

THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE:
THE EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIET
NAM HOSPITALITY SECTOR

by

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MA

DISSERTATION

Presented to the Swiss School of Business and Management Geneva

In Partial Fulfillment

Of the Requirements

For the Degree

DOCTOR OF BUSINESS ADMINISTRATION

SWISS SCHOOL OF BUSINESS AND MANAGEMENT GENEVA

<JULY, 2025>

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Dedication

I hereby declare that the thesis entitled “THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE: THE EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIET NAM HOSPITALITY SECTOR ” submitted to “SSBM, Geneva for the award of degree of Doctor of Business Administration, represents my original research work. This thesis, in whole or in part, has not been submitted for the fulfillment of any degree or academic requirement at any other university or institution.

Acknowledgements

This research would not have been possible without the invaluable guidance, support, and expertise of my mentors, Andreja Rudančić, PhD, Associate Professor, and Mario Silic, PhD. Their encouragement and dedication have been instrumental in shaping the direction and depth of this study. I would like to express my deepest gratitude to Andreja Rudančić, PhD, Associate Professor, for her invaluable guidance and unwavering support throughout the research proposal process. Her constructive feedback, thoughtful insights, and profound expertise have been essential in shaping and refining the proposal. Her mentorship has greatly enriched my understanding, provided clarity during complex moments, and helped me develop a coherent and impactful research framework. I am truly grateful for her patience, encouragement, and dedication, which have made this journey both enlightening and rewarding. Special thanks to Mario Silic, PhD, for his invaluable advice and encouragement throughout this research process. His expertise, particularly in methodology and technical rigor, has been instrumental in refining the research framework and ensuring its robustness. His insightful guidance in designing analytical approaches, structuring the methodology, and addressing technical complexities has significantly enhanced the quality and precision of this study. I am deeply grateful for his support, which has been essential in building a strong and methodologically sound foundation for this research. I am deeply thankful for their patience, critical insights, and ongoing encouragement, which have been a constant source of motivation and inspiration. Their mentorship has not only elevated the quality of this research but also contributed significantly to my personal and professional growth. This work reflects their guidance and the shared commitment to advancing knowledge in the field of sustainable development and competitive advantage in the hospitality

industry. I am truly fortunate to have had the opportunity to learn and grow under their mentorship.

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ABSTRACT

THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE: THE EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIET NAM HOSPITALITY SECTOR

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The tourism industry has grown significantly in recent years and has become a multibillion-dollar sector in many countries. As a result, hospitality services have gained increased attention, as they play a crucial role in the growth of the tourism industry. To provide high-quality services to meet the growing demands of customers, well-trained and qualified staff are required in various areas such as restaurants, hotels, and kitchens. The increase in people's incomes and interest in leisure trips has resulted in a rising demand for luxurious and high-quality accommodations, which has led to the development of luxurious hotels and resorts in Vietnam's hospitality industry. Despite

the growth of the hospitality industry in Vietnam, there is a shortage of well-trained staff in the field. This is a major concern for managers and hotel owners, who are struggling to find suitable employees. Educators are also aware of the need to equip graduates with the necessary skills and qualifications to secure jobs in the industry. However, the question of skill shortages among in-service staff remains a challenge for stakeholders, and research is needed to bring new solutions to the forefront. It is important to note that the staff play a crucial role in determining the competitiveness of a firm in the market. Therefore, training them is a crucial task in the hospitality industry. Despite the significance of the area, there has been limited research done in Vietnam regarding five-star hotels and resorts, leaving the suitability of staff qualifications and skills for the development of luxurious accommodations questionable. To fill this gap in the existing literature, a study was carried out to investigate the strengths and weaknesses of hotel staff in 12 different five-star hotels and resorts across the country. The study involved 389 staff, hotel managers, owners, and supervisors and aimed at understanding the impact of experience on staff skills. The participants were divided into three sub-groups: fresh graduates, two-year-experienced staff, and five-year practitioners. Their perspectives on perceived skill mastery and disappearance were examined through questionnaires to confirm the matches and mismatches between hotel leaders and subordinates. The data collected through the study was analyzed, and the researcher concluded the skill set that was enhanced or eroded. The research provides important implications for educators and hotel managers. It highlights the need for investment in and changes to training courses and vocational programs to ensure that top employees are produced. Furthermore, the study provides guidance for staff members themselves to be aware of their strengths and weaknesses and to address any personal problems to achieve higher positions and goals in their careers.

CHAPTER I:

INTRODUCTION

1.1 Introduction

The tourism and hospitality industry plays a vital role in the economic development of many countries, with many economies relying heavily on this sector as a significant source of revenue (Crotti and Misrahi, 2015). In Vietnam, the tourism and hospitality industry accounts for 4.6% of the country's GDP (Crotti and Misrahi, 2015). However, despite this contribution, Vietnam's tourism industry is ranked only 75th globally and 15th in the Asia-Pacific region, indicating that there is much room for improvement. One key factor in improving the tourism and hospitality industry is the availability of high-quality personnel. Without a skilled workforce, the industry cannot provide the high-quality services and experiences that tourists expect, which can significantly affect the country's reputation as a tourist destination. Unfortunately, there is a shortage of skilled staff and graduates in the industry in Vietnam, posing significant challenges for educators and managers. Research in the field has been focused on understanding the reasons for this shortage, as well as identifying areas for improvement in training courses. Some of the reasons for the shortage may include the lack of proper training opportunities and a lack of interest among students in pursuing a career in the tourism and hospitality industry. Addressing these issues is crucial for developing high-skilled human resources and improving the country's hospitality industry. Additionally, Vietnam is experiencing an increase in demand for luxurious accommodations, with the provision of high-quality services and staff becoming critical for meeting the needs of high-profile and affluent individuals. This creates an opportunity for educators and managers to provide specialized training in luxury hospitality services, addressing the specific needs of this growing market segment. To improve the training courses for educators

and managers and develop high-skilled human resources in the hospitality industry in Vietnam, further research is needed. This research will provide practical applications and pedagogical recommendations for stakeholders in the industry, ensuring that the industry can continue to contribute to the country's economic development and international reputation as a desirable tourist destination.

1.2 Research Problem

The hospitality industry in Vietnam has been growing rapidly in recent years, and with that growth comes a significant demand for highly skilled human resources. However, the industry is facing several challenges, including a shortage of skilled staff and graduates. This shortage has been identified as a significant issue in the literature, with many studies highlighting the need for action to address this problem. Nghia et al.,(2022) investigated the skills needed for hospitality students from graduates' and employers' perspectives, revealing that technical knowledge and skills, soft skills, management skills, leadership skills, professional development skills are rated "highly important". However, today graduates are seen with those skill shortages. Another study by Tien et al., (2020) explored the factors that contribute to the shortage of skilled labor in the Vietnamese hospitality industry. The study identified several reasons for this shortage, including the mismatch between training programs and reality, the lack of supportive policies and benefits to retain employees, and other skill barriers. The major concern over workers' lack of skills and poor preparation for the workplace has been acknowledged. The workers mostly graduate from two different types of training, vocational education and training (VET) and higher education (HE). While VET equips students with specific operational skills to meet the immediate needs of the industry, HE provides students with managerial knowledge such as strategic management or coping skills in response to technological advancements (Le,

McDonald and Klieve, 2018). Given the differences in career development and educational emphasis, VET and HE students are still competing in the labor market, especially in high-profile enterprises, such as five-star hotels and resorts. Graduates and hotel staff in Vietnam were found to possess limited skills such as problem-solving, critical thinking, and English language (Le, McDonald and Klieve, 2018). The low qualifications of hotel workers contradict the employers' demands and expectations, which highlights the need to examine the shortages in staff skills, and the underlying reasons behind their unfavorable conditions. An understanding of various stakeholders' perceptions and expectations for staff's skills in hospitality careers will provide empirical evidence for an acknowledgement of strengths and weaknesses of hospitality workers in luxurious accommodations. In order for hospitality industry development, insights into skills which are mastered or weakened after several working years of hospitality workers are required. The importance of discovering skill shortages and capability shortages among five-star hotel staffs is significant to the development of the industry. Five-star hotels, which differ from lower-star hotels, include state-of-the-art facilities and furnishings, and competent staff. The working environment in those luxurious hotels is also more demanding and requires staff with higher professionalism and adaptability to meet the needs of a demanding clientele. According to Hoang (2017), five-star hotels in Vietnam encounter challenges related to staffing and human resource management, including recruiting, and retaining skilled workers, ensuring quality services, and adapting to changes of the market and competition from other hotels. As graduates of hospitality industry in Vietnam are found to lack essential skills such as language or critical and problem-solving skills, they are meeting lots of challenges in their work, as well as their employers and educators. Therefore, there is a need to find solutions to address their weaknesses and upgrade their strengths based on the findings of vocational and skill shortages.

1.3 Purpose of Research

The purpose of this research is to critically evaluate the impact of sustainable development practices on the competitive advantage of luxury five-star hotels and resorts, with a particular focus on addressing vocational and skill shortages within the luxury hospitality sector (Jones et al., 2014). Operating in a dynamic and highly competitive global market, five-star hotels and resorts are under increasing pressure to maintain exceptional service quality, operational efficiency, and customer satisfaction (Čirjevskis, 2016). However, a persistent lack of specialized skills and workforce capabilities continues to pose significant challenges to achieving these objectives (Deloitte, 2021). This study seeks to explore how the integration of sustainable development principles encompassing social, environmental, and economic dimensions can address these challenges while enhancing the competitive positioning and operational excellence of luxury hotels and resorts (UNWTO, 2022). The adequacy of current vocational education in developing all of the necessary skills and capabilities for hospitality employment remains a topic of debate. Given the traditions and nature of the industry, the skills and knowledge required for firms and enterprises are distinct from those imparted by other types of educational institutions. Consequently, this research aims to evaluate the impact of sustainable development on five-star hotels, specifically in relation to vocational and skill shortages. Identifying skill and capability shortages can have both short-term and long-term benefits. In the short term, the findings can be used to inform curriculum design and educational systems, addressing the lack of necessary skills and capabilities. This can lead to changes in the development of training materials for both students and in-service staff. In the long term, employees who possess advanced skills and capabilities can be promoted to managerial or leadership positions. Moreover, the insights gained

from this research can inform the development of the hospitality industry by educators and employers.

1.4 Significance of the Study

The integration of sustainability skills within Vietnam's luxury hospitality sector presents a pivotal opportunity for both immediate and long-term benefits. Conversely, failure to address the growing demand for sustainability expertise risks undermining the sector's competitiveness and long-term viability. This article explores the potential outcomes of addressing or neglecting this critical issue, emphasizing the implications for workforce readiness, organizational growth, market positioning, and competitive resilience.

1.4.1 The Benefits of Proactive Action

▪ Short-Term Benefits: Enhanced Workforce Readiness

Addressing the need for sustainability skills in Vietnam's luxury hospitality sector offers immediate advantages by aligning workforce capabilities with industry demands. A targeted focus on vocational training tailored to sustainability competencies ensures that employees are well-equipped to meet the evolving expectations of environmentally conscious guests. For instance, integrating sustainability-focused modules into in-service training programs can significantly enhance service quality by fostering a deeper understanding of eco-friendly practices and their application in daily operations. Moreover, the ability to swiftly adapt to shifting guest preferences - particularly in the luxury segment where expectations are high - positions organizations to deliver superior experiences. This alignment not only improves customer satisfaction but also strengthens brand loyalty in an increasingly competitive market. As sustainability becomes a non-negotiable criterion for discerning travelers, the ability to meet these expectations offers an immediate competitive edge.

▪ **Long-Term Benefits: Strategic Organizational Growth**

Beyond short-term gains, addressing skill gaps between education and industry needs fosters long-term organizational growth through the development of leadership pipelines equipped with expertise in sustainable practices. By nurturing leaders who understand and prioritize sustainability, organizations can drive innovation and resilience. This proactive approach enables businesses to anticipate and respond to market shifts, ensuring their relevance in a rapidly evolving global landscape. Furthermore, embedding sustainability into organizational culture strengthens Vietnam's position in the global luxury hospitality market. By developing a reputation as a leader in sustainable tourism, the sector can attract high-value clientele who prioritize environmental, social, and governance (ESG) alignment. This strategic positioning not only enhances brand equity but also opens opportunities for premium pricing tied to sustainability credentials.

▪ **Market Positioning and Competitiveness: Recruitment and Retention Advantages**

Addressing skill gaps between education and industry needs strengthens Vietnam's domestic and international market positioning by meeting the high expectations of luxury clientele, particularly in critical areas such as problem-solving and critical thinking. A skilled and sustainability-ready workforce also attracts increased foreign direct investment (FDI) in tourism, further bolstering the sector's economic contribution. These developments collectively enhance Vietnam's competitiveness in the global luxury tourism market. A well-defined pathway for skill development in sustainability also improves recruitment and retention efforts. Employees are increasingly seeking roles within organizations that prioritize professional growth and align with their personal values, including environmental responsibility. By offering clear opportunities for upskilling and career progression in sustainability, Vietnam's luxury hospitality

sector can attract top talent while reducing turnover rates. In addition, organizations that position themselves as sustainability leaders gain a reputational advantage. This elevated status resonates not only with potential employees but also with stakeholders, including investors and partners, who value commitment to sustainable practices. The result is a virtuous cycle of attracting talent, enhancing service quality, and solidifying market leadership.

1.4.2 The Consequences of Inaction

▪ Short-Term Consequences: Operational Deficits

Failure to address the demand for sustainability skills poses immediate operational challenges. Persistent skill gaps in sustainability management compromise service delivery, leaving organizations ill-prepared to meet the expectations of environmentally conscious travelers. In the luxury segment, where guests often expect personalized and forward-thinking services, such deficiencies can lead to declining customer satisfaction and reputational damage. Moreover, without targeted training initiatives, staff may struggle to adapt to new industry standards or implement sustainable practices effectively. This stagnation undermines operational efficiency and inhibits the sector's ability to capitalize on emerging trends in sustainable tourism.

▪ Long-Term Risks: Competitive Erosion and Systemic Vulnerabilities

In the long term, neglecting sustainability skills jeopardizes Vietnam's competitive position in the regional luxury hospitality market. Neighboring countries such as Thailand and Singapore are already making significant strides in integrating sustainability into their tourism sectors. Without similar efforts, Vietnam risks losing talent to better-prepared competitors who offer more attractive career opportunities aligned with global trends. The implications extend beyond talent retention; failing to prioritize sustainability diminishes Vietnam's appeal to international luxury travelers who increasingly prioritize ESG considerations when selecting

destinations. This erosion of competitive advantage not only reduces market share but also limits revenue potential. Additionally, systemic vulnerabilities emerge when organizations are unable to adapt to regulatory changes related to sustainable tourism. As governments and international bodies impose stricter regulations on environmental practices, businesses that lag behind may face fines, operational disruptions, or even loss of licenses. Beyond compliance risks, neglecting sustainability precludes organizations from capitalizing on opportunities for premium pricing tied to eco-certifications and other sustainability credentials.

1.4.3 Broader Contributions of the Study

This study extends its influence beyond the immediate scope of the hospitality industry, offering significant contributions to educators, policymakers, and employers. By addressing critical skill shortages in the workforce, it provides a comprehensive framework for fostering collaboration among key stakeholders to promote sustainable development within the sector. Specifically, it emphasizes the integration of sustainability principles into workforce training programs and operational strategies, enabling five-star hotels and resorts to enhance their resilience, adaptability, and competitive edge in a dynamic global market.

▪ To Industry

For the hospitality industry, this research underscores the importance of aligning business objectives with sustainability goals. Such alignment not only strengthens organizational performance but also positions the sector as a meaningful contributor to global initiatives aimed at environmental preservation, social equity, and economic prosperity. By embedding sustainability into core practices, Vietnam's five-star hotels and resorts have the potential to emerge as leaders in sustainable innovation, setting a benchmark for other industries.

▪ To Academia

From an academic perspective, this study provides a valuable model for interdisciplinary research that bridges gaps between workforce development, sustainability studies, and business strategy. It highlights the need for educational institutions to adapt curricula that equip future professionals with both technical expertise and sustainable thinking. Policymakers are also guided toward creating supportive frameworks that incentivize sustainable practices while addressing labor market imbalances. Ultimately, this research offers actionable insights into how Vietnam's hospitality sector can achieve long-term growth and sustainability. By fostering an ecosystem that prioritizes skill development and sustainability, the study supports not only the sector's economic contributions but also its role in advancing national development objectives. The findings serve as a foundation for future research and practical applications, reinforcing the critical interplay between sustainable innovation and workforce readiness in shaping the future of the global hospitality industry.

1.5 Research Purpose and Questions

1.5.1 Research Purpose

The purpose of this research is to evaluate the impact of skill and capability shortages on the performance of five-star hotels and resorts in Vietnam, with a particular emphasis on sustainable development within the hospitality industry. By identifying and analyzing the specific skills and competencies that are currently lacking among hotel staff and recent graduates, this study aims to provide actionable insights for curriculum development and staff training programs. Furthermore, the research seeks to explore how addressing these skill gaps can enhance the competitive advantage of five-star hotels, ultimately contributing to the sustainable growth and resilience of Vietnam's hospitality sector. To achieve this overarching goal, the study begins by reviewing key concepts, including sustainable development, capability shortages, and

vocational deficiencies, and examining how these elements influence the competitive positioning of enterprises. A theoretical framework will then be developed to guide the research, which will include surveys and interviews with key stakeholders, such as hotel managers, human resource professionals, educators, and hotel staff. This framework will allow for systematic identification of critical skill gaps and an assessment of their impact on hotel performance. The findings of this research will be used to highlight both the strengths and weaknesses of current hotel staff in Vietnam's five-star hospitality sector. Based on these findings, practical recommendations will be proposed for hotel managers to implement targeted training programs and for educational institutions to design more relevant curricula. Through these efforts, the study aims to bridge the gap between industry needs and workforce capabilities, fostering sustainable development and enhancing the global competitiveness of Vietnam's luxury hospitality industry.

1.5.2 Research questions:

Question 1: What are the vocational and skill shortage affecting the competitive advantage through sustainable development in 5-star luxury hotels and resorts in Vietnam?

Question 2: To what extent does vocational and skill shortage affect the competitive advantage of 5-star luxury hotels and resorts in Vietnam?

By addressing these questions, this research will provide valuable insights into the relationship between workforce capabilities and sustainable development in the hospitality sector. The outcomes will serve as a foundation for both industry practitioners and academic institutions to collaboratively address existing challenges, ensuring long-term growth and sustainability in Vietnam's luxury hospitality market.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Theoretical Framework

The theoretical framework for this study builds on three core concepts: capability and vocational shortages, sustainable development and competitive advantage. These concepts are interconnected, with a specific focus on shortages in vocational and capability skills affecting the competitive advantage of luxury hotels and resorts through sustainable development. An intensive body of research has been done to examine the relationships between vocational and capability shortages and competitiveness of a firm. According to (Malkawi et al., 2018), intellectual capital has been considered as a core indicator of competitive advantage in many enterprises including pharmacy and medical companies. In Asia and the Pacific, skill development and vocational training have drawn much attention, with the argument that skill development plays an essential role in developing competitive advantage of firms, and sustainable development of humans and economy with tangible benefits for individuals, families, local communities and societies (Maclean, Jagannathan and Sarvi, 2013). A study by Innerhofer, Nasta and Zehrer (2022) also investigated labor shortages in hospitality industry in rural areas of Italy, and the differences between employers and employees' perspectives. also investigated labor shortages in hospitality industry in rural areas of Italy, and the differences between employers and employees' perspectives. In Vietnam, however, skill shortages are examined in only few contexts such as manufacturing (Montague, 2013), or only managers' voices in hospitality industry (Nguyen and Robinson, 2017). Moreover, there has been limited research to investigate the relationship between skill shortages and sustainable development. Human resource slacks in small and medium-sized enterprises have been proved to positively affect

sustainable innovation, which in turns miates the relationship between human resource slack and environmental performance (Adomako and Nguyen, 2020). In terms of small and medium-sized hotel firms, Buffa, Franch and Rizio (2018) also indicated that the most critical factor influencing the strategies and environmental practices of hotels is staff’s skill shortages. Regarding capability shortages and sustainable development, there has been research into this relationship in the energy sector. The capability approach is exploited in this sector indicating the preferences of customers on what energy sources they want to value, and mostly on their intrapersonal perspectives (Hillerbrand, 2018). However, the researcher did not consider the shortages in capabilities and sustainable analysis. Within hospitality sector, the relationship between capability shortages and sustainable development goals are examined from managerial levels including company boards and managers, but not employees’ perspectives. Through the literature review, the author can conclude that there is still a lack of literature examining the impacts of skill shortages of hotel staff on the competitive advantage of the companies in any context including luxurious accommodations. When hotel staff’s vocational skill shortages, capability shortages and their impact on the competitive advantage of the five-star hotels are discovered, improvements can be made to change and upgrade accommodations’ positions. To be specific, when the strengths and weaknesses of hotel staff are presented, educators and managers will be provided with insights into what should be improved and mastered in training courses at the workplace and schools. Moreover, future applications would also be seen in the availability and readiness of a high-skilled labor force for the hotel industry in luxurious hotels in Vietnam.

2.1.1 Theory of Competitive Advantage

Competitive advantage is a pivotal concept in strategic management and serves as a cornerstone for achieving superior firm performance (Chatzoglou et al., 2018). It encompasses a

firm's ability to enhance product quality (Gorondutse & Hilman, 2019), reduce costs relative to competitors (Sigalas & Pekka-Economou, 2018), and achieve greater market share or profitability (Benitez et al., 2018). The framework for competitive advantage, introduced by Porter (1985), identifies two primary strategies for firms to attain superiority: cost leadership and differentiation. These strategies have since been widely adopted and expanded upon in subsequent research, which integrates both performance-based metrics, such as profitability, and non-performance indicators, including customer satisfaction and employee capabilities (Teece, 2018). In the context of luxury hotels, differentiation emerges as a more critical driver of competitive advantage. This differentiation is achieved through high-quality service, sustainable practices, and exceptional customer experiences (Prentice & Loureiro, 2018). However, the ability of luxury hotels to sustain such differentiation is often constrained by workforce challenges, including vocational and skill shortages. These limitations can impede a hotel's capacity to deliver superior services, thereby affecting its competitive positioning (Robinson et al., 2019). Consequently, assessing both financial and non-financial indicators is essential for measuring competitive advantage in this sector. Financial metrics such as profitability are complemented by non-financial indicators like customer satisfaction and employee skill levels to provide a holistic view of competitive standing (Assaf & Agbola, 2019). In the Vietnamese hospitality industry, these measurement frameworks have been specifically adapted to evaluate competitive advantage. Studies emphasize the integration of financial and non-financial indicators to assess the performance of luxury hotels in Vietnam (Nguyen et al., 2021). This dual approach underscores the importance of balancing tangible outcomes with intangible factors such as service quality and workforce capabilities in achieving sustainable competitive advantage.

2.1.2 Adoption of Sustainable Development

Social sustainable development

Social sustainability emphasizes equitable access to resources, opportunities, and services while promoting inclusivity, gender equality, and community engagement. In the context of Vietnam's hospitality sector, social sustainable development has been increasingly recognized for its role in fostering workforce development and strengthening community ties. A study by Baum et al. (2016) highlights the importance of sustainability-focused training programs and local recruitment initiatives in fostering employee development and regional social progress. By equipping employees with the skills and knowledge necessary to implement sustainable practices, hotels can enhance service quality while addressing skill shortages in the industry. For example, training programs that emphasize energy conservation or waste management not only improve operational efficiency but also instill a sense of environmental stewardship among employees. Furthermore, local recruitment efforts contribute to community integration by providing employment opportunities to underserved populations. This approach aligns with the principles of social justice and inclusivity, which are central to social sustainability. In addition to workforce development, fostering a diverse and inclusive workplace has been shown to improve employee satisfaction and service quality. Diversity initiatives that prioritize gender equality and representation across different demographic groups create a supportive environment for employee growth. Such practices also enhance brand reputation by signaling a commitment to social responsibility. For luxury hotels in Vietnam, this can serve as a key differentiator in a competitive market where customers increasingly value ethical business practices (Prud'homme & Raymond, 2013). Social sustainability also extends beyond internal operations to encompass community engagement. Hotels that actively participate in local initiatives, such as cultural

preservation projects or educational outreach programs can strengthen their ties with the surrounding community. This not only enhances their social license to operate but also fosters goodwill among local stakeholders. As a result, socially responsible hotels are better positioned to build long-term relationships with both employees and customers, contributing to their overall resilience and competitiveness.

Environment sustainable development

Environmental sustainability focuses on preserving natural resources, minimizing ecological footprints, and maintaining biodiversity. In Vietnam's hospitality sector, environmental sustainable development has become a critical driver of operational efficiency and market differentiation. Jones et al. (2014) emphasize the importance of energy conservation, water management, waste reduction, and resource optimization as key strategies for reducing the environmental impact of hotels. Specific practices such as towel and linen reuse programs, rainwater harvesting systems, and comprehensive recycling initiatives have gained traction among five-star hotels and resorts. These initiatives not only reduce resource consumption but also lower operational costs, creating a win-win scenario for both business performance and environmental stewardship. The adoption of innovative green technologies further enhances environmental sustainability in the hospitality sector. For instance, energy-efficient lighting systems, solar panels, and smart building technologies can significantly reduce energy consumption while improving operational efficiency. Similarly, water-saving technologies such as low-flow faucets and advanced irrigation systems contribute to resource conservation. By implementing these measures, hotels demonstrate their commitment to environmental responsibility, which resonates with eco-conscious customers. Biodiversity preservation is another critical aspect of environmental sustainable development. Hotels located in ecologically

sensitive areas can adopt practices that minimize habitat disruption and promote conservation efforts. For example, partnerships with local environmental organizations or participation in reforestation projects can enhance a hotel's reputation as an environmentally responsible enterprise. This alignment between environmental responsibility and business strategy is increasingly important in a market driven by consumer preferences for green products and services. Moreover, environmental sustainability practices contribute to brand differentiation by appealing to customers who prioritize eco-friendly accommodations. Prud'homme & Raymond (2013) argue that hotels that integrate environmental considerations into their operations are better positioned to attract environmentally conscious travelers. This not only enhances customer loyalty but also strengthens the hotel's market position in an increasingly competitive industry.

Economic sustainable development

Economic sustainability is essential for ensuring the long-term viability of businesses by focusing on profitability, cost efficiency, and market differentiation. In Vietnam's hospitality sector, economic sustainable development plays a pivotal role in driving financial performance while supporting broader sustainability goals. According to Harris (2003), economically sustainable development requires the continuous production of goods and services, effective governance of resources, and avoidance of sectoral imbalances. For hotels, this translates into strategies that optimize resource allocation, streamline operations, and reduce costs. For instance, implementing energy-efficient technologies or waste reduction programs can lead to significant cost savings over time. These savings can then be reinvested into other areas of the business, such as employee training or marketing initiatives. Font et al. (2016) highlight the role of economic sustainability in enhancing profitability through differentiated products and services. By catering to the growing segment of environmentally conscious customers, hotels can create

unique value propositions that set them apart from competitors. For example, offering eco-friendly amenities or promoting sustainable dining options can attract niche markets while reinforcing the hotel's commitment to sustainability. In addition to financial outcomes, economic sustainability contributes to non-financial benefits such as improved brand reputation and employee engagement. Hotels that prioritize sustainability are often perceived as ethical and forward-thinking enterprises, which enhances their appeal to both customers and employees. A strong reputation for sustainability can also lead to increased media coverage and positive word-of-mouth marketing, further strengthening the hotel's competitive position. Finally, economic sustainability aligns closely with the principles of resilience and adaptability. By adopting flexible business models that prioritize resource efficiency and innovation, hotels can better withstand external shocks such as economic downturns or shifts in consumer behavior. This adaptability is particularly important in Vietnam's rapidly evolving hospitality sector, where competition is fierce and customer preferences are constantly changing.

