating mixed reactions. This study points to the continued significance of green-technologies in improving the financial performance of hospitality facility. Therefore, facility managers ought to apply these green technologies, taking into account the facility competitiveness factors.

The research suggests that facility competitiveness factors and their link to green technology application improve the financial performance of a hospitality facility. It further proposes that hospitality facility operators should invest heavily in quality human resources, as it not only improves financial performance directly but also does well in terms of effectiveness as compared to all other facility competitiveness factors under study consideration. The study presents a model that hospitality facility operators, especially in developing countries like Kenya, can use in guiding their investment decisions in facility competitiveness and green-technology application to improve their financial performance.

8. Limitations and future research

Although the study gives insightful information regarding the relationship between facility competitiveness dimensions (service quality, innovation capacity, quality of human resources, and location), green-technology application, and financial performance of accredited hospitality facilities, it also has some limitations that need to be taken into account. First, the study did not take into account moderating effects of variables like the certification of the facility achieved (e.g, Bronze rated, Silver rated, and Gold rated) and the age of the hospitality facility on these relationships. Therefore, future research should try to investigate how each of these factors contributes to these relationships. Secondly, further research regarding facility competitiveness factors (service quality, innovation capacity, quality of human resources, and location), especially on financial performance, needs to be conducted in different contextual setups with target respondents being the finance managers, hospitality facility managers, and hospitality facility owners, and the results compared with the findings of this study. Finally, longitudinal research that would take into account

of the change in financial performance after investing in facility competitiveness like technology upgrades, should be considered in future studies. Future research could use different research methodologies like qualitative research or mixed methods, to explore potential unobserved factors.

Funding: This research received no external funding
Conflicts of Interest: The authors declare no conflict of interest
Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

