CHAPTER I

INTRODUCTION

1.1 Background of The Study

In recent years, the Chinese hotel industry has recorded a significant growth pace due to the country's speedy economic growth. China has been attracting a significant number of tourists from both domestic and international destinations. The tourism industry in China, which is now an essential sector of the service economy, has made a tremendous contribution to the GDP growth and employment of its people (Yousaf et al., 2024). Even while this sector in the country is growing at an unprecedented speed, it faces environmental obligations such as power shortages, water deficiency, waste, and pollution (Irani & Kilic, 2022). A collective concern about climate change and the exhausted environmental resources, hotels and other hospitality setups are thriving under the pressure of adopting sustainable practices that will clean the environmental footprints, help to save money, and maintain customer satisfaction (Wang, 2022).

Concerning these challenges, the dissemination of green technology and knowledge management regimes is increasingly widespread within China's hospitality sector. This method acknowledges the fact that technological breakthroughs can be leveraged, as well as the knowledge management strategies factors, to push and reshape sustainable practices in hotel operations, guest services, and overall hotel management (Bell et al., 2022). Eco-friendly tech implementation

in the hotel industry takes different forms, including designing energy-efficient buildings, installing renewable energy systems, smart central systems for lighting and air conditioning, water conservation, and using the Internet of Things in operation (Xie, 2020). What is more, using innovative technologies helps save natural resources and cut emissions, but it also improves the guest experience, enabling them to be more comfortable, more convenient, well-served, and more personalized.

The Chinese hotel industry has grown significantly over the past few years, with the support of the rapid economic growth in China. China is among the top countries benefiting from the tourism sector, which in turn contributes significantly to the country's GDP; the people's tourism endearment to the country is evidenced by the fact that the country welcomed 66 billion domestic tourists and 145 million international tourists by the end of 2023 (Wu et al., 2024). It has made the tourism sector one of the significant sources of China's service industry employment, contributing over 10 % of the national employment and contributing about 10%. 9% of the whole GDP (Abdou et al., 2020).

However, the growth is accompanied by increasing environmental problems in the sector. The hospitality industry is perhaps an enormous user of natural resources, especially energy, where, for instance, the hotel industry in China is said to have used 20% of the total energy of commercial buildings. Further, the water consumption by hotels is said to be over 200 liters per guest per day, which will further contribute to water scarcity in some parts of the world (Rauf et al., 2021). Waste disposal is another important problem, which increases with the growth of the number of hotels, and according to the China Environmental Protection

Foundation, hospitality companies account for more than 15% of the total municipal solid waste in cities.

As a result of these challenges, the hospitality industry is on the receiving end of sustainability. The same survey conducted in 2022 also showed that 73% of travelers are willing to stay in premises with a high level of sustainability (Martin-Fuentes et al., 2020). Consequently, sustainability is becoming a common trend among Chinese hotels that incorporate sustainability technology and practices to meet the requirements of the environmentally conscious travel market segment. For instance, Nisar et al. (2021) found that the application of energy-efficient technology, such as light-emitting diode lights and a smart thermostat, has led to a 30 percent reduction in the energy costs used by hotels.

As applied in the Chinese context, green technology and knowledge management are seen as essential to triggering sustainable development in the context of the nation's hospitality industry. Intelligent building designs, renewable power solutions, IoT solutions, and Artificial Intelligence and Machine Learning resource control mechanisms are some techniques adopted to minimize the social impact. For example, for smart energy management systems for hotels, energy consumption has been reduced between 20%-40% (Wang et al., 2020). At the same time, proper approaches to knowledge management imply that hotel employees are adequately trained and capable of implementing such green technologies as far as possible. A survey presented operational aspects as sample evidence of improvement. For instance, hotels with strong knowledge-sharing experience achieved a 15% enhancement in operational efficiency and a 10% enhancement in customer satisfaction (Cortés et al., 2020). Implementing sustainable green

practices can also create a competitive advantage over just thinking of the environment. Some prior studies show that hotels demonstrating sustainability perform better, having 5% higher occupancy rates and 15% better revenue growth compared to the hotels that are not sustainable (Chi & Han, 2021). Considering the trends towards intensified regulation and policies in responsibility towards the external environment and fast-growing attempts to implement sustainable green technology, knowledge management of hotels becomes a necessity. Further, the emphasis on sustainability wraps into several key objectives of China's environmental strategy and the general SDGs. Because of this, hotels are in a prime position to be sustainable tourism advocates, educating others to respect the local culture, fauna, and people as well as empowering them. In other words, sustainable practices in hotels lead to conserving biological diversity and socially distributing the benefits, thus preparing for more incredible and more diverse cultural, socio-economically stabilized tourism (Su et al., 2020).

