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## **HUMAN RESOURCES FOR SUSTAINABLE TOURISM DEVELOPMENT TOWARDS SOCIETY 5.0 ERA: A CASE STUDY OF QUANG NGAI PROVINCE, VIETNAM**

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### **ABSTRACT**

The tourism industry necessitates the joint efforts of all stakeholders to adapt and develop tourism sustainably, including the government, local authorities, tourism businesses, local communities, tourists, and non-governmental organizations. The aim of this study is to assess the current tourism environment in Quang Ngai province, emphasizing sustainable human resource development within the tourism sector and adaptation to the new context using secondary data and key informant interviews. The research results show that Quang Ngai province has implemented many human resource development policies to develop sustainable tourism in the new context, such as programs to attract high-quality human resources and organize training courses and seminars on sustainable tourism development. However, Quang Ngai province and stakeholders in tourism development have been facing many challenges, especially in implementing policy orientations for developing tourism human resources in the era of society 5.0.

**Keywords:** Tourism; Sustainability; Sustainable human resource development; Era of Society 5.0; Quang Ngai Province.

### **1. INTRODUCTION**

The tourism industry, fueled by service quality, relies on the professionalism, friendliness, and cultural understanding of its staff to enhance visitor satisfaction. However, this sector faces significant human resource challenges due to its dynamic nature and rapidly changing trends. Key issues include low-skilled and inexperienced employees, which negatively affect service quality and business competitiveness. Furthermore, a shortage of seasonal workers during peak times reduces operational efficiency, while high employee turnover and low motivation-driven by difficult working conditions and low wages undermine business stability (Richards & Munsters, 2010; Goeldner & Ritchie, 2011; Weaver & Lawton, 2014). Addressing these challenges is crucial to maintaining both service excellence and business success in the tourism sector.

As we enter the era of Society 5.0, its development is poised to impact all aspects of human life, including health, urban planning, transportation, agriculture, industry, and education (Misbah & Budiyanto, 2020). The goal of Society 5.0 is to use advanced technology to enhance quality of life by addressing social challenges while balancing economic growth (Hendarsyah, 2019). Technologies like the Internet of Things (IoT), Virtual Reality (VR), Augmented Reality (AR) and Artificial Intelligence (AI) promise significant benefits, such as increased production efficiency, improved healthcare services and the creation of new industries, all while promoting sustainable development (Haqqi & Wijayati, 2019). However, Society 5.0 also presents challenges, including potential job losses, digital inequality and data security risks (Rahayu, 2021). In this context, high-

quality human resources are key to ensuring the sustainability and growth of the tourism industry. Developing skilled tourism professionals will be essential for the sector to thrive in the future.

Located in Central Vietnam, Quang Ngai province boasts many tourism assets, including: Ly Son Island, and golden sand beaches such as My Khe, Sa Huynh and Khe Hai, creating ideal conditions for developing sea tourism, resorts and water sports. Additionally, the province's majestic mountainous terrain provides a perfect setting for ecotourism, exploration, and adventure travel. Quang Ngai is also home to numerous cultural and historical landmarks, such as the Son My Memorial, the Chau Sa Ancient Citadel, and traditional craft villages, enhancing its potential for cultural and historical tourism.

However, despite these opportunities, Quang Ngai's tourism industry faces significant hurdles. These include infrastructure limitations, environmental sustainability issues, and, most critically, a shortage of skilled labor. As competition intensifies with neighboring provinces and tourist behavior rapidly shifts in the digital era, Quang Ngai struggles to adapt. The pandemic further exacerbated these challenges, particularly highlighting the urgent need for a workforce equipped with digital skills. Addressing the shortage of trained, high-quality human resources is crucial for the province to fully unlock its tourism potential and stimulate economic growth.

This study seeks to evaluate the current tourism environment in Quang Ngai Province, Vietnam, with a focus on sustainable human resource development in the tourism sector and adaptation to Society 5.0. Using a novel approach that integrates document analysis and key informant interviews, the research examines the role of local governments in enhancing tourism human resources. The goal is to understand how Quang Ngai's tourism industry can sustainably develop its workforce by fostering digital skills, improving adaptability and strengthening leadership capacity.

The active involvement of the provincial government, local authorities, communities, and businesses is deemed critical to achieving sustainable tourism development. The study's findings propose several solutions that harness the potential of Society 5.0, mitigating risks while supporting the long-term development of tourism in Quang Ngai. These solutions aim to leverage technological advancements to improve workforce capabilities, ultimately fostering a more resilient and sustainable tourism industry in central Vietnam.

## 2. LITERATURE BACKGROUND

### 2.1. The concept of society 5.0 and the contribution of human resources to achieving sustainability objectives

Society 5.0, a concept introduced by Japan, emphasizes the integration of digital technology into all facets of life to create a super-smart and sustainable society. In this model, human resource management must adapt to technological advancements and emerging social trends (Fukuyama, 2018; Cabinet Office, Government of Japan, 2019; Schwab, 2016). Society 5.0 shifts the approach to solving sustainability challenges by prioritizing bottom-up solutions rather than traditional top-down strategies (Keidanren, 2016; Nakanishi, 2019). This allows for quicker responses to public needs and the provision of goods that meet people's demands efficiently.