[1] Adanse, J. (2024). *Influence of strategic management responses on revenue maximisation in 3-5 star rated hotels in selected regions, Ghana* (Doctoral dissertation, Kenyatta University).
[2] Addison-Lavelle, L. (2016). *Millennial women in leadership: A new generation of women still facing gender inequalities in business leadership*. Pepperdine University.
[3] Agyabeng-Mensah, Y., Afum, E., & Ahenkorah, E. (2020). Exploring financial performance and green logistics management practices: Examining the mediating influences of market, environmental and social performances. *Journal of Cleaner Production*, *258*. https://doi.org/10.1016/j.jclepro.2020.120613
[4] Ahmad, A. Ur-Rehman, K. and Safwan, N. (2011). Testing a model of Islamic banking based on service quality, customer satisfaction and bank performance. African Journal of Business Management Vol.5 (5), 1880-1885.
[5] Ahmad, S. (2021). Motivation and performance: A psychological process. *International Journal of Business and Management Research*, *9*(2), 104-112.
[6] Ali, B. J., Gardi, B., Othman, B. J., Ahmed, S. A., Ismael, N. B., Hamza, P. A., ... & Anwar, G. (2021). Hotel service quality: The impact of service quality on customer satisfaction in hospitality. *International Journal of Engineering, Business and Management*, *5*(3), 14-28. DOI: 10.22161/ijebm.5.3.2
[7] Almashhadani, M., & Almashhadani, H. A. (2023). The Influence of Technological Capacity and Financial Capacity on Promoting Firm Competitiveness and Firm Performance. *Journal Of Humanities Social Sciences And Business (Jhssb)*, *3*(1). https://doi.org/10.55047/jhssb.v3i1.847
[8] Anning-Dorson, T., & Nyamekye, M. B. (2020). Be flexible: turning innovativeness into competitive advantage in hospitality firms. *International Journal of Contemporary Hospitality Management*, *32*(2). https://doi.org/10.1108/IJCHM-12-2018-1014
[9] Antonioli, D., Borghesi, S., & Mazzanti, M. (2016). Are regional systems greening the economy? Local spillovers, green innovations and firms' economic performances. *Economics of Innovation and New Technology*, *25*(7), 692-713.
[10] Awang, Z., Afthanorhan, A., & Mamat, M. (2015). The Likert scale analysis using parametric based Structural Equation Modeling (SEM). *Computational Methods in Social Sciences*, *4*(1).
[11] Bagadiya, D., & Kathiriya, K. (2024). The Future of Hotel (A Symbiosis of Automation and Human Interaction.
[12] Bagur-Femenias, L., Celma, D., & Patau, J. (2016). The adoption of environmental practices in small hotels. voluntary or mandatory? An empirical approach. *Sustainability (Switzerland)*, *8*(7). https://doi.org/10.3390/su8070695
[13] Bagur-Femenías, L., Perramon, J., & Amat, O. (2015). Impact of quality and environmental investment on business competitiveness and profitability in small service business: the case of travel agencies. *Total Quality Management & Business Excellence*, *26*(7-8), 840-853.
[14] Baquero, A. (2024). Linking green entrepreneurial orientation and ambidextrous green innovation to stimulate green performance: a moderated mediation approach. *Business Process Management Journal*, *30*(8), 71–98. https://doi.org/10.1108/BPMJ-09-2023-0703
[15] Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1). https://doi.org/10.1177/014920639101700108
[16] Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, *27*(6), 643-650.
[17] Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, *27*(6), 643-650.
[18] Bhandari, K. R., Ranta, M., & Salo, J. (2022). The resource-based view, stakeholder capitalism, ESG, and sustainable competitive advantage: The firm's embeddedness into ecology, society, and governance. *Business Strategy and the Environment*, *31*(4).
[19] Bharwani, S., & Mathews, D. (2021). Techno-business strategies for enhancing guest experience in luxury hotels: a managerial perspective. *Worldwide Hospitality and Tourism Themes*, *13*(2). https://doi.org/10.1108/WHATT-09-2020-0121
[20] Bharwani, S., & Talib, P. (2017). Competencies of hotel general managers: a conceptual framework. *International Journal of Contemporary Hospitality Management*, *29*(1). https://doi.org/10.1108/IJCHM-09-2015-0448
[21] Bii, J., Akuku, C., Geoffrey, K., & Onyango, R. (2023). Effect of Competitive Aggressiveness On Performance of Star Rated Hotels in North Rift Region, Kenya. *International Journal of Business and Management Review*, *11*(8). https://doi.org/10.37745/ijbmr.2013/vol11n8116
[22] Bilgihan, A., & Wang, Y. (2016). Technology induced competitive advantage: a case of US lodging industry. *Journal of Hospitality and Tourism Technology*, *7*(1). https://doi.org/10.1108/JHTT-01-2015-0001
[23] Bongani, N. (2013). Leveraging Financial and Non-Financial Strategies for Shareholder Value Growth: A Study of Selected Hotels in Zimbabwe. *Journal of Finance and Economics*, *1*(2), 22-32
[24] Carmona Olmos, G. H. (2012). Hospitality Competitiveness Measurement System. *Journal of Global Business & Technology*, *8*(2).

[25] Cerović, L., Drpić, D., & Milojica, V. (2012). Green Technologies and Sustainable Development: Factors of Competitiveness in Tourism and Hospitality industry. *International Joint Conferences: 11th Confernce of the Asia Chapter & 2nd Conference of the MENA Chapter of the AHRD & 10th Conference on Knowledge, Economy and Management, Istanbul Medeniyet University and Doğuş University Istanbul, Turkey*, *081*.

[26] Chadwick, C., & Flinchbaugh, C. (2021). Searching for competitive advantage in the HRM-firm performance relationship. *Academy of Management perspectives*, *35*(2), 181-207.

[27] Chan, E. S. W., Okumus, F., & Chan, W. (2020). What hinders hotels' adoption of environmental technologies: A quantitative study. *International Journal of Hospitality Management*, *84*, 102324. https://doi.org/10.1016/J.IJHM.2019.102324

[28] Chandran, V. G. R., Ahmed, T., Jebli, F., Josiassen, A., & Lang, E. (2024). Developing innovation capability in the hotel industry, who and what is important? A mixed methods approach. *Tourism Economics*, *30*(3), 728-748.