Effective knowledge management strategies are the foundation of hotels that successfully plan and implement green technologies (Zhao & Liu, 2020). By identifying, spreading, and using knowledge of sustainable technologies, hotels increase the educational levels of their staff and operational capabilities (Gip et al., 2024). Different studies (Moczydłowska et al., 2024; Shahzad et al., 2020) ensure that environmental preservation is present in all aspects of hotel activity. In this case, the strategy "sustainable practices in hotels" for China is not only a control step for mitigating environmental impact but also an imperative for business success and competition. An increase in customer demand for eco-friendly traveling possibilities and the option of stringent regulatory control to protect the

environment make the hotels that embrace sustainability come out with a competitive edge in the market and also add to the country's sustainability goals in general (Awwad Al-Shammari et al., 2022). Green practices in tourism have been seen as an essential aspect of the hospitality industry's quest to mitigate environmental problems (Alreahi et al., 2022). Because of the raised ecological consciousness all over the globe and the growing recognition that climate change and resource depletion are absolute, hotels have started understanding their part as the stewards of the environment (Abbas & Khan, 2023). In terms of reducing energy consumption, lessening waste production, and upholding environmental standards, sustainability in the hotel industry is a must now that the environment and business have become more critical than ever (Shehzad et al., 2024). Sustainability increasingly influences hotel choice, as eco-conscious travelers prefer environmentally responsible accommodations (Sharif et al., 2023; Rubel et al., 2021).

The hotels have become the obligated parties that must carry out ecological efforts in their daily activities to attract and retain guests who are supporters of environmental safety (Riva et al., 2021). Sustainability goes beyond managing the environment by helping save money and enhance efficiency. Energy-saving technologies, like LED lighting, smart thermostats, and water-saving fixtures, could be employed to cut costs while decreasing the hotel's environmental impact. Moreover, by adopting green procurement practices, including buying organically produced food from the area and eco-friendly amenities, the hotel will not only boost the local economy but also develop its reputation as a responsible organization (Alzyoud, 2021). Joining the green revolution and sustainable

development practices in hotels aligns with global endeavors to meet sustainable development goals. As tourism industry stakeholders, the hotels advocate sustainable tourism behavior that maintains local culture and protects natural habitats while empowering communities (Irani et al., 2022). Through greening their activities, hotels might strive to preserve biodiversity, maintain ecosystem health, and implement socio-economically equitable development options, thus nurturing a more sustainable and resilient tourism industry.

Integrating green technology with knowledge management (KM) practices, such as training and innovation, represents a critical intersection where sustainability, technological advancement, and organizational learning converge to drive positive change (Jamshed et al., 2022). Amidst this information age, business organizations can apply technological advancements and KM strategies to incorporate sustainable practices or encourage innovation in their sectors (Bhatti et al., 2022). Technology is seen as the key ingredient driving organizations' abilities to achieve sustainability by utilizing it as their enabler in solving sustainability challenges (Ahmed et al., 2022). From power-saving solutions to web-based systems for better use of resources, green technology provides a great range of solutions, with the final result being less impact on the environment while still doing their work right (Floričić, 2020). Integrating technology into the training programs brings about the ability of organizations to effectively impart knowledge and skills related to sustainability (Zaragoza-Sáez et al., 2024). With different digital devices, for example, e-learning systems, virtual simulations, and mobile apps, businesses can offer their employees interactive and immersive training that directly links with global warming or sustainability objectives.

KM also serves as a key component of disseminating and utilizing details about the latest green technologies and green practices. Its well- practice facilitates organizations in capturing, sorting, and sharing information to provide necessary experience and best practices, which develop an environment of continuous learning and innovation (Yusoff et al., 2020). Through knowledge repositories, collaboration platforms, and communities of practice, businesses are allowed to transfer the foundation of expertise among employees, suppliers, and other stakeholders, thus reinforcing collective knowledge and empowering sustainable innovation (Asadi et al., 2020). Applying green technology and KM techniques extends beyond the internal training processes to external collaborations and knowledge- sharing projects (Kanan et al., 2023). Similarly, organizations can leverage industry associations, academic institutions, and research organizations to access vast expertise and resources to speed up innovation in sustainable technologies and practices. The ecosystems for collaborative innovation provide an environment where different sectors can collaborate to solve complex environmental problems and facilitate positive social impact (Ahmed et al., 2021). An environmentally conscious technology, as well as KM practices for training and innovations, is an evolutionary path of sustainability and innovation for companies. By harnessing technology-supported training techniques and KM approaches, companies can develop employees with the relevant skills and knowledge needed to drive sustainable practices and stimulate innovation (Awwad Al-Shammari et al., 2022). Furthermore, setting up collaborative partnerships and knowledge-sharing initiatives promotes the exchange of ideas and expertise, thus speeding up the

innovation and adoption of green technology and practices to foster a sustainable environment.