The primary goal of Society 5.0 is to balance social sustainability expectations with unmet societal needs, especially regarding sustainable and responsible products (Higashihara, 2018). The concept highlights the importance of a human-centered and regionally focused approach, combining cyberspace with physical space to create the infrastructure needed for sustainable living. By placing people at the heart of development, Society 5.0 aims to reduce inequality and create a synergy

between economic progress and social problem-solving. Ultimately, the realization of Society 5.0 is crucial for fostering sustainable development and building a more equitable society for all.

Human resources play a critical role in achieving sustainable development goals (SDGs). Ehnert (2009) highlights that sustainable development involves the capacity to develop at various levels—societal, organizational, and individual. The connection between sustainability and human resources covers a range of issues, including working conditions, work-life balance, labor shortages, and the harmonious relationship between employees, businesses and society. To achieve sustainability, organizations must integrate human resource development (HRD) strategies that promote innovation and people-centered growth, while also aligning with societal and environmental needs (Klein, 2004). This ensures that employees' knowledge, skills, and competencies are aligned with the organization's goals for long-term success.

Society 5.0, on the other hand, seeks to create a society where everyone can fully enjoy life by leveraging technology to balance economic growth and address social challenges. Technologies such as AI, IoT, robotics and big data are used to enhance labor efficiency, improve production processes and develop new products that sustain economic growth. Society 5.0 also addresses challenges like population aging, labor shortages, resource management, and environmental protection by improving public services such as health, education, and transport (Nakanishi & Kitano, 2018). Through investments in education, training and awareness, human resources become empowered to contribute to a sustainable and equitable future.

By integrating technological advancements and human-centered approaches, Society 5.0 aims to balance economic progress with solving critical societal issues, ultimately fostering a sustainable future for generations to come.

## 2.2. Sustainable Human Resources in The Tourism Industry

The rapid expansion of the tourism industry in recent decades has brought significant challenges for HRD. As Taylor & Finley (2009) organizations must adapt swiftly to changes such as the rise of online travel platforms, the increasing demand for unique travel experiences, and shifts in traveler behavior. Meeting these demands is impossible without a well-prepared workforce in the tourism sector. As such, developing human resources is crucial for the tourism industry to address the growing expectations of international tourists.

To meet these evolving needs, the tourism industry must prioritize sustainable human resource development (SHRD). SHRD emphasizes continuous learning and the development of long-term strategies that foster innovation, increase productivity and improve employee retention (Garavan & McGuire, 2010). Sustainable HRD goes beyond just meeting immediate business goals; it aligns with financial, social, and ecological objectives to create benefits that extend beyond the organization itself (Ehnert et al., 2014).

Investing in sustainable HRD not only helps the tourism industry meet growing tourist demands but also generates long-term economic, social, and environmental advantages. These include enhancing productivity, reducing environmental impacts, attracting and retaining talent and contributing to the overall sustainable development of the tourism sector. By making informed decisions on HRD, organizations can foster financial growth, social well-being and ecological sustainability in both the short and long term.

As the tourism industry grapples with sustainability challenges, the role of human resources becomes increasingly critical. Baum (2006) argues that sustainable human resources go beyond merely motivating employees in the workplace and involve a deeper understanding by managers

and supervisors of the long-term potential for growth and development of their employees. Traditional human resource models often focus on immediate work tasks, which can overshadow the importance of investing in long-term human resource capacity. This short-term focus can lead to inconsistencies in implementing sustainability strategies within the organization.

Interestingly, discussions of sustainability often overlook the individual aspect of sustainability, even though it is essential for achieving broader goals in sustainable tourism development. To succeed, human resource management must shift its mindset towards long-term investment in employee capacity and potential. As UNCED (1992) states, "People are at the center of the concern for sustainable development. They enjoy a healthy and useful life, in harmony with nature". This perspective underscores the importance of prioritizing human resource development as a central pillar for ensuring sustainable tourism growth.

Sustainable human resource development offers significant long-term benefits across multiple fields, fostering a positive environment that extends beyond the workplace to families and broader society. In the tourism industry, sustainable human resource development is critical for fostering growth that is both efficient and environmentally conscious. Achieving this requires a methodical approach involving long-term investments and strategies from governments, local authorities, tourism businesses and NGOs.

For sustainable tourism growth, it is essential to adopt comprehensive measures, including talent attraction, workforce training, technological application, and interdisciplinary collaboration. Addressing these challenges is key to the tourism industry's ability to thrive in the era of Society 5.0, which emphasizes the integration of digital technologies for balanced economic and social development. Only by resolving these issues can the tourism sector achieve sustainability and high efficiency in the long run.

Recent studies highlight the critical role of higher education and technology in driving sustainable development and addressing the challenges of Society 5.0.

For instance, Rosak-Szyrocka et al (2022) underscore the importance of universities in promoting sustainable development by educating citizens on scientific and technical matters. Their study, which utilizes a logistic regression model to analyze student data, suggests that universities must take more proactive steps to meet the needs of Society 5.0, ensuring that human resources are adequately trained to address sustainability challenges.