[29] Cheng, Q., Lin, A. P., & Yang, M. (2024). Green innovation and firms' financial and environmental performance: The roles of pollution prevention versus control. *Journal of Accounting and Economics*, *September 2022*, 101706. https://doi.org/10.1016/j.jacceco.2024.101706

[30] Chikán, A., Czakó, E., Kiss-Dobronyi, B., & Losonci, D. (2022). Firm competitiveness: A general model and a manufacturing application. *International Journal of Production Economics*, *243*. https://doi.org/10.1016/j.ijpe.2021.108316

[31] Cui, J. (2025). Service Quality and Green ESG Performance: Digital Innovation as a Moderating Variable-An SERVQUAL-Based Study of Chinese Advertising and Marketing Firms.

[32] DeFranco, A., Koh, Y., Prem, P., & Love, B. (2022). Inclusion of condominium units in luxury hotels as a diversification strategy: Property performance perspective. *Cornell Hospitality Quarterly*, *63*(1), 108-118.

[33] Desta, A. G., Tadesse, W. M., & Mulusew, W. B. (2022). Aspects of Human Capital Management and Employee Job Performance: The Mediation Role of Employee Engagement. *International Journal of Business Science & Applied Management*, *17*(3).

[34] Dipietro, R. B., Raymond' Wang, Y., & Muller, C. (2010). Hospitality technology: A review and reflection. *Worldwide Hospitality and Tourism Themes*, *2*(1). https://doi.org/10.1108/17554211011012568

[35] Doran, J., & Ryan, G. (2016). The importance of the diverse drivers and types of environmental innovation for firm performance. *Business strategy and the environment*, *25*(2), 102-119.

[36] Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic Management Journal*, *32*(3). https://doi.org/10.1002/smj.882

[37] Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism*, *6*(5). https://doi.org/10.1080/13683500308667962

[38] Fatoki, O. (2021). Environmental orientation and green competitive advantage of hospitality firms in south africa: Mediating effect of green innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(4). https://doi.org/10.3390/joitmc7040223

[39] Fitriyah, L., & Sholihah, I. (2023). Effective Human Resource Management Strategy: Improving Excellent Service For Competitive Advantage. *Managere: Indonesian Journal of Educational Management*, *5*(2), 143-154.

[40] Forsyth, P., & Dwyer, L. (2010). Exchange rate changes and the cost competitiveness of international airlines: The Aviation Trade Weighted Index. *Research in Transportation Economics*, *26*(1). https://doi.org/10.1016/j.retrec.2009.10.003

[41] Fredrick, O. J. (2019). Hotel standardization and classification system in Kenya: A quality assurance approach. *African Journal of Hospitality, Tourism and Leisure*, *8*(3).

[42] Galeazzo, A., Ortiz-de-Mandojana, N., & Delgado-Ceballos, J. (2021). Green procurement and financial performance in the tourism industry: the moderating role of tourists' green purchasing behaviour. *Current Issues in Tourism*, *24*(5). https://doi.org/10.1080/13683500.2020.1734546

[43] Gersmann, Y. (2022). *A trade-off between Centralized and Decentralized Purchasing: How can a corporation maintain flexibility in supplier- and product-choices and benefit from the advantages of centralized purchasing at the same time?* (Master's thesis, University of Twente).

[44] Goni, K. M. (2018). Service Quality and Financial Performance of Hotels in Kano Nigeria. *Asia Pacific University of Technology and Innovation, Kuala Lumpur Malaysia*.

[45] González-González, T., & García-Almeida, D. J. (2021). Frontline employee-driven innovation through suggestions in hospitality firms: The role of the employee's creativity, knowledge, and motivation. *International Journal of Hospitality Management*, *94*, 102877.

[46] Gooroochurn, M. (2022). Engineering resilience, circularity and healthfulness in the tourism industry. In *Handbook on Tourism, Public Health and Wellbeing*.