Although there is much talk about how the hotel industry is adopting green practices, there is still a lack of knowledge about the precise technology that may be used to improve sustainability. Investigating and assessing cutting-edge technologies like blockchain, IoT, and AI for their capacity to maximize resource efficiency in the hotel sector. After conducting a thorough literature review and identifying the most important research gaps, it is clear that empirical studies investigating the integration of technology and KM practices for promoting sustainable green practices in Yunnan, China's hospitality sector, are desperately needed. While previous studies have shed light on this kind of integration's possible advantages and difficulties, there is still a lack of actual data regarding the situation today, implementation obstacles, effect evaluation, stakeholder involvement, and capacity building.

Many conversations about the hotel industry's implementation of green practices exist today, but no precise understanding exists of the technologies that enhance sustainability. The hotel sector requires increasing attention to research and evaluation of contemporary technologies such as blockchain, IoT, and AI to gain maximum efficiency in resource management. The findings from a detailed literature review, coupled with essential research gaps, confirm that empirical research about technology, together with knowledge management implementations for sustainable green practices, must be studied within Yunnan, China's hotel sector. Research on this integration approach has established possible benefits alongside challenges, but researchers lack contemporary data about its

implementation alongside stakeholder involvement and evaluation of effects, together with capacity-building requirements. Research validity and current industry analysis are supported by preliminary data collection from hotel managers in Dali and Kunming, and eco-lodge observation activities and a survey derived from the Technology Acceptance Model (TAM). The existing research shows people tend to have positive views about sustainable technology, yet it shows three main obstacles, which are inadequate staff education, insufficient budget, and trouble predicting return on investment. The study findings showed disparities in the usage of green practices because several properties maintained basic procedures like keeping towels for reuse, though others introduced advanced smart energy systems. Waste management and energy efficiency decisions for AI-based and IoT-driven systems depend heavily on how easy these systems are to use and how useful they seem to be, according to survey respondents using the TAM model. These analytical findings emphasize the immediate need to conduct this particular study. The research indicates that awareness levels are increasing, but actual deployment of sustainability measures remains inconsistent because of environmental conditions that must be clarified and handled better. This investigation aims to make substantial contributions toward sustainable hospitality sector transformation in Yunnan through its gap-filled theoretical and practical recommendations. The research aims to assist policy initiatives and educational platforms that give stakeholders sufficient competence and assurance to embrace green innovations.

To address these gaps, this study will collect primary data using a mixed-method approach, combining interviews, observations, and questionnaire surveys targeting hotel managers, staff, and sustainability experts in Yunnan's hospitality

sector. The data collection will be structured around the Technology Acceptance Model (TAM) to examine how individuals perceive and adopt green technology and knowledge management practices. TAM focuses on two key dimensions: perceived usefulness, how individuals believe technology can enhance performance, and perceived ease of use, how simple or complex they perceive the technology to be. Interviews will be conducted with managers to gain insights into strategic decision-making related to sustainability, while direct observations will be carried out to validate and document green practices at the operational level. A structured questionnaire will gather quantitative data from hotel staff to assess their perceptions of green technology adoption and their experiences with training programs and knowledge management systems. The mediation analysis will help explore how green technology mediates the relationship between training, knowledge management practices, and sustainable green practices. This comprehensive data collection method will ensure a robust understanding of the research problem and provide the context for developing practical recommendations.

The research's originality lies in its comprehensive analysis of how green technology and knowledge management techniques are integrated within the unique context of Yunnan, China. This study will offer timely and practical insights for practitioners, policymakers, and scholars by focusing on a dynamic and rapidly evolving region known for its growing emphasis on innovation and sustainability. With the increasing global push toward meeting sustainability goals and the rising influence of environmental regulations in the hospitality sector, this research becomes even more relevant. Drawing from fields such as environmental science,

management studies, and information technology, it takes a multidisciplinary approach to propose actionable solutions for sustainable hospitality management. The study will fill critical research gaps and help guide industry transformation efforts by providing empirical data and a nuanced understanding of the integration process. It will also contribute to global sustainability discourse, emphasizing how localized practices can align with broader environmental objectives.