Similarly, Deepika Faugoo (2024) explores how advanced technologies like AI, IoT and robotics can help achieve the Sustainable Development Goals (SDGs) by addressing global issues such as poverty, inequality, and climate change. Faugoo emphasizes a human-centric approach in Society 5.0, ensuring that technological advancements benefit society as a whole. However, the study highlights key challenges, including technology access disparities and the need for stronger policy frameworks to implement these innovations effectively.

Additionally, Ramírez-Márquez et al (2024) focus on how AI and other advanced technologies can optimize resource management, particularly in water and energy sectors, to enhance sustainability. Their study stresses the human-centered nature of Society 5.0, aiming to balance environmental protection and improved living standards. Nonetheless, challenges such as technological gaps and inadequate policy frameworks continue to hinder the full realization of these benefits.

Together, these studies underscore the importance of human resource development, technological integration and strong policy measures in realizing the goals of sustainable development within the framework of Society 5.0.

### 3. METHODOLOGY

This study employs a literature review research method to analyze tourism human resource management strategies and sustainable development in the context of Society 5.0 for Quang Ngai's tourism sector. Data was gathered through digital library searches, including research papers and related materials from platforms like ScienceDirect, SpringerLink, PubMed, and Google Scholar, as well as the Quang Ngai province website (Holloway & Todres, 2003; Bungin, 2010; Creswell, 2014; Deepika Faugoo, 2024; Ramírez-Márquez et al, 2024). To refine the data, the EndNote X21 software was used to eliminate duplicate results.

Primary data sources were selected based on criteria such as publication date, field of study, language, and source reliability. The process involved reading and analyzing relevant documents to gain insights into human resource management strategies in the era of Society 5.0. In addition, secondary data sources such as government policies, provincial regulations, and international research reports from organizations like the International Labour Organization, UNWTO and UNESCO were reviewed to understand broader trends in human resource development for Society 5.0.

Furthermore, the author consulted experts in sustainable tourism, human resource development researchers, and individuals impacted by Society 5.0 policies, providing a comprehensive overview of the strategies needed to develop Quang Ngai's tourism workforce in this new era.

This research method is designed to analyze and understand human resource management strategies in Quang Ngai's tourism industry within the context of Society 5.0. The study aims to assess the effectiveness of current policies on sustainable human resource development and provides both a theoretical and practical foundation for proposing new strategies. These strategies are tailored to meet the demands of Society 5.0, which emphasizes the integration of advanced technology and a human-centered approach. Ultimately, the study seeks to contribute to improving the efficiency and sustainability of Quang Ngai's tourism sector, helping the industry adapt to the challenges and opportunities of the 5.0 era.

### 4. RESULTS AND DISCUSSION

Discussions surrounding human resources in the tourism industry are often undervalued and, in some cases, entirely overlooked, leading to significant issues such as a shortage of skilled workers, poor service quality and limited local community involvement in tourism-driven economic activities (Sentanu & Mahadiansar, 2020; Aliyah et al., 2021). This has resulted in challenges that hinder the sustainable growth and competitiveness of the tourism industry in many countries.

To address these concerns, this discussion focuses on defining and classifying tourism human resources based on their functions, skills, and roles within the industry. It also emphasizes the crucial role that well-managed human resources play in developing tourism products and services, enhancing service quality, attracting tourists, and promoting sustainable development (Zontek, 2016). Moreover, the quality of human resources is directly tied to the competitive position of the tourism industry, making it vital to forecast future workforce demands and trends in human resource development.

In summary, the effective management and development of human resources in the tourism sector are fundamental to overcoming current challenges and ensuring long-term industry success and sustainability.

Sources in the tourism industry encompass many components, all of which are vital to its development (Sari & Anggraini, 2020). Among these, human resources stand out as a decisive factor. The tourism workforce includes a broad range of actors, from civil servants in government agencies responsible for planning and coordinating tourism policies to entrepreneurs creating tourism products and services, and experts who oversee and enhance the quality of tourism offerings (Setiawan, 2016).

Additionally, the local community surrounding tourist destinations, though not always directly involved in the tourism business, plays a significant role in enriching visitors' experiences. Their friendliness, hospitality, and supplemental services contribute to tourists' comfort and satisfaction. This highlights the importance of human resources, not only in formal roles but also in community interactions, as key drivers of the tourism industry's sustainable growth.

In the context of Society 5.0, discussions on human resources in the tourism industry of Quang Ngai province are focusing on improving the quality of human resources to meet the increasing demands of tourists and the trend of technological development. Society 5.0, with the integration of smart and digital technology into all aspects of life, has posed new challenges and opportunities for the tourism industry. Human resources in the industry not only need traditional skills but also need to adapt to technological tools such as artificial intelligence, IoT and Big Data to improve customer experience. At the same time, training and development of human resources also need to focus on creativity, analytical thinking and application of technology in management, marketing, as well as customer service. In Quang Ngai, a place with great tourism potential with many cultural relics and natural landscapes, the combination of tradition and modernity in human resources will play an important role in promoting sustainable tourism and enhancing the province's competitiveness in the new era.

