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Innovative leadership strategies for sustainable tourism: A case study of Moroccan Daraa-Tafilalt oases

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Abstract

In the contemporary digital era, sustainable tourism development in remote regions, particularly in the Moroccan Daraa-Tafilalt Oases, necessitates innovative leadership strategies. This study investigates how leadership fosters innovation and resilience within these remote areas to promote sustainable tourism. Employing a mixed-methods approach, the research delves into effective leadership strategies, stakeholder engagement, and the integration of innovative practices in the digital age, before and after strategies implementation. The results for each stage underscore the importance of visionary leadership, community involvement, and adaptive approaches in navigating the complexities of remote tourism development amidst digital transformations. Additionally, the study identifies cultural sensitivity, environmental factors, and the rational exploitation of local resources as key factors contributing to successful leadership in fostering sustainable tourism. The insights gleaned from this research offer valuable guidance for policymakers, industry stakeholders, and local communities striving for sustainable development in remote oasis regions in the digital era.

Keywords: Leadership; Sustainable Tourism; Remote Areas; Innovation; Resilience

1. Introduction

The contemporary landscape of the tourism industry is undergoing a profound shift, propelled by the advent of the digital era. Within this context, sustainable tourism development in remote areas emerges as a critical focal point, particularly evident in the Moroccan Daraa-Tafilalt Oases. This paper delves into the intricate interplay of leadership strategies, innovation, and resilience in fostering sustainable tourism within these remote regions. As highlighted by Buhalis et al. (2019), strategic leadership plays a pivotal role in steering organizations towards enduring sustainability amidst evolving environmental concerns and digital transformations.

Moreover, the integration of innovative practices, as emphasized by Hoang et al. (2021), serves as a cornerstone in enhancing the adaptive capacity and growth of the tourism sector. By exploring the symbiotic relationship between innovation and sustainability, this study aims to unravel the underlying mechanisms driving sustainable tourism development in remote areas. Additionally, resilience emerges as a key component in the face of uncertainties and disruptions, where strategic leadership, as noted by Toubes et al. (2021), fosters a culture of adaptability and forward-thinking.

Through a synthesis of digital tool-s and sustainable practices, strategic leaders can navigate the complexities of the digital era, ensuring resilience and sustainability in the global tourism landscape. By offering actionable insights for

industry stakeholders, policymakers, and leaders, this research seeks to contribute to the overarching goal of fostering a culture of innovation and resilience, thereby paving the way for enduring success in sustainable tourism development in remote oasis regions like the Moroccan Daraa-Tafilalt Oases, (Farsari, 2023).

1.1. Research Problem Statement

The tourism industry, particularly in remote regions such as the Moroccan Daraa-Tafilalt Oases, faces multifaceted challenges in achieving sustainable development amidst the digital era. Despite the recognition of the pivotal role of strategic leadership, innovation, and resilience, there remains a gap in understanding how these elements interact and contribute to sustainable tourism development in remote areas. Addressing this gap is imperative to navigate the complexities of the digital era and ensure the long-term viability of tourism initiatives in these regions.

1.2. Research Significance

This research holds significant implications for various stakeholders involved in the tourism industry, policymakers, and local communities in remote oasis regions like the Moroccan Daraa-Tafilalt Oases. By unraveling the intricate dynamics of strategic leadership, innovation, and resilience in fostering sustainable tourism development, this study offers actionable insights to enhance decision-making processes, shape policy interventions, and guide organizational strategies. Moreover, the findings contribute to the academic understanding of sustainable tourism development in remote areas within the broader context of the digital era, thereby advancing knowledge in this field and paving the way for informed practices and sustainable initiatives.

1.3. Research Objectives

- To examine the role of strategic leadership in promoting sustainable tourism development in remote areas, particularly in the Moroccan Daraa-Tafilalt Oases.
- To analyze the impact of innovative practices on enhancing the adaptive capacity and growth of the tourism sector in remote oasis regions.
- To explore the resilience mechanisms employed by tourism entities in responding to uncertainties and disruptions in the digital era.
- To assess the synergistic relationship between strategic leadership, innovation, and resilience in fostering sustainable tourism development.
- To provide actionable insights and recommendations for stakeholders, policymakers, and leaders to navigate the complexities of the digital era and promote sustainable tourism initiatives in remote oasis regions like the Moroccan Daraa-Tafilalt Oases.

2. Literature Review

The global tourism industry, in the throes of the digital era, is experiencing a seismic shift driven by environmental concerns, evolving consumer behaviours, and the omnipresence of digital technology, emphasized [1]. This transformation necessitates a re-evaluation of leadership strategies to ensure sustainable development. A comprehensive literature review reveals the evolving landscape of sustainable tourism and sheds light on the transformative role of strategic leadership in steering organizations toward enduring sustainability as [2] indicated.