Moreover, the question of how effectively green technology and knowledge management systems can be applied in Yunnan's hospitality sector remains open for further exploration. This study seeks to address this gap by critically assessing the efficacy of these strategies in promoting sustainable practices. The findings will add significant value to the current body of knowledge on sustainable hospitality management and offer practical guidance for industry stakeholders. Policymakers and practitioners can leverage these insights to make informed decisions and implement innovative solutions. Ultimately, this research aims to support the transformation of Yunnan's hospitality industry into a more sustainable, innovative, and future-ready sector, helping it align with global sustainability standards and contribute positively to the local economy and environment.

1.2 Research Problem

In recent years, the tourism and economic sectors have undergone substantial expansion, creating a surge in the hospitality sector in Yunnan, China, but the challenge is that the sector is significant in environmental pollution and requires urgent action. The construction of hotels and other hospitality establishments leads to intensified energy consumption, water usage, waste generation, and even pollution, which compounds environmental pressures and

worsens the situation for the future climate (Malik et al., 2023). A significant distinction in the gap between sustainability awareness and when green practices are not well implemented, particularly within the utilization of technology and knowledge management strategies for training and innovation.

The current literature and the industry implementations in China's hospitality sector provide an example of the integration challenge that green technology and knowledge management face for training sustainability and innovation. Some hotels have shaken up their sustainability initiatives, but most usually have challenges adopting the identified breakthrough technologies and knowledge management practices to actualize positive change. The absence of comprehensive frameworks and guidelines due to the peculiarities of the Chinese hotel sector complicates conditions for the quick spreading of sustainable practices.

There is a lack of studies and few operational instructions on how to employ technology-enabled training methodologies and knowledge management tools to provide employees with adequate training and knowledge to employ sustainable practices. A problem in adopting green technologies and best practices for knowledge management in the sector is the strategies and practices applicable to hospitality operations. This transparent barrier to progress limits the sector's capability to reach its sustainability objectives. Despite growing awareness of environmental challenges, many hotels in Yunnan struggle to implement green practices consistently. Key barriers include limited staff training, weak knowledge-sharing systems, unclear return on investment, and a lack of integration between green technologies and operational routines. There is a research gap in

understanding how green technology and knowledge management can be effectively combined to promote sustainability in the local hospitality context.

However, there is a lack of collaborative networks and knowledge-sharing with peers within the hospitality industry in China, and the obstacle to exchanging experiences and resources of green technologies and practices is thus formed. Inadequate collaboration and poor information sharing further widened the gap between the current working practices and the adoption of state-of-the-art technologies, retarding the industry's transformation to sustainability.

Although there is increasingly more knowledge about the environmental issue, most of the hotels within Yunnan still face the problem of the inability to implement green practices consistently because of the lack of skills in the staff and the ignorance of networks, poor technological integration, and low innovation levels. According to recent research, it is more and more true that sustainability performance in the hospitality sector is determined not only by regulatory pressure but also by the development of internal capabilities (Zhang et al., 2023; Liu and Hu, 2022). Another issue supported by current studies is that the environmental performance is inextricably linked to the organizational learning structures and strategic resource alignment (Chen et al., 2024). The results are based on the initial theoretical pillars in capability-based and knowledge-based views of the firm (Barney, 1991; Grant, 1996), and the new empirical findings indicate the necessity of combined sustainability mechanism within new tourism markets (Wang et al., 2024).

Five interrelated variables are especially relevant in order to overcome this structural gap. Green Innovation is necessary since the sustainable change should focus not only on adopting the existing environmental practices but also developing new environmentally friendly processes and services that would fit the local hospitality situation. The recent and ongoing researches prove that green innovation is a powerful tool of improving environmental and competitive performance of tourism businesses (Xie et al., 2023; Li and Cao, 2024). Nevertheless, no innovation is possible without effective human resources thus Training is required to provide knowledge and skills needed to realize sustainability initiatives by the employees. According to the most recent studies, sustainable training in the form of a structured training is more effective at enhancing employee engagement and environmental performance (Rahman et al., 2024).

