



Cultivating Change: The Mediating Roles of Knowledge and Skills in the Relationship between Tourism Education Interventions and Industry Transformation

Jing Wen¹, Piyapong Sumettikoon^{2*}

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ABSTRACT

Purpose: In the ever-evolving world of the global tourism sector, the significance of education in moulding a competent and well-informed workforce has been on the rise. Interventions in education impacting various aspects of change in the tourism industry. This research aims to explore the complex relationships among education interventions, knowledge acquisition, skills development, and tourism transformation. Through exploring the mediating roles of knowledge and skills in this connection, the research seeks to offer a detailed comprehension of how education supports sustainable practices, cultural preservation, and the successful integration of digital technologies in the tourism sector.

Method: Using a quantitative research design, this study gathered data from a sample of tourist workers in China. Analysed responses of participants were examined to investigate the connections among education interventions, knowledge acquisition, skills development, and tourism transformation. The study employed well-known scales to assess the main variables, and utilised statistical methods, such as mediation analysis, to investigate the mediating functions. **Findings:** The research findings suggest a strong correlation between tourism education interventions and tourism transformation. Moreover, the research reveals the mediating roles of knowledge acquisition and skills development in this correlation, emphasising the broad impact of education on various aspects of change in the tourism industry. **Implications for Research and Practice:** This study fills gaps in current literature and provides a comprehensive perspective on the relationships being studied. The study is notable for its thorough examination, which encompasses not just the immediate effects of education interventions but also the intermediary functions of knowledge and skills. The study's results have significant implications for policymakers, educators, and industry professionals. They highlight the importance of prioritising education to drive positive developments in sustainability, cultural preservation, and technology integration in the global tourism sector.

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¹ Department of Industrial Education, Faculty of Industrial Education and Technology, King Mongkut's Institute of Technology Ladkrabang (KMITL), 1, Soi Chalong Krung 1 Bangkok 10520 Thailand
ORCID iD: <https://orcid.org/0009-0002-3336-1577>, Email: 64603077@kmitl.ac.th

² Assistant Professor, Department of Industrial Education, Faculty of Industrial Education and Technology, King Mongkut's Institute of Technology Ladkrabang (KMITL), 1, Soi Chalong Krung 1 Bangkok 10520 Thailand.
ORCID iD: <https://orcid.org/0000-0003-2082-6320>, Email: piyapong.su@kmitl.ac.th

* Correspondence: piyapong.su@kmitl.ac.th

Introduction

The evolution of tourism plays a key role in fostering global economic growth, environmental conservation, and promoting cross-cultural awareness. The growth brings forth numerous new opportunities and challenges, highlighting the necessity of a team well-versed in both modern and traditional approaches (Lasisi et al., 2021). Education plays a crucial role in developing knowledgeable and skilled individuals as the tourism sector progresses. This study seeks to influence visitors to enhance their knowledge, skills, and educational experiences in tourism. Prior to endorsing digital technology, sustainable practices, and cultural preservation in the tourism industry, it is crucial for educators, politicians, and practitioners to grasp the role of education in driving industrial progress.

This study suggests that education has the potential to enhance tourism. Education plays a crucial role in fostering sustainability and preserving cultures, as highlighted by López-Fernández et al. (2021). Enhancing digital services and sustainable practices necessitates a reassessment of educational interventions' impact on industrial advancements and a deeper comprehension of their operations (Rahmani, Mackenzie, & Carr, 2023). This study explores the importance of having a skilled and knowledgeable tourism workforce capable of managing complexity and implementing positive transformations.

This study centres on enhancing tourist knowledge, skills, and education while restructuring the tourism sector. Tourism education programmes offer both formal and informal learning opportunities. Prior research is essential for comprehending the impact of educational interventions on innovation and growth in various sectors (Pratt et al., 2024). Gathering information necessitates a structured approach to obtaining tourism data and insights. In their study, Shah, Trupp, and Stephenson (2022) investigated the impact of information on attitudes and various outcomes. Therefore, it is necessary to investigate the hypothesis that connects knowledge acquisition with the growth of travel and tourism in academic programmes. Skills Development involves both practical and theoretical skills required for fieldwork. According to Fan et al. (2023), skill development plays a crucial role in transforming the tourism industry through educational interventions. This study provides support for this claim. Ultimately, the tourism industry is moving towards cultural preservation, modern technology, and sustainability. Research on tourism developments has been conducted by Romolini, Fissi, and Gori (2017). This study explores the impact of educational interventions on learning and progress to fill knowledge gaps.

Prior research has explored the relationship between tourism transformation, educational interventions, knowledge acquisition, and skill development. According to Miller, Mayo, and Podlog (2022), education plays a crucial role in the development of skills needed in the tourism industry. In a study conducted by Czernek-Marszałek (2020), it was discovered that information has the potential to enhance various industries and alter viewpoints. Joshi, Rana, and Kharkwal (2023) conducted research on the impact of sustainable tourism practices on cultural preservation. These studies acknowledge the significant impact of education in driving significant changes. Despite these studies, there is still limited understanding of the impact of educational interventions on skill development and learning, ultimately influencing the tourism sector. This research contributes to filling a gap in knowledge and advancing understanding by evaluating the complex interaction between education, knowledge, skills, and change in the dynamic tourism sector.

