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From Tourism Capital to Smart City: A Strategic Framework for Sustainable Tourism in Pokhara

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ABSTRACT

This study investigates the tourism landscape of Pokhara Metropolitan City, a key destination in Nepal, to explore its transition into a smart city through sustainable tourism practices. Specifically, it aims to analyze tourist perceptions, assess the quality of infrastructure, and identify development opportunities in less frequented areas. The objectives of this study are to assess tourist perceptions, analyze the quality of tourism-related infrastructure, and identify development opportunities in less explored areas like Damside, Begnastal, and Pumdikot. By integrating technology and sustainability, this study seeks to present a strategic framework to enhance Pokhara's tourism potential. The methodology employs a mixed-methods approach, utilizing an exploratory sequential design that begins with qualitative insights gathered through interviews with key stakeholders, followed by quantitative surveys administered to tourists and residents. Findings reveal Lakeside as the most popular area, while places like Begnastal, Damside, and Pumdikot have untapped potential. The study emphasizes sustainable infrastructure and technology integration to enhance public transportation, electronic payment systems, and overall tourist

satisfaction. Statistical analysis confirms the significant relationships between tourists' perceptions of service quality and accommodation facilities, highlighting the need for improved lodging options and pedestrian-friendly streets to elevate Pokhara's appeal.
KEYWORDS: Smart city, sustainable tourism, tourist perceptions, community engagement

INTRODUCTION

Tourism is a social, cultural, and economic phenomenon involving the movement of individuals to destinations outside their usual environment for personal or business purposes. Those who travel are referred to as visitors, which can include tourists, excursionists, residents, or non-residents. Tourism encompasses the activities of these visitors, many of which involve tourism-related spending (UNWTO, 2008).

The panoramic views of Mt. Annapurna snow-clad mountain ranges and peaks within the closest eye-catching distance with a clean and calm environment, pristine rural peripheries, and green lustier of surrounding hill slope with amazing landscape of the Valley Floor are the natural treasuries of Pokhara. Because of its incredible natural wealth, this is the only heartland of tourism and one of the main destinations for visitors. Pokhara City, a fast-growing urban center with a population of 500 thousand (CBS, 2021) also has similar numbers of foreigners visit in a year (MoCTCA, 2021). According to the statistics, 40 percent of the tourists arriving in Nepal visit Pokhara. Of the 1.19 million tourists who visited the country in 2019, around 480,000 visited Pokhara. It is said that over half a million foreigners and almost similar numbers of domestic visitors come to Pokhara every year. Accepting these factual pieces of evidence of Pokhara, the Governments of Gandaki Province and Pokhara Metropolitan City jointly forwarded the proposal to declare Pokhara as a 'Tourism Capital of the Country' and accordingly the city was declared as 'the Tourism Capital' by the Nepal Government on 17th March 2024. As per the current infrastructure the city was declared as a tourism capital; however, the tourism sector is still facing many challenges with information systems together with the limited accessibility for visitors. The declaration presents high moral support to invest in different sectors of tourism development and also inspires entrepreneurs. Upon these grounds, there is a high need to take care of visitors as well as the financial investment of entrepreneurs for its long-run sustainability.

The declaration of Pokhara as a tourism capital city can enhance its competitive position in the global tourism market. The alternative to tourism capital can be the concept of a smart tourism city in which the current infrastructure and the smart tourism destination marketing strategies as well as innovative digital experiences can be identified to attract more visitors. Implementing free Wi-Fi hotspots in key tourist areas such as the lakeside promenade, viewpoints, and other major tourist attractions of Pokhara Metropolitan City would allow visitors to stay connected and access information about the destination. A mobile application or virtual guide would provide visitors with comprehensive information about attractions, activities, dining options, accommodation, transportation, and real-time updates on weather and events will attract tourists to increase the length of stay (Kayumovich, 2020). Therefore, it is also recommended to build these accessibilities in Pokhara to make smart tourism. These apps could also offer personalized recommendations based on user preferences and interests.