Training in turn depends on the effectiveness of Knowledge Management systems designed to make sure that environmental knowledge is captured and exchanged and institutionalized throughout the organization in an organized manner. Continuing the first knowledge-based perspective (Grant, 1996), the recent findings demonstrate that the knowledge management practices enhance sustainable innovation ability in service sectors (Al-Saidi et al., 2023). In the meantime, the effective Use of Technology acts as a decisive facilitator in terms of enabling real-time data tracking, resource optimization, and training platforms based on technology. Recent and recent research emphasizes the importance of digital technologies, such as smart systems and IoT-monitored situations, in increasing the sustainability performance in hotels (Sun et al., 2024; Zhao et al., 2023).

Lastly, a combination of these factors determines the effective execution of Green Practices which is the visible component of organization sustainability endeavors. Recent empirical research proves that a combination of innovation, training, knowledge systems, and technological infrastructure contributes to the higher prevalence of the acceptance of environmental practices in the hospitality setting (Kim and Lee, 2023; Huang et al., 2024). Therefore, these five variables are not chosen randomly, but as a combination, they are able to cover the core implementation gap that was found in the hospitality sector of Yunnan, the lack of instilled mechanism between innovation capacity, employee competence, knowledge system, technological infrastructure and the sustainable operational practices.

The interval is localized in the cooperation between green technologies and knowledge management practices to improve competence and innovations in the Chinese hospitality sector. Therefore, conducting the study, enlightenment, and collaborative actions is mandatory to eliminate this problem and move towards sustainability.

1.3 Research Questions

The research questions for this study are as follows:

1. How does local culture in Yunnan shape hospitality firms' adoption of green innovation and the implementation of sustainable green practices?
2. What is the impact of green innovation on the use of green technology in the hospitality sector in Yunnan, China? (H1)

3. What is the impact of green innovation on sustainable green practices in the hospitality sector in Yunnan, China? (H2)
4. What is the impact of training awareness on the use of green technology in the hospitality sector in Yunnan, China? (H3)
5. What is the impact of training awareness on sustainable green practices in the hospitality sector in Yunnan, China? (H4)
6. What is the impact of knowledge management practices on the use of green technology in the hospitality sector in Yunnan, China? (H5)
7. What is the impact of knowledge management practices on sustainable green practices in the hospitality sector in Yunnan, China? (H6)
8. What is the impact of green innovation on sustainable green practices in the hospitality sector in Yunnan, China? (H7)
9. How does the use of green technology mediate the relationship between green innovation, training awareness and knowledge management practice on sustainable green practices in the hospitality sector of Yunnan, China? (H8)

1.4 Research Objectives

The research objectives of this study can be presented in the following statements.

1. To explore how local culture in Yunnan shapes hospitality firms' adoption of green innovation and the implementation of sustainable green practices in the hospitality sector in Yunnan, China.

2. To examine the influence of green innovation on the use of green technology in the hospitality sector in Yunnan, China.
3. To examine the influence of green innovation on sustainable green practices in the hospitality sector in Yunnan, China.
4. To analyze the influence of training awareness on the use of green technology in the hospitality sector in Yunnan, China.
5. To assess the influence of training awareness on sustainable green practices in the hospitality sector in Yunnan, China.
6. To evaluate the influence of knowledge management practices on the use of green technology in the hospitality sector in Yunnan, China.
7. To determine the influence of knowledge management practices on sustainable green practices in the hospitality sector in Yunnan, China.
8. To investigate the influence of the use of green technology on sustainable green practices in the hospitality sector in Yunnan, China.
9. To investigate the mediating role of the use of green technology in the relationships between green innovation and sustainable green practices, between training awareness and sustainable green practices, and between knowledge management practices and sustainable green practices in the hospitality sector in Yunnan, China.

1.5 Significance of The Study

The proposed research study provides multiple stakeholders with essential value, such as the hospitality sector alongside governmental bodies, while academic fields and environmental activist groups also benefit. Furthermore, it enhances

theoretical development within sustainable hospitality administration. The following outlines the relevance of the study to each of these groups:

To the Hospitality Industry (Practitioners): This research provides managerial staff in Yunnan hotels with actionable methods to integrate green technology with knowledge-management practices in daily operations. By doing so, hotels can:

1. Reduce energy use and waste generation, advancing stated sustainability goals.
2. Improve operational efficiency and lower costs through smart, eco- friendly innovations.
3. Strengthen market competitiveness among environmentally conscious travelers.
4. Enhance brand reputation by demonstrating a sustained commitment to social responsibility.
5. Implement targeted training programs to institutionalize sustainable practices and procedures.