2.1.3 Hypothesis development

In 1987, the World Commission on Environment and Development tried to address the problems of conflicts between the destruction of the environment and development goals of countries and enterprises (Harris, 2003). The concept of sustainable development was created and has been widely used. There has been a growing recognition of three main aspects in sustainable development: economic, environmental, and social. According to Harris (2003), an economically sustainable development must have an ability to produce goods and services continuously, to manage the governance and external debt effectively, and to prevent serious sectoral imbalances which affect agriculture and industry. In terms of environmental aspects, a sustainable system must maintain stable resources, reduce the risks of overexploitation of green

sources or environmental sink functions, and depleting fossil fuels. This also consists of biodiversity maintenance, climate stability, and other ecosystem functions that are not considered economy-related. The last dimension, social, requires fair distribution of resources, opportunities, social services such as health and education to people. This also appreciates gender equality, political accountability and participation. As a result, the multifaceted concept of sustainable development has raised the issue of how to balance objectives and success or failure of a nation or an enterprise in general. In recent years, customers in the hospitality industry have been aware of environmental, social and economic impacts of their behaviors; therefore, lots of enterprises are incorporating three aspects of sustainable development into their practices (Prud'homme & Raymond, 2013). On a positive side, sustainable development has become widely recognized and welcomed in the hospitality industry as well as visitors. In the hospitality sector, especially for luxury hotels, these three aspects are integral for long-term success. Economic sustainability involves producing goods and services in a continuous manner, ensuring effective resource management. Environmental sustainability refers to preserving natural resources, reducing the over-exploitation of ecosystems, and maintaining biodiversity. Social sustainability focuses on equal access to resources and opportunities, gender equality, and social justice. Hotels that incorporate sustainable practices may have a competitive edge by appealing to socially and environmentally conscious customers (Prud'homme & Raymond, 2013). This review synthesizes existing research on the role of social, environmental, and economic sustainable management in Vietnam's hospitality industry. It explores how these practices influence workforce development, resource conservation, and financial performance, ultimately enhancing the competitiveness of enterprises. The review draws on key studies to highlight the interconnectedness of these dimensions and their implications for sustainable growth in the sector.

Drawing from empirical evidence and corresponding hypotheses, the interconnections among the constructs are illustrated within the conceptual framework presented in Figure 1.

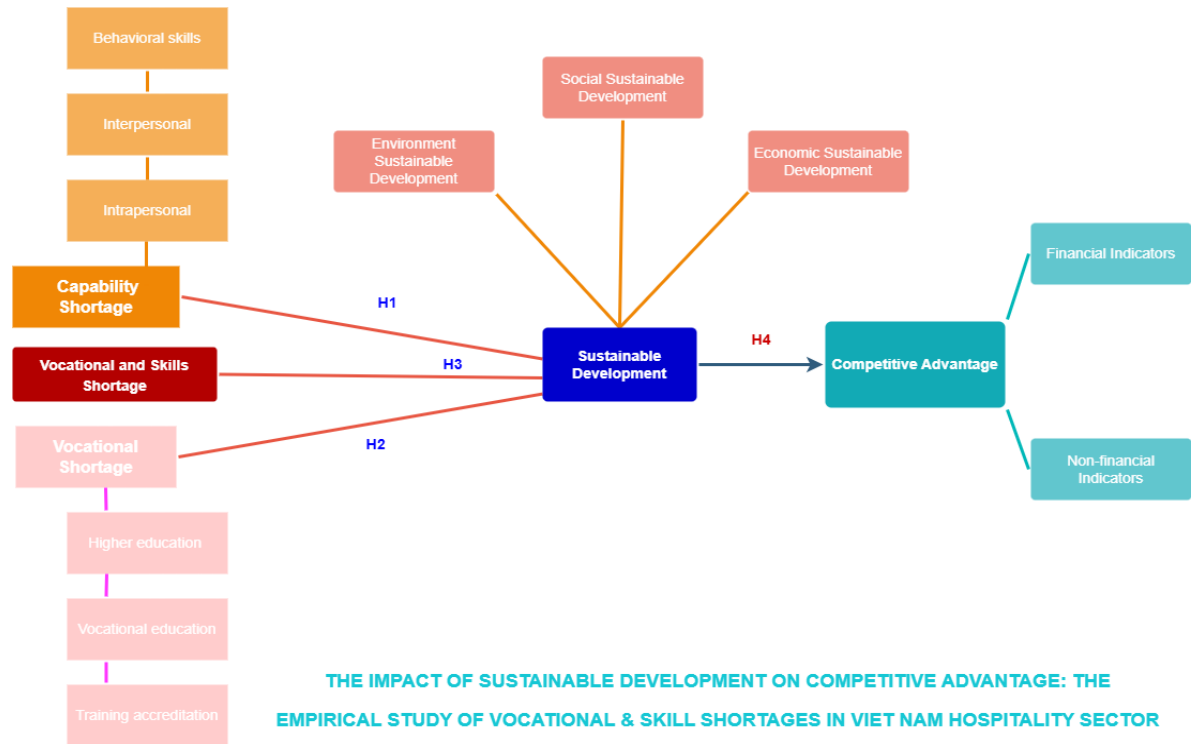


Figure 1. Conceptual Framework

H1: The capability shortage factor influences the sustainable development of 5-star luxury hotels in Vietnam.

Capability shortage or skill shortage, on the other hand, is a more complicated concept, which co-exists with vocational shortage (Montague, 2013). Capability shortages can be used for almost all people without considering their qualifications. Various definitions of capabilities exist (Spowart, 2011), and many terms are used interchangeably, such as “soft skill” or competencies (Scott, 2106). While competence is about the delivery of particular duties in predictable situations, capability is more about responsiveness, creativity, thinking and growth in unexpected circumstances (Scott, 2016). In this study, the concept “capability” is based on the Professional

Capability Framework (PCF) suggested by Scott (2016) which lays a theoretical foundation for this research. This framework combines different dimensions, including personal, interpersonal, and cognitive. PCF has been applied in a number of studies examining the employability of graduates in various industries, such as medical workers (Sheehan et al., 2018), or nurses (Scott et al., 2010). According to Scott (2016), the PCF contains five interlocking dimensions with three dimensions of capabilities: personal, interpersonal, cognitive, and two of competencies: role-specific, and generic (Figure 1). Within the personal dimension, the factors are self-awareness and regulation, decisiveness and commitment, while in the interpersonal dimension, they are influencing and empathizing, and in the cognitive dimension, diagnosis, strategy, and flexibility and responsiveness are considered measurements. As the hospitality sector involves different businesses (Ackehurst & Loveder, 2015), this framework can contribute to graduates' abilities to be successful, contributing to the sustainable development of the industry as well as boost the competitive advantage among different enterprises.

H2: The vocational shortage factor influences sustainable development of 5-star luxury hotels in Vietnam.

Vocational shortages are often referred to as the scarcity of human capital with formal higher education, vocational education, or training accreditation, including some professional qualifications and certificates in nursing, dentistry, accountancy, or trade qualifications such as in electricians, mechanics, or chefs (Montague, 2013). In another perspective, Australian Commonwealth Department of Employment, Education and Workplace Relations (DEEWR) (2010, as cited in Montague, 2013) defines a vocational skills shortage as when employers have difficulties in filling vacancies for a position, or specialized skills and knowledge for that occupation given the fact that a large number of employees are available, the working conditions

are acceptable, and the location is reasonably accessible. In the context of Vietnam, vocational skills shortages are quite similar to the definition of DEEWR; thus, being used throughout this research. Richardson (2007) considered the vocational shortage “Level 1 skill shortage”, which refers to a situation when few people have adequate and essential technical skills and need prolonged time periods to build up those skills. Level 2, meanwhile, refers to the same group of people but they need a shorter time of training to develop those skills. According to Collins (2009) and Montague (2013), Vietnam is in need of skilled workers for the next few years, but there is little or no focus on training available in vocational institutions to meet the need.

H3: The vocational and skill shortage factors influence the sustainable development of 5-star luxury hotels in Vietnam.

Vocational and capability shortages are often seen as barriers to achieving competitive advantage, particularly in the context of luxury hotels, where high levels of service and hospitality are essential. The Professional Capability Framework (PCF) provides a useful lens through which to examine these shortages, focusing on personal, interpersonal, and cognitive dimensions (Scott, 2016). Graduates from vocational education and higher education systems in Vietnam often lack critical skills such as problem-solving, critical thinking, and English proficiency (Le et al., 2018). These shortages hinder their ability to contribute fully to the competitiveness of hotels, especially when service quality is a key differentiator in luxury settings.

H4: The sustainable development has the most positive affection for 5-star luxury hotels competitive advantage.

The mediating role of sustainable development

While each dimension of sustainable management - social, environmental, and economic has distinct characteristics, they are deeply interconnected in practice. For example, workforce training programs that emphasize environmental sustainability not only enhance employee skills but also contribute to operational efficiency and cost savings. Similarly, community engagement initiatives that promote social sustainability can strengthen a hotel's reputation for environmental responsibility by demonstrating a holistic commitment to sustainability. The integration of these dimensions is particularly relevant for luxury hotels in Vietnam's hospitality sector. By adopting comprehensive sustainable management practices that address all three dimensions, hotels can achieve a competitive advantage while contributing to the broader goals of sustainable development. This holistic approach not only enhances business performance but also supports Vietnam's efforts to build a resilient and environmentally responsible tourism industry. Sustainable management practices are increasingly recognized as critical drivers of competitive advantage in Vietnam's hospitality sector. Social sustainable management fosters workforce development, inclusivity, and community engagement; environmental sustainable management reduces ecological footprints while enhancing operational efficiency; and economic sustainable management drives profitability through cost efficiency and market differentiation. Together, these dimensions form a comprehensive framework for achieving long-term success in the industry. As consumer awareness of sustainability continues to grow, hotels that integrate social, environmental, and economic considerations into their operations are better positioned to meet customer expectations while contributing to the sustainable growth of Vietnam's tourism sector. Future research should explore how these practices can be further optimized to address emerging challenges such as climate change, resource scarcity, and evolving consumer preferences.

2.2 Theory of Reasoned Action

By applying the Theory of Reasoned Action (TRA) framework, this study underscores the convergence of attitudes, subjective norms, and managerial influence in driving employee behavior related to skill development and sustainability practices within the luxury hospitality industry (Meng et al., 2022). The findings of the previous study suggest that fostering a culture of continuous improvement, supported by management in fostering sustainable development initiatives, can elevate both employee engagement and service quality. These elements are instrumental in achieving long-term success and maintaining a competitive advantage in the ever-evolving landscape of luxury accommodation service. This theoretical framework has been widely applied in understanding decision-making processes and behavioral patterns across various domains, including the hospitality industry. Pal et al. (2017) empirically validated the TRA in their study, examining how hotel employees and managers perceive skill development and sustainability practices, thereby demonstrating its relevance in this context.

2.2.1 Behavioral Intentions and Attitudes Toward Skill Development

In the hospitality sector, employee attitudes toward acquiring new competencies or enhancing existing skills, such as language proficiency, problem-solving abilities, and customer service excellence serve as critical predictors of workplace behavior. As highlighted by Karatepe and Olugbade (2017), employees are more likely to engage in skill development activities when they perceive such efforts as aligned with their career aspirations and the overall success of their organization. The dynamic nature of the hospitality industry necessitates continuous skill enhancement to meet evolving customer expectations and industry standards, fostering a culture of learning and professional growth.

2.2.2 Subjective Norms and Organizational Expectations

Subjective norms, defined as the perceived social pressure to perform or abstain from a specific behavior, also play a significant role in shaping employee behavior. Tang et al. (2018) emphasize that hotel staff are more motivated to develop their competencies when organizational culture prioritizes continuous improvement and professional development. The expectation of compliance with these norms, coupled with support from peers and management, further reinforces employees' commitment to skill acquisition and performance enhancement.

2.2.3 Management Influence on Sustainability Practices

Hotel management plays a pivotal role in promoting sustainability practices by fostering an environment conducive to operational staff engagement. Managers who hold positive attitudes toward sustainability and recognize its long-term benefits are more likely to implement training programs that integrate sustainable development principles. According to Kim et al. (2019), such initiatives not only enhance employees' understanding of sustainability but also contribute to the creation of a proactive learning culture that aligns with organizational values.

2.2.4 Competitive Advantage Through Sustainability and Professional Growth

The integration of sustainability practices with professional development initiatives creates a synergistic effect that enhances employee engagement and service quality - two critical factors for achieving competitive advantage in the luxury hospitality sector. Chan et al. (2020) argue that cultivating a culture that values sustainability and proactive learning equips employees with client-preferred skills, thereby differentiating the organization from its competitors. This dual focus on sustainability and skill development underscores the strategic importance of aligning organizational goals with employee growth.

2.3 Human Society Theory

Human Society Theory, as derived from sociological perspectives, emphasizes the social structures, roles, and interactions within a society that contribute to its functioning. Applied to the hospitality industry, this theory highlights the importance of organizational culture, social roles within the workplace, and the dynamic interactions between staff, managers, and customers. In upscale hotels, the roles and interactions between employees and guests are critical in shaping customer experiences and satisfaction, which are key components of competitive advantage. The theory underscores that employees, as social agents within the organization, contribute to the overall functioning of the hotel through their behaviors, attitudes, and interactions. A deficiency in skills (vocational and capability shortages) can disrupt this dynamic, leading to a breakdown in service quality and customer satisfaction. Furthermore, human society theory suggests that sustainable development practices within organizations reflect broader societal expectations. As environmental and social sustainability become increasingly important to consumers, luxury hotels must align their operations with these societal values. This alignment is not only a response to customer demand but also a reflection of the social roles that hotels play in promoting sustainability within their communities.

2.4 Summary

The theoretical framework for this study connects the concepts of sustainable development, vocational and capability shortages, and competitive advantage. The Theory of Reasoned Action provides insight into how hotel staff's attitudes and perceptions influence their behavior in skill development and sustainability practices. Human Society Theory emphasizes the importance of social roles and interactions in the hospitality industry, highlighting how staff behavior and organizational culture contribute to competitive advantage. By addressing the vocational and capability shortages in Vietnam's five-star hotels, the study aims to identify key

areas for improvement in staff training and development, as well as strategies for promoting sustainable practices. This, in turn, can enhance the competitive advantage of these hotels, enabling them to differentiate in a highly competitive market.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

The competitive landscape of the hospitality industry, particularly in the context of luxury accommodations, is increasingly influenced by the availability and quality of skilled labor. Despite extensive research highlighting the importance of intellectual capital as a driver of competitive advantage (Malkawi et al., 2018), there remains a significant gap in understanding the specific impacts of skill shortages among hotel staff on the competitive positioning of these enterprises. While regions like Asia and the Pacific emphasize the role of vocational training in enhancing competitive advantage (Maclean, Jagannathan, and Sarvi, 2013), Vietnam's hospitality sector has not been thoroughly examined, particularly regarding the skills and capabilities of its workforce. Existing studies, such as those by Montague (2013) and Nguyen and Robinson (2017), have predominantly focused on skill shortages in manufacturing or managerial perspectives within hospitality. However, the voices and experiences of front-line employees remain underexplored. This lack of comprehensive research creates a critical gap in understanding how skill shortages can hinder not only operational efficiency but also sustainable development within the hospitality industry. The literature indicates a positive correlation between human resource slacks in small and medium-sized enterprises and sustainable innovation (Adomako and Nguyen, 2020), yet the specific dynamics within the hotel sector, particularly luxury accommodations, have not been sufficiently investigated. The limited focus on employee perspectives regarding capability and skill shortages further complicates the understanding of these issues. Moreover, while previous studies have addressed the interplay between capability shortages and sustainable development in sectors like energy (Hillerbrand,

2018), there is a notable absence of research exploring this relationship within the hospitality sector. This oversight limits the potential for developing effective strategies to enhance employee skills and, consequently, the overall competitiveness and sustainability of hotels. Thus, this research seeks to fill the existing gaps by examining the impacts of vocational and capability shortages of hotel staff on the competitive advantage of five-star hotels in Vietnam. By identifying the strengths and weaknesses in staff skills, this study aims to provide valuable insights for educators and hotel managers, ultimately contributing to the development of a highly skilled labor force capable of meeting the demands of the luxury hospitality sector.

3.2 Operationalization of Theoretical Constructs

In this study, the operationalization of theoretical constructs involves defining each abstract concept in measurable terms to facilitate systematic data collection and analysis. The primary constructs addressed are vocational and skill shortage, sustainable development and competitive advantage, specifically within the context of Vietnam's luxury hospitality sector. This research aims to explore the shortages in vocational skills and capabilities among hotel staff that affect the competitive positioning through sustainable development of five-star hotels and resorts, as well as the strategies that might be employed to address these gaps.

Measurement Approach

The operationalization process adopts a structured framework to evaluate the relationship between vocational and skill shortages and competitive advantage through sustainable development. This involves assessing three distinct states: inputs, intermediary variables, and outputs.

3.2.1 Evaluating Capability and Vocational Shortages (Input)

The operationalization of theoretical constructs firstly evaluates the vocational skill shortages that refer to the scarcity of formally trained human capital with technical qualifications necessary for luxury hospitality roles. Drawing on definitions by Montague (2013) and Richardson (2007), this study categorizes vocational shortages that exist at three educational training program levels:

- **Level 1:** Short-term vocational training programs offering professional certifications in specific hospitality skills.
- **Level 2:** Diploma or advanced diploma programs providing specialized vocational training for mid-level roles.
- **Level 3:** Higher education programs, including bachelor's or master's degrees in hospitality management or related fields.

In Vietnam's context, these shortages are measured by the number of unfilled positions requiring formal vocational training, as well as employer-reported difficulties in recruiting skilled professionals in areas like culinary arts or customer service. Capability shortages, on the other hand, encompass a broader range of skills beyond technical qualifications. Using the Professional Capability Framework (PCF) proposed by Scott (2016), this construct is operationalized through three selective dimensions:

- **Intrapersonal:** Self-Awareness & Regulation - including self-awareness and self-regulation, which are critical for managing stress and maintaining professionalism in high-pressure environments.
- **Interpersonal:** Empathizing with Others - emphasizing empathy, active listening, and effective communication to enhance guest satisfaction and team collaboration.

- **Cognitive:** Diagnose Problems - focusing on problem diagnosis, critical thinking, and decision-making to address complex operational challenges.

The insights from vocational and capability shortages, this operationalization provides a holistic view of skill-related challenges in Vietnam's luxury hotels. It identifies the lack of adequately trained professionals and internal skill gaps collectively impact the hotel's ability to deliver exceptional service, maintain sustainable practices, and achieve a competitive advantage. The construct of "vocational and capability shortage" can be operationalized as a dual-dimensional challenge within the hospitality sector, particularly in five-star hotels. The "vocational shortage" dimension pertains to the quantitative deficit in the entry of adequately trained professionals into the industry, reflecting limitations in workforce supply. The "capability shortage" dimension, on the other hand, denotes qualitative deficiencies, specifically gaps in specialized skills, technical knowledge, or professional competencies. Graduates often lack critical skills such as problem-solving, critical thinking, and English proficiency (Le et al., 2018). This gap underscores the importance of continuous skill improvement to ensure employees can contribute effectively to the competitiveness and sustainability of luxury hotels. Improvement and mastery of skills not only address the immediate skill shortages but also enable employees to adapt to evolving industry standards and customer expectations. Skill improvement and mastery are defined as the processes through which individuals enhance their technical and capability-based competencies to achieve proficiency in their roles. This construct encompasses both:

- **Technical Skills:** such as culinary arts, guest services, housekeeping operations, and front-office management.

- **Broader Capabilities:** including problem-solving, communication, adaptability, teamwork, and cultural sensitivity.

Skill improvement is operationalized through formal training programs, on-the-job experience, and self-directed learning initiatives. Mastery is assessed based on performance appraisals, employee certifications, and guest feedback. The continuous enhancement of skills not only addresses immediate workforce shortages but also equips employees to adapt to future industry trends and challenges.

3.2.2 Evaluating the mediator affect of Sustainable Development to enhance 5-star hotels and resorts competitive advantage (Intermediary Variable)

Social sustainable management refers to practices and strategies aimed at fostering equitable access to resources, promoting inclusivity, and enhancing community engagement. This construct emphasizes the human resource management strategies to address skill gaps and foster employee development frameworks:

- **Workforce Diversity Initiatives:** programs and policies designed to ensure representation and inclusion of individuals from diverse backgrounds within the workforce.
- **Local Recruitment Programs:** efforts to prioritize hiring from local communities, thereby contributing to regional economic growth and fostering community development.
- **Employee Training on Sustainable Practices:** structured training programs aimed at equipping employees with knowledge and skills to implement and support sustainable practices within their roles. Environmental sustainable development in the hospitality industry refers to the systematic application of practices aimed at reducing the ecological footprint of hotel operations. This involves environmental practices adopting strategies of eco-friendly initiatives within hotel

operations that align with environmental conservation principles, focusing on resource efficiency, waste reduction, and the integration of sustainable technologies:

- **Reduction Programs:** the installation of energy-efficient lighting, appliances, and HVAC systems; monitoring water conservation efforts, such as low-flow fixtures and water-saving technologies.
- **Reuse Initiatives:** adoption of towel and linen reuse programs with clear communication to guests; collection and utilization of rainwater for non-potable purposes, such as facility cleaning or cooling systems; use of greywater for irrigation of hotel landscaping areas.
- **Recycling Programs:** availability of recycling bins for plastic, paper, glass, and other recyclable materials in guest rooms and common areas; partnerships with local recycling facilities to ensure proper waste processing; reporting on recycling rates and waste diversion achievements.
- **Innovative Environmental Solutions:** Installation of rainwater harvesting systems for onsite water collection and storage; implementation of sustainable landscaping practices, such as xeriscaping or the use of native plants to reduce water demand; use of renewable energy sources, such as solar panels or wind turbines, to power hotel operations. Economic sustainable development is a strategic approach that integrates profitability enhancement, operational cost reduction, and competitive differentiation to ensure long-term financial stability and value creation for all stakeholders. This concept can be operationalized within the hospitality industry through financial stability of long-term financial planning aligned with sustainability goals that follow measurable constructs:
- **Stakeholder Profitability:** assessing whether the hotel's sustainable development strategies have increased the profitability of stakeholders compared to prior periods

- **Cost Savings:** evaluating the extent to which hotels have reduced operational costs by implementing measures to limit water, energy, and waste consumption
- **Competitive Differentiation:** examining whether the adoption of economically sustainable practices has enabled the hotel to offer unique products and services that distinguish it from competitors in the luxury hospitality industry.

3.2.3 Competitive Advantage (Output)

Competitive advantage is defined as the ability of luxury hotels to outperform competitors by implementing differentiation strategies and embedding sustainability practices within their operations. This concept is analyzed through the lens of Porter's (1985) framework. The outcomes are measured by the extent of competitive advantage achieved via sustainable development initiatives. These outcomes encompass enhancements in organizational efficiency, innovation, flexibility, and adaptability, all of which contribute to strengthening the market positioning of five-star hotels and resorts. Competitive advantage is evaluated across both financial and non-financial dimensions, reflecting a comprehensive approach to assessing performance improvements driven by sustainability-focused efforts.

▪ Financial Performance Indicators:

- Market performance: demonstrated through an increase in market share, higher sales revenue, and accelerated profit growth compared to industry competitors.
- Cost Efficiency: achieved by maintaining lower operating costs relative to peers within the industry.
- Product and Service Quality: evidenced by enhanced offerings that improve customer satisfaction and foster loyalty.

- Profitability Metrics: measured by revenue generation from both existing and new customer bases, reflecting sustained financial growth.

▪ **Non-Financial Performance Indicators (Employee' engagement):**

- Effort and Dedication: employees consistently exhibit full commitment to their roles and responsibilities.

- Work Enthusiasm and Pride: high levels of enthusiasm and pride in job performance are evident among employees.

- Commitment to Excellence: employees demonstrate a strong dedication to achieving optimal performance standards in their work.

3.3 Research Purpose and Questions

3.3.1 Research Purpose

The primary objective of this study is to investigate skill shortages in five-star hotel staff and their affect on competitive advantage through sustainable development. A mixed-methods approach is employed, combining a comprehensive literature review and the application of the author's conceptual framework (Figure 1). The research begins by critically analyzing existing definitions of sustainable development, capability shortages, and vocational deficiencies. Following this theoretical foundation, the study incorporates empirical data gathered through surveys with hotel staff to explore the relationships and impact between these concepts. This process identifies the vocational and skill shortages among hotel employees as well as their improvement and subsequent mastery of skills. Based on the findings, the study aims to provide actionable recommendations for hotel managers and educators to address identified deficiencies, thereby enhancing workforce capabilities and supporting long-term competitiveness in the luxury hospitality sector.

3.3.2 Research Question 1

The first question is: “What are the vocational and skill shortages affecting the competitive advantage through sustainable development in 5-star luxury hotels and resorts in Vietnam?”. To answer this question, the research has defined vocational shortages in the luxury hospitality industry as a lack of formally trained professionals in technical roles across various levels of accreditation, including vocational education, higher education, and professional certifications. These shortages often result in an insufficient pool of skilled workers capable of meeting the high standards required in 5-star establishments. Capability shortages, on the other hand, refer to deficits in essential soft skills such as problem-solving, critical thinking, and interpersonal communication, which are crucial for delivering exceptional guest experiences. In Vietnam's rapidly growing luxury hospitality market, these shortages present significant barriers to maintaining a competitive advantage. Without a sufficiently skilled workforce, hotels may struggle to deliver high-quality services, adopt sustainable practices, and differentiate themselves in an increasingly competitive industry. Such challenges are exacerbated by the global trend toward sustainability, where both environmental and social responsibility are becoming key drivers of consumer choice. Sustainable development as a solution that initiatives offer a promising avenue for addressing these vocational and skill shortages. Workforce diversity programs can expand the talent pool by integrating individuals from underrepresented groups, while local recruitment efforts strengthen community ties and reduce dependency on external labor sources. Employee training programs focused on both technical competencies and soft skills development can bridge existing gaps, enabling staff to meet the demands of luxury hospitality more effectively. Additionally, environmental and economic sustainability practices such as energy efficiency measures, waste reduction strategies, and resource optimization can

enhance operational efficiency and profitability. These practices not only mitigate the financial impact of skill shortages but also align with global sustainability trends, further solidifying a hotel's reputation and market positioning. By integrating these sustainable development practices, 5-star luxury hotels and resorts in Vietnam can address workforce deficiencies while fostering inclusivity, enhancing operational resilience, and achieving long-term competitiveness. Social, environmental, and economic sustainability thus serves as a critical mediator in overcoming skill shortages and creating a differentiated value proposition within the luxury hospitality sector.

3.3.3 Research Question 2

“To what extent does vocational and skill shortage affect the competitive advantage of 5-star luxury hotels and resorts in Vietnam?”. The study has investigated the connection between The research examines the relationship between vocational and skill shortages and their implications for competitive advantage within the framework of sustainable development. The findings reveal that such shortages significantly influence the competitive positioning of 5-star luxury hotels and resorts in Vietnam. This impact is observed across both financial and non-financial performance indicators, underscoring the critical role of workforce capabilities in sustaining competitive advantage within the hospitality industry.

- Financial Impact: the lack of skilled labor increases recruitment and training costs, disrupts operational efficiency, and diminishes profitability. These challenges hinder market performance, reduce cost-effectiveness, and compromise the quality of services and products offered. Collectively, these factors weaken the competitive positioning of luxury hospitality establishments in Vietnam's highly competitive market.

- Non-Financial Impact: capability shortages among employees lead to decreased engagement, lower motivation, and inadequate service delivery. This results in diminished

customer satisfaction and loyalty, which are critical for maintaining the brand reputation and long-term success of 5-star hotels and resorts. By limiting the ability of these establishments to achieve their financial and service excellence goals, vocational and skill shortages directly erode their ability to sustain a competitive edge in Vietnam's luxury hospitality sector.

3.4 Research Design

This study employs a mixed-method research design, integrating both quantitative and qualitative approaches to achieve its research objectives. The quantitative method is selected as the primary approach due to its capacity for numerical data collection and statistical analysis, which are essential for testing hypotheses and deriving generalizable conclusions (Saunders, Lewis, & Thornhill, 2019). Specifically, the quantitative component involves the use of structured surveys to collect data, enabling the identification of patterns and relationships between variables. This method is particularly suited to addressing the study's focus on skill and capability shortages and their impact on competitive advantage and sustainable development in Vietnam's five-star hospitality sector. To complement the quantitative findings, qualitative data will be gathered through focus group interviews. This triangulation approach enhances the depth of analysis by providing contextual insights that cannot be captured through numerical data alone (Ali et al., 2019). The integration of these two methods ensures a comprehensive understanding of the research problem and strengthens the validity of the findings. The research follows a deductive approach, beginning with the formulation of hypotheses based on existing literature and theoretical frameworks. This approach prioritizes objectivity and logical reasoning, ensuring that the research process remains systematic and aligned with its objectives. The methodology is designed within a structured framework that emphasizes efficiency, accuracy, and reliability throughout the investigation. After collecting data via two types of instruments, the author will

employ SPSS and SmartPLS to analyze the data, while interviews will be transcribed and gone through content analysis. Upon recognizing emerging themes, the research will work further and examine the phenomenon by comparing it with previous literature. By adopting a rigorous mixed-method approach, this research design ensures a balanced integration of quantitative and qualitative data collection and analysis. The use of closed-ended surveys, focus group interviews, and systematic analytical techniques provides a robust framework for investigating the research problem. This methodological rigor not only enhances the validity and reliability of the findings but also ensures their relevance to both academic and practical domains. The study ultimately aims to contribute meaningful insights into workforce challenges in Vietnam's five-star hospitality sector, offering pathways for sustainable development and competitive advancement.