The problem has been thoroughly investigated, but there are still some gaps. Studying the impact of educational interventions on enhancing tourism, skill development, and learning is essential. Education has been examined concerning tourism topics such as cultural preservation and sustainability. This study investigates the relationship between educational interventions and reforms in the tourism sector to address a research gap. The goal is to elucidate the impact of interventions on changes. Understanding the importance of learning and skill development in connecting educational interventions to tourism sector advancements is crucial. However, previous research often overlooks this aspect. Our research offers a comprehensive understanding of the impact of education on industry-wide transformations. The study posits that education has the potential to revolutionise different companies. The concept is backed by research conducted by (Horng et al., 2020; Miyakawa & Oguchi, 2022; Wu & Yang, 2023). This study will contribute to the existing knowledge on the impact of education on talent and the future of the tourism industry.

The study seeks to elucidate the intricate web of relationships among learning, skill development, industry evolution, and interventions in tourist education. The primary aim of the study is to explore the connection between educational programmes and the intricate advancements in the tourism industry. The main objective of the research is to gain a deeper understanding of how knowledge acquisition and skill development mediate the relationship between education interventions and sustainable practices, cultural preservation, and digital technology integration. This research will be valuable for individuals in the tourism industry. The findings can be used by policymakers to develop policies and laws that prioritise educational programmes as influential agents for positive transformation in the field. Understanding the factors that enhance student learning, career advancement, and industry transformation would benefit educators. These resources can help industry professionals enhance their expertise to create sustainable, culturally sensitive, and technologically advanced tourism practices. In addition, the study identifies important gaps in existing research and offers a comprehensive analysis of the connections being studied, contributing to academic discourse. The study's theoretical frameworks build on and incorporate findings from previous research, enhancing our understanding of how education could transform the travel and tourism industry.

Literature Review

Theoretical Background

This study combines key concepts to illustrate the intricate connections among learning, skill enhancement, tourism education programmes, and industry transformation. The theory of Resource-Based View (RBV) by Barney and Wernerfelt is endorsed by Wales et al. (2021). For a corporation to maintain a competitive edge and enhance performance, it needs valuable, rare, and difficult-to-imitate resources, as per the RBV. Teaching students about tourism could improve human capital, according to this study. According to Shen et al. (2022), education plays a crucial role in enabling individuals to thrive in the dynamic tourist industry. According to the Resource-Based View (RBV), educational interventions can assist individuals and organisations in obtaining unique human capital that is difficult to imitate, thus providing a competitive advantage. Factors mediating knowledge and skill gains. Applying theory in sustainable tourism development study involves utilising knowledge learning (Tajeddini et al., 2023). As suggested by Ren et al. (2023), skill

development could play a role in the relationship between digital technology and cultural heritage protection. The mediation processes are guided by the RBV framework, enhancing the transformative capacity of tourist education initiatives. The study incorporates the perspectives of [Mota, Rua, and Neira-Gómez \(2024\)](#) and [Szromek and Polok \(2022\)](#), highlighting the importance of education in driving innovation and sustainability in tourism technology.

Tourism Education Interventions and Tourism Transformation

Visitor education influences the tourism industry, affecting the utilisation of digital technology, cultural conservation, and sustainable growth. Scholars are recognising the significant impact of education on the tourism industry. There has been ongoing scholarly discussion regarding sustainable development, which is a fundamental aspect of contemporary tourism. [Karsavuran and Özdemir \(2019\)](#) suggest implementing more educational programmes to promote environmentally friendly practices in the tourism industry. Education can contribute to the sustainability of the tourism industry by focusing on community engagement, ethical tourism, and environmental protection. According to [Cave et al. \(2022\)](#), sustainable tourism promotes eco-friendly activities to minimise regional ecosystem damage. This fulfils their goals. Culture preservation in tourist transformation necessitates educational initiatives. As stated by [Ji, Wang, and Wu \(2023\)](#), tourism education programmes play a crucial role in preserving cultural heritage by instructing industry personnel on ethical and responsible conduct. Experts in cultural sensitivity and heritage management can assist the tourist industry in preserving its cultural history. The UNESCO World Heritage Centre (2012) emphasises the importance of education in preserving culture and its potential relationship. Activities related to tourism education are being recognised as a catalyst for the adoption of digital technology. Personnel in the tourism industry are trained in digital technology, as stated by [Heller et al. \(2023\)](#). Digital literacy in tourism education promotes innovation and enhances competitiveness and efficiency. [Silva, Zagalo, and Vairinhos \(2023\)](#) noted that digital technology has revolutionised destination management and tourism experiences. Tourism education encourages digital adoption, leading to a workforce that is proficient in technology and transforming tourist operations. The study highlights the varied impact of tourism education initiatives on tourism evolution. Education plays a crucial role in advancing the sector towards a future focused on sustainability, cultural preservation, and technological innovation.