A specific example of a discussion of human resources in the tourism industry of Quang Ngai province in the 5.0 society could be the training and application of technology in tourism activities at famous destinations such as Ly Son Island. Tourism experts and managers will discuss how to use VR and AR technology to create virtual tours, helping tourists explore historical sites and scenic spots before deciding to visit. At the same time, personnel working at tourist destinations need to be equipped with skills to use smart visitor management systems, integrating AI to personalize experiences for each visitor based on their preferences and online behavior. promoting sustainable tourism and enhancing the province's competitiveness in the new era.

For example, when tourists visit Quang Ngai, they can access a smart mobile application developed by local guides. This application not only provides information about famous destinations such as Hang Cau and Chua Hang, but also suggests services that suit tourists' interests, such as local food tours or outdoor activities based on weather forecasts and specific needs. This requires tourism personnel to have skills not only in tourism expertise but also in technology management and big data access, ensuring high interactivity and bringing value to tourists.

#### **4.1. The Development of Tourism Human Resources**

Human resources are a crucial factor in the socio-economic development of a country, region, or locality. The quantity, composition, allocation, and quality of human resources are interrelated and have a direct impact on planning, implementation, and the overall success of development processes (Sutrisnowati & Hadi, 2020). Human resource development revolves around two main issues: improving the quality of individuals, as they are the key drivers of labor and development and understanding the impact of technology on human existence. Both aspects require substantial

attention and investment to cultivate a highly skilled workforce that meets the demands of national growth.

By developing high-quality human resources, countries can drive economic growth, enhance national competitiveness, and foster societal progress. Thus, a strong focus on developing and utilizing human resources effectively is critical to achieving sustainable development goals.

Human resource development in the era of globalization has become increasingly urgent due to the rapid integration of digital technologies into various aspects of life (Hewitt, 2021). These changes have significantly impacted the labor market, with many workers at risk of displacement by more efficient and flexible machines and robots. This challenge is particularly relevant in Quang Ngai, where concerns have arisen over the quality of skilled tourism labor, leading to hesitations from potential investors.

To address these issues, human resource development must be prioritized in Quang Ngai, focusing on enhancing education, training, and skill development for workers to align with the demands of the industry 4.0 era. The province needs to implement policies that support job creation, retraining, and career transitions to help workers adapt to the evolving market.

As part of the Quang Ngai Province Tourism Development Project 2025 and Vision to 2030, the province aims to become a major destination in Vietnam's South-Central Coast, with tourism identified as a key economic driver. Quang Ngai is focusing on developing tourism centered around its sea, island, cultural, and ecological assets. A key factor in this growth is the development of high-quality human resources. To achieve this, the province has introduced training programs for tourism guides, hotel management, and customer service to improve service quality and attract more visitors. Additionally, Quang Ngai has partnered with international organizations to enhance training standards and develop tourism products. By 2025, the province aims to create jobs for 21,900 workers in the tourism sector, expanding to 49,500 by 2030 (Quang Ngai Provincial People's Committee, 2022).

By focusing on human resource development, Quang Ngai can ensure it meets labor market demands and supports sustainable growth in its tourism industry.

Scientific and technological advancements have brought about significant changes, creating new challenges for human resource development in the context of globalization. As Fuadi (2016) points out, the rapid progress in science and technology can lead to a "crisis of humanism" where humans are required to adapt to technology rather than technology being designed around human needs. This shift raises concerns about the cultural relevance of technology applications, as what is adopted from Western contexts may not necessarily align with the cultural and societal needs of each country (Sutrisnowati & Hadi, 2020).

This highlights the importance of a carefully managed technology transfer process, ensuring that imported technologies are adapted to local contexts for long-term sustainability. Quang Ngai, with its considerable development potential, should focus on becoming a key hub for developing human resources proficient in applying smart technologies in the era of Society 5.0. By doing so, the province can better harness technological progress while maintaining cultural relevance, supporting both economic growth and sustainable development.

#### **4.2. The Role of The Government in Developing Sustainable Tourism Human Resources**

The government plays a crucial role in improving the quality of a country's human resources, particularly in the tourism sector. As Ridwan & Aini (2019) emphasize, tourists often form lasting

impressions of a country through its attractions, and when they return home, they share their experiences, spreading the country's beauty and culture by word of mouth (Pinkster & Boterman, 2017). This organic promotion not only boosts tourism but also strengthens the country's global image.

In this context, the Ministry of Culture, Sports and Tourism serves as the key agency for implementing tourism development policies. It coordinates efforts between central and local governments to encourage private investment, while also promoting tourism destinations through targeted marketing strategies. More importantly, the ministry focuses on building a skilled workforce by organizing vocational training programs, issuing certifications and supporting employment initiatives. These efforts are crucial for developing a professional, well-trained tourism workforce capable of meeting the growing demands of the industry and improving overall service quality.

By investing in tourism human resources, the government ensures that the country can offer high-quality experiences that attract and retain visitors, thereby fostering long-term sustainable growth in the tourism sector.