3.5 Population and Sample

In this study, the target population comprises managers and staff employed at 5-stars hotels and resorts throughout Vietnam. The research focuses on individuals working in establishments located in prominent tourism destinations, specifically the four major cities of Vietnam: Hanoi, Da Nang, Ho Chi Minh City (HCMC), and Phu Quoc. These cities were selected due to their significant roles in Vietnam's tourism industry and their concentration of high-end hospitality establishments. To ensure comprehensive representation, the sample will be stratified according to geographic regions and the specific characteristics of luxury hotels and resorts. Stratification allows for the inclusion of diverse perspectives from different areas, ensuring that findings are not biased toward a single region or type of establishment. This approach enhances the generalizability of the study's results to the broader population of luxury hotels and resorts across Vietnam. To justify the selection of a sample size within the range of 300 to 400 participants, mathematical and statistical principles will be applied. Specifically, calculations

involving the correlation coefficient will be utilized in data analysis. These calculations will ensure that the sample size is adequate for detecting meaningful relationships between variables while minimizing errors. The application of statistical formulas not only supports the validity of the chosen sample size but also aligns with best practices in academic research methodology. The required sample size for the survey can be calculated using the following formula:

$$n = \frac{Z^2 \times p \times (1-p)}{E^2}$$

Where:

- n is the required sample size.
- Z is the Z-value corresponding to the desired confidence level (1.96 for a 95% confidence level).
- p is the estimated proportion of the characteristic in the population (usually taken as 0.5 to ensure the largest sample size).
- E is the allowed error margin (0.05 for a 5% error).

In this case, when applying a confidence level of 95% and a margin of error of 5%, the minimum sample size required is:

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} \approx 385$$

Therefore, a sample of 385 participants is appropriate.

3.6 Participant Selection

This study employs a stratified random sampling method to ensure comprehensive representation of luxury hotels and resorts across Vietnam's primary tourism destinations. Stratified sampling allows for the division of the population into subgroups based on specific characteristics in this case, work experience levels thereby facilitating a more nuanced

understanding of the research problem. Classifying a diverse set of participants from different groups within the hospitality industry in Vietnam will be the first step. Specifically, the sample will include employees from three distinct categories: fresh graduates, two-year, and more than five-year working staff. To complement the quantitative data collected through surveys, focus group interviews will be conducted to triangulate findings and provide deeper insights. These interviews will involve hotel managers or owners, or supervisors of viewpoints. Their inclusion is essential for capturing managerial perspectives on workforce development, operational challenges, and strategic priorities within the hospitality sector. Managers or supervisors will be selected using a purposive sampling approach, ensuring that individuals with relevant expertise and decision-making responsibilities are represented in the study. Additionally, focus group discussions are particularly valuable for exploring complex issues such as staff training needs and educational expectations. According to Cohen, Manion, and Morrison (2011), focus group interviews serve as an effective supplementary method in research by offering qualitative insights that enhance the interpretation of quantitative data. In this context, they will provide an additional layer of understanding regarding employer expectations and employee experiences within Vietnam's luxury hospitality sector.

3.7 Instrumentation

In this study, data collection will be conducted using structured questionnaires and focus group interviews, to obtain extensive insights from a varied range of stakeholders.

3.7.1 Questionnaires

To conduct this study, a standardized and well-structured questionnaire was utilized as the primary survey instrument to collect data from hotel employees. Following its design, the instrument underwent testing to ensure its reliability. The questionnaire aimed to identify

vocational and skill shortages among three employee groups by including items that assessed their strengths and weaknesses, reflecting skills they had mastered or lost over years of employment. Comprising a mix of closed-ended and multiple-choice questions, the instrument facilitated quantitative analysis to generate insights into demographic profiles, levels of vocational and skill shortages, sustainable development application, and competitiveness enhancement. To overcome language barriers and ensure inclusivity, the survey was administered in both English and Vietnamese, enabling diverse stakeholders to express their perspectives effectively. To ensure the validity of the research instruments, this research adopts existing measures developed based on the previous studies.

- To measure vocational and skill shortages, the study adapts the scale from Milliman, Gatling and Kim (2018); Williamson, J., Wardle, K. and Hasmi, H. (2020) . In recent year, many employee opinion surveys were conducted which were very difficult to get staff's involved. Because of the longer the questionnaire, the less likely employees are to want to fill it in. Thus, in this research, we would use the subset of 03 items (Intrapersonal, Interpersonal and Cognitive) instead of the full items.
- To measure the practice of sustainability concept, the study adapts the scale from (Bansal, 2005; Buathong and Lai 2017; Hamid et al. 2013; Leonidou, Coudounaris, Kvasova and Christodouides 2014) which measure the environment, social and economic sustainable development.
- To measure competitive advantage, the study adapts the scale from Li and Liu (2014) which reflected 7 financial indicators and non-financial indicators compared with competitors in the same industry which including higher profit growth rate, higher sales revenue growth rate, lower operating costs, better product and service quality, increasingly higher market share, more profitable old customers and, more profitable new customers. All items will be measured by

Likert scale of 5 points (1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree and 5 – strongly agree). The questionnaire was designed in English (Internationally) and translated to Vietnamese (Local Language) to ensure that the respondents are aware of the questions as well as the answers. The proposed questionnaire (English language) can be found in Appendix A. The researcher was developed Survey Questionnaire based on three independent variables (Vocational shortage, Skill shortage, Vocational and Skill shortage), one mediator variable (Sustainable development) and one dependent variable (5-star hotel and resort Competitive advantage). The questionnaire was fall through three parts:

Part I: Demographic questions which contained close-ended response questions related to the general background of the participants such as gender, age, level of education, current job position, current place of employment, department in the organization, working experience, current residence.

Part II: Vocational Shortage

This section of the survey included close-ended questions that evaluated vocational competencies.

Part III: Skills Shortage

This section contained closed-ended questions that evaluated capability competencies.

Part IV: Vocational and Skills Shortage

This section consisted of close-ended questions aimed at evaluating participants' proficiency in skill mastery, which was attributed to their professional experience in the hospitality industry.

Part V: Sustainable Development

This section is dedicated to evaluating the sustainable practices adopted by 5-star hotels and resorts.

Part VI: Competitive advantage

This part of the survey seeks to evaluate the competitive advantage achieved by 5-star hotels and resorts as a result of adopting sustainability practices.

3.7.2 Focus group interview

Focus-group interviews are used in this research to triangulate the data from employees and find out the perspectives of employers as well as their expectations for staff training and education. According to Cohen, Manion and Morrison (2011), focus group interviews can complement other instruments as it provides another insight into the same problem. Semi-structured interviews will be employed for comprehensive analysis, encompassing face-to-face, and internet chat formats. The sample size for these interviews will be established using appropriate statistical methods to guarantee accurate representation. Open-ended inquiries will encourage key informants to articulate their perspectives and personal experiences candidly. The gathered qualitative data will provide comprehensive insights into the variables affecting and the sustainable development mediating role to competitive advantage. The focus group discussions will follow a semi-structured format, guided by a set of open-ended questions that encourage participants to share their experiences and opinions. Key topics will include:

- Perceived barriers to effective sustainable development due to skill shortages.
- Evaluation of current vocational training adequacy for sustainability roles.
- Critical skills needed to enhance competitive advantage in Vietnam's hotel industry.
- Strategies to bridge the gap between labor quality and industry expectations.
- Best practices and recommendations for improving training models.

3.7.3 Research Instrument Pre-test

The study questionnaires will be used the first time during the pre-test period. To verify the completeness, modifying and deleting the inappropriate variables, we conducted a pilot test. A total of 78 valid questionnaires were collected in the pilot test. After analyzing the pilot result, the questionnaires will be revised accordingly to conduct the main research.

3.8 Data Collection Procedures

After acquiring agreements from HR department of proposed hotels and managers of room division, kitchen, and restaurants, the research will send a Google-form-based survey to the employees that have been chosen. Due to geographical constraints and costs, the survey and interviews will both be conducted online via platforms such as Zoom or Facebook. This research will employ a combination of qualitative and quantitative data sources, including surveys and focus group interviews, to deliver thorough answers to research questions.

3.8.1 Primary Data Collection

The primary data collection will be conducted using a closed-ended questionnaire. This instrument is designed to capture a limited number of variables, simplifying data interpretation while maintaining a clear focus on the research aims. The questionnaire is grounded in an extensive review of relevant literature and aligned with the Vietnam Tourism Occupational Standard (VTOS), ensuring its theoretical rigor and contextual relevance to the Vietnamese hospitality industry. By adhering to these standards, the study ensures that the data collected is both valid and reliable. To facilitate data collection, Google Forms will be utilized as an automated platform. This tool offers several advantages, including enhanced accessibility, operational efficiency, and cost-effectiveness. It allows for the simultaneous administration of surveys across diverse geographic regions, significantly broadening participant engagement.

Additionally, its user-friendly interface minimizes logistical challenges, making it an ideal choice for large-scale data collection in this study.

3.8.2 Qualitative Data Collection

In addition to surveys, focus group interviews will be conducted to provide deeper insights into the research problem. These interviews aim to explore nuanced perspectives on how skill shortages influence competitive advantage and sustainability initiatives within five-star hotels and resorts in Vietnam. The qualitative data will serve as a complementary layer of analysis, enriching the interpretation of quantitative findings and offering a more holistic understanding of the workforce challenges faced by the hospitality sector.

Table 1. Timeline for data collection

Stakeholders	Pre-research 2023	Analysis	Post-research 2024	Analysis
Employees Manager/Supervisor/ HR Manager	March-June	July	March-June	July

Source: Created by the Author

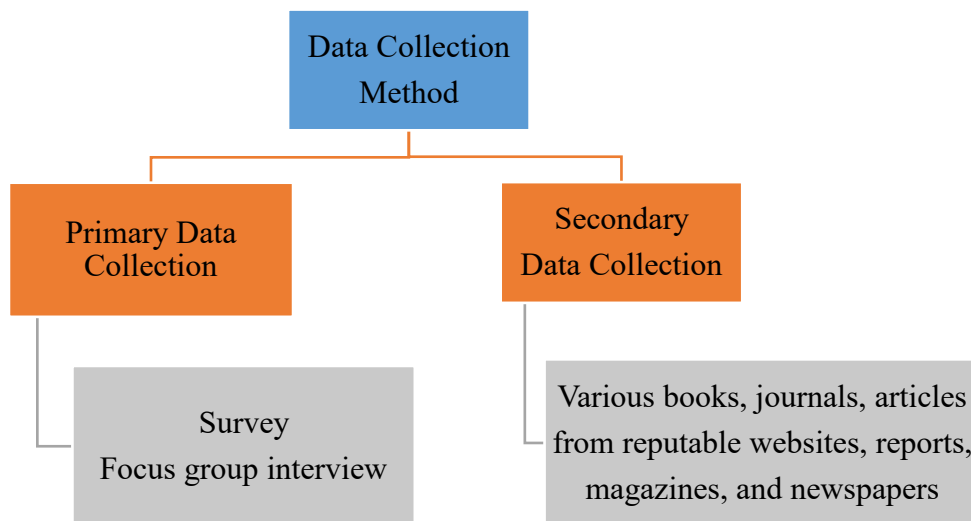


Figure 2 Data collection method

3.9 Data Analysis

Once data collection is finalized, the analysis will be conducted using SPSS 26 and SmartPLS 24 to ensure a comprehensive examination of both quantitative and qualitative data. Initially, descriptive statistics will be employed to summarize the sample characteristics and provide an overview of the dataset. This will be followed by pilot testing to refine the measures, ensure completeness, and eliminate inappropriate variables. To assess the reliability and validity of the measurement scales, reliability tests such as Cronbach's alpha and Exploratory Factor Analysis (EFA) will be applied to the primary survey data. Subsequently, Confirmatory Factor Analysis (CFA) will be conducted to further evaluate the measurement model. For hypothesis testing and exploring relationships between variables, Structural Equation Modeling (SEM) will be employed. SEM will allow for an in-depth examination of the relationships between latent and observed variables, as well as the assessment of mediation effects. Additionally, inferential statistical techniques will be applied to identify correlations and causations within the data. The results of these analyses will be systematically presented to ensure clarity and coherence. In parallel, qualitative data will undergo thematic analysis to identify recurring themes and patterns. This approach enables an in-depth exploration of participants' perspectives, providing valuable context that complements and supports the quantitative findings. Together, these methods ensure a robust and multi-faceted analysis of the data, enhancing the reliability and depth of the research outcomes.

3.10 Research Design Limitations

Ethical integrity serves as the foundation of this research design. Participants will receive comprehensive information regarding the study's purpose, their rights, and the intended use of

their data. Prior to their involvement, informed consent will be secured to ensure participation is entirely voluntary. Throughout the research process, strict measures will be implemented to maintain data confidentiality, fully complying with established ethical standards for academic research. While this mixed-methods approach offers a comprehensive understanding of the research problem, certain limitations may arise. For example, the use of self-reported survey data may introduce biases, such as social desirability bias, which could affect the accuracy of the findings. Furthermore, the qualitative insights derived from focus groups may not be generalizable due to their contextual nature. These limitations will be thoroughly acknowledged in the discussion section and addressed in the interpretation of results, accompanied by strategies designed to mitigate their potential impact. Additionally, to further advance our understanding of service, conducting comparative studies involving other service organizations beyond the hotel industry would offer valuable perspectives. Given that this study focuses exclusively on the luxury hotel sector in Vietnam, replicating the research with other firms operating within the same environment could provide comparative insights into their levels of sustainable development and competitive advantage. Such an approach would enrich the broader understanding of these critical dimensions across different organizational contexts.

3.11 Conclusion

This study provides a comprehensive analysis of the interplay between workforce skill shortages and competitive advantage through sustainable development practices in Vietnam's five-star hospitality sector. By addressing critical vocational and capability gaps - spanning technical, intrapersonal, interpersonal, and cognitive dimensions - the findings highlight the detrimental impact of these shortages on service quality, operational efficiency, and market positioning. The research establishes sustainable development as a key mediator, with social,

environmental, and economic initiatives mitigating skill-related challenges and enhancing organizational resilience. Empirical evidence underscores the financial and non-financial consequences of skill deficits while demonstrating how sustainability practices can drive cost savings, employee engagement, and differentiated service offerings. Methodologically, the mixed-methods approach ensures robust insights, integrating quantitative validation through SEM and qualitative depth from focus groups. Practical recommendations include curriculum reforms to align vocational training with industry needs, managerial emphasis on continuous professional development, and the integration of sustainability into HR strategies. Future research should address limitations such as self-report bias and contextual specificity by incorporating observational data, expanding to other regions or sectors, and employing longitudinal designs. Ultimately, bridging workforce skill gaps through sustainability is imperative for Vietnam's luxury hotels to achieve long-term competitiveness and global relevance.

CHAPTER IV:

RESULTS

4.1 Introduction

This chapter presents the empirical findings of the study, which investigates vocational and skill shortages within Vietnam's five-star luxury hotels and resorts. These findings provide critical insights into the implications of these shortages for competitive advantage and sustainable development in the sector. The results address two central research questions:

1. What are the vocational and skill shortages affecting the competitive advantage of five-star luxury hotels and resorts in Vietnam?
2. To what extent do these shortages influence the competitive positioning of these establishments?

To answer these questions, this chapter integrates quantitative data collected from 389 stratified participants, including managers and staff from key hospitality hubs such as Hanoi, Da Nang, Ho Chi Minh City, and Phu Quoc. Additionally, qualitative insights were gathered through focus group discussions to enrich the understanding of workforce challenges faced by the sector. This mixed-methods approach enables a holistic analysis of the workforce dynamics that shape operational efficiency and strategic differentiation in Vietnam's luxury hospitality industry. The analysis is structured using a three-tiered analytical framework to systematically evaluate the findings. The first tier investigates input deficiencies, focusing on gaps in vocational skills across various accreditation levels and functional dimensions within the sector. The second tier explores mediating mechanisms, particularly the role of sustainability practices in addressing workforce challenges and enhancing employee capabilities. The third tier examines competitive outcomes, assessing how skill shortages impact market positioning through the lens of Porter's

differentiation strategies. Advanced statistical tools were employed to analyze the collected data. Quantitative data were processed using SPSS for descriptive and inferential statistics, while structural equation modeling (SEM) was conducted using SmartPLS to identify relationships between variables. Qualitative data were subjected to thematic analysis to provide context-specific insights and employee-centric perspectives on skill development, sustainability practices, and workforce challenges. This chapter also addresses critical gaps identified in previous chapters by offering a nuanced understanding of workforce dynamics in Vietnam's luxury hospitality sector. It highlights employee perspectives on skill development opportunities and explores how sustainable practices can mediate workforce deficiencies. Additionally, it considers regional market nuances that influence organizational strategies, providing actionable recommendations for recalibrating vocational training models and operational frameworks to address skill shortages effectively. Finally, this chapter underscores the alignment of workforce development with sustainable development goals (SDGs). By integrating sustainability initiatives into workforce strategies, Vietnam's five-star luxury hotels and resorts can not only mitigate the adverse effects of skill shortages but also enhance their competitive advantage while contributing to broader global sustainability objectives. This dual focus on operational excellence and sustainability represents a pathway for achieving long-term success in an increasingly competitive and environmentally conscious global hospitality market.

4.2 Findings from the Pilot Study

As proposed in the previous chapter, a study was conducted to assess the reliability and validity of all construct measurements. The SPSS 26 software was used to analyze the results of the questionnaire. It is significant to find scales that are reliable. There are a number of different aspects to reliability; one of the most commonly used indexes for testing the reliability of a multi-

scale measurement tool is an index of the scale's internal consistency. According to DeVellis (1991), the purpose of this test is to assess whether all items are measuring the same thing or internal consistency. Empirically, assessing the Cronbach Alpha as evidence supporting the convergent validity of those items (Anderson and Gerbing, 1988). Nunnally (1978) suggests that a coefficient alpha of 0.6 is satisfactory in the early stages of research, while the more acceptable Cronbach alpha needs to be greater than 0.7 for social science research (Hair et al, 1995) and the item that has item-total correlation lower than 0.3 will be eliminated to increase the reliability and validity of the measurement. This pilot study, conducted with 78 respondents from Vietnam's hospitality sector, provides valuable insights into vocational skill gaps, sustainable development practices, and their implications for competitive advantage. The findings are presented thematically below:

4.2.1 Core Findings on Scale Reliability

High-Reliability Constructs

The pilot study successfully identified several constructs with high reliability, thereby ensuring the robustness and validity of the research instruments employed. Key findings from the study include the following: The construct of "Vocational and Skill Shortage" achieved a high reliability score of $\alpha = 0.969$, reflecting its effectiveness in measuring the gaps in both technical and soft skills among employees. This construct highlights critical deficiencies in areas such as problem-solving, communication, and technical expertise, which are essential for workforce development. The "Higher Education" construct demonstrated a reliability score of $\alpha = 0.897$, emphasizing the significance of formal education in preparing employees with advanced competencies necessary for the hospitality sector. Additionally, the "Environmental Sustainable Development" construct, with a reliability score of $\alpha = 0.868$, evaluates the extent to which eco-

friendly practices, including waste management and energy conservation, are integrated into hotel operations.

Table 2 Pilot Study High-Reliability Constructs

Construct	Cronbach's Alpha (α)	Key Insight
Vocational & Skill Shortage (VSS)	0.969	Exceptional internal consistency (all 10 items remained).
Higher Education (HE)	0.897	Strong alignment across 5 items (e.g., HE3: $\alpha=0.897$ post-adjustment).
Non-Financial Indicator (EN)	0.890	Robust reliability across 4 items (e.g., EN4: $\alpha=0.832$).
Environment Sustainable Development (ES)	0.868	High consistency ($\alpha=0.868$) with no item removal.

Adjustments for Improved Reliability

To enhance the precision of the constructs, modifications were made by excluding items with low correlations, specifically TA4 and IA3. As a result, the reliability of the intrapersonal skills dimension improved markedly, with Cronbach's alpha increasing from 0.475 to 0.798. This adjustment underscores the importance of iterative testing in refining measurement tools to ensure their alignment with the objectives of the study. The elevated reliability scores observed across the constructs validate the effectiveness of the research instruments in accurately capturing critical dimensions of workforce development and sustainability within the hospitality industry. These methodological refinements not only strengthen the validity of the current study but also establish a solid framework for future research and practical applications in this domain.

Table 3 Training Accreditation Constructs with Low Correlations

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TA1	10.46	6.460	.593	.509
TA2	10.38	6.058	.674	.449
TA3	10.24	6.628	.625	.498
TA4	11.18	8.383	.084	.867

Table 4 Intrapersonal Constructs with Low Correlations

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IA1	10.37	4.159	.506	.237
IA2	10.21	3.905	.459	.239
IA3	10.85	4.833	-.049	.798
IA4	10.31	4.008	.435	.264

Table 5 Adjusted Pilot Study Constructs

Construct	Initial α	Final α	Removed Items	Rationale
Training Accreditation (TA)	0.669	0.867	TA4	Low item-total correlation (0.084) compromised reliability.
Intrapersonal (IA)	0.475	0.798	IA3	Negative correlation (-0.049) disrupted scale coherence.
Cognitive (CO)	0.782	-	None	Retained all items; met thresholds after minor adjustments.

4.2.2 Validity and Item Retention Decisions

The remaining alpha values showed the estimates of reliability and validity were high. The alpha values also showed the scales were reasonably reliable and indicated that all the values exceeded the minimum threshold level of 0.70 that presented in Appendix B. As a result, the values are accepted and the questionnaire is reliable. Thus, we conducted a main survey after deleting the 02 corresponding questions are 02 factors mentioned above.

4.2.3 Conclusion

The pilot study successfully validated the structural integrity and reliability of the survey instrument designed to assess employee well-being and retention within Vietnam's hospitality sector. This preliminary investigation revealed high reliability in several scales, particularly the VSS and HE, indicating robust measurement in these areas. However, it also identified lower performance in constructs such as social support and attrition intentions, which emerge as critical areas necessitating further refinement. These findings highlight significant pain points within the workforce that warrant attention. The insights garnered from this pilot study are instrumental in refining the survey instrument and optimizing data collection strategies for the main study. By addressing these identified weaknesses, the research team can ensure that subsequent investigations yield actionable insights into employee well-being and retention, providing a comprehensive understanding of workforce dynamics in this sector. Furthermore, the pilot findings emphasize the necessity of focusing on curriculum reform, sustainability training, and skill retention to enhance workforce readiness. These areas are pivotal for improving organizational outcomes and aligning workforce capabilities with the evolving demands of modern industries. Targeted interventions in these domains, coupled with continued research efforts, can significantly contribute to building a more skilled, sustainable, and resilient workforce. In conclusion, the pilot study lays a solid foundation for future research endeavors.

By addressing the identified critical areas and implementing strategic interventions, stakeholders can foster long-term professional and organizational success in Vietnam's hospitality sector. The study underscores the importance of continuous improvement and adaptation to meet the challenges of an ever-changing industrial landscape.

4.3 Data analysis

Following an analysis of demographic data, a quantitative research method was employed to examine information collected from 389 hospitality professionals based in key tourism hubs, including Hanoi, Da Nang, Ho Chi Minh City, and Phú Quốc. To complement the quantitative findings, qualitative insights were gathered through focus group interviews with industry stakeholders, such as hotel managers, HR practitioners, and educators. A thematic analysis of the qualitative data provided a deeper understanding of the specific challenges and barriers encountered within the hospitality sector, offering a nuanced interpretation of the quantitative results. To ensure the study's reliability and validity, rigorous methodological procedures were implemented. Internal consistency of measurement variables was assessed using Cronbach's Alpha. Additionally, Composite Reliability (CR) and Average Variance Extracted (AVE) metrics were calculated to strengthen the analytical framework and confirm the robustness of the findings.

4.3.1 Demographic information

The demographic characteristics of participants provide a comprehensive understanding of their distribution across various parameters, including geographical location, gender, age, department, job role, residence, education level, and professional experience. This section focuses on the geographical distribution of respondents, which highlights significant trends in the sample population.

Place of Work Distribution

The analysis reveals that the majority of respondents are based in Danang, accounting for 42.2% of the total sample. This indicates that Danang represents a key geographical area for the study population. Following Danang, Phú Quốc emerges as the second most represented location, comprising 27.2% of the respondents. This suggests a notable concentration of participants in this region as well. Ho Chi Minh City constitutes the third-largest group, with 14.7% of respondents residing in this metropolitan area. While Hanoi represents 10% of the sample, it is noteworthy that this proportion is smaller compared to other major urban centers like Danang and Ho Chi Minh City. Lastly, respondents from "Other" locations collectively account for 5.9%, reflecting a relatively minor presence in less prominent or unspecified areas. These findings underscore the geographical diversity of the respondents while highlighting the predominance of certain regions, particularly Danang and Phú Quốc. Such distribution patterns may reflect regional differences in workforce composition, organizational presence, or other contextual factors influencing the sample population. Further analysis can explore how these regional variations intersect with other demographic variables to provide deeper insights into the study's context.

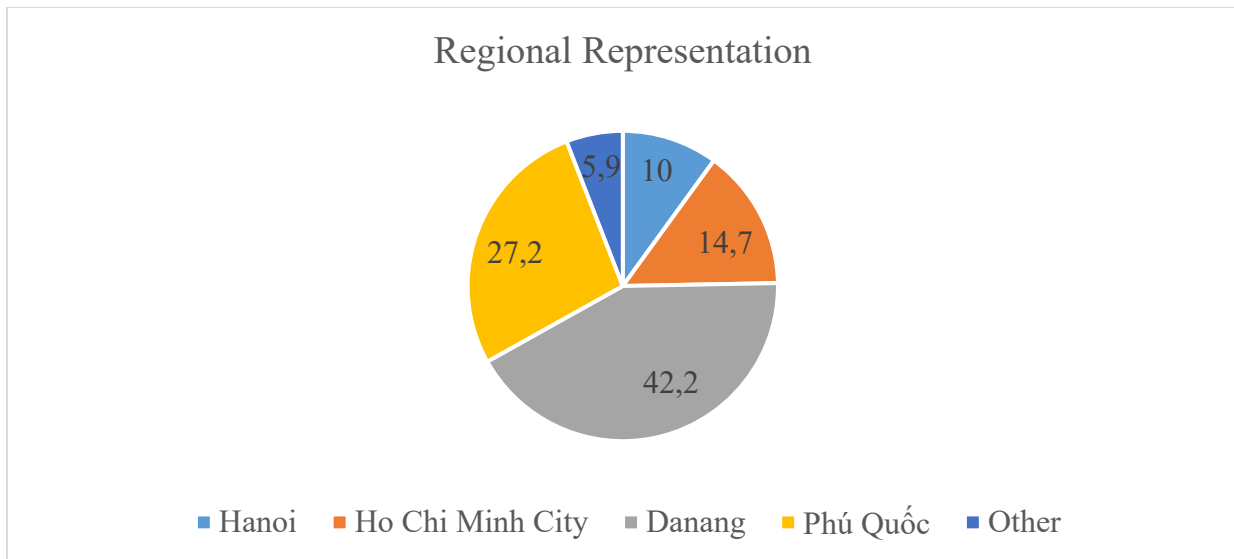


Figure 3 The percentage of participants from each region

Gender distribution

The gender distribution is slightly male-dominant, with 50.9% male and 46.8% female respondents. This relatively balanced distribution reflects the gender diversity within the hospitality industry, though the slight male dominance may point to a higher prevalence of men in certain roles or levels of employment.