[47] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th ed.). Pearson Education.

[48] Hassan, Z. (2022). Employee retention through effective human resource management practices in Maldives: Mediation effects of compensation and rewards system. *Journal of Entrepreneurship, Management and Innovation*, *18*(2), 137-174.

[49] Heskett, J. L., & Schlesinger, L. A. (1994). Putting the service-profit chain to work. *Harvard business review*, *72*(2), 164-174.

[50] Hjalager, A. M. (2010). A review of innovation research in tourism. *Tourism management*, *31*(1), 1-12.

[51] Ijara, T. M. (2020). Service quality and financial performance of banks (a meta-analysis). *International Journal of Scientific and Research Publications*, *10*(5), 349-359.

[52] Illescas-Manzano, M. D., Martínez-Puertas, S., Marín-Carrillo, G. M., & Marín-Carrillo, M. B. (2023). Dynamics of agglomeration and competition in the hotel industry: A geographically weighted regression analysis based on an analytical hierarchy process and geographic information systems (GIS) data. *Oeconomia Copernicana*, *14*(1). https://doi.org/10.24136/oc.2023.006

[53] İplik, F. N., Topsakal, Y., & Doğan, O. (2014). Strategic innovation: An empirical study on hotel firms operating in Antalya region. *Advances in Hospitality and Tourism Research (AHTR)*, *2*(1), 16-29

[54] Iravani, A., akbari, M. H., & Zohoori, M. (2017). Advantages and Disadvantages of Green Technology; Goals, Challenges and Strengths. *International Journal of Science and Engineering Applications*, *6*(9). https://doi.org/10.7753/ijsea0609.1005

[55] Janjua, N. A., Sahibzada, U. F., & Rafi-ul-Shan, P. M. (2025). Advancing sustainable development goals through green inclusive leadership in hospitality industry: a dual study perspective. *Current Issues in Tourism*, 1-22.

[56] Jawabreh, O. A., Mahmoud, R. M., Alshatnawi, E., & Al Momani, E. (2017). Using financial analysis methods in the hotel sector for the purposes of planning and monitoring case study Al Zaitonia Hotel. *International Journal of Economics and Financial Issues*, *7*(4), 162-173.

[57] Jawabreh, O., Shniekat, N., Saleh, M., & Ali, B. (2022). The Strategic Deployment of Information Systems Attributes and Financial Performance in The Hospitality Industry. *Information Sciences Letters*, *11*(5). https://doi.org/10.18576/isl/110510

[58] Kallmuenzer, A., & Peters, M. (2018). Innovativeness and control mechanisms in tourism and hospitality family firms: A comparative study. *International Journal of Hospitality Management*, *70*. https://doi.org/10.1016/j.ijhm.2017.10.022

[59] Kapil, S., & Varghese, B. (2024). Sustainability in hospitality: The pathway to destination well-being in the "City of Lakes" Udaipur. *Sustainable Disposal Methods of Food Wastes in Hospitality Operations*, *April*, 228–240. https://doi.org/10.4018/979-8-3693-2181-2.ch015

[60] Khalil, N., Che Abdullah, S. N., Haron, S. N., & Hamid, M. Y. (2024). A review of green practices and initiatives from stakeholder's perspectives towards sustainable hotel operations and performance impact. *Journal of Facilities Management*, *22*(4), 653-682.

[61] Khan, S. (2021). Impact of human resource accounting on organizations' financial performance in the context of SMEs. *Accounting*, *7*(3), 621-628.

[62] Kumar, P. (2021). Digital marketing in hospitality and tourism. *University of South Florida (USF) M3 Publishing*, *17*(9781732127593), 3.

