Sustainable practices in hospitality pre and amid COVID-19 pandemic: Looking back for moving forward post-COVID-19

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Abstract
Sustainability issues are becoming increasingly important in the hospitality sector during crisis times such as COVID-19 and post-pandemic. In order to synthesize the literature on sustainable practices in hospitality, we developed a systematic literature to illustrate the dominant sustainable practices in hospitality. We present a comprehensive review of the 48 articles on sustainable practices in hospitality through the Web of Science (WoS) and Scopus databases: spanning over 2 years (2020–2021) pre-and amid the COVID-19 pandemic and extending the scope in distinctive ways. Our review has demonstrated that sustainable practices in hospitality have made progress in the years 2020 and 2021. However, there are conceptual and empirical overlaps among sustainable practices in hospitality. Additionally, hospitality sustainable practices research is restricted in research contexts. There is a lack of research on antecedents, outcomes, and integrating theories in studies. By following the guidance presented in this review, we expect to advance and maintain sustainable practices research to provide substantive insights over the coming years post-COVID-19. The current research is one of the first studies to systematically review sustainable practices in hospitality pre-and amid the COVID-19 pandemic. The research ends with a comprehensive research agenda and a framework to apprise future theoretical and empirical advances in the area.

KEYWORDS
hospitality, hotels, post-COVID-19, pre-COVID-19, restaurants, sustainability, sustainable practices, systematic review

1 | INTRODUCTION

Sustainability is a significant topic in business processes (Demjanovičová & Varmus, 2021) and consumers’ lifestyles (Cantele & Cassia, 2020). For the past two decades, the notion of sustainability has been actively debated in both social and scientific circles (Malheiro et al., 2020). Sustainability refers to environmentally, socio-culturally, and economically responsible projects and actions (Albrecht et al., 2020). Sustainable development goals set by the United Nations ask that everyone commit to reaching the goals’ targets by 2030 (Stombelli, 2020). The three main goals of sustainability are economic development, social development, and environmental protection (Hakovirta & Denuwara, 2020). Sustainability entails not only improving the lives of all living things, but also creating favorable business environments that benefit businesses (Stombelli, 2020). Sustainability is very vital for society (Ocampo et al., 2021), its concept continues to attract increasing prominence (Oriade et al., 2021).

The tourism and hospitality industry is important for the global economy (Han, 2021; Malheiro et al., 2020). Sustainability has become a vital strategic objective for tourism destinations worldwide to protect the environment and facilitate social inclusion (Moyle et al., 2021; Pulido-Fernández et al., 2015; Zhu et al., 2021).
Hospitality and tourism family firms need to enhance social responsibility activities through the use of different strategic tools, resources, and capabilities (Randolph et al., 2022).

Being environmentally and socially responsible is critical for hotels to accomplish a competitive cost advantage and earn broader community recognition (Cvelbar & Dwyer, 2013). Hence, it is essential for hotels to include environmental and social questions in their strategic planning. Hoteliers should promote green human resource management practices to encourage employee involvement in environmentally sustainable activities. Hotels should motivate their employees to practice sustainable activities to enhance their ecological skills that could improve green hotel environmental performance (Irani et al., 2022).

To win market share in the hotel business, it is critical to focus on sustainability (Oxenswärdh, 2020a). Calisto et al. (2021) concluded that hotels implement environmental sustainability practices to respond to “doing things right rather than to societal challenges.” In addition, Mzembe et al. (2020) concluded that hotels join the green key scheme to enjoy reputational benefits, achieve competitive advantages, and contribute to sustainability as a public good.

Hotel sustainability practices may not directly lead to better financial performance in the short term, but they can accomplish superior social and environmental performance, which can lead to generating financial performance (Shi & Tsai, 2020). In addition, Duric and Topler (2021) concluded that hotels could maintain their competitiveness and attract a huge number of guests through environmental protection and sustainability. Furthermore, one of the major sectors that has a negative impact on the environment in the hotel industry; it has a great responsibility to adopt sustainable practices that protect the environment and promote the economy and social equity (Malheiro et al., 2020). It is recommended to use renewable energy to reduce carbon emissions (Khan, Godil, et al., 2021).

Other scholars asserted that adopting sustainability practices is critical for hotels to reduce costs, improve their image and prestige, increase customer satisfaction, and improve occupancy rates. The environmental strategy is vital for the hotel’s long-term competitiveness (e.g., Pereira et al., 2021). In this regard, Calisto et al. (2021) revealed that hotels need to transform their operations and implement practices to become more sustainable to be at a competitive advantage, and acquire advantages from governments as well as other tourism-related worldwide organizations (e.g., fees and financing availability), while also responding to the needs of customers to meet sustainability goals. Managers of hotels should set clear environmental policies, train staff on environmental issues, discuss ecological issues with stakeholders, promote recycling and reuse of products, use environmentally friendly products and machinery, use solar energy and energy-efficient equipment, and reduce waste to achieve profitability and competitiveness (Cerchione & Bansal, 2020).

Sustainability also plays a critical role in the food and beverage sector (Ocampo et al., 2021). Sustainability practices in restaurants are significant for achieving customer satisfaction, increasing competitiveness, and improving their performance (Cantele & Cassia, 2020). Customer loyalty can be achieved through sustainable development (Maynard et al., 2020). Boas et al. (2021) argue that purchasing from local communities is essential for restaurants to develop in the region and contribute to the local economy and further social and environmental sustainability. For instance, veganism is being considered as one of the main trends in contemporary food consumption, even in a country that exports animal protein such as Brazil (Niederle & Schubert, 2020). One of the most important sustainable practices in hospitality and food service contexts is reducing food waste. Therefore, leftover food should be reused through donations and redistribution (Munir, 2022). The fear of costs and low awareness of practical methods are some of the reasons for restaurants’ failure to initiate friendly environmental practices (Maynard et al., 2020). In this vein, Cantele and Cassia (2020) indicated that environmental legislation and the cost–benefit mismatch of environmental systems can be barriers to sustainability. However, adoption of enterprises for environmental management systems and green human resource management is forced by stakeholders’ growing ecological awareness (Khan, Wei, et al., 2021). To generate novel strategies oriented toward developing a strong sustainability orientation, hospitality, and tourism enterprises should build a good link with suppliers of agri-food products (Córcoles Muñoz et al., 2022).

In the times of the COVID-19 pandemic, sustainability has been the subject of great importance in hospitality, with more concern about its social dimension (Šerić & Šerić, 2021). Pelikanova et al. (2021) found that COVID-19 can motivate people to think more about sustainability issues, including multi-stakeholder engagement, corporate social responsibility, and the fight for a competitive advantage in the COVID-19 and post-COVID-19 eras. Arora and Mishra (2020) argued that the way to tackle pandemics in advance, such as COVID-19, is to go all out to achieve the targets of environmental sustainability. Even though COVID-19 has offered a vision of a more sustainable future (Lima Santos et al., 2020), this vision may pose a major challenge for the hospitality sector and for many of its traditional clients (Jones & Comfort, 2020).

Owners may see sustainability as a trendy concept that is unclear for businesses, particularly small, and medium-sized enterprises (Fonseca & Carnicelli, 2021). There is a need for policy frameworks at international, national, and institutional levels to engage in social responsibilities (e.g., corporate social responsibility, sustainability, and sustainable development) (Fonseca & Carnicelli, 2021). Sustainability is a hotly debated topic in academia and practice, and it is unclear what managers mean by sustainable tourism goals (Albrecht et al., 2020). Although Sin et al. (2021) exhibited that the importance of sustainability in the tourism and hotel industry has increased lately, it remains ambiguous and needs more academic research (Olya et al., 2021).

Sustainability implies different things to different individuals, and its management in the hotel industry is fairly volatile, with varying facts supporting various opinions (Oriade et al., 2021). Calisto et al. (2021) also stated that a more comprehensive approach to sustainability is needed to gain a better knowledge of sustainable business decisions in the hotel sector, which is lacking in the literature. Despite the importance of sustainable practices during crisis times, such as COVID-19 and post-pandemic (Pelikanova et al., 2021) and...
the struggle, ambiguity, and volatility in both academia and practice regarding sustainability in tourism and hospitality (Albrecht et al., 2020; Oriade et al., 2021; Sin et al., 2021), scholars argue there is a need for a more holistic approach to sustainability (Calisto et al., 2021). This is further evidenced by increasing academic interest in sustainable practices (Cantele & Cassia, 2020). We argue that it is imperative to provide a comprehensive review of the sustainable practices literature in the hospitality industry. There is a need to review how previous scholars have approached this topic and how it should be investigated in the future.

To date, according to the authors’ knowledge, there is no systematic literature review for sustainable practices in hospitality, including hotels, restaurants, motels, casinos, nightclubs, resorts, and foodservice operations. Prior systematic reviews have addressed other disciplines, such as manufacturing (Qureshi et al., 2020), business schools (García-Feijoó et al., 2020), and agriculture (El Chami et al., 2020).

Our systematic review was also initiated on the recommendations of Lima Santos et al. (2020), who recommend future research to conduct systematic reviews on sustainability in tourism and hospitality. Our review assists hospitality enterprises to adopt sustainable practices because their adoption is one of the most significant challenges that firms face (Mzembe et al., 2021). Furthermore, not all companies have committed to the sustainable development goals’ targets to-date, putting at risk the success of the United Nations agenda (Stombelli, 2020).