The global tourism industry is currently undergoing a significant transformation propelled by the digital era, presenting both challenges and opportunities. This shift is driven by environmental concerns, changing consumer behaviors, and the ubiquitous presence of digital technology [1]. However, amid this transformation, there is a pressing need for innovative leadership strategies to ensure sustainable tourism development. While strategic leadership has emerged as crucial for orchestrating sustainable practices, there is growing recognition of the need for visionary leaders capable of guiding organizations through the complexities of the digital [2]; [3].

Over time, the concept of leadership has evolved from traditional top-down models to more inclusive, participative approaches [4]. Yet, emerging leadership theories emphasize the adaptability of leadership styles to different contexts, integrating situational and contingency factors [5]. In the context of sustainable tourism, leadership has gained prominence due to the industry's unique challenges and the growing emphasis on responsible practices [6]. Sustainable tourism leadership involves guiding organizations towards practices that prioritize economic benefits while ensuring environmental conservation and community well-being [7].

The digital era has further transformed leadership paradigms, demanding leaders who are adaptive and technologically literate [8]. Digital leadership in sustainable tourism plays a vital role in implementing innovative solutions for

environmental conservation and promoting responsible travel practices [9]. However, the hegemony of big corporate and companies often overlooks the development of remote areas like the Daraa-Tafilalt Oases in Morocco, despite their natural riches. These regions suffer from neglect, despite possessing attractions such as deserts, old palaces (kasbahs), mountains, sand dunes, palm trees, and sunny weather. This oversight highlights the need for a more conscientious, responsible approach to leadership in sustainable tourism, one that prioritizes the equitable development of all regions.

Environmental stewardship, community engagement, balanced economic outcomes, innovation, and resilience are key pillars of sustainable tourism leadership [10]. Leaders must prioritize long-term sustainability, address socio-economic disparities, and foster industry resilience in the face of uncertainties and challenges [11]. Moreover, they must recognize the importance of cultural preservation and equitable distribution of benefits to all regions, including remote areas like the Daraa-Tafilalt Oases.

Sustainable tourism leadership represents a holistic approach that considers environmental, social, and economic aspects. Strategic leaders play a pivotal role in driving innovation and resilience, ensuring adaptive capacity and long-term growth in sustainable tourism. However, it is imperative to address the hegemony of big corporations and redirect attention towards neglected regions such as the Daraa-Tafilalt Oases, fostering their development in alignment with sustainable tourism principles.

2.1. Strategic Leadership in Sustainable Tourism

The concept of strategic leadership emerges as a linchpin for orchestrating sustainable practices in the tourism sector. Leaders, acting as visionary architects, play a pivotal role in guiding organizations through the intricate challenges of the digital era, consistent with [3] and [12]. The literature emphasizes the importance of forward-thinking and flexible mindsets in strategic leaders, who not only champion innovation but also fortify organizational resilience. Visionary strategic leadership is recognized as a catalyst for transformative change, fostering a symbiotic relationship between innovation, sustainability, and resilience alleged [13].

2.2. Leadership Emergence

Leadership, as a concept, has evolved over time, shaped by changing societal, economic, and environmental dynamics as [14] and [15] identified. Historically, leadership was often associated with authority, power, and hierarchical structures. However, with the progression of management and organizational studies, leadership transitioned from a traditional, top-down model to a more inclusive, participative approach specified Busse & Regenberg, (2019). Recent studies such as that performed by [16] indicated that team-inclusive climate is a significant context that strengthens the influence of participative leadership

The early 20th century witnessed the emergence of leadership theories that focused on traits, suggesting that certain inherent characteristics distinguished effective leaders, supposed [17]. This perspective later shifted towards behavioural theories, emphasizing actions and behaviours that contribute to effective leadership. As organizations faced increasing complexity, leadership theories further evolved, incorporating situational and contingency factors that highlighted the adaptability of leadership styles to different contexts, as [15] explained.

2.3. Leadership in Sustainable Tourism

In the context of sustainable tourism, the concept of leadership has gained prominence due to the industry's unique challenges and the growing emphasis on responsible and ethical practices. Traditional models of leadership have expanded to encompass a broader, more holistic perspective, aligning with the principles of sustainability stated [5] and [18]. Sustainable tourism leadership involves guiding organizations towards practices that maximize economic benefits while prioritizing environmental conservation and community well-being. Leaders must understand the interconnectedness of ecological, social, and economic factors, adopting a balanced, conscientious mindset, and a departure from traditional profit-centric approaches as [7] clarified.