H1: *Tourism education interventions has a significant and positive impact on tourism transformation.*

Knowledge Acquisition as a Mediator

Research indicates that the acquisition of knowledge plays a role in tourist education interventions and transformation. This collaboration has advanced digital technology, cultural preservation, and sustainable development in the tourism sector. According to [Situmorang and Japutra \(2024\)](#), education plays a crucial role in translating theoretical knowledge into sustainable tourism development strategies. Education is essential for acquiring the knowledge and insights necessary to implement sustainable tourism practices ([Mai, Do, & Phan, 2022](#)). According to [Shah et al. \(2022\)](#), education can enhance

individuals' comprehension of sustainable development. Improved decision-making and change in the tourist sector could lead to positive outcomes. This technique facilitates their arguments. Research suggests that knowledge acquisition plays a role in shaping attitudes and actions towards heritage conservation. As stated by [Huang \(2020\)](#), cultural heritage education fosters civic responsibility, ethics, and site awareness.

According to [Alford and Jones \(2020\)](#), knowledge acquisition plays a role in the implementation of cultural preservation strategies in tourist transformation. According to [Wang et al. \(2023\)](#), training in cultural awareness and sustainable tourism is essential for preserving cultural assets. Education in tourism facilitates companies in adjusting to digital technologies. [Pásková et al. \(2024\)](#) suggest that education on digital technology research and application is advantageous for professionals. Mediation informs individuals about the potential applications of new technology in travel and tourism, along with its strategic implications ([Czernek-Marszałek, 2020](#)). [Mrdjenovic \(2023\)](#) states that digital technology adoption in the tourism sector is fueled by innovation and knowledge acquisition. Studying the impact of tourism education programmes on sustainable development, cultural preservation, and digital technology adoption highlights the role of knowledge acquisition. Acquiring knowledge plays a significant role in shaping tourist attitudes, decisions, and behaviours within the industry.

H2: *Knowledge acquisition mediates the relationship between tourism education interventions and tourism transformation.*

Skills Development as a Mediator

Studies have examined skill development and tourism transformation programmes. Illustrative instances involve tourism, sustainable development, and preservation of cultural heritage through digital technology. The results highlight the importance of enhancing the application of academic knowledge to green business strategy. [Slocum, Dimitrov, and Webb \(2019\)](#) highlight the significance of education in enabling individuals to implement sustainable concepts and revolutionise the tourism industry. [Lopez-Carril, Anagnostopoulos, and Parganas \(2020\)](#) suggest that tourism professionals need to implement sustainability to carry out sustainability plans. Enhancing skills plays a role in maintaining cultural heritage by enabling individuals to effectively safeguard cultural resources. [Miller et al. \(2022\)](#) emphasise the importance of visitor education in enhancing practical skills related to heritage maintenance, interpretation, and community involvement. These skills aid in combining cultural preservation with tourism transformation. According to [Luan et al. \(2023\)](#), individuals working in the tourism industry should receive training to protect cultural artefacts. Training improves the effectiveness of cultural preservation efforts in this case.

Acquisition of skills mediates the adoption of digital technology and tourist education initiatives. Education plays a crucial role in enabling the tourism sector to incorporate digital technology through the imparting of technical skills and digital literacy ([Slaughter et al., 2023](#)). Proficiency in utilising advanced technology, adapting to evolving digital environments, and maintaining competitiveness is essential in this setting. According to [Miller \(2020\)](#), education plays a crucial role in equipping individuals to utilise digital technology. These technological advancements have revolutionised the delivery and utilisation of tourist services. The study highlights the importance of skill development in connecting tourism education interventions with the acquisition of practical skills that

facilitate tourism transformation. Improving skills is crucial amidst the ongoing revolution in the travel and tourism sector. Various sectors, including digital technology adoption, cultural preservation, and sustainable development, demonstrate this truth.

H3: Skills development mediates the relationship between tourism education interventions and tourism transformation.

Hence Based on Above Literature and Discussion we Developed the Following Conceptual Framework

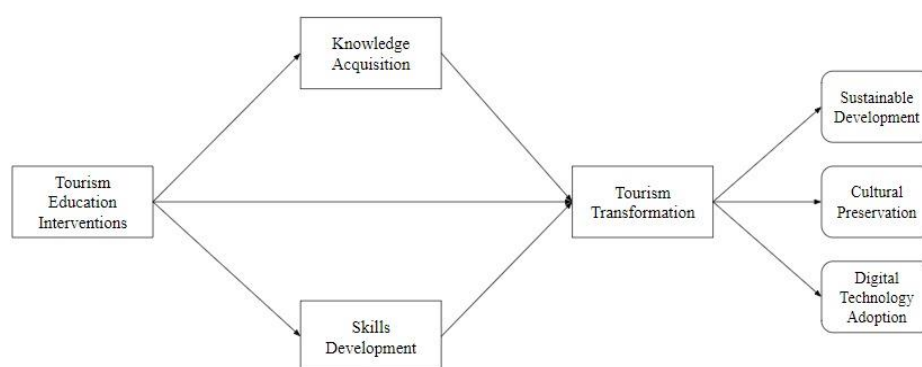


Figure 1: Conceptual Framework.