The lack of systematic reviews addressing sustainable practices in hospitality evidences the need to conduct our systematic review to indicate research outlets or journals that publish sustainable practices research in hospitality. In a similar context, our aim is to create a knowledge map of existing research on sustainable practices in hospitality before and after COVID-19 so that we can better understand and identify knowledge and practice gaps. We critically consider what and how we should continue to investigate in order to contribute to more sustainable hospitality practices.

To address this gap and sense of urgency, our systematic review examines research published (2020–2021) in the field of sustainable practices pre-and amid COVID-19 and hospitality. By being introspective and critical, the research identifies what we know about sustainable practices pre-and amid COVID-19, and hospitality, what we do not know and why we do not know it, and what we should know by defining and suggesting objectives and proposals for future research agendas. We explore the research contexts and illustrate sustainable practices in hospitality. Based on our review, a strategy for extending future studies by both theoretical and empirical development is presented. With four overarching questions in mind, we approached our literature analysis as follows:

1. What are the research outlets or journals that publish sustainable practice research in hospitality?
2. Which hospitality sectors are analyzed in sustainable practices research?
3. What is the classification of sustainable practices in hospitality?
4. What is the future course of sustainable practice research in hospitality?

We developed a comprehensive approach to assist hospitality establishments in determining whether they are sustainable. To determine whether an article should be included in our review, the criterion was that the focus needed to be on sustainable practices as a key variable or subject area. Hence, conceptualizing different sustainable practices is critical.

2 | METHODOLOGY

The principal purpose of our systematic review is to present an overview of the current state of sustainable practices research in hospitality pre-and amid COVID-19 and highlight gaps for future research. Figure 1 illustrates the detailed systematic review process performed in our research within distinct phases, drawing on previous studies (Chon & Zoltan, 2019; Yang, Khoo-Lattimore, & Arcodia, 2017).

We used the keywords (TITLE [sustainable practices in hotel] OR TITLE [sustainable practices in restaurant] OR TITLE [sustainable practices in motel] OR TITLE [sustainable practices in casino] OR TITLE [sustainable practices in nightclub] OR TITLE [sustainable practices in resort] OR TITLE [sustainable practices in foodservice] OR TITLE [sustainable practices in hospitality] OR TITLE [sustainability in hotel] OR TITLE [sustainability in restaurant] OR TITLE [sustainability in motel] OR TITLE [sustainability in casino] OR TITLE [sustainability in nightclub] OR TITLE [sustainability in resort] OR TITLE [sustainability in foodservice] OR TITLE [sustainability in hospitality]), to investigate studies related to sustainable practices in hospitality pre-and amid COVID-19. This set of keywords ensures comprehensiveness and enables reaching data saturation in the search for new papers (Saunders et al., 2018).

The search was performed on the Web of Science (WoS) and Scopus databases. WoS is a leading database with 171 million records, over 34,000 indexed journals, 1.89 billion cited references, and over 119 years of backfiles (Clarivate.com, 2021). As a result, WoS is frequently used to conduct systematic reviews in a variety of fields, including tourism and hospitality (Paul & Criado, 2020). Additionally, Scopus is a multidisciplinary and comprehensive database (Stapleton et al., 2020) that is used to conduct systematic reviews in different domains such as tourism and hospitality (Pahlevan-Sharif et al., 2019).

One hundred and thirty-seven articles were found in the WoS and Scopus databases (publication years 2020–2021) and were screened to eliminate duplicates (53 studies). Hereafter, the subsequent eligibility criteria, reading the abstract, and the conclusions of each paper were included:

- The focus is on sustainable practices in the hospitality sector.
- English is the language used.
- Simple access to the article via the author’s email university.

For the subsequent analysis, 48 studies published from 2020 till the end of December 2021 were suitable for the latter. Each of the 48 articles was analyzed independently in detail by reviewing the abstract, literature, research methodology, results, and conclusion.

We focused on the years 2020 till the end of December 2021 since research on sustainability in the COVID-19 and post-pandemic is being
increasingly sought (e.g., Arora & Mishra, 2020; Jones & Comfort, 2020; Lima Santos et al., 2020; Pelikanova et al., 2021; Šerić & Šerić, 2021). In addition, there is an increasing need for environmentally sustainable corporate practices. Evidence on how sustainable investments perform during crises, on the other hand, is lacking, such as the COVID-19 pandemic, compared with regular investments remains scant in the literature (Shields et al., 2021). Additionally, the years 2020 and 2021 are close to each other, so we can present sustainable practices in hospitality pre-and amid COVID-19 in a more recent context.

TABLE 1 Journals (select) publishing hospitality sustainable practices research ($n = 48$)

| Journal                                                                 | No. of studies | %   |
|------------------------------------------------------------------------|---------------|-----|
| Sustainability                                                          | 10            | 20.7|
| Worldwide Hospitality and Tourism Themes                                | 2             | 4.1 |
| International Journal of Gastronomy and Food Science                    | 2             | 4.1 |
| Ecology, Environment and Conservation                                   | 2             | 4.1 |
| International Journal of Hospitality Management                          | 2             | 4.1 |
| International Journal of Tourism Research                               | 1             | 2.1 |
| International Journal of Contemporary Hospitality Management             | 1             | 2.1 |
| Academica Turistica-Tourism and Innovation Journal                      | 1             | 2.1 |
| Sinergie Italian Journal of Management                                  | 1             | 2.1 |
| Employee Relations: The International Journal                           | 1             | 2.1 |
| Journal of Rural Studies                                                | 1             | 2.1 |
| Current Issues in Tourism                                               | 1             | 2.1 |
| Tourism Management                                                      | 1             | 2.1 |
| Applied Economics                                                       | 1             | 2.1 |
| Journal of Sustainable Finance & Investment                             | 1             | 2.1 |
| International Journal of Supply Chain Management                         | 1             | 2.1 |
| Journal of Entrepreneurship in Emerging Economies                        | 1             | 2.1 |
| European Journal of Tourism, Hospitality and Recreation                  | 1             | 2.1 |
| International Journal of Hospitality & Tourism Systems                   | 1             | 2.1 |
| International Journal of Customer Relationship Marketing and Management | 1             | 2.1 |
| Evergreen                                                               | 1             | 2.1 |
| Journal of Foodservice Business Research                                | 1             | 2.1 |
| Business Strategy and the Environment                                   | 1             | 2.1 |
| African Journal of Hospitality Tourism and Leisure                       | 1             | 2.1 |
| Estudios de economia aplicada                                           | 1             | 2.1 |
| Journal of Services Marketing                                           | 1             | 2.1 |
| Chapter in Book Series: Universities as Living Labs for Sustainable Development | 1     | 2.1 |
| Chapter in Book Series: Universities and Sustainable Communities: Meeting the Goals of the Agenda 2030 | 1     | 2.1 |
| Proceedings of Mechanical Engineering Research                           | 1             | 2.1 |
| Proceedings of the International Conference on Business Excellence       | 1             | 2.1 |
| International Conference on Tourism Research                             | 1             | 2.1 |
| International Sustainability and Resilience Conference                   | 1             | 2.1 |
| Total                                                                   | 48            | 100 |

FIGURE 1 Literature search process was adopted from Chon and Zoltan (2019) and Yang et al. (2017) [Colour figure can be viewed at wileyonlinelibrary.com]
3 | REVIEW FINDINGS

To illustrate our research questions, we have structured the analysis part into three central sections. To be more specific, we (1) highlight research outlets or journals that publish hospitality sustainable practices research; (2) provide a review of research contexts in hospitality research; and (3) highlight sustainable practices in hospitality prior to and during COVID-19. Based on a review of the findings, we present and recommend an agenda for expanding future research through both theoretical and empirical advancement. Additionally, our review provides practical implications for the hospitality sectors and practitioners post-COVID-19.

3.1 | Research outlets publishing sustainable practices research in hospitality

Sustainable practices research in hospitality has attained a base in multiple outlets (see Table 1). In 2020 and 2021, top-tier hospitality journals published research on sustainable practices in hospitality, including: *Worldwide Hospitality and Tourism Themes*, *International Journal of Hospitality Management*, *Journal of Sustainable Tourism*, *International Journal of Tourism Research*, *International Journal of Contemporary Hospitality Management*, *International Journal of Hospitality & Tourism Systems*, *African Journal of Hospitality Tourism and Leisure*, *Academica Turistica-Tourism and Innovation Journal*, *Current Issues in Tourism*, *Tourism Management*, and *European Journal of Tourism, Hospitality and Recreation*, with 2, 2, 1, 1, 1, 1, 1, 1, 1, 1, and 1 publications, respectively.

The majority of the articles (29) appeared in environmental, production, food science, business, management, marketing, human resources, entrepreneurship, economic, and service journals such as: *Sustainability, Ecology, Environment, and Conservation, International Journal of Gastronomy and Food Science*, and *Journal of Cleaner Production*, gaining the greatest number of publications, with 10, 2, 2, and 2 publications, respectively.