2.4. Leadership in the Digital Era

The digital era has further transformed leadership paradigms. The rapid pace of technological advancements, coupled with the increasing interconnectedness of the global landscape, demands leaders who are not only adaptive but also technologically literate. Digital leadership involves leveraging technology to enhance organizational processes, communication, and decision-making, according to [8]. In sustainable tourism, digital leadership plays a vital role in implementing innovative solutions for environmental conservation, promoting responsible travel practices, and engaging with the digitally connected global community. This form of leadership requires a forward-thinking approach, embracing digital tools to amplify the impact of sustainability initiatives, suggested [9].

2.5. Intersection of Leadership and Sustainable Tourism

Leadership in sustainable tourism signifies a departure from conventional, profit-driven models toward a more conscientious, responsible, and future-oriented approach. The emergence of sustainable tourism leadership is intricately linked with the industry's realization of its environmental impact, socio-cultural responsibilities, and the need for long-term viability, claimed [19].

Sustainable tourism leadership entails a multifaceted approach that addresses environmental, social, and economic dimensions. Leaders in this realm prioritize environmental stewardship, striving to minimize the carbon footprint of tourism activities while safeguarding biodiversity and promoting sustainable resource management [2]. Additionally, community engagement is integral, with leaders fostering partnerships with local residents to ensure socio-economic benefits while preserving indigenous lifestyles and cultural heritage [3]. Moreover, sustainable tourism leaders prioritize balanced economic outcomes, emphasizing long-term sustainability over short-term financial gains. This involves addressing socio-economic disparities, promoting equitable distribution of benefits, and preserving cultural heritage to maintain the authenticity of destinations [10].

Furthermore, innovation plays a crucial role in driving sustainability within the tourism sector, with digital leadership enabling the implementation of eco-friendly practices and smart infrastructure solutions [20]. Digital communication is leveraged to raise awareness among tourists, enhancing the efficiency of sustainability initiatives and engaging a broader audience. Additionally, sustainable tourism leaders demonstrate resilience in the face of challenges posed by climate change, geopolitical shifts, and global health crises. By adapting strategies, policies, and operations, they foster an industry that can endure challenges without compromising sustainability objectives, thus ensuring the long-term viability of the sector [11]. Overall, sustainable tourism leadership encompasses a comprehensive approach that integrates environmental conservation, community well-being, cultural preservation, and innovation, driven by strategic leaders committed to fostering long-term growth and sustainability.

3. Methodology

3.1. Research Approach

This study adopts a mixed-methods research approach, integrating both qualitative and quantitative techniques to comprehensively investigate the role of strategic leadership, innovation, and resilience in sustainable tourism development in remote areas precisely the Draa-Tafilalt oases. By combining qualitative and quantitative data collection methods, this approach allows for a more holistic understanding of the research problem and facilitates the triangulation of findings from different sources, enhancing the validity and reliability of the study.

3.2. Research Design

The study employs a quasi-experimental research design to examine the impact of strategic leadership, innovation, and resilience on sustainable tourism development in the digital era. Data were collected before and after implementing these strategies, to measure their integration degree, effectiveness and influence on tourism and hospitality employees and businesses in remote areas of the Draa-Tafilalt regions. This design enables the comparison of outcomes before and after the intervention, providing insights into the causal relationship between the independent variables (strategic leadership, innovation, and resilience) and the dependent variables (sustainable tourism development outcomes).

3.3. Data Collection

3.3.1. Qualitative Data Collection

Qualitative data were collected through semi-structured interviews with key stakeholders in the tourism and hospitality sector, including tourism industry employees, business owners, government officials, and community leaders in the Draa-Tafilalt oases. These interviews have explored participants' perceptions, experiences, and insights regarding strategic leadership, innovation, and resilience in sustainable tourism development as the table below illustrates:

3.3.2. Quantitative Data Collection

Quantitative data were gathered through surveys administered to tourism and hospitality employees and businesses owners in the remote areas under study. The surveys were designed to measure variables such as leadership effectiveness, innovative practices, resilience strategies, and perceived outcomes of sustainable tourism development. Likert-scale items and closed-ended questions were used to quantify respondents' attitudes, opinions, and behaviors related to the research elements,.

3.4. Sampling

3.4.1. Population

The population of interest includes tourism and hospitality employees and businesses operating in the Draa-Tafilalt oases region. This population encompasses a diverse range of stakeholders involved in the tourism industry, including hotel staff, tour guides, restaurant owners, local artisans, and other relevant actors.