The Quang Ngai Provincial People's Committee plays a pivotal role in developing tourism human resources through strategic policies and investments. The province not only commits substantial resources to education and training but also offers financial support for programs aimed at enhancing human resource capabilities. Additionally, efforts to upgrade infrastructure, foster partnerships with both domestic, international stakeholders have helped improve the quality of tourism training and services.

The province also focuses on promoting tourism, raising public awareness, encouraging research and innovation. By closely monitoring the effectiveness of training programs, Quang Ngai ensures they meet the demands of the industry. These initiatives have allowed the province to cultivate a highly skilled tourism workforce that supports sustainable development while elevating its position on the global tourism map.

Specialized training programs for tour guides, hotel managers, and customer service staff have significantly improved service quality, attracting more domestic and international tourists. Through international collaborations, Quang Ngai has enhanced its training quality, further contributing to the comprehensive development of the province's tourism sector (Quang Ngai Provincial People's Committee, 2022).

#### **4.3. The Challenges and Orientations Needed to Develop and Improve Tourism Human Resources**

In the digital age, individuals face significant challenges as they adapt to the demands of Society 5.0 (David, 2015). The rapid advancement of science and technology has led to increasing specialization in specific fields, with experts gaining deep knowledge in their own area but lacking broader awareness of other domains (Foray, 2014). This heightened specialization can create a divide, where individuals are confined by rigid technical frameworks that limit cross-disciplinary understanding.

Moreover, the rise of automation and robotics poses a threat to traditional human labor. Many tasks once performed by people are now handled by robots, which are often seen as more efficient and thorough in their execution. This shift highlights the potential for science and technology to replace human roles, raising concerns about the future of work.

To address these challenges, human resource development is crucial. It not only enhances individual capacities but also builds the self-confidence of employees, enabling them to meet the evolving demands of the industry 4.0 labor market. This includes adapting to new technologies, acquiring digital skills, and fostering a mindset of continuous learning to remain competitive and relevant in an increasingly automated world.

Quang Ngai's tourism industry faces significant challenges due to a shortage of high-quality human resources. Workers often lack professional skills and struggle with foreign language proficiency, particularly in communicating with international tourists, which lowers service quality. Additionally, there is weak collaboration between training institutions, businesses, and local authorities, resulting in mismatches between training programs and industry needs. Furthermore, insufficient digital skills hinder the workforce's ability to leverage technology in tourism management, a critical requirement in the era of Society 5.0. Limited international cooperation in training and the lack of retraining for workers transitioning from other sectors exacerbate these challenges, leaving the workforce uncompetitive. To overcome these issues, Quang Ngai must strengthen collaboration among stakeholders and invest in comprehensive training and international partnerships to improve workforce quality and meet the growing demands of the tourism sector.

## **5. MODELING SUSTAINABLE HUMAN RESOURCE DEVELOPMENT IN QUANG NGAI PROVINCE'S TOURISM INDUSTRY**

### **5.1. A Proposed Model for The Sustainable Development of Human Resources**

The proposed model for sustainable human resource development in Quang Ngai Province can be based on several key theoretical frameworks and the province's current socio-economic context. Below are the main elements:

**Sustainable Development Theory (Elkington, 1997):** This framework emphasizes the triple bottom line-economic, social, and environmental sustainability. It provides a foundation for human resource development strategies that not only enhance skills and productivity but also align with broader societal and environmental goals. In the context of tourism, this means creating a workforce that can support sustainable tourism development while promoting environmental conservation and social inclusivity.

**Human Capital Theory (Becker, 1964):** According to this theory, investing in human capital (i.e., education, training, and skill development) leads to higher productivity and economic growth. For Quang Ngai's tourism industry, improving the skills and qualifications of the workforce will enhance service quality, attract more tourists, and boost the province's economic performance.

**Capacity Building Framework (Morgan, 2006):** This framework focuses on developing the capacity of individuals, institutions, and systems. For Quang Ngai, this involves improving the abilities of the workforce (digital skills, soft skills), strengthening educational institutions, and fostering collaboration between stakeholders, such as businesses, government, and training organizations.

**International Standards Framework (ISO, 2010):** This framework provides guidance on social responsibility, emphasizing ethical operations and transparent practices. It is relevant in ensuring that human resource development aligns with international standards, particularly in tourism, where meeting global expectations is crucial for competitiveness.