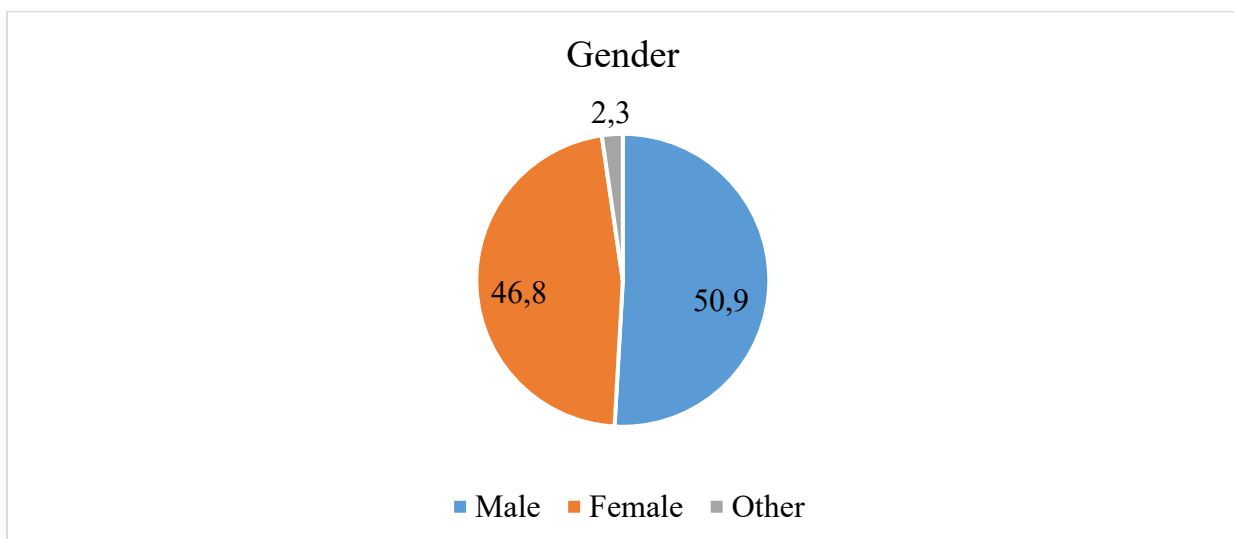


Figure 4 The proportions of male, female, and other genders

Age Distribution

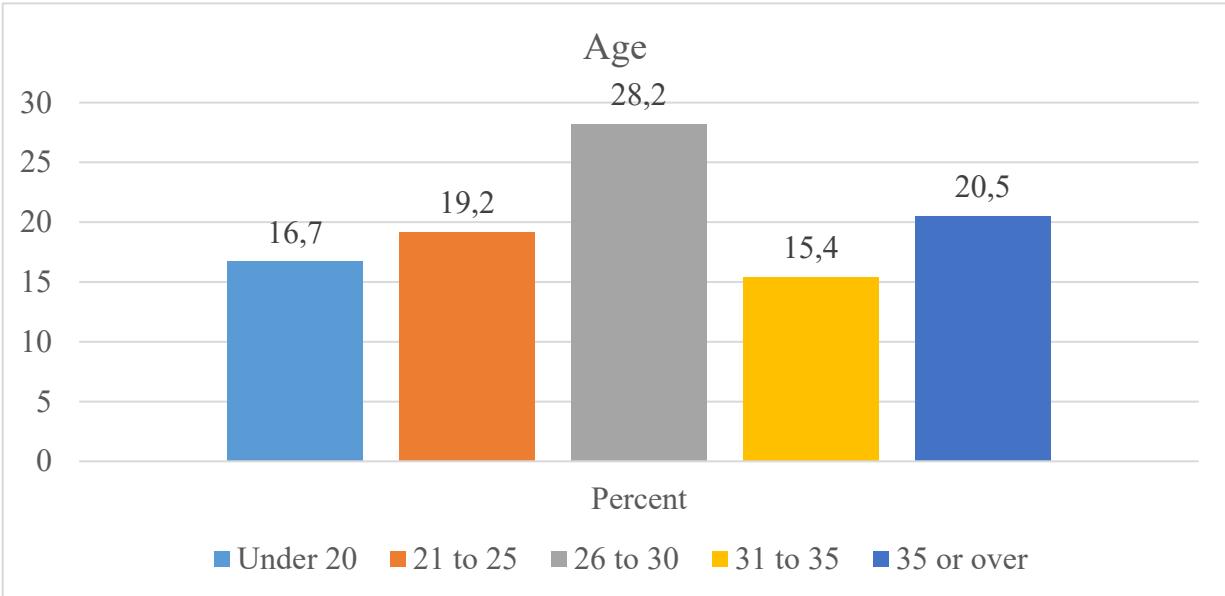


Figure 5 The percentage of participants in each age group

The analysis of the age distribution among respondents reveals that the largest demographic group falls within the 26 to 30 years category, comprising 30.6% of the total sample. This is followed by individuals aged 21 to 25 years, who constitute 20.3% of the respondents. Furthermore, participants aged 35 years or older represent 17.5% of the population under study. This suggests that the workforce in the hospitality sector is relatively young, with a significant proportion in their late 20s to early 30s. This age group is likely to include individuals in the early to mid-stages of their careers. In contrast, younger respondents, specifically those under 20 years of age, account for 15.2% of the sample. Meanwhile, individuals in the 31 to 35 years age bracket make up 16.5% of the surveyed population. The presence of older participants (16.5%) indicates some representation of more experienced employees, though they form a smaller proportion of the sample. These findings highlight a relatively balanced distribution across age groups, with a notable concentration in the mid-to-late twenties demographic. This

data provides valuable insights into the age composition of the population being analyzed and may serve as a basis for further demographic or behavioral studies.

Departmental distribution

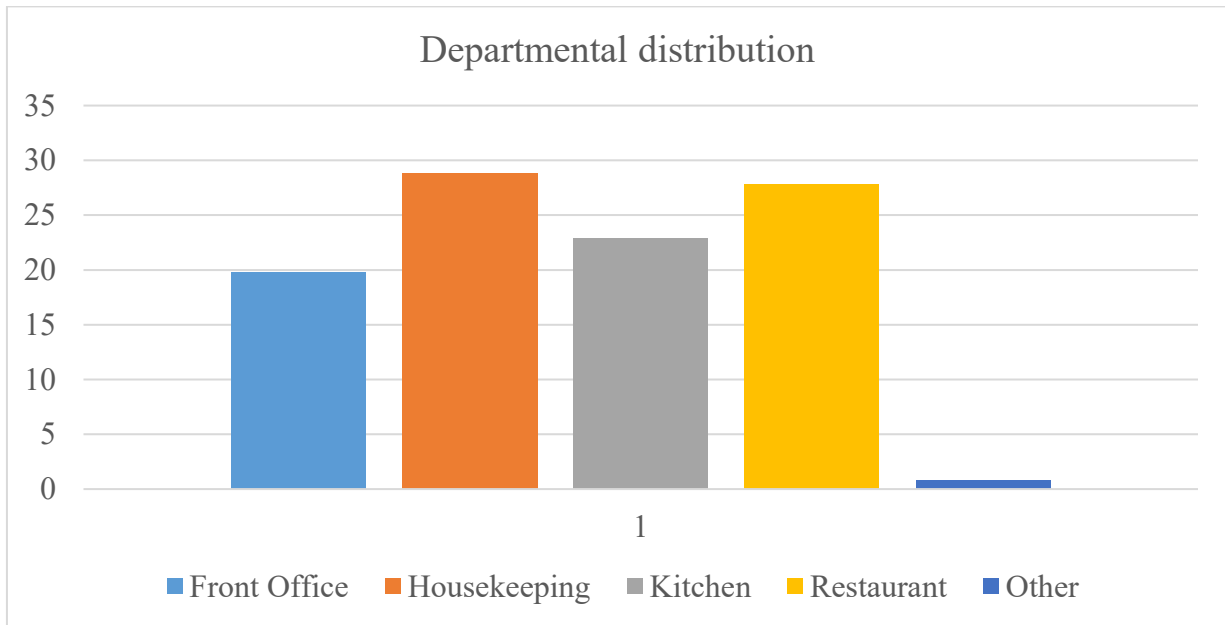


Figure 6 The distribution of participants across departments

The workforce distribution within the organization reveals significant departmental variation, with Housekeeping (28.8%) and Restaurant (27.8%) constituting the largest segments. These are followed by the Kitchen department, representing 22.9% of the workforce, and the Front Office, comprising 19.8%. Notably, other departments collectively account for a minimal proportion of 0.8%. This distribution highlights the prominence of operational roles in Housekeeping and Restaurant services, which together represent over half of the organizational workforce. Such a composition is likely to influence the skill requirements across departments, as well as the perceptions of performance indicators and workplace priorities. For instance, Housekeeping and Restaurant staff may prioritize efficiency, customer satisfaction, and attention

to detail due to their direct impact on service quality. Conversely, the smaller representation of Front Office and Kitchen personnel suggests a more specialized focus in these areas, potentially requiring distinct technical or interpersonal skills tailored to their specific functions. The minimal representation of other departments underscores their ancillary role in the overall operational framework. These departmental differences underscore the need for tailored training programs and performance metrics that align with the unique demands of each area. Furthermore, the disproportionate size of certain departments may also influence organizational dynamics, including communication flow, resource allocation, and employee perceptions of equity and recognition. These findings provide valuable insight into the operational workforce composition in hospitality settings, emphasizing the critical importance of these key departments in sustaining overall organizational performance.

Job Roles

The distribution of job roles among participants revealed that the majority were employees, accounting for 69.9% of the sample. Middle-level managers comprised 24.7%, while managers represented only 4.6% of the participant pool. This indicates that the study predominantly engaged operational-level staff, with limited representation from managerial tiers. The emphasis on employees suggests that the findings are primarily reflective of insights and experiences at the operational level, where day-to-day processes are executed. The comparatively smaller proportion of middle-level and senior managers implies that perspectives from strategic and decision-making roles were less prominent within the study. This distribution aligns with the study's apparent focus on understanding workplace dynamics and practices from the viewpoint of those directly involved in operational tasks. However, it also highlights a potential limitation in capturing a comprehensive view of organizational hierarchies and decision-making processes.

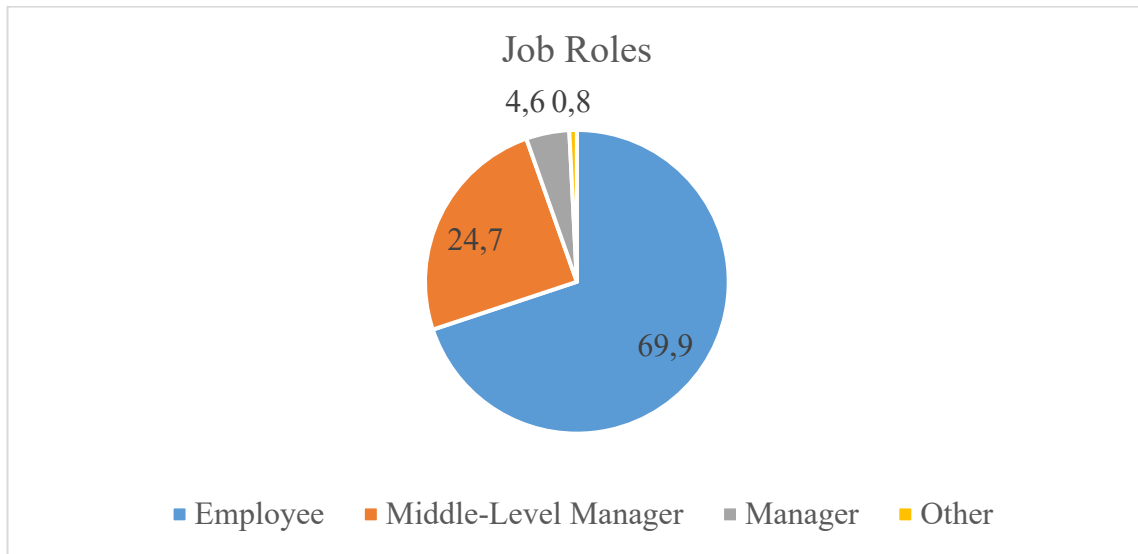


Figure 7 The proportion of participants in each job role

Resident Status

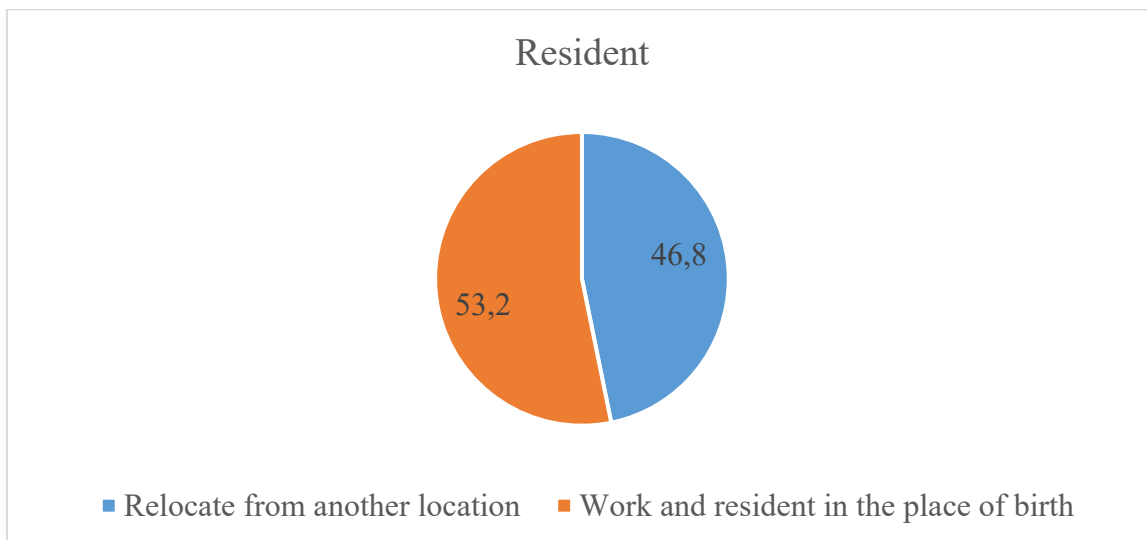


Figure 8 The resident status

The data reveals that 53.2% of participants worked and resided in their place of birth, while 46.8% relocated from other locations. This indicates that more than half of the workforce

is composed of local employees, suggesting an effort by hotels and resorts to recruit staff from the local community. Such hiring practices align with principles of sustainable development, particularly in the context of social development. By employing local residents, hospitality businesses contribute to the economic growth of the region, foster community engagement, and reduce the environmental impact associated with employee relocation. However, the presence of a slightly higher proportion of relocated employees (46.8%) may reflect the need to fill specialized roles or address labor shortages in specific areas. Balancing local hiring with external recruitment can help ensure both operational efficiency and sustainable practices.

Educational backgrounds

An analysis of workforce educational backgrounds reveals a predominant presence of vocational qualifications. Notably, 48.1% of the surveyed individuals possess a Diploma or equivalent vocational education, underscoring a robust foundation in specialized skills. Furthermore, 29.3% hold a Bachelor's degree, indicating a significant segment with higher education credentials. Additionally, 18% have vocational training certificates, affirming the prevalence of practical, skills-based learning within the cohort. A smaller fraction, 4.6%, reported other educational attainments. These findings suggest that the workforce is substantially characterized by vocational training and formal education, contributing to specialized expertise and adaptability in professional contexts. The distribution underscores the critical role of both higher education and vocational pathways in shaping workforce competencies, highlighting their importance in fostering a versatile and skilled labor pool. This data provides valuable insights into the educational composition of the workforce, emphasizing the need for continued support and development of both vocational and higher education systems to maintain and enhance workforce capabilities.

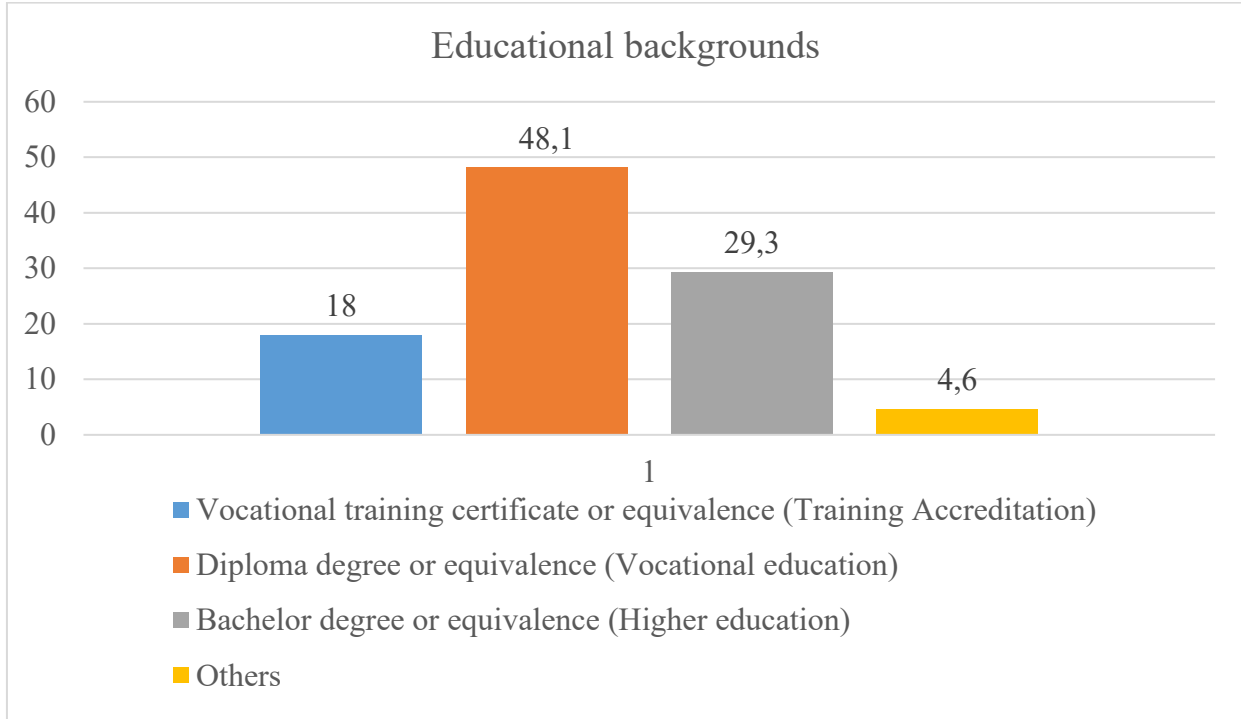


Figure 9 The percentage of participants by educational attainment

Work Experience

The recent study reveals that the workforce is predominantly composed of early-career professionals, with 50.1% having 1–3 years of experience, 23.7% possessing 3–5 years, 16.2% with less than 1 year, and only 10% having more than 5 years of professional experience. This demographic distribution underscores the prevalence of younger professionals within the industry. From a sustainable development perspective, this composition necessitates the implementation of inclusive and adaptive organizational strategies focused on skill enhancement, knowledge transfer, and long-term career growth. While the presence of younger professionals may drive innovation and adaptability, it simultaneously presents challenges such as employee retention and continuity in expertise. Future research should explore sustainable organizational practices that enhance professional development, boost employee engagement, and establish

equitable career progression frameworks. These strategies are crucial for addressing immediate workforce needs and for fostering resilient human capital that aligns with sustainable development objectives, including inclusive economic growth and industry innovation. The findings emphasize the importance of integrating younger professionals into strategic initiatives to ensure both individual career success and organizational resilience.

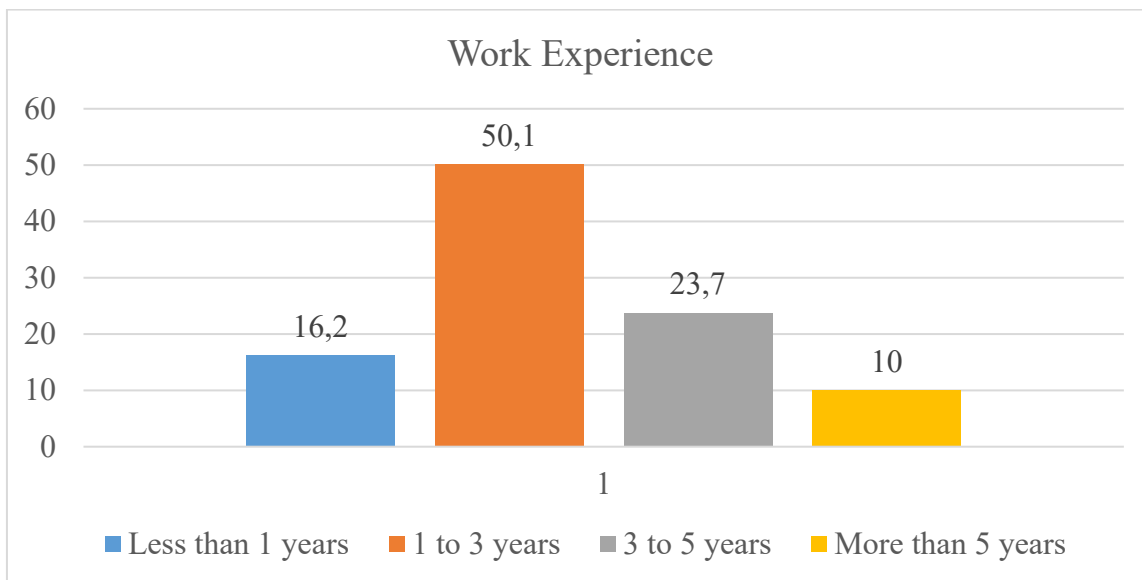


Figure 10 The percentage of participants by work experience

The demographic analysis of Vietnam's luxury hospitality sector reveals a workforce marked by significant regional, gender, and age diversity, reflecting both opportunities and challenges for the industry. Strategic locations such as Danang (42.2%) and Phú Quốc (27.2%) serve as key employment hubs, emphasizing the importance of localized workforce development to mitigate potential skill shortages and promote social sustainability through initiatives like local recruitment programs. Gender distribution shows a slight male predominance (50.9% male, 46.8% female), indicating progress toward gender diversity but necessitating further research into gender-specific roles to ensure equity. The workforce is predominantly composed of young

professionals aged 26 to 30 (30.6%), creating a dynamic and innovative environment while posing challenges related to retention and skill enhancement. Operational roles dominate, particularly in Housekeeping (28.8%) and Restaurant services (27.8%), highlighting the need for targeted training tailored to these critical areas. With 69.9% of employees in non-managerial roles and only 4.6% in managerial positions, there is a notable gap in strategic decision-making capacity, suggesting the need for future studies to incorporate insights from higher management. The balance between local hires (53.2%) and relocated talent (46.8%) reflects both community integration and reliance on external expertise for specialized roles, while educational qualifications, heavily oriented toward vocational training (48.1%) and Bachelor's degrees (29.3%), underscore the necessity of continued investment in both practical and academic education. Additionally, the prevalence of early-career professionals (50.1% with 1–3 years of experience) underscores the critical need for comprehensive training, mentorship, and retention strategies to support career progression and knowledge transfer. Overall, these findings highlight a diverse and evolving workforce that requires strategic interventions in training, recruitment, and policy development to address sector-specific challenges, ultimately enhancing competitiveness and long-term sustainability in Vietnam's luxury hospitality industry.

4.3.2 Descriptive Statistics

The descriptive statistics analysis provides a comprehensive overview of skill assessments, educational preparation, and sustainability practices within Vietnam's luxury hospitality sector. Technical abilities (TA1-TA3) reflect moderate proficiency with mean scores ranging from 3.45 to 3.53, while interpersonal, intrapersonal, and cognitive skills (IE1-IE4, IA1-IA3, CO1-CO3) reveal significant deficiencies, with mean ratings below the midpoint (2.52-3.24). Educational, encompassing vocational (VE1-VE4) and higher education (HE1-HE5),

achieves moderate satisfaction levels (means 3.24-3.56), highlighting areas for potential improvement in training programs. The most critical concern arises from vocational and skill shortages (VSS1-VSS10), which exhibit the lowest mean scores (2.20-2.39), emphasizing substantial gaps in core hospitality competencies. Similarly, soft skills (SS1-SS4) show suboptimal development, with slightly higher but still concerning mean ratings (2.72-3.08). Sustainability practices demonstrate moderate implementation, with environmental (ES1-ES3) and economic sustainability (EC1-EC3) measures scoring between 2.74 and 2.82. Despite these challenges, performance indicators such as financial (FI1-FI4) and environmental performance (EN1-EN4) achieve the highest ratings (means 3.83-3.99), suggesting that hotels maintain relatively strong operational outcomes despite skill shortages.

Table 6 Descriptive Statictics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
TA1	389	1	5	3.45	.934
TA2	389	1	5	3.49	.929
TA3	389	1	5	3.53	.906
VE1	389	1	5	3.56	.933
VE2	389	1	5	3.24	.979
VE3	389	1	5	3.39	.969
VE4	389	1	5	3.34	.994
HE1	389	1	5	3.40	.949
HE2	389	1	5	3.40	.970
HE3	389	1	5	3.40	.949
HE4	389	1	5	3.42	.964
HE5	389	1	5	3.43	.960
IE1	389	1	5	2.65	.965
IE2	389	1	5	3.24	.958
IE3	389	1	5	2.52	.986
IE4	389	1	5	2.67	1.024
IA1	389	1	5	2.68	1.019
IA2	389	1	5	2.70	1.011
IA3	389	1	5	2.68	1.024

CO1	389	1	5	2.65	1.036
CO2	389	1	5	2.62	.999
CO3	389	1	5	2.63	1.055
VSS1	389	1	5	2.39	.934
VSS2	389	1	5	2.35	.972
VSS4	389	1	5	2.20	.820
VSS5	389	1	5	2.24	.907
VSS6	389	1	5	2.24	.850
VSS7	389	1	5	2.30	.907
VSS8	389	1	5	2.27	.871
VSS9	389	1	5	2.31	.913
VSS10	389	1	5	2.31	.916
SS1	389	1	5	2.73	.829
SS2	389	1	5	2.86	.892
SS3	389	1	5	2.72	.879
SS4	389	1	5	3.08	.917
ES1	389	1	5	2.82	.898
ES2	389	1	5	2.80	.860
ES3	389	1	5	2.81	.883
EC1	389	1	5	2.78	.918
EC2	389	1	5	2.77	.896
EC3	389	1	5	2.74	.934
FI1	389	2	5	3.99	.650
FI2	389	2	5	3.85	.689
FI3	389	1	5	3.92	.707
FI4	389	2	5	3.95	.664
EN1	389	2	5	3.84	.728
EN2	389	2	5	3.86	.696
EN3	389	2	5	3.85	.705
EN4	389	2	5	3.83	.717
Valid N (listwise)	389				

4.3.2 Assessment of Measurement Model

To ensure reliability and validity in this study, rigorous statistical analysis methods were employed. Cronbach's Alpha reliability coefficient was used to test the consistency of

measurement variables, yielding results between 0.88 and 0.92, indicating high reliability across observations. The research model incorporated four variables to measure relationships under the assumption that observed variables align with underlying factors. Confirmatory Factor Analysis (CFA) was utilized to assess the fit of the measurement model against actual data (Hair et al., 2020). Additionally, Composite Reliability (CR) and Average Variance Extracted (AVE) metrics were calculated to reinforce the analytical framework. To address the complexity of the research model and evaluate intricate relationships between variables, the Partial Least Squares Structural Equation Modeling (PLS-SEM) method was applied, leveraging its robustness and suitability for multifaceted analytical contexts (Hair et al., 2013). This systematic approach facilitated a thorough evaluation of relationships among variables and validated the study's findings, which underscore the adverse impact of vocational and skill shortages on competitive advantage in Vietnam's luxury hospitality industry through sustainable development practices, thereby emphasizing the necessity for targeted interventions to address these gaps.