3.4.2. Sampling Technique

A combination of purposive and convenience sampling techniques was employed to select participants for both qualitative interviews and quantitative surveys. Purposive sampling was used to ensure representation of key stakeholder groups, while convenience sampling was utilized to facilitate access to participants within the remote areas under study.

3.5. Data Analysis

3.5.1. Qualitative Data Analysis

Qualitative data collected from interviews were analyzed using thematic analysis techniques. Transcripts were coded and categorized to identify recurring themes, patterns, and relationships related to strategic leadership, innovation, and resilience in sustainable tourism development.

3.5.2. Quantitative Data Analysis

Quantitative data obtained from surveys were analyzed with SPSS using descriptive and inferential statistical methods. Descriptive statistics such as means, frequencies, and percentages were calculated to summarize respondents' demographic characteristics and survey responses. Inferential statistics, including correlation analysis and regression modeling, were conducted to examine relationships between variables and test hypotheses regarding the impact of strategic leadership, innovation, and resilience on sustainable tourism development outcomes.

3.6. Ethical Considerations

Ethical principles and guidelines were strictly adhered to throughout the research process. Informed consent was obtained from all participants prior to data collection, and measures were taken to ensure confidentiality, anonymity, and voluntary participation. The study also complied with relevant ethical standards and regulations governing research involving human subjects.

Limitations

Despite efforts to minimize bias and ensure the validity of findings, several limitations may affect the study's outcomes. These include potential sample bias due to the use of convenience sampling, limitations inherent in self-reported data, and challenges related to generalizability given the specific context of the Draa-Tafilalt oases region. Additionally, the quasi-experimental design may be susceptible to threats to internal validity, such as history, maturation, and selection effects, which should be carefully considered and addressed in data analysis and interpretation.

3.7. Conclusion

In summary, the research methodology outlined in this chapter guided the systematic investigation of strategic leadership, innovation, and resilience in sustainable tourism development in remote areas of the Draa-Tafilalt oases. By employing a mixed-methods approach, integrating qualitative and quantitative data collection techniques, and utilizing a quasi-experimental research design, this study aims to generate valuable insights into the dynamics of sustainable tourism and inform evidence-based strategies for enhancing tourism development in remote regions. Ethical considerations have been paramount throughout the research process, and limitations have been carefully acknowledged to ensure the integrity and validity of the study's findings.

4. Results

4.1. Introduction

The findings of this study provide insights into the role of strategic leadership, innovation, and resilience in sustainable tourism development in remote areas, focusing specifically on the Draa-Tafilalt oases region. A mixed-methods research

approach was employed, combining qualitative interviews and quantitative surveys to gather comprehensive data from tourism and hospitality stakeholders in the area. The following sections present the key findings derived from both qualitative and quantitative analyses.

4.2. Qualitative Findings

The qualitative analysis of semi-structured interviews provides valuable insights into stakeholders' perceptions of strategic leadership, innovation, and resilience in sustainable tourism development in the Draa-Tafilalt regions. Qualitative study details on sustainable tourism development concerns 40 participants (15 from each category: tourism employees, business owners, government officials, and community leaders) 3 participants from each 5 regions, (Errachidia, Ouarzazate, Tinghir, Midelt, and Zagoura). However, a significant finding emerges regarding the limited understanding of these core concepts among the majority of participants, highlighting a crucial challenge in promoting sustainable tourism practices in the region. (See table 1 below)

Table 1 Description of qualitative data collection

Aspect	Description
Research Method	Semi-structured interviews
Stakeholder Categories	Tourism employees, Business owners, Government officials, Community leaders (15 from each category, total 40 participants)
Regions Covered	Errachidia, Ouarzazate, Tinghir, Midelt, Zagoura (3 participants each)
Key Finding before Explanation	Limited understanding of core concepts (strategic leadership, innovation, resilience and sustainable tourism development) among most stakeholders (77.5% or 31 participants)
Key Finding After Explanation	Good understanding of core concepts (strategic leadership, innovation, resilience and sustainable tourism development) among most stakeholders (90% or 36 participants)

4.2.1. Qualitative Findings before Explaining Concepts

The qualitative analysis of semi-structured interviews among stakeholders in the Draa-Tafilalt regions highlighted a significant gap in understanding core concepts related to strategic leadership, innovation, resilience, and sustainable tourism development. Among the 40 participants, comprising tourism employees, business owners, government officials, and community leaders, only a minority demonstrated a clear grasp of these concepts.

This limited understanding poses a critical challenge to promoting sustainable tourism practices in the region. Despite efforts to engage stakeholders, such as through semi-structured interviews, the majority of participants lacked familiarity with strategic leadership, innovation, and resilience, hindering effective strategy implementation for sustainable tourism development. The uneven distribution of knowledge across stakeholder categories further complicates initiatives aimed at promoting sustainable tourism, underscoring the need for targeted educational interventions and tailored communication strategies.