### **Current Situation in Quang Ngai:**

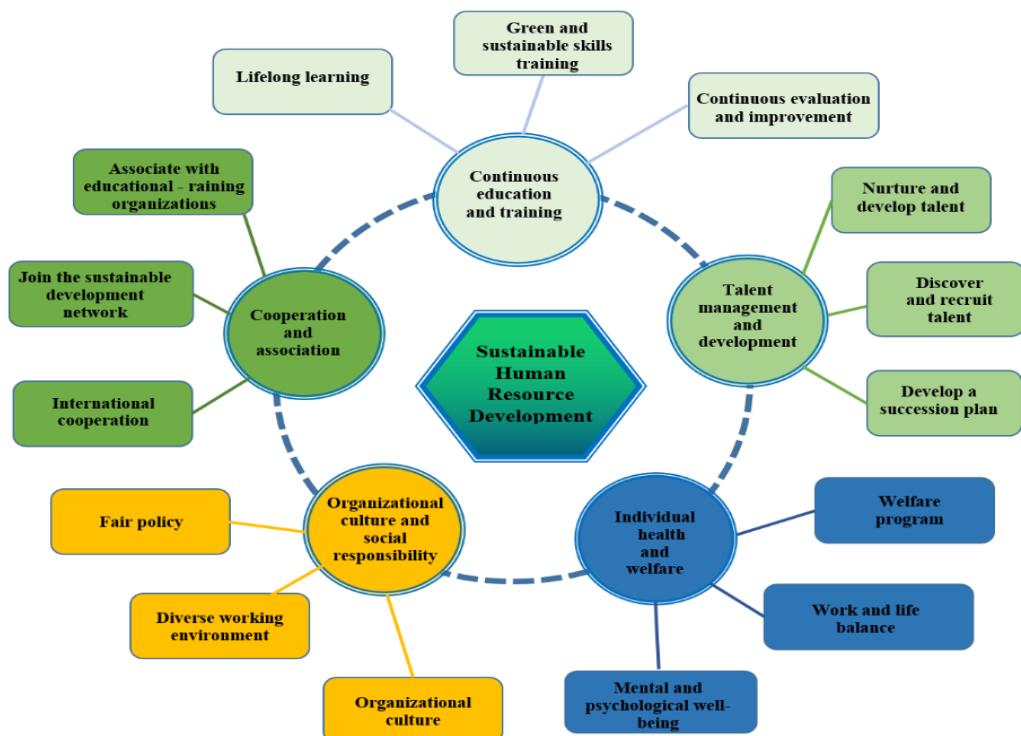
**Shortage of Skilled Workforce:** Quang Ngai faces challenges such as a shortage of skilled labor, particularly in digital skills and foreign language proficiency. The province has potential for growth in tourism, but the lack of high-quality human resources has hindered its development. To address this, the model would need to focus on training and upskilling the workforce to meet the demands of the evolving tourism market.

**Growing Tourism Industry:** Quang Ngai is positioning itself as a key tourist destination in the South-Central Coast of Vietnam, focusing on eco-tourism, cultural tourism, and marine tourism. This creates the need for a sustainable human resource development model that can support the growth of tourism in a way that is both economically viable and environmentally sustainable.

**Economic Development Goals:** The Quang Ngai Provincial People's Committee aims to enhance tourism as a key economic sector by 2025, with a vision for 2030. The human resource development model should support this by ensuring that the tourism workforce is trained to international standards, meeting the needs of domestic and international tourists.

**Environmental and Cultural Preservation:** As tourism grows, it is essential to preserve the province's natural and cultural heritage. The model should incorporate training on environmental management, sustainable practices, and cultural sensitivity, ensuring that tourism development does not come at the cost of environmental degradation or cultural loss.

#### Proposed Model for Sustainable Human Resource Development:



**Figure 1. A proposed model for sustainable human resources development in Quang Ngai Province. Source: Author's research.**

The human resource development model incorporates key elements such as enhancing employee skills, promoting sustainable practices and fostering organizational systems that align with social responsibility. This model not only builds a capable and effective workforce but also ensures that employees actively contribute to the sustainable development of both the organization and society.

Successful application of this model requires the commitment and collaboration of multiple stakeholders, including the government, local authorities, businesses, educational institutions, and community organizations. By working together, these entities can ensure that workforce development strategies align with broader social and environmental goals, fostering long-term sustainability across various sectors.

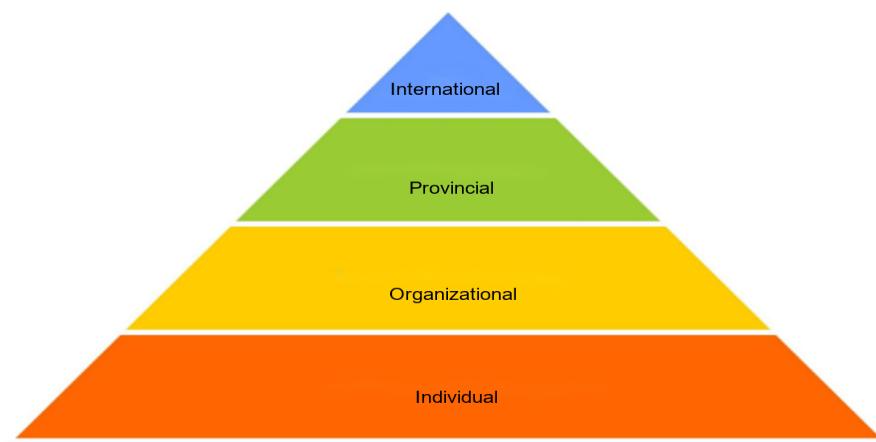
Moreover, this integrated approach helps organizations maintain a balance between improving productivity and contributing to the greater good, creating a ripple effect that benefits the local economy, society and the environment.