To Policymakers and Regulators: The gathered information functions as guidance for policy development to promote:

1. The study supports developing policies that stimulate smart and sustainable hospitality sector technologies.
2. Sustainable training programs and knowledge-sharing frameworks should be incentivized to promote their adoption.

3. Tourism development at local and regional levels should integrate with worldwide environmental targets, including the pro- developmental UN Sustainable Development Goals (SDGs).
4. Sustainable tourism initiatives in Yunnan receive direction from regulatory bodies to evaluate and support them through evaluation processes and show of support.

To Academic Scholars and Researchers (Theoretical Significance): This study addresses a literature gap by providing empirical evidence on how green technology integrates with knowledge management in Yunnan's hospitality sector. Academically, it:

1. Advances in theoretical understanding of sustainable hospitality management.
2. Proposes a conceptual model that links innovation approaches, KM practices, and environmental sustainability principles.
3. Establishes a foundational evidence base for comparative studies of integration patterns across regions and market segments.
4. Stimulates cross-disciplinary inquiry into the interplay among technology, training, and sustainability practices.
5. To Environmental Advocates and NGOs: This study provides actionable support for advocacy by:
6. Demonstrating hotel practices that reduce pollution while optimizing resource use.
7. Supplying evidence and insights to strengthen green-tourism awareness campaigns.

8. Enabling partnership models that connect hotels with environmental organizations to co-develop and implement eco-friendly solutions.

To Local Communities in Yunnan: The practice of sustainable hospitality delivers multiple advantages to residents in these specific regions:

1. Environmental pollution has led to a better quality of air and water.
2. Job opportunities within the tourism sector will be created through both green training and employment opportunities.
3. Preservation of local ecosystems and cultural heritage.
4. Strengthened community engagement and shared responsibility in sustainable tourism.

Overall Contribution to Theory and Practice: The study bridges theoretical insight and practical application by:

1. Providing a systematic framework for hotels to implement sustainable innovation.
2. Offering empirically grounded guidance that enables scholars and tourism managers to design and execute practical solutions.
3. Establishing a benchmark model for integrating green technology with knowledge management to advance sustainable tourism in other regions.

1.6 Research Gap and Contribution

Although the hospitality literature increasingly discusses green practices, empirical evidence on how specific technologies and knowledge management arrangements jointly drive sustainability outcomes in hotels remains limited, especially in the context of Yunnan, China. Existing studies tend to examine green

technologies, training, or knowledge management in isolation, offer descriptive accounts of "green hotels," or focus on coastal and metropolitan regions, leaving interior, ecologically sensitive provinces underexplored. Prior work also rarely integrates behavioural technology-acceptance perspectives with organisational learning and sustainability outcomes in a single, testable framework. In this thesis, sustainable green practices refer to systematically implemented operational, managerial, and service-related routines that reduce hotels' environmental footprint while maintaining or enhancing guest satisfaction and economic performance.

The Technology Acceptance Model (TAM) is adopted as the core theoretical lens to explain how perceived usefulness and perceived ease of use of green technologies, shaped by training, knowledge management practices, and green innovation, influence their adoption and the embedding of sustainable green practices in hotel operations.

Building on these gaps, the present study makes three main contributions:

1) Empirical contribution (Yunnan focus): It provides one of the first mixed-method, TAM-based assessments of how green technologies and knowledge management practices are integrated to support sustainable green practices in Yunnan's hospitality sector, capturing both cultural specificities and implementation barriers.
2) Theoretical contribution: It extends TAM by incorporating green innovation, training awareness, and knowledge management as antecedent conditions and by linking technology adoption to downstream sustainability

outcomes, thereby bridging technology- acceptance, knowledge-management, and sustainable hospitality literatures.

3) Practical and global contribution: It develops an evidence-based framework and recommendations that support hotels, policymakers, and other stakeholders in Yunnan and comparable tourism destinations worldwide in aligning operational practices with SDG 7, SDG 12, and SDG 13 while enhancing competitiveness and service quality.

1.7 Rationale of the Topic

Scholars have had a justification for studying the interface of green technology and knowledge management practices in the hospitality sector, especially within Yunnan, China, due to the rising effect of the hospitality industry on the economy and the depletion of environmental resources. The hospitality industry in China faces significant challenges against the backdrop of a rapidly expanding economy and a growing influx of tourists. Despite advancements in service quality, rising customer satisfaction, and overall development, sustainability remains a pressing concern. The industry is under substantial pressure to mitigate its environmental impact while maintaining its growth trajectory. This thesis investigates how the adoption of green technologies, supported by effective knowledge management, enables hotels to achieve environmental and economic objectives.