4.2.2. Qualitative Findings after Explaining Concepts

Following the explanation of key concepts such as strategic leadership, innovation, resilience, and sustainable tourism development, there has been a notable shift in participants' understanding and attitudes. Initially, only a minority demonstrated a clear understanding of these concepts, but after the explanation, approximately 90% of the participants showed significant improvement in comprehension and expressed willingness to integrate these concepts into their businesses.

This change reflects a fundamental shift in perspective, with participants recognizing the importance of strategic leadership, innovation, and resilience in driving sustainable tourism development in remote areas like the Draa-Tafilalt oases. The clarification of these concepts has empowered stakeholders to embrace sustainable tourism practices and leverage strategic leadership and innovation to drive business growth, contributing to the economic, environmental, and social well-being of their communities.

Change in Understanding Aspects

- **Strategic Leadership:** Participants now understand the critical role of strategic leadership in guiding their businesses towards sustainable tourism practices. They recognize the need for visionary leadership,

characterized by forward-thinking and adaptability, in navigating the complexities of the digital era and promoting long-term sustainability.

- **Innovation:** The explanation of innovation as a direct pathway to engaging with customers and tourists without intermediaries has resonated strongly with participants. They now see innovation as essential for differentiating their businesses and attracting tourists to remote areas like the Draa-Tafilalt oases, bypassing the dominance of big businesses in major tourist cities.
- **Resilience:** Participants have gained a deeper appreciation for the importance of resilience in responding to challenges and disruptions, such as climate change, geopolitical shifts, and global health crises. They understand that building resilience is crucial for ensuring the long-term viability and success of their businesses in the face of uncertainty.
- **Sustainable Tourism Development:** The concept of sustainable tourism development has also been clarified, with participants now recognizing the need to balance economic prosperity with environmental conservation and community well-being. They understand that sustainable tourism practices not only benefit their businesses but also contribute to the preservation of natural and cultural heritage in remote areas.

Analysis and Interpretation

The significant improvement in participants' understanding of key concepts after the explanation underscores the effectiveness of educational interventions in promoting sustainable tourism practices. By clarifying these concepts and their relevance to the participants' businesses, stakeholders are now better equipped to integrate strategic leadership, innovation, resilience, and sustainable tourism development principles into their operations.

The change in participants' understanding reflects a positive shift towards embracing sustainable tourism practices and leveraging strategic leadership and innovation to drive business growth. With a clearer understanding of these concepts, participants are poised to play a more proactive role in promoting sustainable tourism development in the Draa-Tafilalt oases and other remote areas, contributing to the economic, environmental, and social well-being of their communities.

4.3. Quantitative Findings

4.3.1. Leadership Effectiveness and Innovation

Quantitative analysis of survey data revealed a positive correlation between perceived leadership effectiveness and the adoption of innovative practices in tourism businesses. 94 random tourism employees' respondents who rated their organizational leaders highly in terms of strategic vision and decision-making were more likely to report the implementation of innovative initiatives aimed at enhancing visitor experiences and promoting sustainability as the tables 2 and 3 below illustrate:

Table 2 Descriptive Statistics of Tourism and Innovative Leadership

Variable	Tourism Strategic Leadership	Innovative Leadership Strategies
Tourism Strategic Leadership	1.00	0.632**
Innovative Leadership Strategies	0.632**	1.00

Table 3 Correlation Matrix: Tourism Strategic Leadership and Innovative Leadership Strategies

Variable	Mean (SD)	N
Tourism Strategic Leadership	3.86 (0.770)	94
Innovative Leadership Strategies	3.71 (0.911)	94

4.4. Analysis and Interpretation

The descriptive statistics indicate that the mean score for Tourism Strategic Leadership is 3.86 with a standard deviation of 0.770, based on a sample size of 94. Similarly, the mean score for Innovative Leadership Strategies Correlation is 3.71 with a standard deviation of 0.911, also based on a sample size of 94.

Moving to the correlation analysis, there is a strong positive correlation between Tourism Strategic Leadership and Innovative Leadership Strategies, with a Pearson correlation coefficient of 0.632. This correlation is statistically significant at the 0.01 level (2-tailed), indicating that as Tourism Strategic Leadership increases, so does the tendency towards adopting Innovative Leadership Strategies, and vice versa.

This suggests that organizations or individuals demonstrating strong leadership in tourism tend to also exhibit innovative leadership strategies. This finding has implications for the development of leadership programs or initiatives within the tourism industry, emphasizing the importance of fostering both strategic and innovative leadership qualities for success.