[63] Kuo, F. I., Fang, W. T., & LePage, B. A. (2022). Proactive environmental strategies in the hotel industry: eco-innovation, green competitive advantage, and green core competence. *Journal of Sustainable Tourism*, *30*(6). https://doi.org/10.1080/09669582.2021.1931254

[64] Lacap, RMP, AFBE, J. P. G. (2014). Competitiveness and Sustainability of the Hotel Industry: The Case of Hotels in Pampanga. *Business Management and Strategy*, *5*(1). https://doi.org/10.5296/bms.v5i1.5772

[65] Lado-Sestayo, R., Otero-González, L., & Vivel-Búa, M. (2014). Impacto de la localización y la estructura de mercado en la rentabilidad de los establecimientos hoteleros. *Tourism & Management Studies*, *10*(2), 41-49.

[66] Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Zeriti, A. (2013). Resources and capabilities as drivers of hotel environmental marketing strategy: Implications for competitive advantage and performance. *Tourism Management*, *35*. https://doi.org/10.1016/j.tourman.2012.06.003

[67] Louis Thomas. (2022). *Hospitality operating costs rise to 55.2% of turnover* (p. 1). https://www.thedrinksbusiness.com/2022/07/hospitality-operating-costs-rise-to-55-2-of-turnover/

[68] Louis Thomas. (2022). *Hospitality operating costs rise to 55.2% of turnover* (p. 1). https://www.thedrinksbusiness.com/2022/07/hospitality-operating-costs-rise-to-55-2-of-turnover/

[69] Luís, J., Pinto, D. O., Filho, P., & Simões, P. H. (2024). *Socioeconomic and Environmental Diagnosis of the Hotel Sector in the Municipality of Mossoró - RN Socioeconomic and Environmental Diagnosis of the*. https://doi.org/10.20944/preprints202405.0181.v1

[70] Luján Salazar, L. A. (2017). The Resource-Based View and The Concept of Value: The Role of Emergence in Value Creation. *Mercados y Negocios*, *35*. https://doi.org/10.32870/myn.v0i35.6265

[71] Ma, H. (2006). Competitive Advantage Is Not Performance. *Competitiveness Review: An International Business Journal*, *10*(2), 15–33.

[72] Mandal, S., Raju, S. S., & Yadav, N. (2024). Sustainability Through Technology. *Advances in Hospitality, Tourism and the Services Industry (AHTSI) Book Series*, 309–336. https://doi.org/10.4018/979-8-3693-7127-5.ch012

[73] Mandić, D., Panić, A., & Šain, M. Č. (2023, December). Automated service delivery in hotels: balancing efficiency and human interaction for optimal guest satisfaction. In *International Scientific Conference on Economy, Management and Information Technologies* (Vol. 1, No. 1, pp. 167-174).

[74] Maree, K., & Pietersen, J. (2016). The quantitative research process. In K. Maree (Ed.), *First steps in research* (2nd ed., pp. 162–173). Van Schaik Publishers.

[75] Maxwell, G. A. (1994). Human resource management and quality in the UK hospitality industry—where is the strategy? *Total Quality Management*, *5*(3), 45-52.

[76] Molina-Castillo, F. J., Meroño-Cerdán, A. L., Lopez-Nicolas, C., & Fernandez-Espinar, L. (2023). Innovation and technology in hospitality sector: outcome and performance. *Businesses*, *3*(1), 198-219.

[77] Musiello-Neto, F., Rua, O. L., Arias-Oliva, M., & Silva, A. F. (2021). Open innovation and competitive advantage on the hospitality sector: The role of organizational strategy. *Sustainability (Switzerland)*, *13*(24). https://doi.org/10.3390/su132413650

[78] Noman, M., Usman, Z., & Umair, M. (2024). Impact of Sustainable Environment & Green Transformational Leadership on Firm Financial Performance: A Mediating Role of Green Technology. Journal of Social Research Development, 340-348. DO - 10.53664/JSRD/05-02-2024-28-340-348

[79] Noman, M., Usman, Z., & Umair, M. (2024). Impact of Sustainable Environment & Green Transformational Leadership on Firm Financial Performance: A Mediating Role of Green Technology. Journal of Social Research Development, 340-348. DO - 10.53664/JSRD/05-02-2024-28-340-348

[80] Novitasari, M., & Agustia, D. (2022). Assessing The Role Of Competitive Advantage Between Green Supply Chain Management, Green Innovation And Firm Performance. *Proceeding of International Conference on Science and Technology*.