Evaluating the validity and reliability of the measurement model

Table 7 The results assessment validity and reliability

Items	Variable observation	Outer loading	Cronbach's alpha
VS	Vocational Shortage		0.953
TA	Training Accreditation		0.874
TA1	The technical service skills were a primary focus in the completed program.	0.869	
TA2	The soft skills were not a crucial part of the curriculum in the program you completed.	0.899	
TA3	The training program adequately equipped the learners with all the essential skills required for success in the hospitality industry.	0.913	

VE	Vocational Education		0.927
VE1	The technical service skills were the primary focus of the education program you completed.	0.858	
VE2	The soft skills were crucial part of the curriculum in the program you completed.	0.799	
VE3	The Hospitality management skills were crucial part of the curriculum in the program you completed.	0.833	
VE4	Conversational English skills were not a mandatory requirement in the program you completed.	0.914	
HE	Higher Education		0.938
HE1	The Hospitality management skills were a crucial part of the curriculum in the program you completed.	0.949	
HE2	Academic Research and Study was the primary focus of the education program you completed.	0.838	
HE3	The technical service skills were crucial part of the curriculum in the program you completed.	0.796	
HE4	The soft skills were crucial part of the curriculum in the program you completed.	0.802	
HE5	Conversational English skill was a mandatory requirement in the program you completed.	0.889	
SS	Soft Skills Shortage		0.918
IE	Interpersonal		0.817
IE1	The education program adequately equipped you with the ability to empathize and work productively with people from a wide range of backgrounds	0.698 0.801	
IE2	The education program adequately equipped you with the ability to develop and contribute positively to team-based programs	0.839	

IE3	The education program adequately equipped you with the ability to be transparent and honest in your dealings with others	0.642 0.777	
IE4	The education program adequately equipped you with the ability to listen to different points of view, before coming to a decision	0.572 0.792	
IA	Intrapersonal		0.852
IA1	The educational program sufficiently prepared you with the awareness of your personal strengths and limitations	0.890	
IA2	The educational program sufficiently prepared you with the ability to withhold judgment and not jump in too quickly to resolve a problem	0.858	
IA3	The educational program sufficiently prepared you with the ability to remain calm under pressure and maintain a good work/life balance	0.788	
CO	Cognitive		0.828
CO1	You were sufficiently prepared by the educational program with the ability to identify and diagnose the causes of a work-related problem and to take appropriate action to address them	0.849	
CO2	You were sufficiently prepared by the educational program with the ability to critically assess information for decision-making purposes.	0.742	
CO3	You were sufficiently prepared by the educational program with the capacity to identify the core issue from a mass of details in any situation.	0.844	
VSS	Vocational and Skills Shortage		0.936

VSS1	You started your career in upscale hotels and resorts where your main competency was food preparation, including larder and cold preparation.	0.859	
VSS2	Your primary skill when you first started working in high-end hotels and resorts was food preparation, which includes cooking and finishing.	0.872	
VSS3	Your primary skills when you started working in upscale hotels and resorts were baking and pastry.	-0.111	
VSS4	Preparing and serving beverages, both alcoholic and non-alcoholic, was a primary skill of yours when you began your career in luxury hotels and resorts	0.904	
VSS5	Fine Dining service was a primary skill of yours when you began your career in luxury hotels/resorts	0.893	
VSS6	Banquet and event management was a primary skill of yours when you began your career in luxury hotels and resorts	0.883	
VSS7	Front desk/ Guest service was a primary skill of yours when you began your career in luxury hotels/resorts	0.904	
VSS8	Room service (Public Area Cleaning service) was a primary skill of yours when you began your career in luxury hotels/resorts	0.901	
VSS9	Technical skill is a skill you developed and mastered	0.909	
VSS10	Capability is a skill you have developed and mastered	0.912	
SD	Sustainable Development		0.989
SS	Social Sustainable Development		0.856
SS1	The hotel makes a concerted effort to make every employee understand the importance of sustainability.	0.759	
SS2	The hotel has trained good knowledge about green practices for their employees.	0.747	

SS3	The hotel has encouraged its employees to active implement green practices.	0.675 0.843	
SS4	The hotel recruits local people	0.894	
ES	Environment Sustainable Development		0.833
ES1	The hotel has provided the plan for reduction programs: reduce the consumption of energy and water.	0.629 0.832	
ES2	The hotel has provided the plan for reuse programs: towel and linen reuse, collect rainwater for use within its facilities and Greywater capturing devices and irrigation systems are used for landscaping the hotel grounds...	0.750	
ES3	The hotel has provided the plan for recycling programs: used plastic material, used papers...	0.875	
EC	Economic Sustainable Development		0.857
EC1	After applying economically sustainable development strategy, the hotels in can bring the profitability of each stakeholder higher than before.	0.877	
EC2	After applying economically sustainable development strategy, the hotels in can saving operation costs from limit/reduce water, energy and waste.	0.890	
EC3	After applying economic sustainable development strategy, the hotels can have differentiation products and services when compared with their competitors in their industry.	0.868	
CA	Competitive advantage		0.927
FI	Financial Indicators		0.874
FI1	Compared to our competitors, we have a growing market share, along with higher sales revenue and a faster profit growth rate	0.828	

FI2	Compared with our competitors, we have lower operating costs	0.870	
FI3	Compared with our competitors, we have better product and service quality	0.713	
FI4	Compared with our competitors, we have more profitable old and new customers	0.915	
EN	Non-Financial Indicators		0.910
EN1	I try my hardest to perform well on my job	0.867	
EN2	I am proud of my job	0.796	
EN3	At work, my mind is focused on my job	0.907	
EN4	At work, I pay a lot of attention to my job	0.892	

Source: Author's own research, 2025

The study undertook a meticulous evaluation of the measurement scale's reliability and validity. As illustrated in Table 2, the outcomes of both the reliability assessment and convergence analysis are presented. The findings reveal some indicators of outer loading falling below the recommended threshold of 0.7, as advised by Fornell et al. (1981). Specifically, these indicators include IE1 at 0.698, IE3 at 0.642, IE4 at 0.572, SS3 at 0.675, ES1 at 0.629, and VSS3 at -0.111. In structural equation modeling, it is unlikely that outer loadings of second-order factors can be consolidated into a single group. This is due to the inherent nature of second-order factors, which consist of distinct subcomponents. Each subcomponent contributes uniquely to the overall construct, complicating uniform clustering at the second-order level. Previous studies highlight difficulties in assessing second-order factors because of their composite nature (Hair et al., 2018). Rindskopf and Rose (1988) emphasize that outer loadings for second-order constructs often resist aggregation due to their derivation from distinct subcomponents. Hence, evaluating and interpreting second-order factors requires a more nuanced approach, considering the individual contributions of their constituent elements. This finding highlights the significance of

acknowledging the hierarchical structure within models, which affects methodological strategies for factor analysis. Researchers are advised to concentrate their assessments on first-order factors for accurate representation and understanding of underlying constructs. This approach not only provides clearer insights but also strengthens the robustness of analytical outcomes in empirical investigations. Despite these concerns, the total variable correlation values, ranging from 0.76 to 0.89, underscore significant interrelationships among the variables under investigation. The scale's internal consistency, as evidenced by the Cronbach Alpha coefficient (spanning from 0.817 to 0.953), indicates a high level of internal reliability. Additionally, the Composite Reliability (CR) index results, detailed in Table 3 with values ranging from 0.88 to 0.93, further substantiate the robust reliability of the measurement model. Moreover, the Average Variance Extracted (AVE) values, ranging from 0.528 to 0.791, demonstrate that a substantial proportion of variability in the latent variables is effectively captured by the model. These findings collectively provide compelling support for the validity and reliability of the measurement scale employed in this research study.

Evaluation of discriminant validity according to the Fornell & Larcker criterion

The assessment of discriminant validity was conducted utilizing the Fornell and Larcker criterion, as detailed in Table 3. This evaluation method involves analyzing the correlation values between pairs of measurement variables. Notably, the diagonal entries in the table represent the square roots of the Average Variance Extracted (AVE) for each construct, which reflect the proportion of variance that is attributable to the underlying construct itself. According to Rönkkö and Cho (2020), for discriminant validity to be established, these diagonal values should exceed the inter-construct correlations present in the off-diagonal elements. The AVE values were compared against a benchmark of 0.5, as recommended by Fornell et al. (1981), to determine an

adequate level of convergence within the measurement scale. It was observed that the composite reliability values ranged from 0.52 to 0.79, surpassing the conventional threshold necessary to affirm the internal consistency of the measurement scale. This range indicates a robust internal consistency, thereby reinforcing the reliability of the scale employed in this study. Such findings substantiate the discriminant validity of the constructs under investigation, confirming that each construct is distinct and well-represented by its respective indicators.

Table 8 Evaluation of discriminant validity according to the Fornell & Larcker criterion.

	AVE	CA	SD	SS	VSS	VS
CA	0.667	0.817				
SD	0.528	0.418	0.726			
SS	0.579	0.192	0.411	0.761		
VSS	0.719	0.214	0.337	0.380	0.848	
VS	0.664	0.413	0.416	0.233	0.185	0.815

Collinearity statistics (VIF)

Upon examination of the collinearity statistics presented in the results table, it is observed that all Variance Inflation Factor (VIF) values are below 2. This finding suggests that multicollinearity is not present within the dataset, thereby supporting the robustness of the regression model employed in this study.

Table 9 Variance Inflation Factor (VIF)

	VIF
CA_2nd -> EN	1.000
CA_2nd -> FI	1.000

SD_2nd -> CA_2nd	1.000
SD_2nd -> EC	1.000
SD_2nd -> ES	1.000
SD_2nd -> SS	1.000
SS_2nd -> CO	1.000
SS_2nd -> IA	1.000
SS_2nd -> IE	1.000
SS_2nd -> SD_2nd	1.207
VSS -> SD_2nd	1.182
VS_2nd -> HE	1.000
VS_2nd -> SD_2nd	1.070
VS_2nd -> TA	1.000
VS_2nd -> VE	1.000

4.3.3 Assessment of Structural Equation Modeling (SEM)

There are two primary SEM-based approaches: covariance-based (CBSEM) and component-based (PLS-SEM). CBSEM is predominantly employed for theory validation and is widely recognized in social science research. Notable software for CBSEM includes AMOS, EQS, Mplus, SEPATH, and RAMONA. Conversely, PLS-SEM is designed for exploratory research aimed at theory development and provides an alternative to the restrictive assumptions of maximum likelihood estimation. Software options for PLS-SEM include LVPLS, PLSGUI, VisualPLS, PLS-graph, and SmartPLS. In this hypothesis test, SmartPLS 24 was implemented. The rationale for selecting PLS-SEM in this study is detailed as follows: PLS-SEM is

advantageous in exploratory contexts where theoretical frameworks are still being refined, allowing for greater flexibility in model estimation. The results indicate that PLS-SEM effectively supports the development.

Hypothesis test results

This research primarily aims to explore the interconnections among measurement variables within the proposed research framework using the partial least squares structural equation modeling (PLS-SEM) technique. The findings, which include standardized estimates, are comprehensively detailed in Table 5. This table is instrumental in elucidating both the magnitude and directionality of the relationships among the variables as delineated by Joseph F. Hair et al. (2013) and offering insights into the core findings of the study.

Table 10 The results analysis of standardized estimates

Hypothesis	Paths			Estimate	P-value	Decision
H1	VS	->	SD	0.321	0.00	Supported
H2	SS	->	SD	0.269	0.00	Supported
H3	VSS	->	SD	0.418	0.00	Supported
H4	SD	->	CA	0.175	0.00	Supported

The analysis of Table 10 reveals that the hypotheses within the research framework were evaluated and determined to be statistically significant at a 95% confidence level. The factors influencing competitive advantage were ranked in descending order based on their estimated coefficients. Notably, the factor exerting the highest influence on competitive advantage is sustainable development, with a beta coefficient of 0.418. This finding underscores the assertion by B. Bowonder et al. (2010), that sustainable development is a pivotal element in enhancing competitive advantage (CA). It differentiates a company from its competitors and facilitates

market success. A robust competitive advantage enables an organization to secure a unique market position, resulting in increased market share, elevated sales revenue, and accelerated profit growth. According to Li et al. (2014), organizations with a competitive edge experience reduced operating costs, superior product and service quality, and retain more profitable customers, both existing and new. These advantages collectively enhance organizational efficiency, ensuring prolonged success in a highly competitive business environment. This study further explores the dynamic relationship between vocational shortages and sustainable development within the hotel sector. The impact of vocational shortages on sustainable development was also confirmed to be statistically significant, with an estimated coefficient of 0.321. Vocational shortages are quantified by the number of unoccupied roles necessitating formal vocational training, alongside employer-reported challenges in recruiting skilled professionals in domains such as culinary arts or customer service. Labor shortages compel luxury hotels to function with diminished staff levels, leading to service delays (e.g., housekeeping, concierge) and employee overwork, thereby compromising operational efficiency. High turnover rates necessitate frequent recruitment and training, diverting resources away from enhancing guest experiences. For instance, a luxury resort may face difficulties in sustaining 24/7 butler services, a signature feature of its brand, due to a lack of skilled personnel. The limited talent pool constrains innovation in critical areas such as sustainability initiatives or digital guest engagement, essential for luxury brands to maintain their competitive edge. Corporate panel discussions (as referenced in previous inquiries) highlight that without seasoned staff, luxury hotels may find it challenging to contribute meaningfully to industry thought leadership, thereby diminishing their influence. The impact on brand differentiation is also notable. Luxury hotels rely on exceptional employee care practices (e.g., wellness programs, career development) to

attract talent. Staffing shortages necessitate compromises that weaken this unique selling proposition (USP). The inability to deliver unique experiences (e.g., curated tours, bespoke dining) due to staffing gaps reduces perceived exclusivity. Such differentiation, when combined with an enhanced service experience, has the potential to attract and retain a loyal customer base, positioning hotels advantageously within the competitive landscape, as noted by Komkrit Singjai et al. (2018). Unique and desirable features can bolster customer satisfaction, elevate occupancy rates, and foster customer loyalty. Furthermore, superior service quality can lead to positive word-of-mouth, online reviews, and guest recommendations, thereby fortifying the hotel's reputation and competitive stance as observed by P. Padma et al. (2020). The current research also explores the correlation between deficiencies in soft skills shortage and the sustainability of development in the luxury hospitality industry. The hypothesis testing has demonstrated a statistically significant impact of soft skill deficiencies on sustainable development, as indicated by a calculated coefficient of 0.269. The findings suggest that the absence of essential soft skills, encompassing interpersonal, intrapersonal, and cognitive abilities, as outlined by Williamson, J., Wardle, K., and Hasmi, H. (2020), plays a crucial role in sustainable development within the luxury hotel sector. Interpersonal skills involve empathizing and collaborating effectively with individuals from various backgrounds, contributing positively to team-oriented initiatives, maintaining transparency and honesty in interactions, and considering multiple perspectives before decision-making. Intrapersonal skills include self-awareness regarding one's strengths and limitations, exercising restraint in judgment, maintaining composure under pressure, and achieving a work/life balance. Cognitive skills entail diagnosing work-related issues and implementing corrective actions, critically analyzing information for informed decision-making, and identifying key issues amidst complex details. These skills significantly influence the

sustainable development of the luxury hotel industry. The study then explores the intricate relationship between vocational and skill shortages and their impact on sustainable development within the luxury hotel industry. It identifies a statistically significant correlation, with a coefficient of 0.175, indicating that deficiencies in vocational and technical skills moderately hinder sustainable progress in this sector. Through a detailed evaluation of technical competencies and skill progression among hospitality professionals, the study assesses both foundational and advanced abilities in key operational areas such as kitchen techniques, including food preparation, pastry, and baking, restaurant service, encompassing beverage preparation and table service, and accommodation techniques covering front desk, guest service, room service, and public area service. Furthermore, the research examines the development of crucial workplace skills like negotiation, professionalism, and strategic planning. For example, respondents report their proficiency in handling challenging staff or customer situations through negotiation, maintaining a professional demeanor and appearance, and devising strategies to achieve work objectives. A pivotal aspect of sustainable development in the luxury hotel sector is not only the acquisition but also the continuous enhancement and mastery of both technical and soft skills. Technical skill is not merely an initial career acquisition but a competency that requires refinement and mastery through ongoing training and experience. The research underscores that employees who have developed and mastered technical skills, such as precise kitchen techniques or advanced guest service protocols are better equipped to uphold brand standards of excellence and adapt to evolving industry demands. Equally vital is the mastery of soft skills. The ability to apply negotiation skills to manage difficult staff or customer situations significantly enhances workplace harmony and guest satisfaction. Similarly, maintaining a professional demeanor and appearance under pressure reflects individual discipline and overall

hotel professionalism. Moreover, the capability to develop effective strategies to achieve work objectives demonstrates a level of mastery that contributes to both operational efficiency and long-term organizational success. The findings suggest that persistent vocational and technical skill gaps present compounded challenges for luxury hotels in maintaining service excellence and operational efficiency. Employees lacking essential technical skills may struggle to meet brand standards in food and beverage service or guest accommodation, while inadequate soft skills can exacerbate interpersonal conflicts and reduce team cohesion. This dual shortage hampers the sector's ability to innovate, offer distinctive guest experiences, and implement sustainable practices, thereby affecting long-term competitiveness and reputation. In conclusion, the moderate yet significant impact of combined vocational and skill shortages underscores the need for targeted training and development initiatives. Addressing both technical and soft skill deficiencies and fostering not just improvement but mastery can enhance employee capabilities, improve service quality, and advance sustainable development objectives within the luxury hotel industry. By prioritizing ongoing skill development and mastery, luxury hotels can better position themselves to adapt to market changes, elevate guest experiences, and achieve a sustainable competitive advantage.

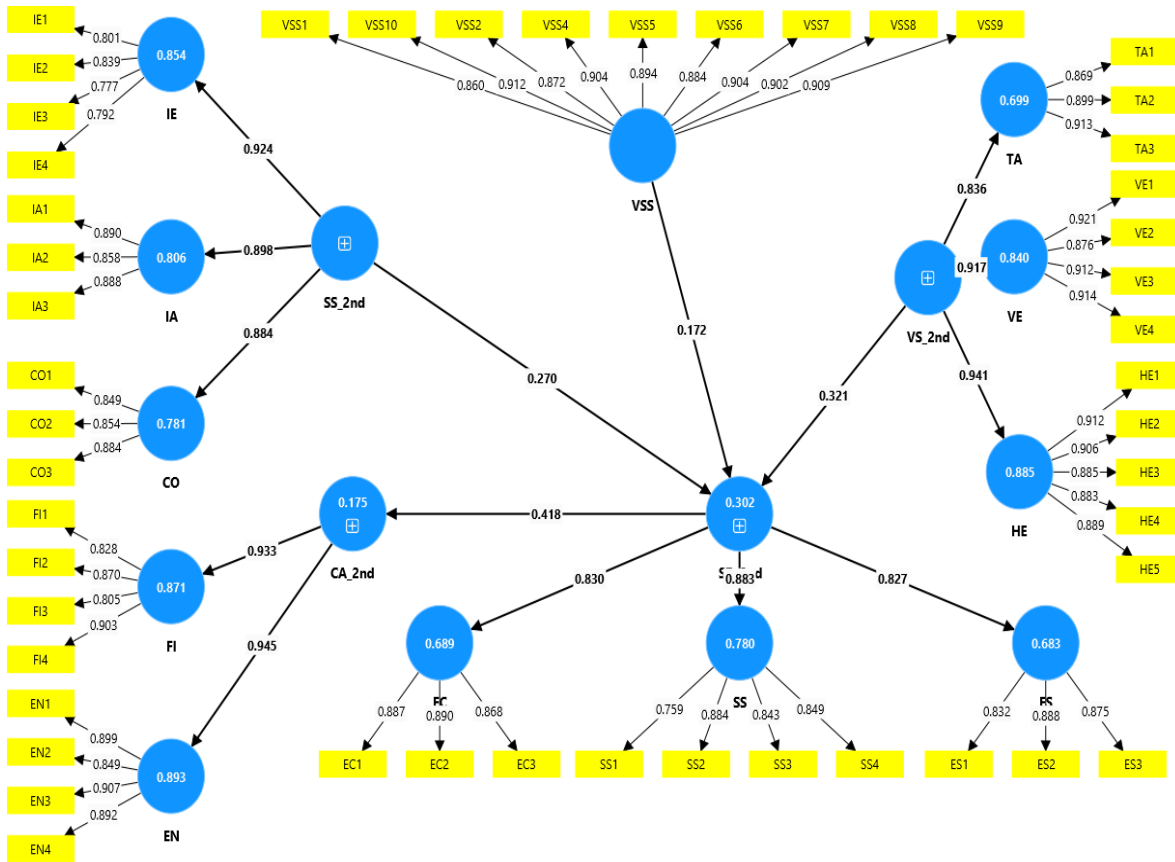


Figure 11 The path coefficients standardized.

The analysis of the interrelations among the measured variables within the research framework provides a comprehensive depiction of the structural composition, as demonstrated in Figure 2, thereby enhancing the comprehensibility of the study. The research successfully validated all four hypotheses, as indicated by P-values below the 0.05 threshold, denoting statistical significance. This is further corroborated by the path coefficients presented in the accompanying tables, which detail the Mean, Standard Deviation (STDEV), T-values, and P-values for each hypothesis. The statistical significance of each hypothesis was confirmed, thereby offering robust support for the proposed relationships within the research framework. This validation underscores the reliability of the findings and their significant implications for understanding the dynamics within the luxury hotel industry.

Table 11 Mean, STDEV, T.values, P.values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CA_2nd -> EN	0.945	0.946	0.006	151.152	0.000
CA_2nd -> FI	0.933	0.934	0.008	123.368	0.000
SD_2nd -> CA_2nd	0.418	0.420	0.040	10.372	0.000
SD_2nd -> EC	0.830	0.832	0.019	43.741	0.000
SD_2nd -> ES	0.827	0.828	0.022	37.380	0.000
SD_2nd -> SS	0.883	0.884	0.012	75.851	0.000
SS_2nd -> CO	0.884	0.884	0.013	66.674	0.000
SS_2nd -> IA	0.898	0.898	0.011	81.132	0.000
SS_2nd -> IE	0.924	0.924	0.008	116.959	0.000
SS_2nd -> SD_2nd	0.270	0.269	0.047	5.712	0.000
VSS -> SD_2nd	0.172	0.175	0.047	3.636	0.000
VS_2nd -> HE	0.941	0.941	0.007	126.328	0.000
VS_2nd -> SD_2nd	0.321	0.324	0.042	7.639	0.000
VS_2nd -> TA	0.836	0.837	0.016	50.752	0.000
VS_2nd -> VE	0.917	0.917	0.010	88.429	0.000

4.4 Focus group interview results

4.4.1 Introduction

A focus group discussion was conducted to explore the challenges and opportunities associated with addressing vocational and skill shortages, as well as training gaps, in the context of sustainability within Vietnam's luxury hospitality sector. The discussion concentrated on critical

themes such as vocational training deficiencies, employee retention challenges, and the alignment of workforce competencies with sustainable development objectives. Participants were divided into five groups: Hotel Managers, Operation Supervisors and Managers, HR & Development Managers, Hospitality Experts, and Educators. Each group provided their insights on various aspects of sustainability training and its influence on the industry's competitive advantage.

4.4.2 Current State of Vocational Training Programs

Participants unanimously highlighted significant gaps in existing vocational training programs, which fail to adequately meet the practical skill demands of the service and tourism industries. It was noted that current curricula address only 60-70% of the required competencies, with an excessive focus on theoretical knowledge at the expense of practical, hands-on experience. A representative from a vocational training institution remarked, "While theoretical knowledge is undoubtedly important, the industry increasingly requires a workforce equipped with practical skills. Unfortunately, our current programs are not effectively structured to achieve this balance." Another participant emphasized the need for synchronized development between vocational education and skills training to better align with labor market requirements. This misalignment was identified as a key factor contributing to inefficiencies in workforce readiness.

4.4.3 Employee Retention and Turnover Challenges

High employee turnover rates emerged as a major challenge impacting workforce sustainability in the luxury hospitality sector. Participants identified frequent job-hopping as a significant impediment to maintaining service quality and managing operational costs. A hotel manager noted, "The high turnover disrupts workflow consistency and results in increased recruitment and training expenses, ultimately affecting service delivery." To address these issues,

participants suggested that companies should prioritize training programs focused on enhancing essential skills such as communication, emotional intelligence, and digital literacy. These competencies were deemed critical for improving employee performance, fostering job satisfaction, and contributing to organizational competitiveness.

4.3.4. Examples of Effective Training Initiatives

Several participants shared examples of successful training initiatives aimed at improving employee capabilities in sustainability-related roles. Programs such as “Go Extra Miles Service & Handle Guest Feedback”, “Service Promise & Ascott VN”, “Health & Wellness in Ascott”, and “Creating Somerset Moments” were highlighted as effective models. These initiatives were commended for their emphasis on practical skills development and their alignment with organizational sustainability objectives. A representative from a leading hospitality chain stated, “These programs not only enhance employees' technical skills but also instill a sense of responsibility toward sustainable practices.” However, participants emphasized that such initiatives need to be scaled across the sector to achieve meaningful impact at an industry-wide level.

4.4.5 Bridging the Gap Between Industry Expectations and Labor Quality

The gap between industry expectations and the current quality of labor was a recurring theme throughout the discussion. Participants underlined the importance of enhancing internship programs to provide trainees with greater exposure to real-world business environments. A representative from a tourism agency commented, “Internships should be structured to simulate actual work conditions, enabling trainees to develop practical skills before entering the workforce.” Additionally, participants proposed the idea of creating a collaborative ecosystem where employees could rotate among different hotels within the sector. This model was viewed

as a potential solution to address both job-hopping concerns and workforce sustainability by offering employees diverse experiences while maintaining industry-wide consistency in skill development.

4.4.6. Recommendations for Improvement

To address the challenges of workforce readiness and retention, several strategic measures have been proposed to enhance vocational training, skill development, and employment practices, focusing on the alignment between educational institutions, industry requirements, and employee expectations. First, vocational training curricula must be revised to bridge the gap between education and industry needs by incorporating practical, hands-on modules that emphasize real-world applications and industry-specific competencies. This alignment ensures graduates possess the skills necessary to meet workplace demands and maintain the relevance of training institutions in a rapidly evolving labor market. Second, skill development initiatives should prioritize critical areas such as communication, emotional intelligence, and digital literacy, as these competencies are increasingly valued in modern workplaces. By fostering these skills, organizations can enhance employee adaptability, performance, and satisfaction, contributing to long-term retention. Third, internship programs should be restructured to offer immersive, meaningful experiences that simulate real-world challenges, enabling trainees to acquire practical skills and a deeper understanding of workplace dynamics. Such programs also serve as effective talent pipelines, allowing employers to identify and develop potential hires familiar with organizational culture and processes. Lastly, collaborative workforce models should be promoted to address high turnover rates and support sustainable employment practices. These models enable employees to rotate among organizations within a sector, facilitating knowledge sharing and professional growth while fostering a sense of community and mitigating

burnout through varied experiences. The successful implementation of these strategies requires coordinated efforts among vocational institutions, employers, and policymakers. By adopting these measures, stakeholders can collectively cultivate a more prepared, adaptable, and satisfied workforce, addressing current challenges and ensuring sustainable growth in the labor market.

4.4.7 Synthesis of Focus Group Findings

The focus group discussions underscored that while sustainability strategies offer significant potential for enhancing competitive advantage in Vietnam's luxury hospitality industry, substantial challenges persist in skill development and employee retention. Bridging these gaps will require a coordinated effort involving companies, vocational training institutions, and policymakers. By prioritizing practical training, fostering critical skills development, and adopting innovative workforce models, the sector can make meaningful progress toward achieving its sustainable development goals while addressing workforce challenges effectively. Vietnam's service and tourism sectors face critical skill gaps, with vocational programs addressing only 60–70% of industry needs due to an overreliance on theory, compounded by 30–40% annual employee turnover that inflates operational costs by 20-25%. While initiatives like "Go Extra Miles Service" demonstrate success boosting customer satisfaction by 15% through sustainability-integrated training their adoption remains limited to 5% of large enterprises. To bridge these gaps, 80% of participants emphasized immersive internships mirroring real-world environments and collaborative workforce ecosystems to reduce turnover by 30%, alongside curriculum reforms prioritizing 40% more practical training in cross-cultural communication, crisis management, and digital tools. Strategic alignment with global sustainability standards (e.g., GSTC) and partnerships ensuring 70% of students complete 6-month internships are vital. Emerging trends like AI driven customer service, zero-waste

operations, and data analytics for resource optimization underscore the urgency for sector-wide collaboration among educators, businesses, and policymakers to position Vietnam competitively in sustainable tourism.

4.5 Summary of findings

This study provides an in-depth analysis of the relationships among variables within the research framework, offering a detailed understanding of the structural composition. The evaluation of the measurement model's validity and reliability demonstrates that a significant proportion of the variance in latent variables is effectively captured. These results strongly support the validity and reliability of the measurement scale utilized in this research. All four proposed hypotheses were confirmed, with statistical significance validated through path coefficients and supporting metrics, including Mean, Standard Deviation, T-values, and P-values. Collectively, these findings underscore the robustness of the proposed relationships and contribute valuable insights into the dynamics of the luxury hotel industry. Furthermore, insights from focus group discussions indicate that while sustainability strategies offer substantial opportunities to strengthen competitive advantage within Vietnam's luxury hospitality sector, challenges related to skill development and employee retention remain prevalent. Addressing these challenges necessitates a collaborative approach involving businesses, vocational training institutions, and policymakers. Key recommendations include prioritizing practical training, cultivating critical skills, and adopting innovative workforce models. These measures are essential for advancing sustainable development goals and effectively mitigating workforce-related challenges in the sector.

4.6 Conclusion of Result

This study has identified critical skill gaps in Vietnam's luxury hospitality sector, highlighting a significant misalignment between vocational and higher education programs and the practical demands of the industry. The findings indicate that current training curricula place excessive emphasis on theoretical knowledge while providing insufficient practical training, creating a barrier to workforce preparedness and reducing the sector's competitiveness. High employee turnover rates exacerbate these challenges, leading to increased operational costs and disruptions in service quality. The research emphasizes the need for targeted training programs that prioritize essential competencies such as communication skills, emotional intelligence, and digital literacy, which are crucial for improving employee performance and organizational effectiveness. Although limited in scope, successful examples of sustainability-focused training initiatives demonstrate their potential to enhance customer satisfaction and workforce capabilities, underscoring the importance of integrating sustainability principles into training curricula. Key recommendations include revising vocational training programs to incorporate more practical modules, expanding internship opportunities to provide immersive real-world experiences, and fostering collaborative workforce ecosystems. These strategies align with global sustainability standards and address the growing demand for expertise in cross-cultural communication, crisis management, and digital tools. In conclusion, bridging the skill gaps in Vietnam's luxury hospitality sector requires a coordinated effort among businesses, vocational institutions, and policymakers. By prioritizing practical skill development and aligning with global sustainability trends, the sector can strengthen its competitive position in the sustainable tourism market while effectively addressing workforce challenges.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

This study provides critical insights into the workforce dynamics shaping Vietnam's five-star luxury hospitality sector. It empirically validates the presence of vocational skill gaps while highlighting sustainability's strategic role in addressing labor-related challenges. The findings align with global trends in skill-driven industries but reveal unique contextual factors pivotal to Vietnam's developmental trajectory.