3.2 | Contexts for research in sustainable practices in hospitality

Figure 2 categorizes the papers according to hospitality sectors. Most of the articles concentrated on hotels (64.5%), followed by restaurants (22.9%), and resorts (4.2%). None of the studies were conducted in motels, casinos, or nightclubs sectors.

Table 2 summarizes the areas of study. The majority of the studies were conducted in Brazil (10.4%), followed by India (8.3%), Malaysia (8.3%), Sweden (6.2%), and Egypt (6.2%). Only six (12.5%) studies were conducted in the Middle East (Egypt, Bahrain, Jordan, and Lebanon).

3.3 | The dominant sustainable practices in hospitality

As shown in Appendix A, sustainable practices across the extracted hospitality studies were very diverse. These practices were environmental (related to purchasing greener products, food sustainability, environmental management systems, saving water, greener service processes, energy-saving, product life extension, product management during use, recycling, waste management, and pollution control), social sustainability practices were related to (employees, consumers, community, suppliers, and government), economic sustainability practices were related to (revenue growth, cost control, and market share growth), sustainable accounting practices, sustainable practices related to sanitation and hygiene, and sustainable practices related to building design and construction materials. We divided this section into two parts; sustainable practices in hospitality pre-COVID-19 pandemic and sustainable practices in hospitality amid the COVID-19 pandemic.

3.3.1 | Sustainable practices in hospitality pre-COVID-19 pandemic

Alberton et al. (2020) concluded that hotels have implemented organizational sustainability strategies and practices that include saving water and energy, replacing lamps, recycling, and maintaining an ecological boat and an organic vegetable garden. Biodiversity conservation, water system technology, reusing and recycling of waste, green campaigns, hazardous material free, energy saving, and sustainable food dining are factors of sustainable development approaches and green practices in hotels (Hamid et al., 2020).

The use of low-energy lamps and LED lighting, providing eco-friendly products, water management, energy management, the use of local and seasonal products, and waste management are significant sustainable practices implemented by hotels in Europe (Moon et al., 2020). Hamid et al. (2021) found seven key sustainable development practices implemented in the Palace Hotel in Malaysia, including reuse and recycle of waste, sustainable food dining, hazardous material free, water system technology, energy-saving, biodiversity conservation, and green campaign. Hotel managers were interviewed in the study of Oxenswärdh (2020a) about their daily practice and work toward sustainable solutions at their hotels. The study findings reflect that they implemented sustainable practices and solutions, including putting garbage in a vessel and sorting it into 17 different sections, saving water, using signs on towel use, being energy-efficient (no heating in the rooms when no guests are present), sheets not being changed so often, leftover food going to biofuel, using signs on sustainability measures in all the rooms and at the pool on water use and the reuse of towels, and hiring an eco-labeled laundry. However, there was no internal training on environmental issues due to short employment contracts.

A study by Fonseca and Carnicelli (2021) conducted in a family hotel context showed that some family business owners were aware of corporate social responsibility and sustainability practices, which include recycling, food waste, disposal, energy, and water-saving, and were willing to implement these actions as established by the government agenda. The use of LED lamps, waste reduction, doggy bags for taking home food not eaten in the restaurant, use of local and seasonal products, selective
waste collection, vegan or gluten-free menus, and training of human resources about health and safety in food preparation and service are some examples of sustainability practices that emerged from some interviews with restaurant owners (Cantele & Cassia, 2020).

Green innovation practices are important in hotels to improve sustainability performance through reducing environmental impact (Elzek et al., 2021). A study by Abdou et al. (2020) was conducted in the Middle East and focused on identifying the role of environmental green hotel practices in achieving sustainable development. They showed the importance and implementation of sustainable practices in hotels, related to sanitation and hygiene, water-saving, reuse, energy-saving, and waste management. On the contrary, Oriade et al. (2021) found that the reuse of towels, temperature control, and noise pollution reduction as sustainability management practices are not popular and are not actively used in the studied hotels.

According to Calisto et al. (2021), acoustic insolation, inviting guests to reuse towels and sheets to reduce laundry efforts, reducing water consumption through flow reduction systems in taps, and reducing energy consumption through solar panels, low-consumption lighting, and air conditioning specifications are some of the environmental sustainability practices that have been implemented in hotels. Significantly, the present environmental standards that apply to the hotel business are mostly focused on waste and hazardous waste management, both of which are typical hotel practices (Khatter et al., 2021).

Examples of important environmentally sustainable practices in hotels include a towel reuse program, offering local food, use of refillable dispensers, rainwater recycling, energy-saving, waste management, use of eco-friendly detergents, and use of renewable sources of energy (Baratta & Simeoni, 2021). Through surveying operational managers in Indian hotels, a study of Akhtar and Najar (2020) found that hotels implemented environmentally sustainable practices which included waste management, segregation of garbage, recycling of water, use of low-flow toilets, energy saving, use of local and organic food for preparing meals, and recycling. On the contrary, Khonje et al. (2020) concluded that hotels in Malawi do not have environmental management policies to enhance environmentally sustainable practices. From managers’ and executives' perspectives, Kaur (2021) found that barriers to the adoption and implementation of environmentally sustainable practices in Indian hotels include initial expenses, high certification costs, hard certification process, lack of awareness, poorly legislated, routines, existing non-supportive structure, and weak top-management commitment.

FIGURE 2 Classification of articles based on hospitality sectors [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 2 Areas of studies

| Location country/region | Number of studies |
|-------------------------|------------------|
| Brazil                  | 5                |
| India                   | 4                |
| Malaysia                | 4                |
| Sweden                  | 3                |
| Egypt                   | 3                |
| Portugal                | 2                |
| Europe                  | 2                |
| Indonesia               | 2                |
| Athens                  | 1                |
| South Sardinia          | 1                |
| Romania                 | 1                |
| Himalayan region        | 1                |
| Australia               | 1                |
| East China              | 1                |
| Serbia                  | 1                |
| Ghana and Nigeria       | 1                |
| Italy                   | 1                |
| Netherlands             | 1                |
| Scotland                | 1                |
| Lebanon                 | 1                |
| Spain                   | 1                |
| Kazakhstan              | 1                |
| Czech                   | 1                |
| Malawi                  | 1                |
| United States           | 1                |
| Bahrain                 | 1                |
| Jordan                  | 1                |
| Not specified           | 4                |
| Total                   | 48               |
Based on the findings of Jang and Zheng (2020), restaurants across the US are committed to environmental sustainability strategies that include incorporating environmental management into policy, monitoring and recording environmental performance, implementing employee environmental training programs, recognizing and rewarding environmental initiatives of employees, and publishing external reports about environmental impacts in a regular manner. In addition, the implemented environmental practices in these restaurants included purchasing local and organic food, using energy-efficient equipment and lighting, use of renewable energy programs (e.g., wind or solar power), using water-efficient devices and equipment (e.g., dishwashers), using water-saving faucets, donating food leftovers to a food bank or shelter, recycling fat, oil, and grease, use of reusable items (e.g., cloth napkins, glass cups, and ceramic dishes), purchasing used or recycled-content products (e.g., napkins or take-out containers made with post-consumer products), educating guests on environmentally friendly practices, and supporting local communities to enhance the local environment.

Some researchers, such as Chan et al. (2021), focused on a specific key to sustainable practices, such as sustainable human resource practices in hotels and included creating a safe working environment, organizing relevant training, career advancement, rewarding creativity, career development opportunities, benefit packages, compensation, caring management culture, and recognition. Furthermore, green recruiting and selection, green training and development, and green compensation are examples of sustainable practices in hotels (Aboul-Dahab & Saied, 2021). Saleh et al. (2021) indicated that hotels utilize income statements, budgets, cash flow, reliability, and high-quality information systems to decrease expenses, data, and financial statements in line with accounting standards and norms, and good creative accounts, which means that financial accounts are approved by auditors.

Many scholars are focused on sustainable food practices. Niederle and Schubert (2020) revealed that restaurants developed main practices concerning the promotion of sustainable food systems, including using self-produced food, purchasing food directly from farmers, using organic food, boycotting non-healthy ultra-processed and transgenic food, and using ecological packaging.

A number of previous academics integrated environmental and social sustainability practices. For example, Pereira et al. (2021) investigated the adoption of hotels for environmental and social sustainability practices. They discovered that hotels implemented environmental policies such as energy efficiency, water conservation, waste management, and CO2 emission reduction. In addition, hotels employed social sustainability practices such as purchasing food from the local area and collaborating with an association of parents and friends of mentally challenged residents to support disabled people’s integration into the workforce.

Few research studies were more inclusive in studying sustainable practices. For example, a study by Modica et al. (2020) investigated the economic, social, and environmental sustainability practices of the hospitality sector. Economic sustainability practices were divided into a number of subcategories, including revenue growth, cost control, and market share growth. Governments, suppliers, communities, consumers, and employees are among the sub-dimensions of social sustainability practices. Ultimately, environmental sustainability practices were categorized into environmental management systems, pollution control, recycling, product life extension, product management during use, and greener service processes. Shi and Tsai (2020) further demonstrated that corporate sustainability practices implemented by hotels were economic, social, and environmental.