## 5.2. Planning For Sustainable Human Resource Development in Quang Ngai Tourism Industry

Quang Ngai's tourism and hotel industry is facing significant challenges in human resources, particularly in areas such as staff shortages, high turnover rates, and a lack of green skills necessary for sustainable development. To address these issues, the tourism industry must shift away from traditional approaches and focus on investing in human resource training and development. This includes creating an attractive working environment that can draw and retain talent. Without skilled employees, businesses risk overcrowding, decreased service quality, customer dissatisfaction, and damage to their reputation.

A sustainable human resource development strategy for Quang Ngai's tourism sector should be based on collaboration between various organizations, ensuring that employees are equipped with the necessary skills. The Tourism Human Resources Development Plan for Quang Ngai aims to meet the industry's needs by 2025, with a vision extending to 2030. This plan focuses on building a workforce that is sufficient in both quantity and quality, balanced in terms of structure and profession, and trained according to national and international standards.

An essential element of sustainable human resource development in Quang Ngai is ensuring proper planning at all levels-international, provincial, organizational, and individual. This approach highlights the importance of balanced workforce distribution and consensus among stakeholders in human resource development, which is critical to ensuring long-term sustainability in the tourism industry.



**Figure 2. The Level of Sustainable Human Resource Development in Quang Ngai Proinve.**  
**Source: Author's Research.**

To ensure the sustainable development of tourism human resources in Quang Ngai province, efforts must be made across several levels: international, provincial, organizational, and individual.

International: Quang Ngai needs to engage in international cooperation to share best practices, knowledge, and resources for training and human resource development. Additionally, the tourism industry should adopt international standards for skills, competencies, ethics to ensure workforce compatibility and enable the mobility of labor both regionally and globally.

Provincial: The Provincial People's Committees should prioritize the development of sustainable human resources for tourism by implementing policies that emphasize education, training and research. This includes forecasting labor demand, developing career pathways, supporting tourism businesses through measures such as preferential loans and training sponsorships. Comprehensive plans for workforce development, which include skill improvement programs, are crucial to building a competitive and capable workforce.

Organizational: The Department of Culture, Sports, and Tourism must develop its own human resource development strategies. This should involve mapping out personnel needs, creating training roadmaps, and fostering a professional, supportive work environment. Investment in both hard skills (such as tourism management) and soft skills (such as communication and problem-solving) is essential, as is raising awareness of sustainable human resource development practices within the organization.

Individual: Workers in the tourism sector must take responsibility for their own professional development. This includes continuously improving their skills and knowledge to meet the evolving demands of the market. Participation in workshops, seminars, training courses will help individuals stay current with industry trends and enhance their ability to work in multicultural and dynamic environments. Skills like communication, teamwork and problem-solving are crucial for adapting to the modern tourism landscape.

Ultimately, achieving sustainable human resource development in Quang Ngai requires coordinated efforts from all stakeholders-international partners, provincial authorities, organizations and individuals. By aligning these efforts, the tourism industry can grow sustainably, benefiting all involved parties.

### **5.3. Enhancing The Role of Inter-Organizational Cooperation in Sustainable Human Resource Development Planning in Tourism**

Inter-organizational cooperation is crucial for sustainable human resource development in Quang Ngai, as it enables the sharing of resources, policy support, capacity building, technology transfer and continuous evaluation. By fostering cooperation across businesses, educational institutions, and government agencies, Quang Ngai can cultivate a highly skilled workforce that meets the demands of long-term socio-economic development. Here are specific strategies:

*Building cooperation networks:* Establish partnerships between businesses to share resources and experiences, such as internships and on-the-job training programs. This provides students and employees with valuable hands-on experience in real work environments. Collaborate between businesses and educational institutions to create training programs aligned with industry needs, ensuring graduates are ready to work without the need for additional training. Joint research and development initiatives can also drive innovation and new technologies.

*Government policy support:* Governments can foster cooperation by offering tax incentives and financial support for businesses that invest in education and training. Policies that promote investment in the education system can enhance the quality of instruction in schools and training centers. Early career orientation for students, starting from high school, helps align their skills and education with labor market demands.

*Capacity building and technology transfer:* Develop continuous training programs to update employees on the latest industry knowledge and skills, promoting lifelong learning and ensuring adaptability to market changes. Facilitate the transfer of advanced technology from large enterprises and international organizations, empowering local businesses to stay competitive in the global market.

*Evaluation and improvement:* Regularly assess the effectiveness of cooperation and training programs to ensure they are meeting industry and market needs. Use feedback to adapt and improve these programs, ensuring they remain relevant.

*Employee support:* Provide financial assistance, such as scholarships and study loans, to encourage continuous learning and professional development. These support programs motivate businesses to actively participate in local human resource development initiatives.

By strengthening these areas, Quang Ngai can create a sustainable and high-quality workforce, ensuring that local industries remain competitive while contributing to the region's broader socio-economic development.