4.4.1. Resilience and Sustainable Tourism Outcomes

The study found that tourism businesses that implemented resilience strategies during crises like the Covid-19 pandemic, climate change, and geopolitical shifts experienced higher levels of customer satisfaction, employee morale, and overall business performance in remote areas. This highlights the importance of proactive resilience planning in mitigating risks and ensuring the long-term viability of tourism enterprises. The results of the regression analysis highlight the relationship between resilience strategies and sustainable tourism outcomes, including customer satisfaction, employee morale, and business performance..

The SPSS output provided in the tables 4,5 and 6 below presents the results of a regression analysis examining the relationship between resilience strategies implemented in the face of crises (such as Covid-19 impact, climate change impact, and geopolitical shifts impact) and sustainable tourism outcomes (including customer satisfaction, employee morale, and business performance).

Table 4 Descriptive Statistics, Correlations, and Regression Analysis of Sustainable Tourism Outcomes and Resilience Strategies

Variable	N	Mean (SD)	Pearson Correlation (r)	Standardized Coefficient (β)	t	Sig.
Sustainable Tourism Outcomes	94	3.40 (0.738)	1.000	-	-	-
Resilience Strategies	94	3.45 (0.742)	0.845	0.845	15.133	00

Table 5 ANOVA Results for Regression Analysis of Sustainable Tourism Outcomes

Source	SS	df	MS	F	Sig.
Model	36.125	1	36.125	228.997	00 [b]
Residual	14.513	92	0.158		
Total	50.638	93			

Table 6 Regression Coefficients for Sustainable Tourism Outcomes

Variable	B	Std. Error	β	t	Sig.
(Constant)	0.510	0.196		2.607	0.011
Resilience Strategies	0.840	0.055	0.845	15.133	00

4.5. Findings Data Analysis

Descriptive Statistics: The mean score for sustainable tourism outcomes is 3.40 with a standard deviation of 0.738, while for resilience strategies, the mean is 3.45 with a standard deviation of 0.742, based on a sample size of 94.

Correlation and Regression Analysis: There is a strong positive correlation (r = 0.845) between resilience strategies and sustainable tourism outcomes, indicating that as resilience strategies increase, sustainable tourism outcomes also increase.

The regression analysis further confirms this relationship, showing that resilience strategies have a significant positive effect on sustainable tourism outcomes (β = 0.845, p < 0.001). For every one-unit increase in resilience strategies, there is an estimated increase of 0.840 units in sustainable tourism outcomes.

ANOVA Results: The ANOVA results indicate that the regression model is statistically significant (F = 228.997, p < 0.001), suggesting that the model as a whole explains a significant amount of variance in sustainable tourism outcomes.

In conclusion, these findings highlight the importance of resilience strategies in driving positive sustainable tourism outcomes. Organizations that implement effective resilience strategies are likely to experience higher levels of customer satisfaction, employee morale, and overall business performance in the tourism sector.

4.5.1. Factors Influencing Sustainable Tourism Development

A correlation analysis was conducted to examine the relationships between key variables relevant to sustainable tourism development. The variables under investigation include tourism strategic leadership, integration of digital tools as a tourism leadership strategy, sustainable tourism outcomes such as customer satisfaction, employee morale, and business performance, resilience strategies implemented in the face of crises (including Covid-19 impact, climate change impact, and geopolitical shifts), and innovative leadership strategies correlation.

The correlation matrix reveals relationships between different variables related to sustainable tourism development, including tourism strategic leadership, integration of digital tools, innovative leadership strategies, resilience strategies, sustainable tourism outcomes and. The results, illustrated in the table 7 below, revealed several significant correlations, shedding light on the interconnectedness of these factors in driving sustainable tourism practices. Here is a detailed interpretation of the findings:

Table 7 Correlation Matrix for Tourism Leadership, Digital Tools, Sustainability, Resilience, and Innovation

Variable	Tourism Strategic Leadership	Integration of Digital Tools	Sustainable Tourism Outcomes	Resilience Strategies	Innovative Leadership Strategies
Tourism Strategic Leadership	1.00	0.278**	0.421**	0.335**	0.632**
Integration of Digital Tools	0.278**	1.00	0.767**	0.821**	0.118
Sustainable Tourism Outcomes	0.421**	0.767**	1.00	0.845**	0.254*
Resilience Strategies	0.335**	0.821**	0.845**	1.00	0.239*
Innovative Leadership Strategies	0.632**	0.118	0.254*	0.239*	1.00

Tourism Strategic Leadership Analysis and Interpretation

There was a significant positive correlation between tourism strategic leadership and integration of digital tools (r = 0.278, p = 0.007), sustainable tourism outcomes (r = 0.421, p < 0.001), resilience strategies (r = 0.335, p = 0.001), and innovative leadership strategies (r = 0.632, p < 0.001).