However, there is a difference between the two studies regarding economic sustainability practices. For example, according to Shi and Tsai (2020), promoting local products among customers, contracting preferentially people who live locally, choosing suppliers that promote local development, offering employee salaries that are not below the industry average, evaluating the economic impact of the establishment, and encouraging customers to contribute to solidarity initiatives are corporate sustainability practices that could be implemented by hotels, while economic sustainability practices were divided into subcategories including revenue growth, cost control, and market share growth in the study of Modica et al. (2020).

According to Olya et al. (2021), hotels implemented environmental sustainability initiatives such as energy and water conservation, solar power use, and explaining the environmental policy to consumers. The work environment, employee safety and well-being, customer focus, quality, and information dissemination were all factors in the implementation of social sustainability in hotels. Economic sustainability measures were also linked to high occupancy and net sales growth, competitiveness, and overall performance and success. A checklist was designed and tested in a study by Maynard et al. (2020) to give a tool to assist restaurants with the application of sustainability indicators. There were 76 elements total, which were separated into three categories: (1) water, electricity, and gas supply; (2) menu and food waste; and (3) waste reduction, construction materials, chemicals, staff, and social sustainability.

3.3.2 Sustainable practices in hospitality amid COVID-19 pandemic

The COVID-19 pandemic positively affected sustainability through the reduction of air flights and motor vehicle traffic. As a result, the emissions of greenhouse gases and pollution levels were reduced. However, there is a growth in the carbon footprint associated with the tremendous increase in e-commerce during the pandemic (Jones & Comfort, 2020).

Examples of sustainable practices adopted by hospitality enterprises amid COVID-19 are green promotion strategies, green physical environment, and food waste management (Šerić & Šerić, 2021). Social responsibility and taking care of stakeholders are significant sustainable issues in hotels amid the COVID-19 and post-COVID-19 pandemic (Pelikanova et al., 2021). Duric and Topler (2021) found that hotels implemented the following sustainable practices: waste minimization, waste disposal, emissions minimization, and reduction of energy and water consumption.

Based on a study of Mehta and Sharma (2021) that was conducted amid COVID-19 in India, hotels are committed to reducing...
their carbon footprint by implementing practices such as conserving water, harvesting rainwater, using chemical-free housekeeping materials, switching to electric vehicles, waste management, green building automation systems, reusing waste, recycling waste, creating no-smoking zones, and reducing single-use plastic products. Hotels could reduce carbon emissions by introducing a new set of long-term environmental goals, striving to continuously improve energy-and emission-related performance, carbon emission auditing and reporting of all buildings and facilities, adopting carbon disclosure initiatives more extensively, and supporting certified projects that invest in renewables. Additionally, they found that hotels implement sanitation and cleanliness measures and provide customers with contactless services amid COVID-19 to maintain their initiatives on sustainability.

Karagiannis and Andrinos (2021) asserted the importance of restaurants’ sustainable practices amid the COVID-19 pandemic, such as reducing food waste, increasing recycling, using local and seasonal raw materials, using bioproducts on menu, and using renewable energy. Drawing on Ocampo et al. (2021), to achieve food sustainability in restaurants, it is vital to focus on locality (local products) for quality, fresh products, and seasonal products, reduce meat in favor of vegetables, use local foodstuffs, use organic foods, and recruit creative and knowledgeable professionals.

Even though the importance of these sustainable practices is well-known, the COVID-19 pandemic has had a bad effect on their implementation in restaurants through changes in purchasing practices from small producers and farmers to wholesalers. Additionally, restaurants preferred to reduce organic food to minimize purchasing costs of these premium products, especially since the number of consumers was reduced during this pandemic (Ocampo et al., 2021).

4 | POST-COVID-19 AGENDA AND CALL FOR FUTURE RESEARCH

Drawing on the traits and patterns detected from the review, recommendations are presented for forthcoming studies. This section aims to provide an inclusive synopsis of future research potentials for sustainable practices, thereby providing important clues for scholars who desire to further examine sustainable practices in hospitality (see Figure 3).

Several flaws in the context of sustainable practices research in hospitality were acknowledged pre-and amid the COVID-19 pandemic. Some of the studies examined were conducted in Brazil, India, and Malaysia. There are very limited studies on sustainable practices in hospitality from the developing and emerging nations as well as other developed countries, such as the Czech Republic, Italy, China, Spain, the Netherlands, Australia, the United States, Jordan, Romania, and Scotland. These destinations are vital to the international tourism and hospitality sectors. Additionally, most of the sustainable practices have been conducted in hotels. Future research needs to consider resorts, motels, casinos, nightclubs, and restaurants, specifically small and medium enterprises, targeting multiple sources including employees, customers, suppliers, and managers.

Our views are consistent with Alberton et al. (2020), who recommended identifying similarities and differences in hotel industry management, mainly regarding the competencies for sustainability. In addition, it is critical to analyze the antecedent variables of the managers’ behavior concerning the competencies for sustainability in the hotel sector. It would also be interesting to have studies conducted both in developing and developed countries.

Our study reinforces the view of Khatter et al. (2021) that further research is needed in the hotel industry to investigate all stakeholders’ influence on environmentally sustainable policies and practices to obtain a deeper understanding. Furthermore, more research on stakeholder theory needs to be encouraged, since its application in environmental sustainability practices from the perspective of hotel management is still limited. Our review recommends investigating the association between environmental practices and sustainability performance in different hospitality contexts and cultures. Additionally, it is critical to examine stakeholders’ (suppliers, customers, community residents, and employees) demands’ effects on the association between corporate sustainability practices and financial performance via environmental and social performance. This recommendation is in line with Shi and Tsai (2020).

Another line of research for upcoming research is to investigate how different consumer profiles and national contexts affect the significance of environmentally sustainable practices in the hotel industry. More research on ethical dimensions of sustainability in managerial decision-making “doing the right thing” is required (Calisto et al., 2021). Our study aligns with Sin et al. (2021), who recommend future research to examine the impact of quality management on business ethics and sustainable performance, and the impact of business ethics on sustainable performance in different hotel classifications such as business, resorts, foreign, and domestic. In addition, government support and technological advancement could be studied as moderators in future work.

Our research also recommends future scholars examine the moderating effect of environmental commitment on green innovation types and sustainability performance. This is in line with Elzek et al. (2021). It would be beneficial to investigate the impact of leanness and innovativeness on a hotel’s environmental and financial performance (Cerchione & Bansal, 2020).

Our study also recommends using mixed techniques or quantitative data collection approaches to investigate sustainable human capital strategies. Factors like as changing demographics, government laws, and technological advancements can all be included into sustainable human resource management methods. Other theories relating to human resource management, such as Maslow’s model or Herzberg’s two-factor theory, can be adopted by future researchers. This is in line with Chan et al. (2021).

A critical area for future research is to explore further sustainable practices that are more resilient to being implemented by restaurants because of COVID-19 (Ocampo et al., 2021). In addition, it is recommended to explore sustainable practices in various hotels (Duric & Topler, 2021; Salem, Elbaz, et al., 2021; Salem, Elkhwesky, & Ramkisson, 2021). It is suggested that future research examine the...
impact of environmentally sustainable practices on consumers’ behavioral intentions in hospitality. This suggestion is in line with Baratta and Simeoni (2021).

Our study reinforces the view of Karagiannis and Andrinos (2021) that further research is needed to investigate sustainable factors and their relationships with customer satisfaction, future intentions, and destination loyalty. In a second wave of COVID-19, further study is needed to focus on consumers' perceptions on restaurant quality in conjunction with safety and security issues. It is critical to examine the difficulties that are faced by restaurant managers in adopting sustainable procedures and gaining customers' trust.

Our review calls for future scholars to explore how hospitality enterprises could overcome the various barriers to the adoption and implementation of environmentally sustainable practices, such as...
initial expenses, high certification costs, hard certification process, lack of awareness, poor legislation, routines, harmful management styles, and weak top-management commitment (Kaur, 2021).

There is a further need to understand the implementation, benefits, and outcomes of environmental and social sustainability practices in hotels, specifically during the COVID-19 pandemic. To further understand how the degree of sustainability practice implementation influences the levels of performance obtained, a longitudinal study is required (Pereira et al., 2021). Additionally, further research could be dedicated to investigating sustainable practices’ implementation in the foodservice sector (Maynard et al., 2020) and the effect of psychographic factors, such as age and gender, on restaurant owners’ implementing sustainable actions (Batat, 2021).

Our review recommends highlighting the association between hospitality businesses’ sustainability practices and consumer attitudes and behaviors with the moderating role of consumers’ sociodemographic characteristics. In addition, further research is also encouraged to examine the positive outcomes of each sustainability practice and the cost, type, and number of sustainability practices that should be adopted in restaurants or hotels. This is in line with the recommendation of Modica et al. (2020).

There is a further need to investigate sustainability attitudes and barriers and their effects on sustainability implementation in the hospitality sector, such as hotels and upscale restaurants. Additionally, our review recommends highlighting the effect of sustainability implementation on firm performance with the mediating role of image, reputation, and employee commitment and the moderating effect of market positioning. This suggestion is consistent with Cantele & Cassia, (2020).