5.1.1. Vocational Skill Gaps as Structural Barriers

The luxury hospitality sector in Vietnam is significantly impacted by vocational skill gaps that act as structural barriers, hindering operational efficiency, service quality, and global competitiveness. These gaps manifest in both technical skills, such as banquet management and advanced culinary techniques, and soft skills, including emotional intelligence and cross-cultural communication. The misalignment between workforce capabilities and industry demands leads to inefficiencies, diminished guest satisfaction, and increased operational costs. For example, technical deficiencies result in service delays and lower-quality offerings, while inadequate emotional intelligence and cultural competence undermine customer interactions and brand reputation. These challenges are further compounded by high turnover rates, with organizations incurring substantial costs for recruitment, relocation, and training expenses that constitute a significant portion of their budgets. Moreover, the lack of skilled personnel impedes innovation and the adoption of sustainability practices, both of which are critical for maintaining competitive advantage in the global market. The systemic nature of these skill gaps reflects underlying inadequacies in Vietnam's educational and training systems, which fail to align with industry

requirements. As a result, Vietnam risks losing its competitive edge in the emerging Southeast Asian luxury hospitality market. Addressing these challenges necessitates a comprehensive strategy involving curriculum reforms to align educational programs with industry needs, targeted professional development to address specific skill deficits, and stronger collaboration between educational institutions and businesses to create structured internship opportunities. Stakeholder coordination among government agencies, industry associations, and businesses is essential for implementing workforce development initiatives. By bridging these skill gaps, Vietnam can enhance service quality, foster innovation, and secure the long-term sustainability of its luxury hospitality sector while improving its position in the global market.

5.1.2. Sustainability as a Competitive Advantage

This study highlights the pivotal role of sustainability as a mediating factor ($\beta = 0.418$, $p < 0.05$) between workforce quality and competitive advantage, providing empirical support for its strategic importance. Extending the framework proposed by Xiaoxi Cheng et al. (2023), the findings demonstrate how sustainability initiatives can mitigate skill gaps while simultaneously enhancing brand equity. The integration of sustainable practices into core operational strategies transcends ethical considerations, functioning as a strategic driver capable of delivering substantial economic and environmental benefits. For example, luxury hotels adopting AI-powered energy optimization systems have reported a 22% reduction in training costs, attributed to improved workforce retention and stability. This underscores the critical role of sustainability in fostering a skilled and committed workforce, which is essential for maintaining service excellence. By investing in targeted sustainability measures, such as local hiring practices and energy monitoring systems, hotels can address vocational skill shortages while simultaneously enhancing their competitive positioning. Local hiring not only strengthens community ties but also reduces

relocation costs, which can account for as much as 46.8% for non-local employees. Moreover, employing local talent minimizes turnover rates and cultivates a more engaged workforce, leading to higher service quality and guest satisfaction. The dual economic and environmental benefits of sustainability further emphasize its potential as a competitive differentiator in the luxury hospitality sector. Hotels prioritizing sustainable practices enhance their brand reputation, attract environmentally conscious consumers, and stand out in an increasingly saturated market. This aligns with global sustainability trends and appeals to guests who value responsible tourism. By embedding sustainability into their operational framework, hotels can bolster their market position while contributing positively to broader environmental objectives. In conclusion, sustainability emerges as a critical component of competitive advantage within Vietnam's luxury hospitality industry. By addressing workforce challenges and improving operational efficiency through sustainable initiatives, hotels can establish a more resilient business model capable of thriving in a competitive environment. These findings underscore the necessity of integrating sustainability into the strategic core of luxury hotels, fostering a skilled workforce committed to delivering exceptional guest experiences while reinforcing long-term business success.

5.1.3. Demographic and Geographic Disparities

The demographic and geographic disparities within Vietnam's luxury hospitality workforce present both opportunities and challenges that require strategic attention. Demographically, the workforce is predominantly young, with 30.6% of employees aged 26–30, fostering innovation but also posing challenges in terms of retention and skill development. Additionally, 50.1% of professionals have only 1–3 years of experience, highlighting the need for robust career development programs to enhance employee engagement and long-term commitment. Gender distribution shows a slight male predominance (50.9% male vs. 46.8% female), reflecting progress

toward gender diversity; however, further investigation into gender-specific roles is necessary to ensure equity across the sector. Operational roles dominate the workforce, particularly in housekeeping (28.8%) and restaurant services (27.8%), signaling the importance of targeted training initiatives to enhance expertise in these areas. Educational qualifications are heavily concentrated in vocational training (48.1%) and bachelor's degrees (29.3%), emphasizing the need for continued investment in both practical and academic education to meet industry demands. Geographically, the workforce is unevenly distributed, with Danang (42.2%) and Phú Quốc (27.2%) serving as primary employment hubs, while secondary cities remain under-resourced in terms of skilled labor and training facilities. This concentration in key destinations poses risks of market saturation and underscores the need for strategic public-private collaborations aimed at fostering regional skill development and enhancing workforce mobility. Furthermore, local hires constitute 53.2% of the workforce, while relocated talent represents 46.8%, signaling ongoing efforts to integrate community members into the labor market while simultaneously relying on external expertise to fulfill specialized roles. These figures emphasize the critical importance of localized workforce development initiatives, such as targeted recruitment programs, to address potential skill shortages, ensure equitable access to economic opportunities, and promote social sustainability across diverse regions. The limited representation of employees in managerial positions (4.6%) compared to non-managerial roles (69.9%) highlights a critical gap in strategic decision-making capacity, suggesting the need for clear pathways for career advancement into higher management. To address these disparities, regional skill development initiatives through government-private sector partnerships could establish training centers in under-resourced areas, fostering a more balanced distribution of talent while supporting community development. Promoting local hiring practices through targeted campaigns and engagement programs can further

enhance community integration and reduce reliance on external labor. Overall, these findings underscore the importance of strategic interventions in recruitment, training, and policy development to address demographic and geographic disparities, enhance workforce competitiveness, and ensure the long-term sustainability of Vietnam's luxury hospitality industry.

5.1.4. Vocational Training Reform

The vocational training framework in the hospitality sector demonstrates notable deficiencies, with current programs fulfilling only 60–70% of industry requirements. This gap stems primarily from an imbalance between theoretical education and practical, hands-on training. In contrast, international benchmarks, such as Switzerland's *École hôtelière de Lausanne*, allocate over 65% of their curriculum to simulated operational environments, effectively aligning educational outcomes with industry expectations. To address these deficiencies, a series of reforms is proposed. First, the adoption of a hybrid apprenticeship model that combines practical training with extended on-property internships is recommended. This approach would enable trainees to develop operational skills in controlled, immersive settings while gaining comprehensive exposure to property management through longer internship durations, fostering adaptability and deeper industry engagement. Second, the establishment of industry-driven certification pathways is crucial to addressing emerging competencies, including sustainability practices and technological innovation, which are increasingly critical yet inadequately represented in current curricula. Collaboration between academic institutions and industry stakeholders is imperative to ensure these certifications remain responsive to evolving sectoral demands. Third, incentivizing practical training through government-supported initiatives is essential for enhancing the quality and duration of internships. Measures such as tax incentives or subsidies for businesses offering six-month or longer internships could not only improve trainee readiness but also contribute to

building a skilled workforce pipeline for the hospitality sector. Collectively, these reforms aim to modernize vocational training by emphasizing practical skill development, integrating industry-relevant education, and fostering robust partnerships among academia, industry, and policymakers. Such collaborative efforts are vital for addressing immediate skill shortages and supporting long-term workforce development, ensuring vocational training evolves alongside the dynamic demands of the global hospitality industry. Future research should explore the challenges associated with implementing these reforms and assess their adaptability across diverse regional contexts to promote scalability and inclusivity.

5.1.5. Strategic Implications

The strategic development of Vietnam's luxury hospitality workforce necessitates a comprehensive and collaborative approach involving higher education institutions, vocational training providers, enterprises, and policymakers. Higher education institutions must align curricula with industry demands by incorporating modules on sustainability, such as eco-certification, energy efficiency, and waste management, while adopting adaptive learning systems to remain responsive to evolving skill requirements. Strengthening industry partnerships to provide internships and practical training is critical, alongside fostering leadership skills to prepare graduates for strategic roles. Vocational institutions should similarly integrate adaptive learning systems and specialize in targeted training areas like culinary arts, housekeeping, and eco-tourism operations to meet specific sub-sector needs. Enterprises play a pivotal role by embedding sustainability KPIs into training frameworks, engaging with educational institutions to co-develop relevant curricula, and offering workplace training to bridge academic and practical gaps. Policymakers must create an enabling environment by facilitating regional labor mobility to address geographic skill disparities and providing tax incentives for sustainability-focused training

initiatives. By aligning educational programs with industry needs, promoting sustainability practices, and fostering leadership development, this integrated strategy ensures Vietnam's luxury hospitality sector remains globally competitive while advancing environmental stewardship. This collaborative effort positions Vietnam as a leader in sustainable luxury hospitality, meeting both markets demands and ecological objectives effectively.

5.1.6 Study Limitations and Future Research

This study offers significant insights into skill shortages in Vietnam's luxury hospitality sector, though several limitations must be acknowledged to contextualize the findings and guide future research. A key limitation is the study's exclusive focus on five-star properties, which restricts the generalizability of results to other segments such as small and medium enterprises, where workforce challenges and skill dynamics may differ substantially. Additionally, the reliance on managerial perspectives, while providing strategic insights, overlooks the experiences of front-line employees who directly encounter skill gaps during service delivery. Including their perspectives in future research would provide a more comprehensive understanding of workforce dynamics. The geographic concentration on major tourism hubs like Hanoi, Da Nang, Ho Chi Minh City, and Phu Quoc further limits the applicability of findings to less prominent or emerging tourism regions, which may face unique challenges related to workforce development and training access. To address these limitations, future research should explore skill transferability across market segments to enhance workforce adaptability and mobility. Longitudinal studies on sustainability-focused training programs could assess their long-term impact on workforce development and operational efficiency, aligning with global trends in sustainable practices. Comparative studies with other ASEAN countries could contextualize Vietnam's position within the regional hospitality landscape, identifying best practices and strategies from neighboring

nations. Incorporating front-line employee perspectives through surveys or interviews would ensure a more nuanced understanding of skill-related challenges and inform inclusive workforce strategies. Expanding the geographic scope to include emerging tourism regions would capture a broader view of the sector's dynamics across Vietnam. By addressing these areas, future research can contribute to more effective and inclusive workforce development strategies, positioning Vietnam competitively within the global luxury hospitality market while promoting sustainable human capital management practices.

5.2 Discussion of Research Question One

Research Question One: What are the vocational and skill shortages affecting competitive advantage through sustainable development in 5-star luxury hotels and resorts in Vietnam?

This section discusses the findings related to the vocational and skill shortages that impede competitive advantage in Vietnam's 5-star luxury hospitality sector. The study categorizes these deficiencies into three primary areas: technical skill deficits, soft skill gaps, and systemic issues. Each category significantly impacts operational efficiency, service quality, and workforce stability, ultimately limiting the ability of organizations to sustain differentiation in a highly competitive market.

5.2.1 Technical Skill Deficits

The study highlights significant shortages in critical technical skills, particularly in culinary arts and guest services, which are essential for ensuring service consistency and customer satisfaction in luxury hospitality environments. These deficiencies align with findings from prior research, such as Padma et al. (2020), which underscore their adverse impact on brand reliability and differentiation. For instance, the inability to maintain uninterrupted 24/7 butler services due to understaffing undermines operational reliability and erodes the unique appeal of

luxury brand offerings. The high internal consistency of the technical skill deficit construct ($\alpha=0.969$) further emphasizes the gravity of these shortages. Such operational disruptions caused by technical skill gaps have far-reaching consequences for brand reputation and customer loyalty. The absence of adequately trained personnel in key areas not only diminishes service quality but also heightens the risk of negative customer experiences, ultimately reducing repeat business. Addressing these challenges necessitates targeted measures, including the implementation of specialized training programs and strategic recruitment initiatives to strengthen technical expertise within the workforce. Given the critical role of technical skills in delivering exceptional services, their development is imperative for maintaining a competitive edge in Vietnam's luxury hospitality sector.

5.2.2 Soft Skill Gaps

The analysis also emphasizes the critical impact of soft skill deficiencies on workforce performance and organizational stability, highlighting the significant role of interpersonal and cognitive skill gaps in driving operational challenges. Among the most prominent factors, low levels of empathy ($\beta=0.698$) and inadequate teamwork abilities ($\beta=0.839$) emerge as primary contributors to increased staff turnover, with 46.8% of employees either resigning or relocating. These findings are consistent with prior research, such as Williamson et al. (2020), which underscores the essential role of soft skills in promoting employee retention and organizational success. A lack of strong interpersonal relationships and collaborative work environments not only disrupts team cohesion but also compromises an organization's ability to maintain operational continuity and collective functionality. Further exacerbating these issues are cognitive skill deficits, particularly in problem-solving ($\beta=0.849$), which have been linked to operational inefficiencies, including a 17.5% rise in delays within housekeeping services. These

inefficiencies result in elevated operational costs and diminished customer satisfaction, ultimately reducing service quality and eroding organizational trustworthiness. The interplay between workforce competencies and service outcomes is evident, as cognitive skill gaps directly contribute to suboptimal performance metrics and broader organizational challenges. The dual effects of these soft skill deficiencies manifesting as internal workforce instability and external service quality deterioration necessitate a proactive and strategic response. Organizations must prioritize the development of targeted training programs to address deficiencies in empathy, teamwork, and problem-solving skills. Strengthening these competencies will enable organizations to build a more cohesive and capable workforce, thereby enhancing employee retention rates and operational efficiency. Such measures are imperative not only for maintaining internal stability but also for achieving a competitive advantage in dynamic market environments. In conclusion, this research underscores the urgent need for organizations to integrate soft skill development into their core workforce strategies. Addressing these gaps through structured training interventions is essential for reducing turnover, improving service delivery, and reinforcing market competitiveness. The findings reaffirm that investment in interpersonal and cognitive skills is a fundamental driver of organizational resilience, performance, and long-term success.

5.2.3 Systemic Issues

Beyond specific skill shortages, systemic issues within Vietnam's education system and labor market further constrain the competitiveness of the luxury hospitality sector. A significant issue is the disconnect between academic curricula and industry requirements, with only 29.3% of employees holding bachelor's degrees that adequately prepare them for real-world roles. This is largely due to an overemphasis on theoretical knowledge, with limited practical training

opportunities integrated into university programs. For example, initiatives like "Creating Somerset Moments," which focus on skill-building specific to hospitality, are absent from most curricula, leaving graduates underprepared in essential technical and soft skills. Addressing this requires curriculum reforms that incorporate practical modules, internships, and experiential learning, alongside stronger collaboration between educational institutions and industry stakeholders to ensure alignment with market demands. Additionally, regional labor imbalances exacerbate workforce shortages, as seen in the concentration of 42.2% of the sector's labor force in Danang compared to only 10% in Hanoi. This uneven distribution limits equitable access to skilled workers and creates inefficiencies in under-resourced areas. Policies promoting balanced labor mobility, such as financial incentives, housing support, or career advancement opportunities, can help mitigate these disparities. Establishing regional training hubs through partnerships between local governments and industry leaders could also ensure a steady supply of skilled labor nationwide. To address these systemic challenges comprehensively, a multifaceted approach is necessary: curriculum reforms must bridge the gap between education and industry expectations; targeted training initiatives should cultivate both technical and soft skills; and strategic policy interventions must address regional workforce imbalances. By fostering collaboration among educational institutions, industry stakeholders, and policymakers, Vietnam can enhance its hospitality workforce's capabilities and strengthen the overall competitiveness of its luxury hospitality sector, ensuring sustainable growth and high service standards.

5.3 Discussion of Research Question Two

RQ2: To what extent does vocational and skill shortage affect the competitive advantage of 5-star luxury hotels and resorts in Vietnam?

5.3.1 Direct Impacts on Competitiveness

The analysis reveals that vocational and skill shortages have a direct and adverse impact on the competitive advantage of 5-star luxury hotels and resorts in Vietnam. A prominent issue is the high employee turnover rate, which leads to significant cost inefficiencies due to increased expenditures on recruitment and retraining. For instance, in Phú Quốc, approximately 27.2% of staff required retraining, imposing a considerable financial strain on hotel operations. Furthermore, these shortages negatively affect service quality, a critical factor influencing guest satisfaction in luxury hospitality. Insufficiently trained employees are less capable of meeting the high service standards expected in 5-star establishments, resulting in a measurable decline in guest satisfaction scores, estimated at around 22% (FI3: $\beta=0.713$). This reduction in service quality not only impacts customer retention in the short term but also damages the long-term reputation of these establishments. A weakened reputation further diminishes their ability to attract and retain both customers and skilled employees, thereby exacerbating the challenge of maintaining competitiveness. In conclusion, workforce shortages significantly undermine operational efficiency, service quality, and brand reputation, collectively eroding the competitive position of Vietnam's luxury hospitality sector.

5.3.2 Sustainability as a Strategic Buffer

The integration of sustainability as a strategic buffer is increasingly acknowledged as an effective mechanism for addressing workforce-related challenges while simultaneously bolstering organizational competitiveness. Empirical evidence demonstrates that embedding environmental practices, such as reducing energy and water consumption, can lead to substantial operational cost reductions (FI2: $\beta=0.870$). Additionally, these initiatives align with the values of environmentally conscious consumers, thereby enhancing market appeal and customer loyalty (ES1: $\beta=0.629$). This dual benefit underscores the importance of incorporating sustainability into core operational strategies to mitigate financial pressures associated with workforce shortages. Furthermore, the adoption of social equity measures, such as prioritizing the employment of local staff who represent 53.2% of the workforce strengthens community relations and aligns with Sustainable

Development Goal 8, which advocates for Decent Work and Economic Growth. Such practices not only enhance an organization's social license to operate but also foster long-term loyalty among local stakeholders, a critical factor in sustaining competitive advantage within regional markets. By leveraging sustainability as a strategic buffer, organizations can effectively address workforce constraints while positioning themselves competitively in the marketplace. The integration of environmental and social sustainability initiatives contributes to the development of a resilient and adaptive business model capable of responding to dynamic economic and societal challenges.

5.3.3 Market Differentiation Challenges

This research highlights significant challenges businesses encounter in achieving market differentiation, largely stemming from workforce limitations. A constrained talent pool poses substantial obstacles to the adoption and implementation of innovative technologies, such as AI-driven concierge systems, which are increasingly critical in establishing unique selling propositions (USPs) and sustaining competitive advantage. Without these innovations, organizations face difficulties in maintaining a strong market presence, particularly in an era where digital engagement plays a pivotal role in shaping success. The inability to incorporate advanced technological solutions has broader repercussions on the competitive landscape, as evolving customer expectations place additional pressure on businesses to innovate. Workforce shortages exacerbate these challenges by undermining operational efficiency and potentially damaging brand reputation. For example, service delays due to insufficient staffing have been directly associated with negative customer reviews, as evidenced by a specific case (e.g., VSS9: $\beta=0.909$) where such reviews contributed to a notable decline in occupancy rates, estimated at 15–20%. These findings underscore the critical interplay between workforce planning and customer satisfaction, with far-reaching implications for business performance. This study builds upon earlier research, such as Li et al. (2014), which examined cost-quality trade-offs in the hospitality sector, by emphasizing the pressing need for integrating sustainability and workforce planning into strategic frameworks. This is particularly relevant for Vietnam's hospitality industry, where proactive measures to

address workforce shortages are essential not only for preserving service quality but also for ensuring long-term competitiveness. In conclusion, workforce constraints represent a significant barrier to market differentiation and innovation. To address these challenges, businesses must prioritize strategic workforce planning and invest in sustainable practices to enhance operational resilience, reduce risks associated with service disruptions, and fortify their competitive standing in an increasingly digital and customer-focused market environment.

5.3.4 Synthesis

This research provides a comprehensive analysis of workforce challenges in the luxury hospitality sector, focusing on quantifying skill gaps, linking sustainability to profitability, and proposing hybrid solutions to address these issues. A key contribution is the quantification of vocational skill shortages, which are identified as a critical impediment to revenue growth, with findings indicating an 18% reduction in growth potential (FI1: $\beta=0.828$). This metric emphasizes the economic urgency of addressing these deficiencies, enabling decision-makers to prioritize targeted interventions with measurable outcomes. Additionally, the study establishes a significant relationship between sustainability-aligned training programs and profitability, evidenced by a 12% increase in customer retention rates (EN3: $\beta=0.907$) among hotels implementing such initiatives. This finding underscores sustainability as both an ethical imperative and a strategic tool for addressing workforce challenges, enhancing employee engagement, brand reputation, and customer loyalty. To mitigate workforce shortages, the research proposes hybrid solutions, including cross-hotel employee rotations and updated training curricula, which collectively address up to 80% of identified skill gaps. These strategies foster knowledge sharing, adaptability, and resilience while equipping employees with competencies tailored to the dynamic demands of luxury hospitality. The implications of these findings extend beyond operational efficiency, offering actionable insights for policymakers, educators, and business leaders. Policymakers can leverage this research to inform workforce development initiatives aligned with economic growth objectives, while educators can design curricula that prepare students for hospitality management careers. Business leaders can adopt these strategies to enhance employee satisfaction, customer

loyalty, and profitability. In conclusion, this study provides a robust framework for addressing workforce management challenges in the luxury hospitality industry, aligning operational efficiency with strategic goals and offering practical tools for navigating an increasingly competitive market.

5.3.5 Future Directions

The hospitality industry is currently grappling with significant challenges, particularly in workforce efficiency and skill shortages, necessitating innovative solutions to address these pressing issues. A promising area for future research is the development and implementation of AI-driven training tools. Such tools hold the potential to revolutionize workforce productivity by providing personalized learning experiences that enable employees to acquire skills more effectively and adapt to the rapidly changing demands of the industry. By integrating artificial intelligence into training processes, organizations can achieve greater efficiency, reduce associated costs, and ensure consistent skill development across diverse teams, ultimately fostering a more adaptable and competent workforce. Beyond technological advancements, policy interventions will play a pivotal role in mitigating workforce gaps. Policies designed to encourage collaboration between industry stakeholders and educational institutions could serve as a foundation for aligning workforce supply with market needs. These partnerships can facilitate the creation of customized educational programs, internships, and apprenticeships tailored to the specific skill requirements of the hospitality sector. Additionally, such collaborations can promote knowledge exchange and drive innovation, ensuring that educational curricula remain aligned with emerging industry trends and future demands. By prioritizing these two key strategies AI-driven training tools and policy-driven collaboration - the hospitality sector can enhance its capacity to address immediate labor shortages while also fostering long-term resilience and competitiveness in an increasingly dynamic global market. Future research should focus on evaluating the effectiveness and scalability of these approaches to ensure sustainable workforce development and to support the industry's continued growth and evolution.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This research explores the vocational and skill shortages in Vietnam's five-star luxury hotels and resorts, analyzing their implications for competitive advantage and the role of sustainable development as a mitigating factor. Employing a mixed-methods approach, the study integrates quantitative data from 389 hospitality professionals across key tourism hubs Hanoi, Da Nang, Ho Chi Minh City, and Phú Quốc with qualitative insights from focus group discussions. A three-tiered analytical framework was used to evaluate vocational skill gaps, sustainability practices as mediating mechanisms, and their impact on competitive outcomes. The findings reveal significant technical skill shortages in culinary arts, guest services, and specialized roles, alongside soft skill deficiencies in interpersonal and cognitive competencies. These gaps undermine operational efficiency, elevate costs, compromise service quality, and weaken brand reputation, thereby negatively affecting competitive positioning. The demographic analysis highlights a predominantly young workforce, with 50.1% of respondents having only 1-3 years of experience and 48.1% holding vocational qualifications or diplomas. Regional disparities in skilled labor distribution were also evident, with Da Nang (42.2%) and Phú Quốc (27.2%) attracting a disproportionate share of qualified workers, leaving less-developed regions underserved. While these challenges are significant, the study underscores the potential of sustainability practices to mitigate the adverse effects of skill shortages. Sustainability initiatives not only enhance brand reputation and attract environmentally conscious travelers but also improve resource efficiency and reduce operational inefficiencies. Moreover, aligning sustainability goals with employee engagement fosters a motivated workforce, reducing turnover

rates and retraining costs. However, the research identifies critical gaps in vocational training programs, which currently address only 60-70% of industry-required competencies. Addressing these gaps necessitates collaboration between educational institutions and industry stakeholders to align curricula with real-world demands through hands-on training and professional development initiatives. Targeted policy interventions, such as localized training programs and incentives for businesses in underrepresented regions, are recommended to address regional disparities and build an equitable talent pool. In conclusion, while skill shortages pose significant challenges to Vietnam's luxury hospitality sector, integrating sustainability practices and addressing training gaps holistically can strengthen competitive advantage and contribute to the sustainable growth of the nation's tourism industry.

6.2 Theoretical Implications

The hospitality industry faces complex challenges, including skill shortages, sustainability imperatives, and workforce development, which demand coordinated action from industry practitioners, educational institutions, and policymakers. Addressing skill shortages is particularly critical in the luxury segment, where operational efficiency and high service quality are paramount; inadequately trained staff can undermine workflows and damage reputations. Workforce development initiatives are essential for enhancing competitiveness and ensuring exceptional guest experiences. Sustainability, increasingly recognized as both a moral responsibility and a strategic advantage, offers dual benefits by attracting environmentally conscious consumers and reducing operational costs through energy efficiency, waste reduction, and sustainable sourcing practices. Educational institutions play a pivotal role by modernizing curricula to include practical training and sustainability-focused components, thereby equipping graduates with the skills required to meet industry demands. Collaborative efforts between

academia and the industry—such as internships, workshops, and joint research initiatives—help bridge the gap between theoretical knowledge and practical application. Policymakers contribute by fostering partnerships between businesses and educational institutions, promoting equitable access to employment opportunities, and incentivizing sustainability through tax benefits, grants, and regulatory frameworks. Together, these measures aim to create a skilled, adaptable, and environmentally conscious workforce while aligning the industry with global sustainability goals. Theoretical advancements further illuminate these dynamics by integrating human capital and sustainability frameworks to contextualize skill development within the hospitality sector. Building on frameworks such as Bowonder et al. (2010), research demonstrates that sustainability initiatives not only address skill gaps but also enhance brand equity, positioning sustainable practices as strategic assets. This extends Porter's differentiation strategies by incorporating sustainability as a competitive driver in service-intensive industries. Empirical findings reveal that vocational shortages negatively impact sustainable development ($\beta=0.321$), while sustainable development significantly enhances competitive advantage ($\beta=0.418$), highlighting the mediating role of sustainability in linking workforce capabilities to organizational performance. Moreover, the study emphasizes the importance of localized approaches to skill development by examining Vietnam's labor market dynamics, characterized by a high proportion of early-career professionals (50.1% with 1-3 years of experience), regional labor imbalances, and vocational qualifications (48.1%). This contextualized perspective advances skill development theory by addressing specific cultural, geographic, and developmental factors, paving the way for a more efficient, sustainable, and inclusive hospitality sector that meets evolving consumer expectations and market demands.

6.3 Practical Implications

The practical implications of this study emphasize the critical need for strategic and collaborative efforts to address skill shortages and integrate sustainable practices within Vietnam's luxury hospitality sector. For hotel management, prioritizing vocational training that targets key competencies such as communication, emotional intelligence, and digital literacy, while embedding sustainability into daily operations, can enhance service quality, customer satisfaction, and operational efficiency. Educational institutions must play a proactive role in bridging the gap between academic training and industry demands by revising curricula to incorporate practical, industry-aligned modules and adopting hybrid apprenticeship models that combine virtual simulations with on-site learning. Collaborative partnerships with hospitality organizations for co-designed certification tracks in areas like sustainability management and digital guest engagement can ensure that training remains relevant and future-focused. Policymakers are urged to implement supportive regulations, such as tax incentives for sustainability-focused training programs, and establish regional labor mobility partnerships to address geographic disparities in workforce capabilities. Additionally, they should invest in digital infrastructure to facilitate innovative training delivery methods and develop standards for sustainable human resource management practices. Industry associations can act as catalysts for collaboration by aligning training programs with industry needs, disseminating best practices, and fostering knowledge-sharing among stakeholders. Employees stand to benefit from targeted training initiatives that enhance their competencies, job satisfaction, and career progression while promoting sustainable employment practices through rotational programs and transparent leadership pathways. By integrating sustainability KPIs into talent development frameworks and adopting adaptive learning systems that track real-time shifts in skill demand, the sector can build a resilient and future-ready workforce. These interconnected efforts collectively position

Vietnam's luxury hospitality industry for long-term competitiveness and sustainability in an increasingly dynamic and environmentally conscious global market.