[81] Nwokolo, S., Eyime, E., Obiwulu, A., & Ogbulezie, J. (2024). Africa's Path to Sustainability: Harnessing Technology, Policy, and Collaboration. *Trends in Renewable Energy*, *10*(1), 98–131. https://doi.org/10.17737/tre.2024.10.1.00166

[82] Ozilhan Ozbey, D., Coskun Degirmen, G., Berk, O. N., Sardagi, E., Celep, E., Koc, D., & Gozen, E. (2024). Green Core Competencies, Green Process Innovation, and Firm Performance: The Moderating Role of Sustainability Consciousness, a Mixed Method Study on Golf Hotels. *Sustainability (Switzerland)* , *16*(10). https://doi.org/10.3390/su16104181

[83] Pancholi, N., Garg, S., Garg, A., Sharma, R., Maurya, A., & Thapliyal, K. (2024). Green Innovation, Firm Performance and Competitive Advantage: The Mediating Role of Green Leadership. *IEEE Xplore*, *2*, 1–4. https://doi.org/10.1109/ICIPTM59628.2024.10563926

[84] Panno, A. (2020). Performance measurement and management in small companies of the service sector; evidence from a sample of Italian hotels. *Measuring Business Excellence*, *24*(2). https://doi.org/10.1108/MBE-01-2018-0004

[85] Papademetriou, C., Anastasiadou, S., & Papalexandris, S. (2023). The effect of sustainable human resource management practices on customer satisfaction, service quality, and institutional performance in hotel businesses. *Sustainability*, *15*(10), 8251.

[86] Patwary, A. K., Azam, N. R. A. N., Ashraf, M. U., Muhamed Yusoff, A., Mehmood, W., & Rabiul, M. K. (2025). Examining employee performance through knowledge management practices, organisational commitment and capacity building in the Malaysian hotel industry. *Global Knowledge, Memory and Communication*, *74*(3/4), 733-752.

[87] Pereira-Moliner, J., Font, X., Molina-Azorin, J. F., José Tari, J., Lopez-Gamero, M. D., & Pertusa-Ortega, E. M. (2015). The holy grail:Environmental management, competitive advantage and business performance in the Spanish hotel industry. *International Journal of Contemporary Hospitality Management*, *27*(5). https://doi.org/10.1108/IJCHM-12-2013-0559

[88] Pham Phu, S. T., Fujiwara, T., Hoang, M. G., Pham, V. D., & Tran, M. T. (2019). Waste separation at source and recycling potential of the hotel industry in Hoi An city, Vietnam. *Journal of Material Cycles and Waste Management*, *21*(1). https://doi.org/10.1007/s10163-018-0807-5

[89] Pham, D. D. T., Paillé, P., & Halilem, N. (2019). Systematic review on environmental innovativeness: A knowledge-based resource view. In *Journal of Cleaner Production* (Vol. 211). https://doi.org/10.1016/j.jclepro.2018.11.221

[90] Pirogova, O., Plotnikov, V., & Gamidova, A. (2023). Competitiveness of enterprises in the hospitality industries: increasing mechanisms. *E3S Web of Conferences*, *371*. https://doi.org/10.1051/e3sconf/202337105050

[91] Rasool, S. F., Samma, M., Wang, M., Zhao, Y., & Zhang, Y. (2019). How human resource management practices translate into sustainable organizational performance: the mediating role of product, process and knowledge innovation. *Psychology research and behavior management*, 1009-1025.

[92] Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International journal of management reviews*, *15*(1), 1-14.