More research is needed to look into the indirect effect of environmental rules on the long-term viability of hospitality businesses. In addition, future research should focus on identifying sustainable manufacturing practices used by small and medium-sized hospitality businesses, as well as how such practices help businesses gain competitive advantages in terms of product cost, production flexibility, product quality, and delivery. This idea is similar to Ali et al.’s (2021).

Our study also suggests examining the association between sustainable supply chain management practices and organizational sustainable performance with the moderating role of supply chain dynamic capabilities in the hospitality industry. This is consistent with Ismaili et al. (2020). It is vital to investigate the influence of restaurant properties (e.g., size), demographic characteristics of managers (e.g., education and experience), and psychological variables (e.g., environmental values) on environmental and social sustainability performance. This is in line with Jang and Zheng (2020).

Future research should focus on investigating corporate social responsibility in tourism and hospitality (Madanaguli et al., 2021; Peña-Miranda et al., 2021; Sánchez-Camacho et al., 2021). Future scholars could also investigate the role of corporate social responsibility in the hotel industry in achieving sustainable development goals. Furthermore, it is critical to explore the challenges and barriers that face hotels in accomplishing sustainable development goals, especially for small and medium-sized hotels. Our recommendation is consistent with Abdou et al. (2020).

A starting point for future research is to investigate tourists’ perceptions of sustainable tourism and the practices implemented in the hospitality industry (Madar & Nea¸su, 2020). Additionally, upcoming research is critically needed to examine the effect of consumers’ demographics, such as education and gender, on the perceptions of sustainability in hotels (Olya et al., 2021). Our study reinforces the view of Mzembe et al. (2020) that further studies are needed to investigate customers’ perceptions of green certification schemes and their tendency to reward hotels that earn green certification. In addition, we confirm the importance of examining sustainability and financial performance outcomes associated with adopting green certification schemes.

Due to the importance of implementing building sustainability in the hospitality industry, our review suggests that research on energy sources such as hydropower, solar, and wind to optimize building sustainability is required. This suggestion is consistent with Bhochhibhoya et al. (2020). Future scholars need to investigate the association between management practices, organizational culture, and sustainability awareness in hotels within developing and developed countries’ contexts. Our recommendation is consistent with Oriade et al. (2021). Employees play an important role in hotels (Elkhwesky et al., 2018, 2019, 2021). Further research is critically needed to examine employees’ knowledge and training on sustainability issues at hotels. This is in line with Oxenswärdh (2020a).

Due to sustainability being a multidimensional construct, there is a further need for future scholars to study sustainable practices in the hospitality industry by concentrating on different dimensions, such as those related to environmental, economic, and social issues (see Appendix A). Future studies could examine the association between hotels’ communication strategies that are mainly focused on environmental sustainability and consumer willingness to book a room with the mediating role of three dimensions of perceived brand authenticity, namely, continuity, credibility, and symbolism. This suggestion is in line with that made by Amatulli et al. (2021).

Two major trends influencing the hotel business and society are sustainability and social media. Future research might look into how social media sustainability cues influence attitudes and intentions toward travel products, as well as how hotels can advertise their sustainable practices through social media channels (Tanford et al., 2020). Our review recommends exploring the impact of green marketing orientations toward sustainability in the hospitality industry during the COVID-19 and post-COVID-19 pandemic. This is in line with the recommendation of Ho et al. (2021).

5 | PRACTICAL IMPLICATIONS FOR HOSPITALITY SECTORS

Our study has demonstrated the impacts of sustainable practices from prior research in hospitality and their links with contemporary issues in hospitality. Based on our systematic review of 48 articles in the hospitality sector, we now stipulate practical recommendations for the hospitality industry and practitioners post-COVID-19.

It is critical for hotels to invest in sustainable strategies to serve society and business, minimize costs, raise the skill levels of their employees,
meet their target audience (Alberton et al., 2020), achieve a competitive advantage (Cantele & Cassia, 2020; Cvelbar & Dwyer, 2013; Duric & Topler, 2021; Mzembe et al., 2020), win market share (Oxenswärdh, 2020a), build a good reputation (Mzembe et al., 2020; Pereira et al., 2021), enhance customer satisfaction (Cantele & Cassia, 2020; Duric & Topler, 2021), earn community recognition (Cvelbar & Dwyer, 2013), and reduce costs (Pereira et al., 2021).

To support sustainability management in hotels, owners or managers should build and create a robust organizational culture (Oriade et al., 2021). In order to proactively execute the sustainable development agenda, Cantele and Cassia (2020) advised restaurant owners and managers to include sustainability in their strategic goals and company operations. Environmental sustainability policies could be written formally by hospitality businesses to educate stakeholders on environmental sustainability and to provide concrete evidence of commitment (Khattar et al., 2021).

Governments should encourage restaurants to embrace green practices through incentives (such as tax deduction grants and recognition) and by rewarding those who follow sustainable policies (Karagiannis & Andrinos, 2021; Khatter et al., 2021). In this regard, governments could motivate restaurants to adopt green practices and innovations through providing free education, effective training, awards, subsidies, and taxation reductions (Chou et al., 2012), recognition on the local government website (Seo & Lee, 2017), supportive government regulations (Perramon et al., 2014), and facilitating donating food to homeless people (Filimonau et al., 2020). Additionally, the government could support hotels by installing biogas generators (Khattar et al., 2021).

It is also advisable for the government to organize programs to increase potential tourists’ awareness of the effect of tourism on the environment and the need for sustainable development of this sector. In addition, it is critical for local authorities to provide the economic agents working in tourism, and also tourists, with sustainable development practices applicable in tourism through consultancy activities and educational programs (Madar & Neaşu, 2020).

Environmental issues must be brought to the attention of nongovernmental groups, as well as how restaurateurs can participate in environmentally beneficial activities (Batat, 2021). In addition, it is important for hotel associations to assist hotels that lack expertise in adopting environmental sustainability and provide them with awareness training on environmental sustainability (Khattar et al., 2021).

Waste management is a critical part of sustainable practices that should be implemented by hospitality businesses. Teixeira et al. (2020) concluded that the solid waste of restaurants could be used for composting to maintain environmental quality. Recycling remains vital to reducing food waste and for environmental preservation. Due to customers’ preference for local and seasonal food and the “authentic taste” of each destination, Restaurateurs and chefs are encouraged to purchase and prepare it (Karagiannis & Andrinos, 2021).

Because of the significance of sustainability (Camilleri, 2021) and social media for the hospitality sector and society, hotels could use their green activities as marketing tools by promoting the positive results of their sustainable efforts to increase booking behavior. Hotel staff should also engage in environmental activities with their communities and promote these activities through advertising and social media. Positive hotel environmental scenes could be shared via Instagram or shared on the hotel’s Facebook page (Tanford et al., 2020). Through print and internet media, hotel marketing managers might disseminate information on social, environmental, and economic sustainable practices and support their implementation. To boost visitor loyalty, hotel managers must raise knowledge of their sustainability efforts among guests (Olya et al., 2021).

Enterprises should understand that sustainable development implementation cannot be achieved without competent and motivated personnel (Piwowar-Sulej, 2021). Green human resources management practices are vital for hospitality enterprises to promote organizational citizenship behavior for environmental programs and motivate employees to work sustainably on a regular basis. Inadequate or nonexistent sustainable practices could be the result of a lack of employee training (Khan, Wei et al., 2021). It is also critical to depend on personnel who know the importance of sustainability and have an interest in working sustainably (Ocampo et al., 2021). Hotels could improve the social welfare of employees by providing training and advancement opportunities as a part of socially sustainable practices (Olya et al., 2021).

Sustainable buildings in the hotel industry could be designed by taking into consideration low energy, high thermal efficiency, use of energy-efficient stoves, use of local materials with proper insulation, use of renewable energy, use of heating stoves, and use of light bulbs. Furthermore, hotels could integrate novel technologies with traditional knowledge to achieve a truly sustainable building design (Bhochhibhoya et al., 2020).

Hospitality higher education institutions could produce multidisciplinary projects, adapt their courses and curriculum, and launch sustainability initiatives with the support of the administration, alumni, and community stakeholders, to make their graduates become the positive change agents of the future (Zíka & Varga, 2020). It is necessary for hospitality and leisure management programs around the world to re-evaluate their undergraduate curricula in order to prepare positive social change agents for the 21st-century workplace (Zíka, 2021).

CONCLUSION

The impetus for this study was shaped by the cumulative academic interest in sustainable practices, the importance of creating a comprehensive plan for the main focus of sustainable practices in the hospitality literature, what it should highlight post-COVID-19, and the lack of systematic review for sustainable practices research in hospitality. Therefore, our study aimed to (1) indicate research outlets or journals publishing hospitality sustainable practices research pre-and amid the COVID-19 pandemic; (2) provide a review of research contexts utilized in hospitality research; and (3) illustrate the dominant sustainable practices in hospitality pre-and amid COVID-19. Ultimately, we presented and recommended a map for developing forthcoming research through both theoretical and empirical advancement post-COVID-19.

To achieve these aims, our study reviewed 48 articles focused on sustainable practices in hospitality. Our review has demonstrated that sustainable research practices in hospitality have made progress in the
years 2020 and 2021. However, there are conceptual and empirical overlaps among sustainable practices in hospitality. Additionally, hospitality sustainable practices research is restricted in research contexts. There is a lack of research on antecedents, outcomes, and integrating theories in studies. Our review has revealed that sustainable practices have not been rigorously examined in hospitality research. By following the guidance presented in this review, we expect to advance and maintain hospitality sustainable practices research to provide substantive insights into the context of hospitality sustainable practices over the coming years post-COVID-19 (see Figure 3).