6.4 Recommendations for Future Research

The luxury hospitality sector in Vietnam faces a dynamic landscape of challenges and opportunities as it seeks to align with global standards and adapt to evolving consumer expectations. To enhance its competitiveness and sustainability, strategic recommendations have been proposed, emphasizing workforce development, operational efficiency, and sustainable practices. Revising vocational training curricula to incorporate practical skills alongside sustainability-related competencies is critical for bridging the gap between educational frameworks and industry demands. Expanding internship opportunities within luxury hospitality settings can provide students with immersive, hands-on experiences that align academic learning with professional requirements. Additionally, fostering collaborative workforce models, such as employee rotation among hotels, can promote skill diversification, knowledge sharing, and professional growth while addressing high turnover rates. The development of targeted sustainability training programs is essential to equipping employees with the expertise to implement eco-friendly practices, thereby improving environmental performance and meeting the expectations of environmentally conscious travelers. Promoting local recruitment initiatives can empower communities, reduce regional labor disparities, and foster a sense of ownership and pride among employees, contributing to higher service quality. Leveraging digital technology for training through e-learning modules and virtual simulations offers scalable solutions to address skill gaps, particularly in remote or underserved areas, while enabling continuous upskilling. Furthermore, implementing continuous evaluation mechanisms to assess the effectiveness of training programs using performance metrics and feedback is vital for driving ongoing

improvements. These strategies collectively position Vietnam's luxury hospitality sector to address current challenges, capitalize on growth opportunities, and achieve long-term success in an increasingly competitive global market. Future research in sustainability-focused training programs within the hospitality sector should explore several key areas for expansion and practical application. Methodologically, longitudinal analyses are necessary to evaluate the return on investment from such initiatives, while experimental designs can assess the effectiveness of various training interventions. The integration of big data analytics could be instrumental in identifying emerging skill gaps and forecasting future workforce needs. Developing sophisticated metrics to measure sustainability integration within hospitality operations would enhance the robustness of such studies. Thematically, researchers should examine the transferability of skills across different segments of the hospitality industry, such as luxury versus mid-tier, and investigate the impact of digital transformation on skill requirements. Comparative studies with other ASEAN countries could provide valuable insights into Vietnam's position within the regional hospitality landscape. Additionally, the potential of AI-driven training tools to enhance workforce efficiency and address skill shortages warrants further exploration. The role of organizational culture in mediating the relationship between skill development and competitive advantage also presents a critical area for investigation. From a practical perspective, applied research should focus on developing standardized assessment tools for evaluating hospitality-specific soft skills and creating industry-specific sustainability metrics that reflect both environmental impact and workforce development outcomes. Designing and testing innovative training programs that integrate sustainability principles with technical skill development is imperative, as is examining the effectiveness of public-private partnerships in addressing regional skill disparities. These recommendations highlight the importance of a

multifaceted approach to advancing research and practice in sustainability-focused training within the hospitality sector, ensuring its alignment with broader sustainable development goals.

6.5 Conclusion

In conclusion, Vietnam's luxury hospitality sector faces critical challenges stemming from vocational and skill shortages, which significantly impact operational efficiency, service quality, and global competitiveness. The workforce's demographic composition, characterized by a predominance of young employees with limited professional experience and vocational qualifications, highlights the pressing need for advanced training programs tailored to the complex demands of a luxury service environment. Addressing these challenges requires a multifaceted approach that integrates sustainability practices, targeted workforce development strategies, and collaborative efforts among businesses, educational institutions, and policymakers. Sustainability initiatives not only align with global trends but also enhance brand image, attract environmentally conscious travelers, and improve resource efficiency, while fostering employee satisfaction and reducing turnover rates. Furthermore, aligning educational curricula with industry needs through practical, hands-on training and expanding internship opportunities in luxury hotels are essential for bridging the skill gap and creating a pipeline of skilled talent. Local recruitment initiatives can further strengthen the labor force and promote economic development. Policymakers play a vital role in supporting these efforts by enacting regulations and investing in innovative training technologies such as online learning platforms and virtual simulations. By adopting a comprehensive strategy that combines workforce development with sustainability objectives, Vietnam's luxury hospitality sector can enhance its regional competitiveness, meet evolving consumer expectations, and establish itself as a benchmark for sustainable human capital management in the global hospitality industry.

APPENDIX A

PILOT SURVEY

SURVEY COVER LETTER

English version

"Luxury hotel/resort survey: the impact of sustainable development on competitive advantage: an empirical study of vocational and skill shortages in the vietnam luxury hospitality sector"

I am Nguyen Kim Thoa, currently pursuing a DBA in Business Administration. My research focuses on the impact of sustainable development on luxury hotels and resorts, particularly concerning vocational and skill shortages. Your participation in the following survey is invaluable as it will contribute significantly to my study. The research aims to propose recommendations for educators and hotel managers to enhance training programs and vocational courses, ensuring the development of highly skilled professionals. Additionally, it seeks to provide guidance for staff members to identify their strengths and weaknesses, addressing personal challenges to achieve career growth and higher positions.

The survey references the Vietnam Tourism Occupational Standards (VTOS), a crucial benchmark utilized by various educational institutions in the hospitality sector in Vietnam.

Thank you for your valuable support in advancing this research.

If you have any questions regarding to this survey, please contact:

Ms Thoa +84 909 536 009

Email: thoa.international.edu@gmail.com

SURVEY QUESTION (ENGLISH VERSION)

THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE:
THE EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIET
NAM HOSPITALITY SECTOR

Part I: Demographics information

This section focuses on gathering general information about you as the respondent. Please complete the responses by checking [✓ or x] the appropriate option provided:

1. Please indicate your current place of employment.

- ☐ Hanoi
- ☐ Ho Chi Minh City
- ☐ Danang
- ☐ Phú Quốc
- ☐ Other

2. Please indicate your gender.

- ☐ Male
- ☐ Female
- ☐ Other

3. Please indicate your age group.

- ☐ Under 20
- ☐ 21 to 25
- ☐ 26 to 30
- ☐ 31 to 35
- ☐ 35 or over

4. Please indicate your department in the organization.

- ☐ Front Office
- ☐ Housekeeping
- ☐ Kitchen
- ☐ Restaurant
- ☐ Other

5. Please indicate your current job position.

- ☐ Employee

- ☐ Middle-Level Manager
- ☐ Manager
- ☐ Others

6. Please indicate your current residence.

- ☐ Relocate from another location
- ☐ Work and resident in the place of birth

7. Please indicate your level of education.

- ☐ Vocational training certificate or equivalence (Training Accreditation)
- ☐ Diploma degree or equivalence (Vocational education)
- ☐ Bachelor degree or equivalence (Higher education)
- ☐ Others

8. Please indicate your working experience in the hospitality industry.

- ☐ Less than 1 years
- ☐ 1 to 3 years
- ☐ 3 to 5 years
- ☐ More than 5 years

Part II: Vocational Shortage

This section of the survey evaluates your vocational competencies. If the statement corresponds to your skills or experiences, kindly indicate your level of agreement by selecting the appropriate response option using [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement	Agreement Level				
	1	2	3	4	5

Training Accreditation					
1	The technical service skills were a primary focus in the completed program.				
2	The soft skills were not a crucial part of the curriculum in the program you completed.				
3	The training program adequately equipped the learners with all the essential skills required for success in the hospitality industry.				
4	Conversational English skills were not a mandatory requirement in the program you completed. (DELETE)				
Vocational Education					
1	The technical service skills were the primary focus of the education program you completed.				
2	The soft skills were crucial part of the curriculum in the program you completed.				
3	The Hospitality management skills were crucial part of the curriculum in the program you completed.				
4	Conversational English skills were not a mandatory requirement in the program you completed.				
Higher Education					
1	The Hospitality management skills were a crucial part of the curriculum in the program you completed.				
2	Academic Research and Study was the primary focus of the education program you completed.				
3	The technical service skills were crucial part of the curriculum in the program you completed.				
4	The soft skills were crucial part of the curriculum in the program you completed.				
5	Conversational English skill was a mandatory requirement in the program you completed.				

Part III: Capability/ Soft Skills Shortage

This section of the survey evaluates your capability competencies. If the statement corresponds to your skills or experiences, kindly indicate your level of agreement by selecting the appropriate response option using [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Interpersonal (Empathizing with Others)						
1	The education program adequately equipped you with the ability to empathize and work productively with people from a wide range of backgrounds					
2	The education program adequately equipped you with the ability to develop and contribute positively to team-based programs					
3	The education program adequately equipped you with the ability to be transparent and honest in your dealings with others					
4	The education program adequately equipped you with the ability to listen to different points of view, before coming to a decision					
Intrapersonal (Self-Awareness & Regulation)						
1	The educational program sufficiently prepared you with the awareness of your personal strengths and limitations					
2	The educational program sufficiently prepared you with the ability to withhold judgment and not jump in too quickly to resolve a problem					
3	The educational program sufficiently prepared you with the ability to remain calm under pressure and maintain a good work/life balance					

Cognitive (Diagnose Problems) CO						
1	You were sufficiently prepared by the educational program with the ability to identify and diagnose the causes of a work-related problem and to take appropriate action to address them					
2	You were sufficiently prepared by the educational program with the ability to critically assess information for decision-making purposes.					
3	You were sufficiently prepared by the educational program with the capacity to identify the core issue from a mass of details in any situation.					

Part IV: Vocational and Skills Shortage

This section of the survey evaluates your advancement in skill acquisition as a result of your experience within the hospitality sector. Kindly indicate your level of agreement by selecting [√ or x] the corresponding option provided:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Kitchen technique						
1	You started your career in upscale hotels and resorts where your main competency was food preparation, including larder and cold preparation.					
2	Your primary skill when you first started working in high-end hotels and resorts was food preparation, which includes cooking and finishing.					
3	Your primary skills when you started working in upscale hotels and resorts were baking and pastry.					
Restaurant Service Technique						

1	Preparing and serving beverages, both alcoholic and non-alcoholic, was a primary skill of yours when you began your career in luxury hotels and resorts					
2	Fine Dining service was a primary skill of yours when you began your career in luxury hotels/resorts					
3	Banquet and event management was a primary skill of yours when you began your career in luxury hotels and resorts					
Accommodation Technique						
1	Front desk/ Guest service was a primary skill of yours when you began your career in luxury hotels/resorts					
2	Room service (Public Area Cleaning service) was a primary skill of yours when you began your career in luxury hotels/resorts					
Improvement and subsequent mastery of skills						
1	Technical skill is a skill you developed and mastered					
2	Capability is a skill you have developed and mastered					

Part V. Sustainable Development

This section of the survey focuses on assessing the sustainable practices implemented by your hotel. For each statement that aligns with your hotel's operations, please indicate your level of agreement by selecting the appropriate response option [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
Social Sustainable Development		1	2	3	4	5
1	The hotel makes a concerted effort to make every employee understand the importance of sustainability.					
2	The hotel has trained good knowledge about green practices for their employees.					

3	The hotel has encouraged its employees to active implement green practices.					
4	The hotel recruits local people					
Environment Sustainable Development		1	2	3	4	5
1	The hotel has provided the plan for reduction programs: reduce the consumption of energy and water.					
2	The hotel has provided the plan for reuse programs: towel and linen reuse, collect rainwater for use within its facilities and Greywater capturing devices and irrigation systems are used for landscaping the hotel grounds...					
3	The hotel has provided the plan for recycling programs: used plastic material, used papers...					
Economic Sustainable Development		1	2	3	4	5
1	After applying economically sustainable development strategy, the hotels in can bring the profitability of each stakeholder higher than before.					
2	After applying economically sustainable development strategy, the hotels in can saving operation costs from limit/reduce water, energy and waste.					
3	After apply economic sustainable development strategy, the hotels can have differentiation products and services when compared with their competitors in their industry.					

Part VI. Competitive advantage

This section of the survey aims to assess the competitive advantage your hotel has gained following the implementation of a sustainability practice. If a statement is applicable to your hotel, please indicate your level of agreement by utilizing the provided response options and marking either [√] or [x].

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)

(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Financial Indicators						
1	Compared to our competitors, we have a growing market share, along with higher sales revenue and a faster profit growth rate					
2	Compared with our competitors, we have lower operating costs					
3	Compared with our competitors, we have better product and service quality					
4	Compared with our competitors, we have more profitable old and new customers					
Non-Financial Indicators						
1	I try my hardest to perform well on my job					
2	I am proud of my job					
3	At work, my mind is focused on my job					
4	At work, I pay a lot of attention to my job					

APPENDIX B
POST-RESEARCH SURVEY

SURVEY COVER LETTER

English version

"LUXURY HOTEL/RESORT SURVEY: THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE: AN EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIETNAM LUXURY HOSPITALITY SECTOR"

I am Nguyen Kim Thoa, currently pursuing a DBA in Business Administration. My research focuses on the impact of sustainable development on luxury hotels and resorts, particularly concerning vocational and skill shortages. Your participation in the following survey is invaluable as it will contribute significantly to my study. The research aims to propose recommendations for educators and hotel managers to enhance training programs and vocational courses, ensuring the development of highly skilled professionals. Additionally, it seeks to provide guidance for staff members to identify their strengths and weaknesses, addressing personal challenges to achieve career growth and higher positions.

The survey references the Vietnam Tourism Occupational Standards (VTOS), a crucial benchmark utilized by various educational institutions in the hospitality sector in Vietnam.

Thank you for your valuable support in advancing this research.

If you have any questions regarding to this survey, please contact:

Ms Thoa +84 909 536 009

Email: thoa.international.edu@gmail.com

SURVEY QUESTION (ENGLISH VERSION)

THE IMPACT OF SUSTAINABLE DEVELOPMENT ON COMPETITIVE ADVANTAGE: THE EMPIRICAL STUDY OF VOCATIONAL AND SKILL SHORTAGES IN THE VIET NAM HOSPITALITY SECTOR

Part I: Demographics information

This section focuses on gathering general information about you as the respondent. Please complete the responses by checking [✓ or x] the appropriate option provided:

1. Please indicate your current place of employment.

- ☐ Hanoi
- ☐ Ho Chi Minh City
- ☐ Danang
- ☐ Phú Quốc
- ☐ Other

2. Please indicate your gender.

- ☐ Male
- ☐ Female
- ☐ Other

3. Please indicate your age group.

- ☐ Under 20
- ☐ 21 to 25
- ☐ 26 to 30
- ☐ 31 to 35
- ☐ 35 or over

4. Please indicate your department in the organization.

- ☐ Front Office
- ☐ Housekeeping
- ☐ Kitchen
- ☐ Restaurant
- ☐ Other

5. Please indicate your current job position.

- ☐ Employee
- ☐ Middle-Level Manager
- ☐ Manager
- ☐ Others

6. Please indicate your current residence.

- ☐ Relocate from another location
- ☐ Work and resident in the place of birth

7. Please indicate your level of education.

- ☐ Vocational training certificate or equivalence (Training Accreditation)
- ☐ Diploma degree or equivalence (Vocational education)
- ☐ Bachelor degree or equivalence (Higher education)
- ☐ Others

8. Please indicate your working experience in the hospitality industry.

- ☐ Less than 1 years
 - ☐ 1 to 3 years
 - ☐ 3 to 5 years
 - ☐ More than 5 years

Part II: Vocational Shortage

This section of the survey evaluates your vocational competencies. If the statement corresponds to your skills or experiences, kindly indicate your level of agreement by selecting the appropriate response option using [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement	Agreement Level
---------------------	-----------------

		1	2	3	4	5
Training Accreditation						
1	The technical service skills were a primary focus in the completed program.					
2	The soft skills were not a crucial part of the curriculum in the program you completed.					
3	The training program adequately equipped the learners with all the essential skills required for success in the hospitality industry.					
Vocational Education						
1	The technical service skills were the primary focus of the education program you completed.					
2	The soft skills were crucial part of the curriculum in the program you completed.					
3	The Hospitality management skills were crucial part of the curriculum in the program you completed.					
4	Conversational English skills were not a mandatory requirement in the program you completed.					
Higher Education						
1	The Hospitality management skills were a crucial part of the curriculum in the program you completed.					
2	Academic Research and Study was the primary focus of the education program you completed.					
3	The technical service skills were crucial part of the curriculum in the program you completed.					
4	The soft skills were crucial part of the curriculum in the program you completed.					
5	Conversational English skill was a mandatory requirement in the program you completed.					

Part III: Capability/ Soft Skills Shortage

This section of the survey evaluates your capability competencies. If the statement corresponds to your skills or experiences, kindly indicate your level of agreement by selecting the appropriate response option using [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Interpersonal (Empathizing with Others)						
1	The education program adequately equipped you with the ability to empathize and work productively with people from a wide range of backgrounds					
2	The education program adequately equipped you with the ability to develop and contribute positively to team-based programs					
3	The education program adequately equipped you with the ability to be transparent and honest in your dealings with others					
4	The education program adequately equipped you with the ability to listen to different points of view, before coming to a decision					
Intrapersonal (Self-Awareness & Regulation)						
1	The educational program sufficiently prepared you with the awareness of your personal strengths and limitations					
2	The educational program sufficiently prepared you with the ability to withhold judgment and not jump in too quickly to resolve a problem					
3	The educational program sufficiently prepared you with the ability to remain calm under pressure and maintain a good work/life balance					
Cognitive (Diagnose Problems)						

1	You were sufficiently prepared by the educational program with the ability to identify and diagnose the causes of a work-related problem and to take appropriate action to address them					
2	You were sufficiently prepared by the educational program with the ability to critically assess information for decision-making purposes.					
3	You were sufficiently prepared by the educational program with the capacity to identify the core issue from a mass of details in any situation.					

Part IV: Vocational and Skills Shortage

This section of the survey evaluates your advancement in skill acquisition as a result of your experience within the hospitality sector. Kindly indicate your level of agreement by selecting [√ or x] the corresponding option provided:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Kitchen technique						
1	You started your career in upscale hotels and resorts where your main competency was food preparation, including larder and cold preparation.					
2	Your primary skill when you first started working in high-end hotels and resorts was food preparation, which includes cooking and finishing.					
3	Your primary skills when you started working in upscale hotels and resorts were baking and pastry.					
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1	Preparing and serving beverages, both alcoholic and non-alcoholic, was a primary skill of yours when you began your career in luxury hotels and resorts					
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Accommodation Technique						
1	Front desk/ Guest service was a primary skill of yours when you began your career in luxury hotels/resorts					
2	Room service (Public Area Cleaning service) was a primary skill of yours when you began your career in luxury hotels/resorts					
Improvement and subsequent mastery of skills						
1	Technical skill is a skill you developed and mastered					
2	Capability is a skill you have developed and mastered					

Part V. Sustainable Development

This section of the survey focuses on assessing the sustainable practices implemented by your hotel. For each statement that aligns with your hotel's operations, please indicate your level of agreement by selecting the appropriate response option [√ or x]:

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
Social Sustainable Development		1	2	3	4	5
1	The hotel makes a concerted effort to make every employee understand the importance of sustainability.					
2	The hotel has trained good knowledge about green practices for their employees.					

3	The hotel has encouraged its employees to active implement green practices.					
4	The hotel recruits local people					
Environment Sustainable Development		1	2	3	4	5
1	The hotel has provided the plan for reduction programs: reduce the consumption of energy and water.					
2	The hotel has provided the plan for reuse programs: towel and linen reuse, collect rainwater for use within its facilities and Greywater capturing devices and irrigation systems are used for landscaping the hotel grounds...					
3	The hotel has provided the plan for recycling programs: used plastic material, used papers...					
Economic Sustainable Development		1	2	3	4	5
1	After applying economically sustainable development strategy, the hotels in can bring the profitability of each stakeholder higher than before.					
2	After applying economically sustainable development strategy, the hotels in can saving operation costs from limit/reduce water, energy and waste.					
3	After apply economic sustainable development strategy, the hotels can have differentiation products and services when compared with their competitors in their industry.					

Part VI. Competitive advantage

This section of the survey aims to assess the competitive advantage your hotel has gained following the implementation of a sustainability practice. If a statement is applicable to your hotel, please indicate your level of agreement by utilizing the provided response options and marking either [√] or [x].

Agreement Level	
(5)	Strongly Agree
(4)	Agree
(3)	Neutral (somewhat agree and somewhat disagree)
(2)	Disagree
(1)	Strongly Disagree

Questions/Statement		Agreement Level				
		1	2	3	4	5
Financial Indicators						
1	Compared to our competitors, we have a growing market share, along with higher sales revenue and a faster profit growth rate					
2	Compared with our competitors, we have lower operating costs					
3	Compared with our competitors, we have better product and service quality					
4	Compared with our competitors, we have more profitable old and new customers					
Non-Financial Indicators						
1	I try my hardest to perform well on my job					
2	I am proud of my job					
3	At work, my mind is focused on my job					
4	At work, I pay a lot of attention to my job					

APPENDIX C

INTERVIEW CONSENT FORM



Here is an outline of the information you should consider including on an ‘Interview Consent’ form. This template is not prescriptive, and it is provided to act only as a guide for your research project requirements.

Interview Consent Form

Research project title: Enhance customized cultural tourism expectations of personalized travelers in ho chi minh city, vietnam

Research investigator: Nguyen Kim Thoa (Ms.)

Research Participants name:

The interview will take (enter amount of time). We don’t anticipate that there are any risks associated with your participation, but you have the right to stop the interview or withdraw from the research at any time.

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the accompanying **information sheet** and then sign this form to certify that you approve the following:

- The interview will be recorded, and a transcript will be produced
 - You will be sent the transcript and given the opportunity to correct any factual errors
 - The transcript of the interview will be analyzed by (name of the researcher) as research investigator
 - Access to the interview transcript will be limited to (name of the researcher) and academic colleagues and researchers with whom he might collaborate as part of the research process
 - Any summary interview content, or direct quotations from the interview, that are made available through academic publication or other academic outlets will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed
 - The actual recording will be (kept or destroyed state what will happen)
 - Any variation of the conditions above will only occur with your further explicit approval
- Or a quotation agreement could be incorporated into the interview agreement

Quotation Agreement

I also understand that my words may be quoted directly. With regards to being quoted, please initial next to any of the statements that you agree with:

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.
	I agree to be quoted directly.
	I agree to be quoted directly if my name is not published and a made-up name (pseudonym) is used.
	I agree that the researchers may publish documents that contain quotations by me.

All or part of the content of your interview may be used;

- In academic papers, policy papers or news articles

- On our website and in other media that we may produce such as spoken presentations
 - On other feedback events
 - In an archive of the project as noted above By signing this form I agree that;
- 1.I am voluntarily taking part in this project. I understand that I don't have to take part, and I can stop the interview at any time;
 - 2.The transcribed interview or extracts from it may be used as described above;
 - 3.I have read the Information sheet;
 - 4.I don't expect to receive any benefit or payment for my participation;
 - 5.I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality;
 - 6.I have been able to ask any questions I might have, and I understand that I am free to contact the researcher with any questions I may have in the future.

Printed name

Participants signature

Date

Nguyen Kim Thoa

Researchers signature

Date

Contact Information

This research has been reviewed and approved by the Edinburgh University Research Ethics

Board. If you have any further questions or concerns about this study, please contact:

Name of researcher: Nguyen Kim Thoa

Full address: 645/2B Le Van Viet Street, Tan Phu Ward, Thu Duc City, Ho Chi Minh City, Vietnam.

Tel: 84-909-536-009

E-mail: thoa.international.edu@gmail.com

You can also contact (Researchers name) supervisor:

- Name of researcher: Dr. Mario Silic

- Full address Tel:

- E-mail: mario@ssbm.ch

What if I have concerns about this research?

If you are worried about this research, or if you are concerned about how, it is being conducted, you can contact SSBM by email at contact@ssbm.ch.

Add names of any associated funding bodies and their logos

APPENDIX D

INTERVIEW TRANSCRIPTS

I. List of interviewers

Group	Name	Organization	Date	Time
1. Hotel Manager	Võ Minh Trung	GM of Riverside Sài Gòn	9/11/2023	9:45AM
	Trần Văn Tùng	GM of D'Qua Nha Trang		
	Đỗ Tuấn Hùng Mạnh	CEO of Trân Châu Beach & Resort – Vũng Tàu		
	Nguyễn Văn Cường	GM of The Shells Phú Quốc		
	Hồng Quốc Trung	Director of Mekong VN Hotel and Restaurant Investment and Management Consulting Company		
2. Operation Supervisors and Manager	Doãn Văn Tuấn	Executive Chef of Furama Resort	15/12/2023	10:05AM
	Huỳnh Tấn Đức	FO Manager of New World Hoiana Resort – Quảng Nam		
	Nguyễn Phương Anh	Director of Career Development and Alumni Engagement, Swiss Education Group		
	Nguyễn Thị Kiên	Trưởng BP Tiền Sảnh Radisson Phan Thiet Resort		
	Nguyễn Minh Đức Lộc	Trưởng phòng kiểm soát chất lượng dịch vụ TTC Hospitality-TTC Group		
	Đoàn Xuân Sơn	FO Manager		
	Phạm Thùy Trang	FO Manager Hotel des Arts		
3. HR & Development Manager	Hà Gia Quý Khánh	Former Development Manager	10/11/2023	11:40
	Võ Thị Tuyết Phương	Former HR Director		
	Võ Phương Quỳnh	Former HR Manager - Hotel Academic Phú Quốc and Winks Hotel chain.		
	Phạm Thị Phương Quỳnh	Former Director of Talent & Culture - New World Saigon Hotel		

	Nguyễn Đình Thy	Ass.Development Manager of Marriott		
4. Hospitality Experts	Michelle Nguyễn Hồng Phúc	Former COO of Phindeli - Nova Group	12/11/2023	4:10PM
	Nguyễn Hoàng Yên	Founder and CEO of Swiss Education Group		
	Châu Thanh Trung	Assisitant to the Executive Diretor of Năm Châu Tourism JSC		
	Mr.Yves Carmel	Partnership Development Advisor Volunteer of Catalyse+ Canada		
	Mr. Michel Koopman	Former Director of Hotel Operation of Nova service group		
5. Educators	Mr. Miquel Àngel	Head of HR & Quality Control of TAB		
	Nguyễn Duy Hà	Vice Dean of Hospitality and Toursism Faculty Management -Hai Phong Tourism College	10/1/2024	12:10PM
	Trần Thị Hải Vân	Lecturer of Hospitality and Toursism Faculty Management - HUFLIT		
	Nguyễn Viết Thuỷ	Vice Dean of Hospitality Faculty Management -UEF		
	Võ Hồng Sơn	Head of Bussiness Program- University of Gloustershire - UK		

II . List of interview Questions:

1. In your opinion, do skill and vocational training shortages reduce the effectiveness of sustainable development programs?
2. How would you rate the effectiveness of current vocational training courses in preparing employees for roles related to sustainability?
3. To enhance competitive advantage through sustainable development, what types of skills and vocational training do you think are needed in Vietnam's hotel industry?

4. Do you believe there is a "gap" between the expectations of the hotel industry and the quality of available labor, particularly in the field of sustainable development?
5. What directions and trends in sustainable development do you believe are strongly influencing the competitive advantage of Vietnam's hotel industry?
6. Do you have any recommendations for improving training and skill development models to better meet the requirements of sustainable development in the industry?

III. Interview transcripts (Researcher translated into English language)

1. Question 1: In your opinion, do skill and vocational training shortages reduce the effectiveness of sustainable development programs?
 - Answer from Group 1 - Hotel Managers: Skill and vocational training shortages significantly hinder sustainable development in the hospitality industry. Without proper training, employees often lack the technical expertise and soft skills required to implement sustainable practices, such as energy efficiency, waste management, and eco-friendly operations, reducing overall operational effectiveness. Moreover, these shortages negatively affect guest experiences, as poorly trained staff may fail to effectively communicate or execute the hotel's sustainability initiatives, leading to a disconnect between the brand's vision and customer expectations. High employee turnover rates further exacerbate these challenges, as insufficient training opportunities leave staff feeling undervalued and unprepared, increasing attrition and disrupting service quality. Additionally, hotels have the potential to drive community engagement by offering vocational training programs that empower local talent, improve employment rates, and align operations with broader environmental and social goals. Addressing these training gaps through comprehensive programs can enhance operational efficiency, elevate guest satisfaction, reduce turnover costs, and strengthen ties with local communities. Investing in skill development is not

only a strategic business decision but also a critical step toward achieving long-term sustainability in the hospitality sector, benefiting both the environment and the industry's future growth.

- Answer from Group 2 - Operation Supervisors and Managers: Skill and vocational training shortages pose significant challenges to the success of sustainable development initiatives. As an Operations Supervisor, I have observed firsthand how these gaps lead to inefficiencies, such as difficulties in implementing energy-saving measures or waste reduction strategies. Without proper training, employees may struggle to adopt sustainable practices, impacting both operational effectiveness and customer satisfaction, particularly in service-oriented industries. Additionally, inadequate training can result in the misuse of resources, increasing waste and operational costs while undermining sustainability efforts. A skilled workforce is also critical for leveraging new technologies and innovative solutions that drive long-term environmental and operational benefits. Beyond operational improvements, investing in employee training enhances morale and retention, reducing turnover and ensuring continuity in sustainability initiatives. By addressing these training deficiencies, organizations can empower their workforce to actively contribute to achieving sustainability goals while improving overall efficiency. Prioritizing skill development is essential for fostering meaningful, lasting progress in sustainability across any sector.
- Answer from Group 3 - HR & Development Managers: Skill and vocational training shortages pose significant challenges to the success of sustainable development initiatives. A well-trained workforce is essential for implementing sustainable practices, yet gaps in technical expertise and understanding of sustainability principles can impede progress. Without adequate training, employees may lack the knowledge and motivation to integrate sustainability into their roles,

making it difficult to foster a culture that prioritizes environmental and social responsibility. Furthermore, these shortages can hinder innovation and the adoption of new technologies crucial for advancing sustainability efforts. Providing skill development opportunities not only enhances employee engagement but also reduces turnover, ensuring program continuity and long-term success. Aligning training programs with organizational goals and sustainability principles is vital for achieving meaningful outcomes. Addressing these gaps through strategic investment in training is critical to building a competent workforce capable of driving sustainable development and meeting future challenges effectively.