1) Environmental Imperatives and Industry Growth

The opportunities for the hospitality industry in China have greatly developed, which has been due to internal as well as external tourism. However, like any development, this prosperity has been

accompanied by severe environmental impacts. Hotels, which are commercial buildings, are characterized by high energy, water, and waste intensity that results in deeper divisions impacting the ecological aspects like depletion of resources, pollution, and global warming. For instance, the total energy consumption of China's hotel industry accounts for around 20% of the overall energy consumption of commercial buildings (China Energy Conservation Association, 2023). The measures taken to manage these impacts are quite vital, hence the need to find out ways of ensuring sustainability through the application of green technology.

2) Increasing Demand for Sustainable Practices

Sustainability is becoming the new push globally, and consumers have begun demanding that their travel be somewhat environmentally sensitive. More than 70 percent of travelers agreed that they are willing to opt for accommodation that has sustainable policies, revealed a global traveler survey (Martin-Fuentes et al., 2020). This is something that has shifted the consumers' behaviour, and since the environment is another important factor that most consumers base their decision on, then hotels must ensure that they embrace sustainable practices in order to meet the set standards, as well as being mandatorily required to make green investments. This research, therefore, seeks to explore how the hotels in Yunnan province are managing this demand for green tourism through the

adoption of green technologies and the use of knowledge management.

3) Strategic Advantage and Economic Benefits

It is not only the responsibility of the company to transform to a sustainable mode, but also the best business policy in the market. Studies have indicated that companies that offer green technologies and sustainable practices posted higher occupancy rates and revenue increases as compared to the hotels that did not (Munawar et al., 2022). Also, Energy efficiency measures and different measures, which include LED lighting, smart thermostats, and water-saving fixtures, have proven to decrease operational expenses substantially (Nisar et al., 2021). This research relates to Yunnan's context of sustainable hospitality by establishing how the application of sustainable practices can lead to competitiveness and profitability for a hotel, thus in concordance with economic and sustainable objectives.

4) Knowledge Management as a Catalyst for Sustainability:

This research has, therefore, postulated that management of knowledge in the hospitality industry is central to the overall consideration for the realization of sustainable innovations. Knowledge management concepts enable hotels to acquire, disseminate, and apply information on effective green solutions and best practices, thereby improving functional efficiency and increasing employee awareness (Raza & Khan, 2022). In this

scholarly research, the position of knowledge management in supporting sustainable development within the hospitality industry in Yunnan is examined so as to inform the best ways in terms of knowledge sharing and accumulation of knowledge that would foster sustainable innovation.

5) Addressing Research Gaps

Many organizations in the hospitality industry have turned their focus to sustainability. There is still a lack of prior research work done on green technologies and knowledge management in Yunnan's hospitality industry. Compared to the earlier studies, where the authors describe some potential positive implications and issues of such integrations, the present study presents the phenomenon as a fact characterized by the implementation rates, efficacy, and effects that are scarce in the literature. This study seeks to address this gap by providing empirical evidence and real-life experiences that can help policymakers, industrial players, and scholars in enhancing sustainable practice in the hospitality industry.

6) Contribution to Sustainable Development Goals (SDGs):

This study is explicitly aligned with three United Nations Sustainable Development Goals: SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). These goals are directly relevant to the environmental profile of hotels in Yunnan, which are intensive users of energy, water, and materials and therefore central actors in

regional sustainability transitions. First, the focus on green technologies, such as energy-efficient systems, smart controls, and renewable-energy solutions, directly supports SDG 7. By examining how hotels adopt and utilize these technologies, as well as how training and knowledge management influence their practical implementation, the study provides empirical evidence on pathways to reduce fossil fuel dependence and enhance energy efficiency in the hospitality sector. Second, the emphasis on sustainable green practices and knowledge management is closely linked to SDG 12. The research investigates how hotels can redesign operational routines, staff behaviour, and procurement choices to minimize waste, improve resource efficiency, and institutionalize environmentally responsible practices. In doing so, it provides insights into how responsible consumption and production can be operationalized at the firm level in tourism-intensive regions. Third, by addressing reductions in emissions, resource use, and environmental pressures associated with hotel operations, the study contributes to SDG 13. The integration of green innovation, green technology, and structured knowledge-sharing is examined as a means to support climate-mitigation efforts and enhance the resilience of tourism destinations facing long-term environmental change. Positioned at the intersection of environmental, economic, and strategic considerations, the study demonstrates how hotels in Yunnan can reduce their environmental footprint, enhance

competitiveness, and align with national and international sustainability agendas. The findings are expected to inform policies and managerial practices that advance green and sustainable hospitality development in Yunnan and in comparable tourism regions worldwide.