Methodology

Population

The study involved individuals working in the tourism sector in China, such as tour guides, hotel staff, travel agents, and other relevant roles. China was chosen as the study's location due to its significance in the global tourism market and its ongoing expansion in this sector. We utilised a multidisciplinary team of experts to gain a thorough understanding of the tourism industry. After analysing individuals from different regions and backgrounds, a representative sample was selected, and the population was then categorised according to tourism-related occupations.

Sample Size Determination Technique

It is often advised by survey researchers to choose a sample size that is five to 10 times larger than the total number of variables, as suggested by Hair et al. (2019). This ratio was used to determine the anticipated sample size for the study. The study examined various components including knowledge acquisition, talent development, tourism education interventions, and other aspects of tourism transformation, ultimately opting for a conservative estimate at the higher end of the spectrum. Our aim was to recruit a minimum of 500 participants, exceeding the suggested threshold, to ensure adequate statistical power. The sample size was obtained through stratified random sampling. Stratification

categorises individuals based on their occupation, income, and level of education. To guarantee representation of different strata, sample units were chosen randomly. We believed that this strategy would produce more broadly applicable findings and encompass the diversity of tourist workers in China. The survey utilised Likert-type scales to assess participants' experiences and sentiments in order to gather both quantitative and qualitative data. The survey questions were formulated according to the theoretical framework and underlying assumptions of the study. The conversation revolved around tourist education initiatives, knowledge acquisition, skill development, and the outcomes of tourism transformation. All participants provided informed consent prior to data collection, both offline and online. We implemented thorough measures to safeguard the responses of poll participants and their identities. We utilised regression and mediation to examine hypotheses and analyse relationships. The study was meticulously planned to shed light on the intricate dynamics of tourist education and its impact on China's travel and tourism sector.

Sample Size

The study involved 220 participants to ensure a balance between statistical requirements and practical data collection. Typically, larger samples are recommended, but due to budget constraints and specific demographic criteria, a smaller yet representative sample was selected. Researchers conducted an extensive study on a particular segment of China's varied tourism workforce. The sample size was sufficient as the study examined multiple theoretical framework components and faced challenges in surveying tourists. We included tour guides, hotel workers, and travel brokers from diverse backgrounds in our demographic analysis to enhance the small sample size. We employed stratified random sampling to categorise the population based on geography and occupation, followed by the random selection of individuals from each category. We utilised this approach to target a diverse demographic and employment cross-section of China's tourist workforce.

Sampling Technique

The study carefully chose a more diverse and specific sample of Chinese tourist workers through a method of stratified random selection. The primary objective of stratification was to categorise individuals based on their occupation and location. Sampling was enhanced to improve accuracy and ensure adequate representation of all strata. Random selection was conducted within each stratum. The two-stage process minimised sampling bias and enhanced the likelihood of uncovering fresh perspectives from the small sample. The sample strategy was meticulously designed to ensure a comprehensive evaluation of the research variables across all sectors of the Chinese tourist workforce, striking a balance between representativeness and data collection.

Data Collection Technique

The study utilised online questionnaires for their convenience, accessibility, and capacity to reach a geographically diverse sample. Data was collected administratively. The survey includes open-ended and Likert-scale questions that align with the study's theoretical framework and assumptions. The online platform streamlined data input, distribution, and

other administrative processes in contrast to traditional paper surveys. We advertised the poll on professional forums, social media, and through email. Collecting data online is efficient, cost-effective, and allows for fast access and broad availability. To boost participation, the survey was made available for a specific duration and reminders were sent out periodically. Our goal was to enhance the representativeness and response rate.

Data Analysis Technique

The study's data analysis utilised SPSS, a statistical software tailored for social science research. SPSS is commonly utilised by researchers for survey data analysis and statistical procedures. The main research variables were initially outlined and summarised through descriptive statistics, including means, standard deviations, and frequencies. By analysing the study assumptions and applying inferential statistical methods, the study investigated the connections among tourist education interventions, knowledge acquisition, skill development, and tourism transformation. Regression analysis and SPSS PROCESS macro were employed to investigate the direct and mediated effects of education initiatives on tourist transformation. SPSS was selected as the analytical tool due to its adaptability in handling quantitative data, ease of use, and widespread use in social science research. The programme promptly established a comprehensive analytical framework for rapid and reliable investigation of the study's hypotheses and research inquiries.