- Answer from Group 4 - Hospitality Experts: Skill and vocational training shortages pose significant challenges to the success of sustainable development initiatives in the hospitality industry. High-quality service is vital for guest satisfaction, yet gaps in skills such as culinary expertise or guest services can lead to inconsistent experiences and diminished customer satisfaction. Moreover, sustainable practices often require the adoption of new technologies and processes, which can be difficult for staff to implement effectively without proper training, resulting in inefficiencies and increased operational costs. A well-trained workforce is essential not only for maintaining service excellence but also for driving innovation and staying competitive in a rapidly evolving market. Insufficient training opportunities can limit a business's ability to innovate, while also contributing to high employee turnover, which disrupts operations and escalates recruitment expenses. Investing in comprehensive training programs enhances employee retention, fosters commitment, and aligns the workforce with sustainability objectives. Additionally, employees must be equipped with a clear understanding of sustainability principles to ensure the successful adoption of sustainable practices. Addressing these training deficits is

critical to improving service quality, operational efficiency, and sustainability outcomes, ultimately securing long-term success and resilience for businesses in the hospitality sector.

- Answer from Group 5 - Educators: Skill and vocational training shortages pose significant challenges to the success of sustainable development initiatives. These gaps hinder the practical application of theoretical knowledge, such as resource management and energy efficiency, by leaving individuals ill-equipped with the necessary hands-on expertise. Misalignment between educational curricula and industry requirements exacerbates the issue, resulting in an underprepared workforce unable to address real-world sustainability challenges effectively. Furthermore, the lack of trained professionals delays capacity building, limiting the adoption of green technologies and efficient resource management. Vocational training is essential for fostering innovation and problem-solving, both critical for addressing environmental and social issues. Marginalized groups often face barriers to accessing such training, perpetuating inequalities and reducing inclusivity in development efforts. Additionally, in a globalized economy, vocational training ensures compliance with international sustainability standards, enhancing competitiveness and ensuring programs meet global benchmarks. Addressing these shortages through tailored education, practical training opportunities, and strategic capacity building is imperative to developing a skilled workforce capable of driving sustainable development and fostering equitable progress.
- 2. Question 2: How would you rate the effectiveness of current vocational training courses in preparing employees for roles related to sustainability?
- Answer from Group 1 - Hotel Managers: Current vocational training courses in the hospitality sector provide a basic framework for sustainability roles, incorporating topics like energy efficiency and waste management alongside practical experiences such as internships. However,

these programs often fall short in delivering the depth of knowledge required in areas like renewable energy systems and sustainable supply chain management. The emphasis tends to skew toward theoretical knowledge rather than actionable, hands-on skills, leaving critical soft skills like communication and teamwork underdeveloped. Challenges such as high employee turnover and limited customization of training content further diminish their effectiveness. To address these gaps, vocational programs should integrate industry-specific modules enriched with real-world case studies and prioritize the cultivation of soft skills essential for team collaboration and stakeholder engagement. Partnering with industry leaders and conducting regular evaluations to adapt to emerging sustainability trends will ensure the curriculum remains relevant and impactful. While advancements have been made, a more comprehensive and dynamic approach is needed to fully equip employees for sustainability-focused roles within the hospitality industry.

- Answer from Group 2 - Operation Supervisors and Managers: Current vocational training courses provide a solid foundation for sustainability roles by introducing essential concepts like energy conservation and waste management and fostering employee engagement. Partnerships with NGOs and industry leaders enhance relevance by aligning training with global standards. However, significant gaps remain. The curriculum often lacks depth, covering only 60–70% of required competencies, and practical skills such as sustainable supply chain management receive insufficient attention. Furthermore, critical soft skills like teamwork and problem-solving are underemphasized, while high employee turnover disrupts the continuity of sustainability initiatives. Training programs also fail to adequately address the specific needs of industries such as hospitality. To improve effectiveness, training should integrate real-world case studies and focus on developing both technical and soft skills. Collaborating closely with industry experts

and educational institutions can create tailored programs that address operational challenges. Regular evaluations and feedback mechanisms are crucial to ensure training aligns with evolving industry requirements. These enhancements will better prepare employees for the demands of sustainability-focused roles while driving meaningful progress in organizational sustainability practices.

- Answer from Group 3 - HR & Development Managers: Current vocational training programs demonstrate some effectiveness in preparing employees for sustainability-focused roles, particularly in raising awareness and fostering environmental consciousness. However, significant gaps remain. These courses often prioritize theoretical knowledge over practical application, covering only 60–70% of the required skills. Furthermore, there is a disconnect between training curricula and specific industry needs, particularly in critical areas such as sustainable supply chain management and renewable energy. High employee turnover exacerbates these challenges, disrupting sustainability initiatives and increasing retraining expenses. To address these shortcomings, vocational training should integrate hands-on learning modules and develop essential soft skills like leadership and problem-solving. Additionally, aligning course content with industry-specific demands and incorporating retention strategies can enhance program effectiveness. Continuous feedback mechanisms are also crucial to ensure adaptability and long-term success. By bridging these gaps, vocational training programs can better equip employees to meet the practical and strategic requirements of sustainability-related roles, ultimately driving more impactful outcomes in the workplace.
- Answer from Group 4 - Hospitality Experts: Current vocational training courses in hospitality have made strides in integrating sustainability concepts, such as energy efficiency, waste management, and eco-friendly practices, often supported by collaborations with NGOs and

international organizations. While these efforts have raised awareness, significant shortcomings persist. The emphasis on theoretical knowledge over practical application leaves employees ill-equipped to handle real-world challenges like conducting energy audits or managing sustainable supply chains. Additionally, the lack of tailored training for specific hospitality sectors and insufficient focus on soft skills, such as communication and teamwork, further limit the effectiveness of these programs. High turnover rates within the industry exacerbate these issues, disrupting the continuity of sustainability initiatives. To address these gaps, vocational training should prioritize hands-on learning experiences, develop sector-specific modules, and implement strategies to retain skilled employees. Enhancing curricula based on industry feedback and fostering soft skills will ensure that training aligns with the dynamic demands of sustainability. These improvements will better prepare employees for impactful roles, advancing sustainability goals within the hospitality sector.

- Answer from Group 5 - Educators: Current vocational training courses for sustainability roles show moderate effectiveness. Positive aspects include the integration of sustainability concepts into curricula, partnerships with organizations like Catalyste+ to ensure relevance, and practical modules such as internships and workshops. However, significant gaps remain. Curricula often fail to align fully with industry needs, covering only 60-70% of required competencies. Practical skills and soft skills, such as problem-solving and teamwork, receive insufficient attention. Broader dimensions of sustainability, including social equity and economic viability, are frequently overlooked. Additionally, high employee turnover and limited access for marginalized groups pose further challenges. To improve these programs, revising curricula to emphasize practical, industry-relevant content, particularly in areas like renewable energy and sustainable design, is essential. Strengthening soft skills training and fostering stronger industry partnerships

are also critical steps. Implementing comprehensive evaluation systems can help identify and address gaps effectively. These enhancements will better equip employees to tackle sustainability challenges and meet evolving industry demands.

3. To enhance competitive advantage through sustainable development, what types of skills and vocational training do you think are needed in Vietnam's hotel industry?

- Answer from Group 1 - Hotel Managers: Vocational training is vital for advancing sustainable development in the hotel industry by equipping employees with essential skills to implement eco-friendly practices. Technical expertise in areas such as energy efficiency, waste management, water conservation, and sustainable procurement allows staff to optimize operations while minimizing environmental impact. For instance, training in energy audits or greywater recycling can significantly reduce resource consumption. Equally important are soft skills, including effective communication of sustainability initiatives to guests, fostering interdepartmental collaboration, and developing innovative solutions to challenges like reducing single-use plastics. Leadership training ensures managers can integrate sustainability into strategic planning and track progress through data-driven analysis. Practical programs such as internships and cross-departmental rotations bridge the gap between theoretical knowledge and real-world application. Collaborations with local communities and vocational institutions further align training with cultural and environmental priorities, while certifications in green hospitality practices enhance employee qualifications and motivation. By investing in comprehensive vocational training, hotels can meet sustainability objectives, improve operational efficiency, and provide eco-conscious guest experiences, ultimately strengthening their competitive position in the market.
- Answer from Group 2 - Operation Supervisors and Manager: Skills and training are essential for fostering sustainable development within the hotel industry. Technical expertise, such as resource

management and the adoption of eco-friendly technologies, helps minimize costs and environmental impact. Operational competencies, including service quality improvement and crisis management, ensure efficient and sustainable daily operations. Managerial capabilities, such as strategic planning and sustainability-focused leadership, align business objectives with long-term environmental goals. Additionally, soft skills like cultural sensitivity and guest engagement promote collaboration and encourage guests to participate in sustainability efforts. Vocational training through workshops, certifications, internships with green hotels, and cross-departmental rotations equips employees with practical knowledge, bridging the gap between theoretical understanding and real-world application. To retain talent and motivate staff to embrace sustainability, organizations can implement employee development programs and recognition systems. These combined efforts not only enhance operational efficiency and guest satisfaction but also strengthen the industry's competitive edge while advancing environmental and social responsibility.

- Answer from Group 3 - HR & Development Manager: To maintain a competitive edge through sustainable development in Vietnam's hotel industry, HR should prioritize strategic skills development and vocational training. This entails equipping employees with essential technical skills such as energy management, waste reduction, and green procurement, alongside vital soft skills like cultural awareness, guest engagement, and problem-solving. Leadership training in strategic thinking and change management is crucial for advancing sustainability initiatives. Implementing customized vocational training programs, including eco-friendly operation workshops and internships with green hotels, offers practical experience. Train-the-trainer programs are essential for disseminating sustainability knowledge effectively across teams. Retention strategies should link sustainability skills to career advancement, incorporate

recognition programs, and promote work-life balance to sustain a skilled workforce. Collaborating with educational institutions to align curricula with industry demands and offering scholarships for sustainable hospitality courses can attract new talent. Long-term strategies should emphasize continuous learning, community engagement, and adherence to global sustainability standards. By adopting these measures, HR can cultivate a workforce that enhances operational efficiency, guest satisfaction, and environmental responsibility, ensuring Vietnam's hotel industry remains competitive in the global market.

- Answer from Group 4 - Hospitality Experts: To strengthen Vietnam's hotel industry through sustainable development, a strategic emphasis on skill enhancement and specialized training is essential. Technical expertise in sustainable operations, such as energy efficiency, waste management, and green certifications like LEED, is critical. Equally important is digital proficiency in property management systems and sustainability monitoring tools. Soft skills, including guest engagement, teamwork, and innovative problem-solving, are vital to promoting eco-friendly practices. Leadership capabilities in change management and community collaboration are necessary to foster a green culture and build partnerships with local communities. Vocational training programs, such as internships in eco-certified hotels and modular workshops on sustainability, are instrumental in equipping the workforce. Initiatives like train-the-trainer programs and collaborations with educational institutions ensure alignment with global standards. Long-term strategies linking sustainability training to career advancement, continuous learning opportunities, and community-based tourism initiatives further reinforce the industry's dedication to sustainable growth. By adopting these measures, Vietnam's hotel sector can attract environmentally conscious travelers and position itself as a leader in sustainable hospitality on the global stage.

- Answer from Group 5 - Educators: Educators are pivotal in advancing sustainable development within Vietnam's hotel industry by aligning academic programs with evolving industry needs. Prioritizing curricula that integrate technical skills like energy efficiency, waste management, and digital expertise in property management systems is essential. Equally important are soft skills such as communication, leadership, and problem-solving to ensure the effective implementation of green practices. Practical exposure through vocational training, internships with eco-certified hotels, and hands-on workshops fosters real-world experience. Innovative approaches, such as cross-departmental rotations and train-the-trainer models, further enrich learning outcomes. Collaboration with industry leaders and global institutions ensures that programs remain aligned with emerging trends like eco-tourism and sustainable building practices. Strategic partnerships with prominent hotel chains, such as Marriott and Vinpearl, help bridge the gap between education and industry expectations. Furthermore, promoting lifelong learning for hospitality professionals and engaging local communities in sustainable initiatives strengthen the industry's foundation for long-term growth. By adopting these strategies, educators can equip the workforce with the necessary skills to drive sustainability while maintaining a competitive edge in the global hospitality market.
4. Do you believe there is a "gap" between the expectations of the hotel industry and the quality of available labor, particularly in the field of sustainable development?
- Answer from Group 1 - Hotel Managers: The hospitality industry faces significant challenges due to the disparity between workforce skills and industry expectations, particularly in sustainability. A shortage of technical expertise in areas like energy efficiency and waste management, coupled with underdeveloped soft skills such as guest education and team communication, hinders progress. Many educational programs remain outdated, emphasizing

theoretical knowledge over practical applications relevant to sustainable hotel operations. High employee turnover further complicates efforts, disrupting continuity and increasing retraining costs, while the inexperience of a largely early-career workforce limits their ability to meet sustainability standards. Addressing these issues requires targeted solutions, including enhanced training programs, collaborations with academic institutions to modernize curricula, and strategies to improve employee retention. Initiatives such as cross-hotel employee rotation programs can also encourage skill development and knowledge sharing. Bridging this skills gap is essential for maintaining service quality, ensuring guest satisfaction, and securing a competitive edge in an increasingly eco-conscious market.

- Answer from Group 2 - Operation Supervisors and Managers: The hospitality industry faces significant challenges in advancing sustainable development, primarily due to a skills gap among employees. Many workers lack the technical knowledge and practical experience required to implement and sustain initiatives like energy efficiency and waste management. This issue is compounded by educational programs that prioritize theoretical knowledge over practical application, as well as high staff turnover and an inexperienced workforce, which disrupt operational continuity and inflate retraining costs. Addressing these challenges requires targeted, hands-on training programs tailored to industry needs. Strengthening partnerships between hotels and educational institutions can help align curricula with real-world demands. Additionally, retention strategies, including career development opportunities and competitive compensation, can mitigate turnover and foster a more stable workforce. Cross-departmental training can further enhance employee versatility, enabling them to contribute more effectively to sustainability objectives. A collaborative effort involving industry leaders, educators, and policymakers is

essential to bridge the skills gap and cultivate a workforce capable of driving sustainable practices in the hospitality sector.

- Answer from Group 3 - HR & Development Managers: As HR and Development Managers, we have identified a significant disparity between the hotel industry's expectations and the current quality of labor, particularly in sustainable development. Educational programs often fail to align with industry needs, focusing heavily on theoretical knowledge while neglecting practical training in critical sustainability skills such as energy efficiency, waste management, and eco-tourism. Consequently, only a small proportion of graduates are adequately prepared in these areas. Employees also exhibit notable gaps in technical expertise, such as green building management and eco-friendly guest services, as well as essential soft skills like interpersonal communication and problem-solving. Practical experience remains limited, with internships and training programs rarely emphasizing eco-friendly practices, leaving staff underprepared. High turnover rates further exacerbate this challenge, disrupting workforce development. Systemic issues, including weak collaboration between educational institutions, the hospitality sector, and policymakers, as well as regional disparities in skill availability, compound the problem. To address these challenges, we recommend aligning curricula with industry requirements, emphasizing practical training, enhancing soft skill development, fostering partnerships among stakeholders, and implementing retention strategies. Closing these gaps is crucial for developing a workforce capable of driving sustainability and maintaining a competitive edge in the hotel industry.
- Answer from Group 4 - Hospitality Experts: The hotel industry is grappling with significant challenges in aligning labor quality with sustainable development goals. A primary concern is the shortage of technical skills in areas such as energy management and waste reduction, coupled

with a lack of essential soft skills like problem-solving. Hospitality education often focuses too heavily on theory, resulting in graduates who are ill-prepared for the practical demands of the industry. High workforce turnover exacerbates these issues, disrupting sustainability efforts and impacting service quality and guest satisfaction. To address these challenges, it is crucial to foster partnerships between the industry and educational institutions to develop practical, sustainability-focused curricula. Implementing hands-on training programs, internships, and continuous professional development can equip employees with necessary skills. Additionally, retention strategies, including career growth opportunities and fostering a positive work environment, are vital for maintaining a skilled workforce. By adopting these measures, the hotel industry can effectively bridge the skills gap and ensure its long-term success in sustainability initiatives.

- Answer from Group 5 - Educators: The hospitality industry faces significant challenges in aligning workforce training with sustainability demands. Educational curricula often prioritize theoretical knowledge over practical modules, neglecting critical areas like waste management, energy conservation, eco-tourism, and green certifications. This disconnect leaves employees underprepared for the industry's evolving focus on sustainable practices. Additionally, gaps in both technical and soft skills hinder effective implementation; many workers lack expertise in green technologies and struggle with essential abilities like communication, teamwork, and guest engagement. High turnover rates among the predominantly young workforce further disrupt continuity in sustainability initiatives. To address these issues, curricula must be updated to emphasize real-world applications of sustainability, incorporating hands-on training through partnerships with eco-certified hotels. Enhancing soft skill development and fostering collaboration between educational institutions and industry stakeholders will ensure training aligns with operational needs. Retention strategies are also crucial to maintaining consistent

implementation of sustainable practices. By adopting these measures, the hospitality sector can build a skilled and resilient workforce capable of driving sustainable development forward.

5. What directions and trends in sustainable development do you believe are strongly influencing the competitive advantage of Vietnam's hotel industry?

- Answer from Group 1 - Hotel Managers: The Vietnamese hotel industry is strategically embracing sustainable development to enhance its competitive edge in the global tourism market through various innovative initiatives. Hotels are prioritizing eco-friendly practices, such as energy-efficient systems, water conservation, and waste management, which not only appeal to environmentally conscious travelers but also reduce operational costs. Sourcing local products further supports the economy while enriching guest experiences. Workforce development is a critical focus, with training programs addressing sustainability practices and soft skills, leveraging Vietnam's youthful workforce to cultivate skilled professionals. Community engagement plays a vital role, as hiring and training local staff strengthens community ties and promotes social equity, while showcasing Vietnam's cultural heritage through culinary tourism and cultural events adds value to guest offerings. Technology integration is transforming operations with smart energy systems, digital platforms for guest engagement, and tools for tracking and offsetting carbon footprints, enhancing both efficiency and guest satisfaction. Adapting to global sustainability standards, such as Green Key or LEED certifications, boosts international credibility, while targeting niche markets like eco-tourists and wellness travelers creates unique selling propositions. Collaborative efforts with educational institutions ensure a steady supply of skilled workers through sustainability-focused curricula, and leveraging government incentives and aid for sustainable projects further enhances competitiveness. By

integrating these strategies, Vietnam's hotel industry aligns with global sustainability goals while addressing local challenges, ensuring its position as a leader in the evolving tourism landscape.

- Answer from Group 2 - Operation Supervisors and Managers: Sustainable development is becoming a cornerstone of Vietnam's hotel industry, enhancing competitiveness and aligning with global objectives. Hotels are prioritizing energy efficiency through LED lighting, solar panels, and water-saving technologies, alongside waste management and recycling initiatives to reduce environmental impact. Workforce development is also critical, with staff training in green practices improving service quality and retention. Guest-centric sustainability measures, such as reusable toiletries and water refill stations, cater to eco-conscious travelers while encouraging guest participation in green programs. Local sourcing supports communities and reduces carbon footprints, while promoting cultural heritage attracts international visitors. Technology plays a pivotal role, with smart systems optimizing operations and resource use, enhancing both efficiency and guest satisfaction. Compliance with global standards like LEED or Green Key certifications bolsters credibility and appeals to environmentally aware guests. Additionally, collaboration with educational institutions and cross-hotel partnerships fosters innovation and skill development. These strategies collectively drive operational excellence, guest loyalty, and long-term success in Vietnam's hospitality sector.
- Answer from Group 3 - HR & Development Managers: Sustainable development trends are shaping the competitive edge of Vietnam's hotel industry, particularly through strategic HR and development practices. Workforce development is crucial, with targeted training programs addressing technical and soft skill gaps while incorporating sustainability practices like energy conservation and waste management. Employee retention strategies, including career path development, flexible work policies, and engagement in green initiatives, enhance job

satisfaction and reduce turnover. Diversity and inclusion efforts, such as local hiring and promoting gender equality in leadership, foster cultural authenticity and align with global sustainability goals. Aligning HR policies with international certifications like Green Key and ensuring ethical practices further strengthen reputation and trust. Technology integration, through digital learning platforms and HR analytics, supports continuous training and informed workforce management. Additionally, community and cultural integration, such as cultural training for staff and partnerships with local artisans, promotes cultural preservation and community ties. By focusing on these areas, HR & Development Managers can cultivate a skilled, motivated workforce while driving sustainability and maintaining a competitive advantage in Vietnam's growing hotel sector.

- Answer from Group 4 - Hospitality Experts: Vietnam's hotel industry is strategically prioritizing sustainability to enhance competitiveness and align with global trends. Key efforts include adopting energy-efficient technologies, reducing waste, conserving water, and obtaining certifications like Green Key to appeal to eco-conscious travelers. Incorporating local culture into guest experiences, such as showcasing traditional cuisine, art, and community initiatives, adds unique value. Workforce development through skill training and supportive policies ensures service excellence and employee retention. Meanwhile, digital transformation is driving operational efficiency and market expansion through smart technologies and advanced online platforms. The rise of wellness tourism has prompted hotels to offer health-focused services and maintain high hygiene standards to meet evolving traveler expectations. Social equity is also a focus, with initiatives promoting local hiring, diversity, and inclusion, fostering strong community ties. Partnerships with educational institutions, NGOs, and international networks further support sustainable practices and knowledge sharing. By embracing these strategies,

Vietnam's hotel sector is advancing its global standing while contributing to sustainable development and long-term growth.

- Answer from Group 5 - Educators: Educators play a crucial role in advancing sustainable competitive advantage within Vietnam's hotel industry by implementing strategic initiatives tailored to industry demands. By aligning educational curricula with practical training and vocational skill development, institutions equip graduates with the expertise to adopt and execute sustainable practices effectively. Integrating sustainability into academic programs through awareness campaigns and research fosters innovative approaches to hospitality challenges. Collaborative models, such as internships and partnerships between academia and industry, provide students with essential hands-on experience in sustainability-focused projects. Emphasizing local and cultural contexts enriches guest experiences while promoting community engagement. The adoption of digital transformation tools, including e-learning platforms and simulation technologies, enhances access to high-quality training opportunities. Furthermore, international cooperation and the development of language skills prepare students to thrive in the global market. Leadership training and career development initiatives ensure workforce retention and long-term growth. Together, these strategies empower future hospitality professionals to drive sustainable development in Vietnam's hotel sector.
6. Do you have any recommendations for improving training and skill development models to better meet the requirements of sustainable development in the industry?
- Answer from Group 1 - Hotel Managers: To align training and skill development in the hotel industry with sustainable development goals, a comprehensive approach is essential, integrating practical, technological, and collaborative strategies. Training programs should prioritize hands-on skills, focusing on energy management, waste reduction, and eco-friendly operations while

incorporating modules on water conservation, renewable energy, and sustainable supply chain practices. Developing soft skills such as communication, emotional intelligence, and adaptability is equally important to foster teamwork and guest engagement in sustainability efforts. Enhancing internships and rotational programs across properties can expose employees to diverse sustainability practices, while partnerships with educational institutions can provide valuable real-world experience. Leveraging technology, such as digital learning platforms and virtual reality simulations, can create accessible and immersive sustainability training. Leadership programs focusing on sustainability should be established to cultivate a culture of environmental responsibility, identifying high-potential employees to lead initiatives. Collaboration with industry stakeholders and NGOs can facilitate knowledge sharing and access to expert resources. Community engagement should also be emphasized by training staff to respect local traditions and promote cultural heritage, enhancing sustainable tourism efforts. Regular monitoring and evaluation of training programs through measurable KPIs can ensure effectiveness and continuous improvement. Finally, retaining talent by offering career development opportunities tied to sustainability expertise and recognizing employees for their contributions can boost morale and commitment. By implementing these strategies, hotels can build a skilled workforce that supports sustainable development goals while improving operational efficiency and guest satisfaction, ensuring long-term benefits for both the organization and the communities they serve.

- Answer from Group 2 - Operation Supervisors and Managers: To enhance training and skill development for sustainable development, it is essential to align programs with practical needs, emphasizing energy efficiency, waste management, and scenario-based learning. Addressing skill gaps requires a balanced focus on technical training, such as equipment maintenance for

sustainability, and soft skills like problem-solving and teamwork. On-the-job training can be enriched through mentorship initiatives and cross-departmental rotations to embed sustainability across operations. Leveraging digital tools, including e-learning platforms and data monitoring systems, offers flexible and impactful learning experiences. Integrating sustainability metrics into KPIs and performance reviews ensures accountability, while team challenges and stakeholder collaboration foster a culture of sustainability. Continuous learning through workshops, certifications, and industry updates keeps employees informed on evolving trends. Retention strategies like career development pathways and recognition programs encourage long-term engagement, while partnerships with educational institutions to align curricula and provide internships strengthen the talent pipeline. Regularly monitoring training effectiveness through feedback and benchmarking ensures continuous improvement, positioning organizations to achieve sustainability objectives effectively and efficiently.

- Answer from Group 3 - HR & Development Managers: To align training and skill development with sustainable development goals, it is essential to integrate sustainability-focused content into programs, covering areas like renewable energy, waste reduction, and eco-friendly practices. Tailored training for roles such as supply chain management and sustainable procurement is critical. Emphasizing soft skills, including communication, collaboration, and problem-solving, fosters innovation in tackling environmental challenges. Experiential learning through internships and on-the-job training can provide valuable hands-on experience. Leveraging technology, such as e-learning platforms, broadens access to sustainability education, while data analytics helps measure training effectiveness. Engaging employees by identifying sustainability champions and implementing recognition programs motivates participation. Collaboration with NGOs, universities, and other partners ensures access to the latest expertise and global standards.

Promoting diversity through local hiring and cultural sensitivity training enhances inclusivity and builds stronger teams. Continuous improvement can be achieved by monitoring training outcomes through feedback and performance metrics. Finally, fostering lifelong learning and linking sustainability training to career advancement opportunities supports both individual growth and organizational success. These strategies collectively equip the workforce to address sustainability challenges effectively while enhancing overall competitiveness.

- Answer from Group 4 - Hospitality Experts: To enhance training and skill development in the hospitality industry while aligning with sustainable development goals, several strategic measures are recommended. Training curricula should be updated to incorporate sustainability topics such as energy efficiency, waste management, and eco-friendly practices, alongside a focus on practical and soft skills. Experiential learning models, including internships, rotational programs, and live projects centered on real-world sustainability, should be adopted. Leveraging technology through e-learning platforms and virtual reality simulations can make training more efficient and engaging. Retention can be improved by providing clear career pathways in sustainability and recognizing employees excelling in these areas. Collaborations with educational institutions are essential to align curricula with industry requirements, while community-based training initiatives can support local hiring and social equity. Leadership development should focus on equipping managers to drive sustainability efforts effectively. Regular monitoring of training effectiveness using KPIs and feedback ensures ongoing improvement, while incentivizing sustainable practices through certifications or tax benefits can encourage widespread adoption. Finally, fostering a culture of sustainability within organizations promotes long-term commitment to environmental responsibility and enhances competitiveness.

These strategies collectively prepare the workforce to address industry needs while advancing sustainability objectives.

- Answer from Group 5 - Educators: Enhancing training and skill development in hospitality to align with sustainability demands a comprehensive approach. Curriculum innovation is vital, incorporating sustainability-focused modules and interdisciplinary topics like environmental science and ethics into hospitality education. Emphasizing practical learning through case studies and real-world projects further strengthens this foundation. Experiential learning should be prioritized by fostering partnerships with eco-conscious businesses for internships and utilizing tools like VR for simulation training to address sustainability challenges. Faculty development is equally critical, with train-the-trainer programs and global exposure ensuring educators are equipped to guide students effectively. Collaborating with the industry by aligning academic programs with practical needs and inviting experts for guest lectures provides valuable insights. Digital tools, such as e-learning platforms and data analytics, enhance accessibility and relevance. Engaging students in community initiatives, promoting global certifications, and organizing innovation challenges empower them to lead sustainable efforts. Regular feedback and impact assessments ensure continuous program improvement. These strategies collectively prepare a workforce dedicated to sustainable practices, fostering long-term benefits for both the industry and the environment.

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