[93] Safarov, B., & Janzakov, B. (2021). Measuring competitiveness in tourism enterprises using integral index. *Geojournal of Tourism and Geosites* , *37*(3). https://doi.org/10.30892/GTG.37305-707

[94] Sainaghi, R., Phillips, P., & Corti, V. (2013). Measuring hotel performance: Using a balanced scorecard perspectives' approach. *International Journal of Hospitality Management*, *34*(1). https://doi.org/10.1016/j.ijhm.2013.02.008

[95] Salem, M. A., Shawtari, F., Hussain, H. B. I., & Shamsudin, M. F. (2020). Environmental technology and a multiple approach of competitiveness. *Future Business Journal*, *6*(1). https://doi.org/10.1186/s43093-020-00012-1

[96] Santa, R., Rodríguez Victoria, O. E., & Tegethoff, T. (2025). The role of quality in the hotel sector: the interplay between strategy, innovation and outsourcing to achieve performance. *The TQM Journal*, *37*(1), 199-221.

[97] Sepula, M. B. (2019). Hotel rating system dimensions as determinants of service expectations and customer satisfaction in star-rated hotels in selected cities in Malawi. In *Moi University Open Acess Repository*.

[98] Shahzad, M., Qu, Y., Rehman, S. U., & Zafar, A. U. (2022). Adoption of green innovation technology to accelerate sustainable development among manufacturing industry. *Journal of Innovation and Knowledge*, *7*(4). https://doi.org/10.1016/j.jik.2022.100231

[99] Sharma, A., & Upneja, A. (2005). Factors influencing financial performance of small hotels in Tanzania. *International Journal of Contemporary Hospitality Management*, *17*(6), 504-515.

[100] Shi, F., Shi, D., Weaver, D., & Samaniego Chavez, C. E. (2021). Adapt to not just survive but thrive: resilience strategies of five-star hotels at difficult times. *International Journal of Contemporary Hospitality Management*, *33*(9), 2886-2906.

[101] Sloan, P., Legrand, W., & Simons-Kaufmann, C. (2014). A survey of social entrepreneurial community-based hospitality and tourism initiatives in developing economies: A new business approach for industry. *Worldwide Hospitality and Tourism Themes*, *6*(1), 51-61.

[102] Soesetio, Y., Soetjipto, B. E., Handayati, P., Winarno, A., & Wijaya, F. P. (2024). Mediating role of competitiveness between process innovation and financial performance: Internationalization moderation. *International Journal of Applied Economics, Finance and Accounting*, *18*(1). https://doi.org/10.33094/ijaefa.v18i1.1362

[103] Sun, J., & Nasrullah, A. (2024). Green transition in the hospitality industry: The influence of market forces and customer dynamics on sustainable performance in the digital era. *Heliyon*, *10*(8), e29563. https://doi.org/10.1016/j.heliyon.2024.e29563

[104] Suvittawat, A. (2024). Exploring Customer Experience Drivers in Night Markets: Examining the Roles of Product Preference, Service Quality, and Facility Accessibility. *Tourism and Hospitality*, *5*(4), 1477-1492.

[105] Tajeddini, K., Gamage, T. C., Tajeddini, O., & Kallmuenzer, A. (2023). How entrepreneurial bricolage drives sustained competitive advantage of tourism and hospitality SMSEs: The mediating role of differentiation and risk management. *International Journal of Hospitality Management*, *111*. https://doi.org/10.1016/j.ijhm.2023.103480

[106] Tajeddini, K., Gamage, T. C., Tajeddini, O., & Kallmuenzer, A. (2023). How entrepreneurial bricolage drives sustained competitive advantage of tourism and hospitality SMSEs: The mediating role of differentiation and risk management. *International Journal of Hospitality Management*, *111*. https://doi.org/10.1016/j.ijhm.2023.103480

[107] Tanveer, M. I., Yusliza, M. Y., & Fawehinmi, O. (2024). Green HRM and hospitality industry: challenges and barriers in adopting environmentally friendly practices. *Journal of Hospitality and Tourism Insights*, *7*(1), 121-141.