Results

We examined the connections among tourist education interventions, knowledge acquisition, skill development, and tourism transformation through research assumptions and inferential statistics. An investigation was conducted on the impact of education programmes on tourism transformation through regression analysis and SPSS PROCESS macro (Oshima & Dell-Ross, 2016). SPSS was chosen as the analytical tool due to its ability to process quantitative data efficiently, its ease of use, and its widespread use in social science research. An analytical framework was promptly established to investigate the study's conjectures and research topic efficiently and reliably.

The study displays descriptive data and key constructs in [Table 1](#). The level of participation in the Tourism Education Intervention was notably high, demonstrated by the average score of 4.071 (M) on a 5-point rating system. According to the standard deviation, the outcomes show low volatility. The deviation equals 0.633. The distribution skews towards higher values with a negative skewness of -2.322, suggesting that most respondents reported high engagement levels. There is a slight peak in the distribution when the kurtosis is 2.062. The Knowledge Acquisition measure yielded an average score of 4.003 out of 5, suggesting that participants perceived significant learning. The scale ranges from 1 to 5. The responses exhibited significant variability, indicated by the standard deviation of 0.787. The skewness of -1.991% indicates a distribution skewed towards higher levels of knowledge, while a kurtosis of 3.941 suggests a distribution with more peaked central areas and heavier tails. According to the Skill Development scale, an average score of 4.147 out of 5 suggests significant overall improvement in skills. A standard deviation of 0.758 suggests a significant level of variability. The prominently peaked centre and a skewness of -1.983 indicate a leaning towards improved skill development. The average score of 4.027 for Tourism Transformation, on a scale from 1 to

5, indicated a significant overall perception of the impact on transformation. The data shows minimal variance with a standard deviation of 0.618. The distribution's kurtosis of 1.109 suggests a bias towards greater degrees of transformation, with a strongly peaked centre and negative skewness of -1.973. Each concept in the study is accompanied by its distribution shape, standard deviation, and mean as provided in the descriptive statistics.

Table 1

Descriptive Statistics

	Mini	Maxi	Mean	Std. Deviation	Skewness	Kurtosis
Tourism Education Intervention	1	5	4.071	0.633	-2.322	2.062
Knowledge Acquisition	1	5	4.003	0.787	-1.991	3.941
Skill Development	1	5	4.147	0.758	-1.983	1.211
Tourism Transformation	1	5	4.027	0.618	-1.973	1.109

Table 2 presents the key components of the research along with their corresponding Cronbach's Alpha values, demonstrating the reliability of each scale in relation to internal consistency. The Cronbach's Alpha value of 0.885 for the tourist education intervention scale suggests a strong level of internal consistency. Due to the strong correlation among the questions on this scale, it is recommended that they evaluate the consistent aspect of participants' involvement in tourist education programmes. The knowledge acquisition scale demonstrates strong internal consistency with a Cronbach's Alpha of 0.851, which is also reflected in the items assessing participants' self-reported knowledge gains after educational interventions. The components of this scale assess a reliable construct related to tourist information gathering due to its high reliability. The skill development scale demonstrates high reliability with a Cronbach's Alpha of 0.839. It demonstrates that the various skills participants believe they have acquired from tourism education programmes are quantifiable. Finally, the tourism transformation scale, with a Cronbach's Alpha of 0.871, evaluates the validity and reliability of respondents' evaluations regarding the impact of educational interventions on digital technology adoption in tourism, cultural preservation, and sustainable development. The study's measures are bolstered by the robust Cronbach's Alpha values, indicating the scales' consistency and reliability.

Table 2

Cronbach's Alpha

	Cronbach's Alpha
Tourism Education Intervention	0.885
Knowledge Acquisition	0.851
Skill Development	0.839
Tourism Transformation	0.871

Table 3 displays the outer loading values of the items for each latent construct in the study, illustrating the impact of each item on the research constructs. There exists a significant correlation between the concept of tourist education intervention and the two elements with the highest loadings, TEI8 (0.888) and TEI9 (0.917). To determine the level of participation in educational initiatives related to tourism, it may be essential to incorporate these survey items. TEI4 (0.619) and TEI10 (0.631) had lower loadings compared to the broader TEI construct, suggesting a weaker relationship. The highest loadings for the knowledge acquisition construct were identified in items KA4 (0.799) and KA5 (0.866),

indicating their importance in assessing participants' views on their information absorption. Items SD1 (0.799), SD2 (0.888), and SD3 (0.917) exhibit significant loadings on the skill development construct, indicating their importance in evaluating the enhancement of abilities resulting from educational interventions. Regarding respondents' views on cultural preservation in the tourist industry, items CP4 (0.688) and CP5 (0.724) stand out due to their higher loadings for change. It is useful to evaluate and adjust the measurement model to have insight into the various items' contributions to their respective constructs from Table 3's outer loading values.