7 | LIMITATIONS AND FUTURE RESEARCH

Due to the selective, observational, and retrospective nature of the systematic review (Petticrew & Roberts, 2006), the current study was not exempted from limitations. The search strategy used to find papers published in WoS and Scopus databases about sustainable practices in hospitality was restricted to titles to boost the accuracy of the subsequent literature. Further research is recommended to modify the research strategy by applying three parameters: title, abstract, and keywords. Even though WoS and Scopus are well-known databases, we recommend that future research include Science Direct. Future research could also provide statistical measures of previous outcomes by applying meta-analysis. Regardless of these few limitations, the current research is the first to systematically review different sustainable practices in hospitality pre-and amid the COVID-19 pandemic.

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AUTHOR CONTRIBUTIONS

Zakaria Elkhwesky: Conceptualization, Writing – review & editing, Methodology, Resources, Software, Formal Analysis, Supervision, Project administration, Visualization, Writing – original draft, Data curation, Validation. Islam Elbayoumi Salem: Conceptualization, Review & editing, Methodology. Michal Varmus: Review & editing Haywanett Ramkissoon: Review & editing.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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APPENDIX A

The dominant sustainable practices in hospitality research

| Sustainable practices | Authors | Sustainable practices | Authors |
|------------------------|---------|------------------------|---------|
| 1. Environmental sustainability practices | Modica et al. (2020). | 2. Social sustainability practices | Modica et al. (2020). |
| 1.1. Purchasing greener product and food sustainability practices | | 2.1. Employees | Modica et al. (2020). |
| • Using natural cleaning alternatives (e.g., lemon juice, vinegar). | Hamid et al. (2020); Hamid et al. (2021). | • Engaging in employment diversity. | Modica et al. (2020). |
| • Avoid purchasing overly packaged products. | Hamid et al. (2020); Hamid et al. (2021). | • Providing equal opportunity in the hiring, training, and promotion for women and minorities. | Modica et al. (2020); Olya et al. (2021). |
| • Sustainable food dining. | Cantele and Cassia (2020). | • Listening to employees’ suggestions. | Modica et al. (2020); Olya et al. (2021). |
| • Reducing meat in favor of vegetables. | Cantele and Cassia (2020). | • Supporting all employees who want to pursue further education. | Modica et al. (2020); Olya et al. (2021). |
| • Using local foodstuffs. | Cantele and Cassia (2020). | • Complying with labor legislation and employee contracts. | Modica et al. (2020); Olya et al. (2021). |
| • Vegan or gluten-free menus. | Cerchione and Bansal (2020); Modica et al. (2020); Moon et al. (2020); Shi and Tsai (2020). | • Treating all employees equally and respectfully. | Modica et al. (2020); Shi and Tsai (2020); Stombelli (2020). |
| • Providing employee environmental training programs. | Cerchione and Bansal (2020); Modica et al. (2020); Moon et al. (2020); Shi and Tsai (2020). | • Green recruiting and selection | Aboul-Dahab and Sailed (2021). |
| • Discussing ecological issues with employees. | Cerchione and Bansal (2020); Jang and Zheng (2020). | • Green training and development | Modica et al. (2020); Chan et al. (2021). |
| • Purchasing organic certified food/products. | Akhtar and Najar (2020); Jang and Zheng (2020); Madar and Neaşu (2020); Maynard et al. (2020); Modica et al. (2020); Niederle and Schubert (2020); Shi and Tsai (2020); Pereira et al. (2021); Ocampo et al. (2021)*. | | Shi and Tsai (2020). |

(Continues)
| Sustainable practices                                                                 | Authors                          | Sustainable practices                                                                 | Authors                          |
|--------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------|----------------------------------|
| • Offering goods and services that have been procured from ethically oriented suppliers.  | Mzembe et al. (2021).            | • Providing employment for people with disabilities.                                   | Shi and Tsai (2020); Pereira et al. (2021) |
| • Fair trade products and Marine Stewardship Council certified fish.                  |                                  |                                                                                        |                                  |
| • Choosing suppliers who demonstrate their environmental responsibility.                | Shi and Tsai (2020).             | 2.2. Consumers                                                                        |                                  |
| • Using ecological packaging.                                                         | Niederle and Schubert (2020).    | • Respecting the rights of consumers.                                                 | Modica et al. (2020).            |
| • Using of self-produced food.                                                        |                                  | • Providing safe environment for consumers.                                            |                                  |
| • Food purchased directly from farmers.                                                |                                  | • Developing a fair pricing strategy.                                                 |                                  |
| • Boycott of non-healthy ultra-processed and transgenic foods.                        |                                  | • Responding to complaints of all consumers in a timely manner.                       |                                  |
| • Association of food to socio-cultural and sacred dimensions.                         |                                  | • Discussing ecological issues with consumers.                                         | Cerchione and Bansal (2020).      |
| • Consumption of ecological products.                                                 | Pereira et al. (2021).           | • Treating all consumers fairly.                                                      | Modica et al. (2020); Olya et al. (2021) |
| • Educating staff on sustainability.                                                  | Cerchione and Bansal (2020); Maynard et al. (2020); Calisto et al. (2021). | • Fostering civic attitudes among the clientele.                                       | Shi and Tsai (2020).             |
| • Using ecological cleaning products/eco-friendly detergents.                        | Maynard et al. (2020); Baratta and Simeoni (2021). | • Educating guests on environmentally friendly practices.                 | Jang and Zheng (2020).          |
| • Suppliers of products of animal origin have certificates that prove that animals are raised without the application of antibiotics or organics. | Maynard et al. (2020).           | 2.3. Community                                                                        |                                  |
| • Purchasing products of animal origin that have an animal welfare certification seal. |                                  | • Organizing activities for the local community.                                       | Modica et al. (2020).            |
| • Purchasing sustainable seafood.                                                     |                                  | • Encouraging employees to take part in various kinds of community and social events. |                                  |
| • Using environmentally sustainable hand cleaners in the bathrooms of customers and employees. |                                  | • Improving the quality of life of people in the community through financial support (e.g., donating money to the poor and disabled). |                                  |
| • Offering proven healthiest (less salt, sugar, and oil) dishes.                     |                                  | • Financially supporting education in the local community.                             |                                  |
| • Offering a separate menu or substitutions to meet diet restrictions, such as gluten-free preparations, vegetarian cuisine, vegan menu, or preparations to meet religious restrictions. |                                  | • Stimulating the economic development in the community.                              |                                  |
| • Not using ingredients or products with transgenic ingredients in its composition in the production of meals. |                                  | • Providing financial support for community activities.                               |                                  |

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| Sustainable practices | Authors | Sustainable practices | Authors |
|-----------------------|---------|-----------------------|---------|
| • Using local products. | Abdou et al. (2020); Akhtar and Najar (2020); Cantele and Cassia (2020); Jang and Zheng (2020); Moon et al. (2020); Oxenswärdh (2020a); Baratta and Simeoni (2021); Karagiannis and Andrinos (2021); Ocampo et al. (2021). | • Donating goods that are left behind to aid organizations. | Oxenswärdh (2020a). |
| 1.2. Environment management systems and saving water | | • Collaborating with an organization to give bicycles to students in developing countries so that they can more easily and quickly travel to school. | Stombelli (2020). |
| • Using air purification equipment to make wasted air emissions from the central air conditioning have less pollutants. | Modica et al. (2020). | • Donations to a food bank or shelter to avoid wasting food from products suitable for consumption. | Jang and Zheng (2020); Maynard et al. (2020). |
| • Monitoring water consumption. | | • Having initiatives to promote healthy eating education for the local community (schools, colleges, community groups). | Maynard et al. (2020). |
| • Installing water saving devices (e.g., flow regulators, waterless urinals). | | • Publishing external reports about environmental impacts in a regular manner. | Jang and Zheng (2020). |
| • Installing grease interceptor to eliminate waste grease and food residues. | | • Supporting local communities to enhance the local environment. | |
| • Using environmental information systems that allow information sharing and customized reporting. | Modica et al. (2020); Shi and Tsai (2020). | • Supporting local development and heritage conservation. | Shi and Tsai (2020). |
| • Using a temperature control system. | | • Actively fostering respect for the language of the territory. | |
| • Evaluating the environmental impact of the establishment. | | • Collaborating in social project. | |
| • Using environment evaluation systems. | | • Evaluating the social impact of the establishment. | |
| • Using water-saving flush in bathrooms. | Modica et al. (2020); Olya et al. (2021). | • Donations to community. | Maynard et al. (2020); Modica et al. (2020). |
| • Installing water saving devices/techniques/appliances. | Abdou et al. (2020); Akhtar and Najar (2020); Jang and Zheng (2020); Duric and Topler (2021); Fonseca and Carnicelli (2021); Mzembe et al. (2021); Oriade et al. (2021); Oxenswärdh (2020a, 2020b); Pereira et al. (2021). | • Supporting community. | Batat (2021); Pelikanova et al. (2021). |
| • Minimization of water consumption, mainly through flow reduction systems in taps. | Calisto et al. (2021). | • Buying food from the local region/suppliers. | Maynard et al. (2020); Boas et al. (2021); Calisto et al. (2021); Pereira et al. (2021). |
| • Encouraging customers to save water | Shi and Tsai (2020). | 2.4. Suppliers | |
| • Using signs on sustainability measures in all the rooms. | Oxenswärdh (2020a). | | |
| • Hiring an eco-labeled laundry. | | | |
| • An environmental meeting with staff. | | | |