#### **5.4. Integrating Digital Technology in Tourism**

Integrating digital technology into Quang Ngai's tourism exploitation and management offers immense benefits by optimizing business operations, improving resource management, and creating new opportunities that enhance competitiveness. The key aspects of technology integration include:

*Big data:* By analyzing travel trends and preferences through big data, Quang Ngai can better understand traveler behavior and preferences. Data from sources like online booking platforms, social media, and travel reviews can be leveraged to customize services, ensuring that tourism resources are used more effectively and efficiently.

*IoT:* IoT can enhance the visitor experience by providing real-time information about tourist attractions via mobile devices, helping manage tourist flows at busy sites, and improving security. For example, IoT-enabled devices can monitor crowd levels at popular spots and guide visitors to less congested areas, creating a smoother experience for tourists.

*AI:* AI can automate many aspects of visitor care, such as answering frequently asked questions or offering personalized recommendations based on previous interactions or preferences. Additionally, AI can analyze visitor feedback in real-time, enabling tourism operators to adapt and improve their services promptly.

*VR and AR:* VR and AR technologies allow potential visitors to explore Quang Ngai virtually, creating immersive previews of destinations before their visit. This technology can showcase the province's attractions in a highly engaging manner, encouraging travelers to experience them in person.

By leveraging these technologies, Quang Ngai can not only optimize its tourism operations but also offer a more personalized and seamless experience for visitors, ultimately enhancing its competitive edge in the tourism sector.

To address the human resource challenges in Quang Ngai's tourism sector, particularly in digital skills training and adaptability, the province must implement several strategic solutions:

**Establishment of a Digital Tourism Training Center:** Quang Ngai should set up a center dedicated to providing specialized digital skills and technology training for the tourism industry.

This center can collaborate with universities, international organizations, leading technology companies to offer courses on tourism management software, AI and big data. The experience from countries like Japan demonstrates that digital technology in training can significantly boost productivity and efficiency in tourism. The center would serve both the current workforce and students or newcomers entering the field.

**Continuous Learning and On-the-Job Training Models:** Developing a continuous learning program is essential. This could include short courses and on-the-job training, integrated directly into the work environment to maximize the relevance and effectiveness of training. Utilizing e-learning platforms allows employees to train anytime, anywhere, aligning with the global trend of lifelong learning and continuous professional development.

**Strengthening International Cooperation and Personnel Exchange:** Facilitating exchange programs with countries that have advanced tourism industries, such as Japan, Korea, and Thailand, can help employees gain modern management skills and firsthand experience in applying digital technology. Such international personnel exchanges have been successful in many Southeast Asian countries and play a vital role in elevating human resource quality.

**Enhancing Soft Skills and Creative Thinking:** In addition to digital skills, training programs should emphasize the development of soft skills, including creative thinking, communication and teamwork. These are critical for the tourism industry, where quick adaptation to changing market demands is necessary. Research shows that soft skills significantly enhance service quality, especially in an evolving technological landscape.

**Financial Support and Incentive Policies for Businesses:** Quang Ngai should implement financial incentives and support policies to encourage tourism businesses to invest in human resource development, especially for digital skills. This could include tax exemptions, fee reductions, or direct financial support for training courses. Many countries use similar policies to promote human resource development, driving sustainable growth in the tourism sector.

By implementing these solutions, Quang Ngai can develop a well-trained and adaptable workforce, positioning the province's tourism industry to thrive in the digital era and meet the growing demands of both domestic and international travellers.

## 6. CONCLUSIONS

Sustainable human resource development in Quang Ngai's tourism industry, particularly in the context of Society 5.0, is vital for enhancing competitiveness and meeting the growing demands of tourists. This approach promotes climate change adaptation, increases community participation, and fosters a better working environment. Developing strategies to attract and retain talent is crucial for long-term sustainability. Cooperation between key stakeholders-including the government, local authorities, tourism businesses, educational institutions, and international organizations is essential. For example, tourism businesses can collaborate with educational institutions for employee training, while the government can implement policies to attract tourists and talent. Such partnerships ensure comprehensive and effective solutions, fostering sustainable growth in the tourism sector. Therefore, coordinated efforts across all parties are necessary to build a resilient and sustainable tourism industry.

The low quality of tourism human resources in Quang Ngai is a significant challenge, hindering the province's tourism economy. This is evident in the education level, productivity, and creativity of local workers. To address this, Quang Ngai needs to implement comprehensive solutions, including stronger investments in education and vocational training, improving foreign language

skills, enhancing information technology proficiency and using an efficient human resource planning and employment information system. In the tourism sector, developing highly skilled labor is essential to meet rising tourist demands. By leveraging technology and fostering multi-sectoral cooperation, Quang Ngai can build a sustainable tourism industry that boosts the local economy and improves quality of life. Society 5.0, which merges technology and human-centric approaches, offers a model for solving key social problems, ensuring sustainable development. Investing in human resources and technology will allow Quang Ngai to fully realize its tourism potential, fostering a thriving and sustainable ecosystem that benefits both the socio-economic landscape and the environment.

The solutions recommended by the author in this article not only help improve the quality of tourism human resources in Quang Ngai but also promote sustainable and environmentally friendly tourism development. In the context of Society 5.0, integrating technology with sustainable and cultural values will help Quang Ngai become an attractive and competitive destination on the international tourism map.

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