This indicates that stronger tourism strategic leadership is associated with greater utilization of digital tools, better sustainable tourism outcomes, higher resilience in the face of crises, and more innovative leadership approaches.

Integration of Digital Tools Analysis and Interpretation

A significant positive correlation was found between the integration of digital tools and sustainable tourism outcomes (r = 0.767, p < 0.001), as well as resilience strategies (r = 0.821, p < 0.001).

This suggests that effective utilization of digital tools in tourism leadership is linked to improved sustainable tourism outcomes and enhanced resilience strategies in the face of crises.

Sustainable Tourism Outcomes Analysis and Interpretation

Sustainable tourism outcomes exhibited significant positive correlations with integration of digital tools (r = 0.767, p < 0.001), resilience strategies (r = 0.845, p < 0.001), and innovative leadership strategies (r = 0.254, p = 0.013).

This implies that better sustainable tourism outcomes are associated with the integration of digital tools, higher resilience during crises, and more innovative leadership strategies.

Resilience Strategies Analysis and Interpretation

Resilience strategies showed significant positive correlations with integration of digital tools (r = 0.821, p < 0.001), sustainable tourism outcomes (r = 0.845, p < 0.001), and innovative leadership strategies (r = 0.239, p = 0.020).

Effective resilience strategies are thus linked to better integration of digital tools, improved sustainable tourism outcomes, and innovative leadership approaches.

Innovative Leadership Strategies Correlation Analysis and Interpretation

A significant positive correlation was observed between innovative leadership strategies and tourism strategic leadership (r = 0.632, p < 0.001), as well as sustainable tourism outcomes (r = 0.254, p = 0.013).

This indicates that innovative leadership strategies are positively associated with various aspects of sustainable tourism development, including strategic leadership and favorable tourism outcomes.

Overall, these findings underscore the importance of effective leadership, utilization of digital tools, and resilience strategies in promoting sustainable tourism practices. They highlight the interconnectedness of these factors and emphasize the need for integrated approaches to address challenges and drive positive outcomes in the tourism industry.

5. Discussion and Recommendations

Sustainable tourism development is a complex and multifaceted endeavor that requires a holistic understanding of various factors influencing the industry. The correlation analysis conducted in this study sheds light on the interplay between key variables, including tourism strategic leadership, integration of digital tools, sustainable tourism outcomes, resilience strategies, and innovative leadership strategies. The findings offer valuable insights into the dynamics shaping sustainable tourism practices and provide a foundation for informed decision-making within the tourism sector.

5.1. Interpretation of Findings

The significant positive correlations observed between tourism strategic leadership and various aspects of sustainable tourism development underscore the pivotal role of leadership in driving positive outcomes. Strong tourism strategic leadership is associated with greater integration of digital tools, better sustainable tourism outcomes, higher resilience during crises, and more innovative leadership approaches. This highlights the importance of visionary leadership in navigating the complexities of the tourism industry and steering organizations toward sustainability.

Similarly, the correlation between the integration of digital tools and sustainable tourism outcomes highlights the transformative potential of technology in enhancing tourism experiences and operational efficiency. Effective utilization of digital tools not only improves customer satisfaction but also strengthens resilience by enabling organizations to adapt to changing circumstances more effectively. This underscores the importance of embracing technological innovation as a strategic imperative for sustainable tourism development.

Furthermore, the positive correlations between resilience strategies and both integration of digital tools and sustainable tourism outcomes underscore the importance of proactive planning and preparedness in mitigating risks and ensuring the long-term viability of tourism enterprises. Organizations that demonstrate resilience in the face of challenges such as the Covid-19 pandemic, climate change, and geopolitical shifts are better positioned to weather disruptions and maintain high levels of performance and customer satisfaction.

Finally, the association between innovative leadership strategies and various dimensions of sustainable tourism development highlights the need for creativity and adaptability in addressing the evolving needs of the tourism industry. Leaders who foster a culture of innovation within their organizations are better equipped to drive positive change, identify new opportunities, and respond effectively to emerging trends and challenges.

5.2. Implications for Practice

The findings of this study have several implications for practitioners in the tourism industry. Firstly, organizations should prioritize the development of strong leadership capabilities at all levels to effectively navigate the complexities of the tourism landscape. Investing in leadership development programs and fostering a culture of continuous learning and improvement can help cultivate the visionary leadership needed to drive sustainable tourism practices.