Table 3

Outer Loading

Variables	Items	Loading
Tourism Education Intervention	TEI1	0.727
	TEI2	0.731
	TEI3	0.72
	TEI4	0.619
	TEI5	0.631
	TEI6	0.648
	TEI7	0.672
	TEI8	0.888
	TEI9	0.917
	TEI10	0.631
Knowledge Acquisition	KA1	0.713
	KA2	0.708
	KA3	0.773
	KA4	0.799
	KA5	0.866
Skill Development	SKD1	0.581
	SKD2	0.605
	SKD3	0.74
	SKD4	0.635
	SKD5	0.672
Tourism Transformation		
Sustainable Development	SD1	0.799
	SD2	0.888
	SD3	0.917
	SD4	0.866
Cultural Preservation	CP1	0.606
	CP2	0.522
	CP3	0.58
	CP4	0.688
	CP5	0.724
Digital Technology Adoption	DTA1	0.706
	DTA2	0.617
	DTA3	0.668
	DTA4	0.603

The main elements of the study, including tourist education intervention, knowledge

acquisition, skill development, and tourism transformation, along with their corresponding coefficients, can be found in Table 4. The correlation analysis reveals significant relationships among the variables, providing insights into the interactions among different dimensions of respondents' experiences in the travel and tourism sector. Engaging in tourist education programmes has a strong positive relationship with learning outcomes ($r = .872$, $p < .01$), leading to higher reported levels of learning among participants. The findings suggest that educational initiatives in the tourism sector effectively enhance participants' knowledge.

Engaging in tourism education programmes is associated with a significant positive correlation ($r = .793$, $p < .01$) and is expected to enhance skill development. Educational programmes enhance practical skills in the tourist industry and advance knowledge. There seems to be a strong link between tourists' perceptions of change and their participation in education programmes, supported by a notably positive correlation ($r = .817$, $p < .01$). Education can significantly impact cultural preservation, sustainable development, and the integration of digital technologies in the tourism industry. The correlation analysis presented in Table 4 enhances our understanding of the dynamics of the tourist industry and clarifies the study's components.

Table 4

Correlation Analysis

	TEI	KA	SKD	TT
Tourism Education Intervention	1			
Knowledge Acquisition	.872**	1		
Skill Development	.793**	.856**	1	
Tourism Transformation	.817**	.813**	.713**	1

** Correlation is Significant at the 0.01 Level (2-tailed).

Table 5 presents the R square value for the tourist transformation variable, indicating the extent to which the independent components of the research account for variance in the dependent variable. Knowledge acquisition, skill development, and tourist education interventions collectively explain nearly 71% of the variability in tourism transformation, as indicated by an R-squared value of 0.710. The substantial explanatory power suggests that the involvement of participants in educational interventions and the resulting enhancement of their knowledge and skills greatly influence respondents' perceptions of the overall transformation in the tourist industry. Educational programmes in sustainability, digital technology usage, and cultural preservation have significantly boosted the tourist industry, as indicated by the high R squared value. This study highlights the importance of specialised educational programmes to improve and reorganise the complex tourism industry.

Table 5

R Square

Variable	R square
Tourism Transformation	0.710

The results of the regression analysis can be found in Table 6. The focus is on the relationship between tourism transformation as the dependent variable and tourist education intervention as the independent variable. There is a notable positive correlation

between TEI and TT, demonstrated by the beta value of 0.798. The T value of 20.922, with a p-value of less than 0.001, indicates a highly significant relationship. This suggests that participation in tourism education programmes significantly influences respondents' perceptions of the progress of the tourism industry. The beta coefficient is confidently used when the confidence interval ranges from 0.723 to 0.873. Our estimate suggests a value ranging from 0.723 to 0.873 for the expected impact of tourist education interventions on tourism transformation, potentially increasing accuracy. The significant shift in tourism was found to be closely linked with the rise in engagement in tourist education activities, as indicated by the findings of this regression analysis.

Table 6

Regression Analysis

Relation	Beta Value	T Value	P Value	Lower Bound	Upper Bound
ETI -> TT	0.798	20.922	0.000	0.723	0.873

The findings from the mediation study examining the relationships between new knowledge acquisition, tourism education training, and their impact on sector transformation are presented in Table 7. Considering the mediation effect of knowledge acquisition, the beta value of 0.369 for the ETI -> KA -> TT pathway suggests a robust positive association between TEI and TT. The significance of this association is evident from the T-value of 4.954 and the p-value of 0.000. The confidence interval (CI) from 0.181 to 0.534 suggests the specific area where the impact is anticipated, pointing towards a significant indirect effect via Knowledge Acquisition. The beta value of 0.354 suggests a positive and statistically significant association between TEI and TT in the ETI -> SKD -> TT pathway. When Skill Development's mediating effect is considered, this connection remains. The association is statistically significant, as shown by the p-value of 0.000 and T-value of 5.950. Support for the hypothesis that tourist education interventions impact tourism transformation is indicated by a significant indirect effect through Skill Development, with a confidence interval (CI) ranging from 0.188 to 0.559. By analysing mediation, we can better comprehend the complex processes of acquiring new knowledge and skills and observe how participants' perspectives on tourism development change through their involvement in educational programmes.