[108] Tavitiyaman, P., Qu, H., & Zhang, H. Q. (2011). The impact of industry force factors on resource competitive strategies and hotel performance. *International Journal of Hospitality Management*, *30*(3). https://doi.org/10.1016/j.ijhm.2010.11.010

[109] Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, *28*(13). https://doi.org/10.1002/smj.640

[110] Tehseen, S., Hussain, A., & Riaz, A. (2023). Greening Bottom Line & Tech-Driven Sustainability: Financial Technology Journey Creating Better Environment. *Gomal University Journal of Research*, 433–447. http://www.gujr.com.pk/index.php/GUJR/article/view/1700

[111] Tsai, H., Song, H., & Wong, K. K. F. (2009). Tourism and hotel competitiveness research. In *Journal of Travel and Tourism Marketing* (Vol. 26, Issues 5–6). https://doi.org/10.1080/10548400903163079

[112] Tuclea, C., & Padurean, A.-M. (2008). Competitiveness in Hospitality Industry: Romanian Style. *Management & Marketing*, *1*.

[113] Umrani, W. A., Channa, N. A., Yousaf, A., Ahmed, U., Pahi, M. H., & Ramayah, T. (2020). Greening the workforce to achieve environmental performance in hotel industry: A serial mediation model. *Journal of Hospitality and Tourism Management*, *44*. https://doi.org/10.1016/j.jhtm.2020.05.007

[114] Valentin, M., & O'Neill, J. W. (2019). The value of location for urban hotels. *Cornell Hospitality Quarterly*, *60*(1), 5-24.

[115] Wernerfelt, B. (1984). A Resource-Based View of the Firm on JSTOR. *Strategic Management Journal*, *Vol. 5*, *No*, 10. https://www.jstor.org/stable/2486175

[116] Wira, V. (2021). The Effects of Financial Performance toward Firm Value on Tourism, Hotel and Restaurant, and Transportation Sectors Listed on Indonesia Stock Exchange. *Inovbiz: Jurnal Inovasi Bisnis*, *9*(1). https://doi.org/10.35314/inovbiz.v9i1.1903

[117]Wirtz, J., & Jerger, C. (2016). Managing service employees: literature review, expert opinions, and research directions. *The Service Industries Journal*, *36*(15-16), 757-788.
[118]*World Travel & Tourism Council (WTTC)*. (2024). https://wttc.org/research/economic-impact
[119]Xie, X., Huo, J., & Zou, H. (2019). Green process innovation, green product innovation, and corporate financial performance: A content analysis method. *Journal of business research*, *101*, 697-706.
[120]Yoopetch, C., & Chareanporn, T. (2024). Measuring Hotel Financial and Non-Financial Performance in Thailand: The Application of Technology-Organization-Environment (TOE) Framework. *J. Ecohumanism*, *3*, 1703-1718.
[121]Young, T.J., 2016, 'Questionnaires and surveys', in Z. Hua (ed.), Research methods in intercultural communication: A practical guide, pp. 165–180, Wiley, Oxford.
[122]Zahra, T., & Edris, M. (2016). Studying the effect of the services quality on financial performance through mediator variables of customer satisfaction and loyalty in banking industry. *International journal of humanities and cultural studies*, 119-135.
[123]Zaman, M., Vo-Thanh, T., Hasan, R., Shams, S. R., & Vukovic, D. B. (2025). How can hotels create sustainable competitive advantages? A resource-based view. *Journal of Strategic Marketing*, *33*(6), 707-722.
[124]Zárraga-Rodríguez, M., & Álvarez, M. J. (2015). Innovation Capability and the Feeling of Being an Innovative Organization. *Enhancing Synergies in a Collaborative Environment*, 343-350.
[125]Zhu, Y., Zhang, H., Siddik, A. B., Zheng, Y., & Sobhani, F. A. (2023). Understanding Corporate Green Competitive Advantage through Green-technology Adoption and Green Dynamic Capabilities: Does Green Product Innovation Matter? *Systems*, *11*(9). https://doi.org/10.3390/systems11090461
[126]Кувіка, Г. О. (2024). Criteria for Determining the Competitiveness of Hospitality Establishments. *005*(477), 33–36.