(Continues)
| Sustainable practices                                                                 | Authors                                                                 | Sustainable practices                                                                 | Authors                                                                 |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| • Signing lists are available and applied for the staff in order to check up sustainable measures. | Shi and Tsai (2020); Oxenswärdh (2020a); Pereira et al. (2021)           | • Choosing suppliers that demonstrate their social responsibility.                    | Shi and Tsai (2020).                                                  |
| • Encouraging customers to contribute to environmental protection.                    |                                                                           | • Paying suppliers for their services and supplies on time.                           | Modica et al. (2020).                                                |
| • Achieving universal and equitable access to safe and affordable drinking water      | Abdou et al. (2020).                                                    | • Establishing long-term partnerships with suppliers.                                  |                                                                        |
| • Reducing pollution and eliminating dumping.                                         |                                                                           | • Bringing social responsibility into the supply chain management.                   |                                                                        |
| • Collecting rainwater and using it in garden irrigation or flushing toilets.         |                                                                           | • Informing all suppliers about organizational changes that affect their operations.  |                                                                        |
| • Using low-flow toilets and showerheads.                                              | Abdou et al. (2020); Akhtar and Najar (2020).                           |                                                                                      |                                                                        |
| • Water system technology.                                                            | Hamid et al. (2020); Hamid et al. (2021).                               | • Sociability and non-market interactions with suppliers.                              | Niederle and Schubert (2020).                                         |
| • Deploying tools to conserve water and harvest rainwater.                           | Moon et al. (2020); Baratta and Simeoni (2021); Mehta and Sharma (2021). | 2.5. Government                                                                      |                                                                        |
| • The pressure of kitchen faucets, washbasins, and bathrooms is regulated and limited to allow water savings. | Jang and Zheng (2020); Maynard et al. (2020).                           |                                                                                      |                                                                        |
| • Preventive maintenance of the plumbing                                              | Maynard et al. (2020).                                                  | • Obeying governmental regulations.                                                  | Modica et al. (2020).                                                |
| • In case of a water leak, performs immediate repair.                                 |                                                                         | • Creating partnerships with government agencies.                                     |                                                                        |
| • Verifying that taps, when not in use and at the end of the service, are closed.    |                                                                         | • Supporting governments’ actions.                                                    |                                                                        |
| • Taps installed in hand or kitchen sinks have automatic activation.                  |                                                                         | • Operating legally and ethically.                                                    |                                                                        |
| • The water reservoir is adequately kept covered and conserved, and is free from cracks, leaks, infiltrations, peeling, and other defects. |                                                                         |                                                                                      |                                                                        |
| • Not using running water to melt ice in sinks or thaw food.                          |                                                                         |                                                                                      |                                                                        |
| • Removing dirt without water from utensils before putting them in the washing machine. |                                                                         |                                                                                      |                                                                        |
| • Dishwashers are operated only at full loading capacity.                             |                                                                         |                                                                                      |                                                                        |
| • When cleaning floors, the water flow is interrupted when it is not necessary to use it. |                                                                         |                                                                                      |                                                                        |
| • Rainwater is collected and/or water from thermal counters that use water is recycled for use in activities where the use of drinking water is not required (e.g., flushing, washing outside areas) |                                                                         |                                                                                      |                                                                        |
| • Educating staff on water efficiency                                                |                                                                         |                                                                                      |                                                                        |
| 1.3. Greener service process AND energy saving                                       |                                                                         |                                                                                      |                                                                        |
| • Using compact energy-saving fluorescent lighting.                                   | Modica et al. (2020).                                                  | 4. Economic sustainability practices                                                  |                                                                        |
| • Using solar power instead of fuel.                                                 | Madar and Neasu (2020); Modica et al. (2020); Amatulli et al. (2021); Calisto et al. (2021); Olya et al. (2021). | 4.1. Revenue growth                                                                  |                                                                        |
| • High dividend payment.                                                             |                                                                         | • High cash flow.                                                                     | Modica et al. (2020).                                                |
| • High cash flow.                                                                    |                                                                         | • High-profit growth.                                                                 |                                                                        |
| • High-profit growth.                                                                |                                                                         |                                                                                      |                                                                        |
| 3. Sustainable accounting practices                                                   |                                                                         |                                                                                      |                                                                        |
| • Income statement                                                                   |                                                                         |                                                                                      |                                                                        |
| • Budget                                                                            |                                                                         |                                                                                      |                                                                        |
| • Cash flow                                                                         |                                                                         |                                                                                      |                                                                        |
| • Reliability                                                                       |                                                                         |                                                                                      |                                                                        |
| • High-quality information systems to reduce expenses                                 |                                                                         |                                                                                      |                                                                        |
| • Data and financial statements in accordance with accounting standards and rules     |                                                                         |                                                                                      |                                                                        |
| • Good creative accounts which means that financial accounts are approved by auditors. |                                                                         |                                                                                      |                                                                        |
### Sustainable practices

| Sustainable practices                                                                 | Authors                                                                 | Sustainable practices                                                                 | Authors |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------|
| • Encouraging customers to save energy.                                                | Shi and Tsai (2020).                                                   | • High return on assets.                                                             | Modica et al. (2020); Olya et al. (2021). |
| • Switching to electric vehicles.                                                     | Mehta and Sharma (2021).                                              | • High net sales growth.                                                            |         |
| • Using alternative/renewable energy sources (e.g., wind or solar power).             | Cerchione and Bansal (2020), Jang and Zheng (2020); Shi and Tsai (2020); Baratta and Simeoni (2021); Calisto et al. (2021); Karagiannis and Andrinos (2021); Mehta and Sharma (2021) | • High overall performance and success level.                                       |         |
| • Implementing an energy saving programme.                                            | Alberton et al. (2020); Almurbati (2020); Hamid et al. (2020); Madar and Neaşu (2020); Modica et al. (2020); Baratta and Simeoni (2021); Duric and Topler (2021); Fonseca and Carnicelli (2021); Hamid et al. (2021); Olya et al. (2021); Pereira et al. (2021) | • High competitive position.                                                       |         |
| • Using sustainable lighting technologies.                                             | Moon et al. (2020); Mzembe et al. (2021).                             | • High occupation rate growth.                                                      |         |
| • Installing energy efficient appliances/fixtures/technologies.                       | Abdou et al. (2020); Stombelli (2020); Calisto et al. (2021); Oriade et al. (2021) | • Low labor cost                                                                  | Modica et al. (2020) |
| • Using energy-efficient lighting/light bulbs (LED).                                  | Abdou et al. (2020); Alberton et al. (2020); Cantele and Cassia (2020); Jang and Zheng (2020); Moon et al. (2020); Calisto et al. (2021); Mehta and Sharma (2021) | • Low cost of services                                                             |         |
| • Installing timers and movement detectors to reduce lighting time in low-traffic areas. | Abdou et al. (2020).                                                  | • Low operational cost                                                             |         |
| • Depending on daylight rather than artificial light during cleaning vacant-dirty rooms.| Abdou et al. (2020).                                                  | • Low physical capital                                                             |         |
| • Energy efficient (no heating in the rooms when no guests are present).              | Oxenswärdh (2020a, 2020b).                                            | • High rate of new product introduction to market.                                 | Modica et al. (2020). |
| • The pool is heated with recycled heat.                                               | Oxenswärdh (2020a, 2020b).                                            | • Promoting local products among customers.                                       | Shi and Tsai (2020). |

(Continues)
Sustainable practices Authors Sustainable practices Authors

• Documentation for the assessment and/or inspection of energy use for energy conservation.
• Having smart energy meters. Check the energy meter.
• Educating staff on energy efficiency.
• Not using air coolers as it has natural ventilation to maintain thermal comfort.
• The refrigerator and freezer doors have audible alarms for open doors or automatic locks.
• The temperature of refrigerators, cooling chambers, and freezers are adequate and have a monitoring record.
• Cleaning the air cooler filters with suitable detergents or contracts a third-party company for this service and changes the replaceable filters according to the manufacturer's guidelines.
• Having lighting controls, such as sensors and timers, in low-occupancy areas (for example, in the distribution area) so that lights are automatically turned off when daylight is sufficient or when spaces are not being occupied.
• Uses some form of renewable energy (wind, solar, or photovoltaic) in the production area.
• Maximizing air flow to reduce the need for air conditioning
• Using thermostat control and organic air fresheners

5. Sustainable practices related to sanitation and hygiene

• Achieving adequate and equitable sanitation and hygiene.
• Providing customers with contactless services.

6. Sustainable practices related to building design and construction materials

• Implementing green building automation systems.
• Paints used for building are environmentally sustainable.
• Furniture made of recycled materials.
• Implementing building design to reduce carbon footprint.