Table 7

Mediation Analysis

Relation	Beta Value	T Value	P Value	Lower Bound	Upper Bound
ETI -> KA-> TT	0.369	4.954	0.000	0.181	0.534
ETI -> SKD-> TT	0.354	5.950	0.000	0.188	0.559

Discussion

The discussion section elaborates on the study's findings. The study examines the mediating roles of knowledge and skills in the relationship between tourism education intervention and tourism transformation. The practicality of applying these findings to tourists can be evaluated by analysing the empirical data presented in the results section. This discussion will explore the impact of educational interventions on company behaviour, particularly in sustainable practices, cultural heritage protection, and digital technology use. This study delves into the impact of knowledge and skill development on tourist education

programmes amidst change. This study confirms that tourism education interventions have a substantial and beneficial effect on tourism transformation. Participants' viewpoints on the growth of tourism and educational initiatives endorse the increasing significance of education in positive change. According to Hayes (2021), education can influence visitors' views on sustainability and cultural preservation. The framework outlined in this study encompasses sustainable development, cultural preservation, and the adoption of digital technology in tourism. As per Pertierra et al. (2021), tourist education interventions have a positive correlation with tourism transformation, suggesting that a skilled and knowledgeable workforce is essential for sustainable and innovative tourism. Education that covers a wide range of subjects helps students develop critical thinking skills, allowing them to be innovative and adaptable in the changing tourism sector.

The study validates the impact of tourism transformation and tourism education intervention. Silva et al. (2023) demonstrated the significance of information in driving positive change and shaping public perception across various sectors, such as travel and tourism. Their results align with ours. Acquiring knowledge is crucial, highlighting the importance of education in offering pertinent information and viewpoints. This allows the tourism industry to engage in innovative projects and provide more informed assessments. As per Shah et al. (2022), students with strong academic qualifications have a deeper understanding of the operational aspects of the industry and its social, cultural, and environmental impacts. This study proposes that educational interventions could enhance information acquisition and cognitive development in tourism workers. Informed employees who stay updated on industry advancements can advance sustainable tourism, preserve cultural heritage, and implement digital technology.

The third hypothesis is supported by the finding that skill development plays a mediating role in the relationship between tourist education interventions and tourism industry transformation. Miller et al. (2022) emphasised the significance of tourism skills for fostering innovation and achieving corporate success. Enhancing skills plays a crucial role in the practical outcomes of educational interventions. This position involves instructing theoretical knowledge and hands-on abilities for significant change. Worker skill development initiatives should be prioritised due to rapid technological advancements and evolving visitor requirements. Skilled workers are essential for digital technologies in the tourism industry. Cultural preservation and sustainable tourism necessitate strong leadership, effective communication, and adept problem-solving skills to overcome various challenges. Slaughter et al. (2023). Educational initiatives are necessary to cultivate a new cohort of tourism professionals capable of reshaping the industry's framework and perspectives. The study enhances the existing theory by demonstrating the impact of educational interventions on the tourism industry. Educational programmes influence attitudes and drive positive changes in the dynamic tourism industry. Education enhances skills and knowledge. Education plays a crucial role in achieving sustainability objectives in the tourism sector, encompassing environmental, technical, and cultural aspects.

Conclusion

This study thoroughly analysed the effects of tourism education interventions on tourism transformation, investigating the influence of knowledge acquisition and skills development. The findings indicate a significant and favourable link between tourist

education programmes and overall industry change, which aligns with the research hypothesis. Following the demonstration of the positive impact of tourist education interventions on tourism transformation, the study proceeded to examine the second hypothesis. There is a strong connection between change perceptions and educational activity, highlighting the importance of education in preparing a workforce for the evolving dynamics of the tourism industry. The findings align with previous studies showing the transformative impact of education on digital technology use in the tourism sector, cultural preservation, and ecological engagement. Indications 2 and 3 propose that educational efforts in tourism and the evolution of tourism are influenced by gaining knowledge and developing skills. The study's results strongly supported both mediation strategies.

Having a thorough understanding of industrial dynamics is crucial for successful transformative changes, as indicated by the importance of knowledge acquisition as a key mediator. Skill development emerged as a crucial mediator, highlighting the necessary abilities for implementing and sustaining these changes. This study elucidates the intricate relationship among the different effects of tourism education interventions, offering a unique contribution to the field. In addition to acquiring academic knowledge, two positive outcomes include enhancing practical skills and grasping the transformative potential of the tourism industry. The article suggests that educational programmes need to be well-coordinated as the tourism sector adjusts to evolving global circumstances. It is important to motivate staff members to prioritise furthering their education and enhancing their skills to align with the demands of the contemporary tourism industry. The findings highlight the importance of educational options that cater to current and future company needs, promote worker innovation and adaptability, and facilitate sustainable practices, cultural conservation, and digital effectiveness.