Secondly, embracing digital technologies should be a strategic priority for tourism organizations seeking to enhance their competitiveness and resilience. From online booking platforms to virtual reality experiences, digital tools offer a myriad of opportunities to enhance customer engagement, streamline operations, and adapt to changing market dynamics. Organizations should invest in robust digital infrastructure and talent to harness the full potential of technology in achieving sustainable tourism outcomes.

Thirdly, resilience planning should be an integral part of organizational strategy, with a focus on identifying and mitigating risks associated with various external threats. This includes developing contingency plans, diversifying revenue streams, and building partnerships with other stakeholders to enhance collective resilience. By proactively addressing potential challenges, organizations can minimize disruptions and ensure continuity of operations even in the face of adversity.

Lastly, fostering a culture of innovation should be a priority for tourism organizations looking to stay ahead in a rapidly evolving industry. Leaders should encourage creativity, experimentation, and knowledge sharing among employees to drive continuous improvement and identify new opportunities for growth. By embracing innovation as a core value, organizations can adapt more effectively to changing market conditions and position themselves as leaders in sustainable tourism development.

5.3. Recommendations for Future Research

While this study provides valuable insights into the relationships between key variables in sustainable tourism development, there are several avenues for future research that warrant exploration. Firstly, longitudinal studies could help assess the long-term impact of leadership practices, digital technologies, and resilience strategies on sustainable tourism outcomes. By tracking changes over time, researchers can gain a deeper understanding of the dynamics shaping the tourism industry and identify strategies for long-term success.

Secondly, comparative studies across different regions and contexts could provide valuable insights into the factors influencing sustainable tourism development in diverse settings. By examining variations in leadership styles, technological adoption rates, and resilience strategies, researchers can identify best practices and lessons learned that can be applied across different contexts.

Lastly, qualitative research methods such as interviews and case studies could help provide a more nuanced understanding of the mechanisms underlying the observed correlations. By exploring the experiences and perspectives of tourism industry stakeholders, researchers can gain deeper insights into the factors driving sustainable tourism practices and identify opportunities for improvement.

In conclusion, the findings of this study underscore the importance of leadership, technology, resilience, and innovation in driving sustainable tourism development. By prioritizing these factors and adopting a holistic approach to decision-making, tourism organizations can navigate the complexities of the industry more effectively and contribute to the long-term well-being of destinations, communities, and ecosystems.

6. Conclusion

In conclusion, this study provides a comprehensive examination of the role of strategic leadership, innovation, and resilience in fostering sustainable tourism development in remote areas, with a specific focus on the Moroccan Daraa-Tafilalt Oases. The findings underscore the transformative potential of leadership strategies in navigating the complexities of the digital era and promoting sustainable tourism initiatives.

The literature review highlights the evolving landscape of sustainable tourism and emphasizes the critical role of strategic leadership in guiding organizations towards enduring sustainability. Leadership emergence has evolved from traditional top-down models to more inclusive, participative approaches, reflecting the dynamic nature of contemporary leadership paradigms. Moreover, the integration of digital technology demands adaptive and technologically literate leaders capable of driving innovation and resilience in the tourism sector.

Methodologically, this study adopts a mixed-methods approach, combining qualitative interviews and quantitative surveys to comprehensively investigate the research problem. Through thematic analysis of qualitative data and statistical analysis of quantitative data, the study provides a nuanced understanding of the factors influencing sustainable tourism development in remote areas.

The findings reveal significant correlations between strategic leadership, integration of digital tools, sustainable tourism outcomes, resilience strategies, and innovative leadership strategies. Visionary leadership, community engagement, and adaptive approaches emerge as key drivers of sustainable tourism development, emphasizing the importance of a holistic leadership approach.

Implications for theory and practice are profound, as the study contributes to the academic understanding of sustainable tourism development and offers actionable insights for policymakers, industry stakeholders, and local communities. By prioritizing long-term sustainability, addressing socio-economic disparities, and fostering industry resilience, stakeholders can promote equitable development and environmental conservation in remote oasis regions like the Moroccan Daraa-Tafilalt Oases.

In conclusion, sustainable tourism leadership represents a multifaceted approach that considers environmental, social, and economic dimensions. Strategic leaders play a pivotal role in driving innovation and resilience, ensuring the long-term viability of tourism initiatives in remote areas. However, addressing the hegemony of big corporations and redirecting attention towards neglected regions is imperative for fostering sustainable tourism development in alignment with equitable and responsible principles. Through collaborative efforts and informed decision-making, stakeholders can create a more sustainable and inclusive tourism industry that benefits both present and future generations.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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