Maynard et al. (2020).

Abdou et al. (2020); Mehta and Sharma (2021)\(^b\).

Mehta and Sharma (2021)\(^b\).

1.4. Product management during use

• Providing information on public transportation, walking and cycling routes.
• Developing an environmental policy.
• Promoting membership of environmental bodies/charities.
• Communicating the environmental policy to customers.

Maynard et al. (2020).

Modica et al. (2020); Oriade et al. (2021).

Modica et al. (2020); Olya et al. (2021).

1.5. Product life extension

• Re-using foil, paper, envelopes, and menus
• Supplying guests with TV remote controls with rechargeable batteries.
• Furnishing rooms with environmentally-friendly materials.
• Using rechargeable batteries for battery-powered devices and equipment, including flashlights, handheld vacuum cleaners, and others.
• The furniture (tables, chairs, and others) is made of durable materials that can be repaired.
• The tablecloths (if any) and/or employees’ uniforms are made of organic or environmentally sustainable materials.
• Implementing linen, towel, and sheets reuse programs.

Modica et al. (2020).

Maynard et al. (2020).

Abdou et al. (2020); Jang and Zheng (2020); Baratta and...
| Sustainable practices                                                                 | Authors                                                                 | Sustainable practices                                                                 | Authors                                                                 |
|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| • Use of reusable items (e.g., cloth napkins, glass cups, and ceramic dishes).         | Simeoni (2021); Calisto et al. (2021); Oriade et al. (2021).             | • Cooking oil, fat, or grease was separated and donated/ transferred to recycling     | Jang and Zheng (2020); Maynard et al. (2020); Modica et al. (2020);     |
| • Signs on towel use.                                                                  | Oxenswärdh (2020a, 2020b).                                              | companies for making products such as soap.                                           | Teixeira et al. (2020).                                                |
| • Use of refillable dispensers                                                         | Baratta and Simeoni (2021).                                              |                                                                                       |                                                                         |
| 1.6. Recycling and waste management                                                    |                                                                        | • Waste and hazardous/food waste management.                                          | Cantele and Cassia (2020); Cerchione and Bansal (2020); Baratta and     |
| • Using cloth napkins instead of using one-time paper napkins.                         | Modica et al. (2020)                                                    |                                                                                       | Simeoni (2021); Calisto et al. (2021);                                |
| • Using recyclable packing materials or containers                                     |                                                                        |                                                                                       | Duric and Topler (2021)⁶; Fattah et al. (2021); Fonseca and Carnicelli    |
| • Avoiding items that are not recyclable.                                              |                                                                        |                                                                                       | (2021); Khatter et al. (2021); Mzembe et al. (2021); Pereira et al.     |
| • Collecting and selling sorted waste and recyclable components.                      |                                                                        |                                                                                       | (2021); Šerić and Šerić (2021)⁶.                                      |
| • Collecting hand-washing water to water plants.                                       |                                                                        |                                                                                       |                                                                         |
| • Recycling waste.                                                                     | Abdou et al. (2020); Akhtar and Najar (2020); Alberterton et al. (2020); | • Food leftovers management, such as leftover food goes to biofuel.                   | Oxenswärdh (2020a); Pereira et al. (2021).                            |
| • Waste separation.                                                                   | Cantele and Cassia (2020); Cerchione and Bansal (2020); Baratta and Simeoni (2021); Calisto et al. (2021); Duric and Topler (2021)⁶; Fattah et al. (2021); Fonseca and Carnicelli (2021); Khatter et al. (2021); Mzembe et al. (2021); Pereira et al. (2021); Šerić and Šerić (2021)⁶. |
| • Putting garbage in a vessel with sorting them in 17 different sections.              | Oxenswärdh (2020a).                                                     | • The amount of food waste composition was measured.                                   | Abdou et al. (2020).                                                   |
| • Sheets not be changed so often.                                                      |                                                                        |                                                                                       |                                                                         |
| • Purchasing food supplies in bulk to avoid excess packaging.                         | Abdou et al. (2020); Maynard et al. (2020).                             | • Reducing single-use plastic products.                                               | Mehta and Sharma (2021)⁶                                                |
| • Reducing printing.                                                                  | Calisto et al. (2021).                                                  | • Using recycled products.                                                            | Jang and Zheng (2020); Mzembe et al. (2021).                          |
| • Assessing food waste during food preparation.                                        | Maynard et al. (2020).                                                  |                                                                                       |                                                                         |
| • Having options for smaller portions separately or a children’s menu.                 |                                                                        |                                                                                       |                                                                         |
| • Assessing food waste during food distribution.                                       |                                                                        |                                                                                       |                                                                         |
| • Discarding food waste in the form of composting, anaerobic digestion, maceration,   |                                                                        |                                                                                       |                                                                         |
|   donating to feed pigs, or establishing partnerships with cooperatives that carry out |                                                                        |                                                                                       |                                                                         |
|   these processes.                                                                    |                                                                        |                                                                                       |                                                                         |
| • Training employees to avoid food waste during all stages of meal production, from    |                                                                        |                                                                                       |                                                                         |
|   the receipt of food to distribution.                                                 |                                                                        |                                                                                       |                                                                         |
| • Carrying out smart ordering systems, inventory monitoring, inventory rotation       |                                                                        |                                                                                       |                                                                         |
|   and/or other inventory management strategies to avoid food waste.                   |                                                                        |                                                                                       |                                                                         |

(Continues)
| Sustainable practices                                                                 | Authors                                                                 | Sustainable practices                                                                 | Authors                                                                 |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| • Separating recyclable materials, that is, selective collection.                    |                                                                         | • Reducing operating noise volume as much as possible.                                  | Modica et al. (2020); Oriade et al. (2021).                              |
| • Using disposables and/or adopting strategies to minimize the use of these materials as much as possible, with documented goals. |                                                                         | • Having noise control system in place, for example, soundproof system in rooms.       |                                                                         |
| • Adopting strategies to reduce the use of plastic in the distribution of meals.     |                                                                         | • Minimizing of potential global warming gas (GWP) emissions, refrigerant emissions, to aid in the mineralization of waste and pollution. | Sin et al. (2021).                                                     |
| • Recycling or reusing coffee grounds.                                               |                                                                         | • Achieving zero greenhouse gas emissions with proven partnerships (e.g., commercial energy and vehicle fuel use). | Maynard et al. (2020).                                                  |
| • Returning packaging boxes for suppliers to reuse and/or providing suppliers with their returnable boxes for the delivery of goods. |                                                                         | • Reducing the use of liquefied petroleum gas.                                          |                                                                         |
| • Returning glass bottles for suppliers to reuse and/or properly disposing of these materials for recycling. |                                                                         | • Reducing the use of natural gas.                                                     |                                                                         |
| • Adopting measures to encourage customers to reduce waste (e.g., maintaining glasses, reducing disposable packaging, and eliminating plastics or straws). |                                                                         | • Increasing the use of biogas.                                                        |                                                                         |
| • Using recycled paper or FSC certified office paper.                                 |                                                                         | • Carbon footprint and emissions reduction.                                             |                                                                         |
| • Using lamps, accessories, or furniture made from recovered or recycled materials or those provided with an environmental product declaration to improve the environmental impact. |                                                                         | • Hazardous material free.                                                              | Hamid et al. (2020); Hamid et al. (2021).                                |
| 1.7. Pollution control                                                                |                                                                         |                                                                                        |                                                                         |
| • Implementing waste-disposal practices.                                             | Modica et al. (2020).                                                  | • Reducing operating noise volume as much as possible.                                  | Modica et al. (2020); Oriade et al. (2021).                              |
| • Reducing the amount of waste per guest night.                                       |                                                                         | • Having noise control system in place, for example, soundproof system in rooms.       |                                                                         |
| • Emissions minimization.                                                             | Duric and Topler (2021); Pereira et al. (2021).                        | • Minimizing of potential global warming gas (GWP) emissions, refrigerant emissions, to aid in the mineralization of waste and pollution. | Sin et al. (2021).                                                     |
| • Selective waste collection system.                                                 | Madar and Neașu (2020).                                               | • Achieving zero greenhouse gas emissions with proven partnerships (e.g., commercial energy and vehicle fuel use). | Maynard et al. (2020).                                                  |
| • Using chemical-free housekeeping materials.                                        | Mehta and Sharma (2021),b                                              | • Reducing the use of liquefied petroleum gas.                                          |                                                                         |
| • Creating no-smoking zones.                                                         |                                                                         | • Reducing the use of natural gas.                                                     |                                                                         |
| • Reusing waste.                                                                     | Abdou et al. (2020); Alberton et al. (2020); Hamid et al. (2020); Niederle and Schubert (2020); Hamid et al. (2021); Mehta and Sharma (2021).b | • Increasing the use of biogas.                                                        |                                                                         |
|                                                                                        |                                                                         | • Carbon footprint and emissions reduction.                                             |                                                                         |
|                                                                                        |                                                                         | • Hazardous material free.                                                              | Hamid et al. (2020); Hamid et al. (2021).                                |

a COVID-19 negatively affected sustainable practices.
b Sustainable practices in hospitality amid COVID-19.