Theoretical and Practical Implications

The study's findings and their impact on the tourism sector could benefit or negatively affect various stakeholders such as scholars, policymakers, and professionals. Decisions and actions related to strategy may be impacted by the numerous benefits of tourism education interventions on knowledge acquisition, skill development, and overall tourism transformation. The study's conclusions should alert tourist industry executives on prioritising and financing training programmes. To promote positive change, policymakers should create and implement plans that support the integration of educational programmes across various sectors due to the crucial role of education. Meeting the diverse educational needs of individuals in the tourism industry may require collaboration among academic institutions, trade associations, and government entities. Thus, policymakers will influence the industry to adapt to the rapidly changing global economy. Considering the evolving demands of the tourism industry, educational institutions should contemplate adjusting their curricula and programmes accordingly. To enhance the effectiveness of educational interventions, it is advisable to integrate practical skill practice and theoretical concept understanding into educational programmes. By integrating classroom learning with practical experience, industry case studies, and collaborations with local businesses, students can gain a comprehensive grasp of the tourism sector's opportunities and challenges. Educators should explore modern strategies such as webinars, industry-specific seminars, and online learning platforms to expand their reach and adapt to evolving business requirements.

Education is a strategic tool for industry professionals to drive positive changes and foster personal and professional development. The investigation results validate the significance. To stay current with the latest developments in the tourism industry, professionals should actively engage in educational programmes. Interacting in this way could affect one's professional and personal advancement in the field. Businesses operating in the tourism industry should prioritise backing and encouraging their employees' ongoing education and training. A well-informed workforce is crucial for implementing innovative, environmentally friendly practices.

The study results could benefit academics and researchers interested in tourist studies. Identifying the mediating roles of skill development and knowledge acquisition opens new possibilities for exploring the specific processes through which educational interventions bring about transformational effects. Researchers could investigate the impact of technological competence and cultural understanding on the transformation of tourism businesses. Examining the longitudinal study is essential for gaining insights into the tourist sector and the resilience of its workers. The study's findings indicate how education can contribute to achieving the UN's Sustainable Development Goals (SDGs) and improve global sustainable development dialogues. Several Sustainable Development Goals (SDGs) rely on tourism due to its positive impact on international trade, intercultural understanding, and ecological preservation. Implementing sustainable practices and promoting responsible tourism in education can foster social inclusion, economic growth, environmental protection, and cultural preservation.

Limitations and Future Directions

The study has established connections between knowledge acquisition, skill development, transformation, and tourist education interventions. However, it is important to recognise its limitations. The information it offered is extremely valuable. Identifying and addressing these constraints could aid in comprehending the study's results. The article proposes additional research to enhance comprehension of the intricate dynamics of tourism. A potential limitation of the study is the reliance on self-reported data, which could impact the accuracy of responses. Participants' subjective evaluations of educational programmes and tourism business development may be influenced by memory bias and social desirability. In future studies, researchers may want to validate self-reported findings by utilising observational data or interviews. This could result in a more comprehensive and reliable assessment of the participants' experiences and opinions. The study's cross-sectional approach limits the ability to definitively establish causal relationships. The analysis identified important connections and mediating effects but could not establish causation.

To gain deeper understanding of historical relationships, causal mechanisms, and long-term effects, future research may utilise longitudinal study designs. The results may only be significant in the specific study setting. The study focused primarily on workers in the travel industry, as they represent a small portion of China's tourism employment. Generalising results is difficult due to the diverse economic conditions, cultural norms, and education levels across nations and regions. In the future, conducting the same study in various locations could assess the robustness of the identified associations across diverse cultural and socioeconomic contexts. In addition, the study aimed to assess the impact of tourist education programmes on knowledge acquisition, skill development, and tourism transformation. The research did not thoroughly investigate various aspects of the

transformation brought about by tourism, including its impact on host communities, environmental sustainability, and equitable distribution of benefits. Future research could investigate these specific areas to further understand the impact of educational programmes on enhancing the travel and tourism sector.

In addition, there was no investigation into how demographic variables such as age, experience, and educational attainment influenced the connections being studied. Further investigation could explore potential moderating variables related to this issue. Education interventions can have diverse effects on the knowledge, abilities, and attitudes related to tourism transformation. For a comprehensive evaluation of the study's applicability, it would be beneficial to juxtapose the results with those of other sectors in future studies. Comparing the tourist industry to other industries can provide insights into its unique challenges and opportunities. This could lead to the creation of educational programmes with a more concentrated emphasis. One potential direction for future research could involve investigating the impact of technology on educational interventions and its influence on tourism development. The research did not prioritise digital platforms, online learning, or technology tools as strategies for classroom intervention. Studying the impact of technologically enhanced educational methods can help us understand how digital technologies have transformed the travel and tourism industry.

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