1.8 Novelty

Its differentiating feature is its combination of green innovation, training employees, and knowledge management in the traditional and eco- friendly hospitality industry of Yunnan, China. It uses both structural equation modeling and thematic analysis, whereas before, research only looked at one method. Since green technology plays a key role in the adoption of eco-innovation, this paper employs the Theory of Adoption and the Social Learning Theory to analyze the situation, introducing a new, comprehensive perspective. This study is significant because it is conducted in one region, namely Yunnan, which is both rich in culture and environmentally important. Even though a lot of the research on green technology and sustainability in hotels looks at major cities or developed nations, this study instead highlights an area that has received little attention but is still very significant. Yunnan's hospitality sector combines caring for nature, preserving local customs, a diverse range of living species, and high tourist numbers. By investigating the case in this context, the study gives new ideas on how green strategies are placed and changed in different sites of the tourism industry.

Studies similar to this do not pay much attention to the theme of cultural influence on environmental practices. While most studies look at sustainability as its own issue, this research focuses on how legacy, culture, and shared values from

each generation can include sustainability as an important part of running hotels and other services. Such topics as “Guest- Centered Cultural Sustainability” and “Eco-Innovation Rooted in Localism” demonstrate a new approach that makes culture the main force behind sustainable change. The idea stands out by claiming that local traditions and culture can play an important role in making regions more sustainable and ecologically strong. The study employs a novel method that combines Structural Equation Modeling (SEM) with thematic analysis using NVivo. Although SEM helps to confirm relationships between latent variables, adding rich qualitative coding helps answer how these relationships work. By using two methods, researchers increase the accuracy of the research and explain how green practices are viewed and implemented by stakeholders at all stages of development. Most studies in hospitality research do not use such a detailed approach, so this feature makes the paper especially strong and well-rounded.

It also offers an innovative approach to understanding and applying popular behavioral and organizational management theories. For this reason, the authors rely on TAM, TRA, TPB, and Social Learning Theory to shape their framework for sustainable behavior. These models have usually been used in business, psychology, and information systems; this study introduces their use for green hospitality rooted in different cultures and regions. Apart from that, the study draws attention to how these theories lacked consideration of learning and transferring knowledge between adults and young people, and now we understand that this is crucial for sustainability. A crucial addition is the idea that training awareness and knowledge management play a vital role in connecting green innovation with sustainable practices. Until recently, green innovation or green technology was

mainly seen as something given by external sources and not influenced by internal learning at companies. The study puts forward that green technology achieves more when people are well informed and equipped, rather than when the focus is mainly on growing the investment. By using this model, we can integrate learning in organizations with protecting the environment and coming up with new hospitality solutions.

The results offer valuable insights for developing and implementing effective policies. Compared to previous research, which only observes the situation, this research suggests steps for shifting entire industries in places where development is still needed. This shows that the government should help encourage green training, use community-based learning models, and be involved in making eco-certification systems participatory. Actually, owners and managers in the hospitality field get advice on how to apply sustainability ideas to their daily routines, employee growth, and interactions with customers. Researchers find this to be one of the first studies to evaluate green technology's effect on sustainable outcomes in the hospitality industry in a region of China. Previous studies have analyzed the link between innovation and the environment and performance, yet this research shows the full chain by demonstrating that green practices result from gaining and spreading organizational knowledge and training. The model from SEM credibly checks the empirical approach, so future studies are able to expand and use it, bringing more new knowledge to green hospitality research. Due to COVID-19, this study is now more important and unique than it was before. Since the hospitality industry is experiencing difficulties related to resistance, progress, and sustainability, it is necessary to create flexible ways to update it. Thus, this

study puts forward a model that shows that supporting technology, education, and environmental care helps ensure better and longer-lasting growth. Since the topic is useful for technology, development of the workforce, and sustainability, the study is timely and has a novel vision for the future. This study is part of a rich body of work that employs complex methods, creative theories, and clear concepts. It paves a new way of thinking where green technology, workplace training, and culture come together to improve sustainable tourism. Because the approach is based on facts, theory, practice, and cultural understanding, it stands out and adds value to writings and methods in sustainable tourism and service innovation.

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