The transition towards smart tourism is driven by the integration of information and communication technology (ICT). This approach leverages digital solutions to enhance tourist experiences, ensure sustainable development, and optimize resource management. Notably, the development of tourism-specific mobile applications that serve as comprehensive travel companions offering services ranging from navigation and accommodation booking to local recommendations and social connectivity. The city of Amsterdam, through its I Amsterdam City Card app, provides tourists with a digital platform that not only simplifies access to attractions and public transport but also personalizes the travel experience based on user preferences and feedback (Gretzel et al., 2015). Smart tourism, a subset of the smart city concept, aims to integrate ICT into tourism practices to improve service delivery efficiency, and sustainability, and enrich the tourist experience. This is achieved by utilizing big data analytics, the Internet of Things (IoT), mobile technologies, cloud computing, and artificial intelligence, fostering a seamless, sustainable, and immersive tourism environment (Gretzel et al., 2015).

Beyond technology, smart tourism embodies a strategic framework that emphasizes sustainability, inclusivity, and innovation, enabling destinations to enhance visitor satisfaction and foster economic growth while minimizing environmental impacts. The interactive and integrated nature of smart tourism platforms allows for the delivery of customized services and real-time information to tourists, enhancing their decision-making process and overall travel experience (Boes et al., 2016). Moreover, smart tourism enhances accessibility and inclusivity by providing platforms that cater to diverse needs, including those of travelers with disabilities, through adaptive technologies and services. This inclusivity not only enriches the travel experience for all visitors but also broadens the market reach for destinations and service providers (Serra et al., 2019).

In 2023, Pokhara was officially designated as Nepal’s tourism capital, a move that underscored the city’s growing importance in the national tourism sector. This title is not only a reflection of Pokhara's natural beauty and cultural significance but also an acknowledgment of its potential to drive Nepal’s broader tourism economy (Nepal Desk, 2023). Local leadership, including Mayor Dhan Raj Acharya, played a pivotal role in this designation, positioning Pokhara as a global destination with ambitions to attract millions of tourists annually. The city has set a target to welcome 1.5 million tourists in 2025 during the "Visit Pokhara Year" initiative, representing a significant leap in its tourism aspirations (Acharya, 2024).

Currently, Pokhara's tourism infrastructure is well-developed, offering a variety of activities and accommodations. However, the city faces challenges such as seasonal tourism fluctuations, environmental concerns, and infrastructure limitations. Addressing these challenges through smart tourism can enhance visitor engagement, sustainability, and economic growth. Examples from Singapore, Barcelona, and Dubai illustrate the potential of smart tourism initiatives to transform destinations by improving efficiency, sustainability, and tourist satisfaction through technological innovation and stakeholder collaboration (Gretzel et al., 2015). Singapore's Smart Nation initiative demonstrates the benefits of using big data analytics to tailor marketing strategies and improve tourist experiences, while also enhancing the efficiency and sustainability of its tourism infrastructure through smart systems for traffic and crowd management. This illustrates the importance of a holistic approach to smart tourism that considers economic,

environmental, and social factors (Hollands, 2008; Gretzel et al., 2015). Another example is Barcelona, Spain, which has utilized ICT to transform itself into a leading smart tourism destination with the implementation of comprehensive WiFi networks, smart street lighting, and digital kiosks improving visitor experiences and promoting sustainable urban management. The city emphasizes the crucial role of community involvement in the development and success of smart tourism strategies, showcasing the effectiveness of inclusive approaches (Boes et al., 2016). Dubai, through its Smart Dubai initiative, has adopted cutting-edge technologies like virtual reality, blockchain, and artificial intelligence to enhance tourist experiences, ensure secure transactions, and provide personalized services. This vision highlights the potential of technological innovation to boost tourist satisfaction, streamline operations, and encourage economic growth, offering valuable lessons in leveraging technology for tourism enhancement (Buhalis & Amaranggana, 2015).

Pokhara's transformation prominently focuses on environmental sustainability, committing to achieve carbon neutrality by 2043 through integrating electric vehicles into public transportation, enhancing waste management, and promoting eco-friendly tourism routes like lake-to-lake and fort-to-fort hiking trails. These initiatives reflect the city's dedication to balancing tourism growth with environmental preservation (Acharya, 2024). Additionally, Pokhara emphasizes social inclusion within its smart tourism strategy, implementing initiatives such as free public transport for senior citizens and health insurance for low-income residents, ensuring that all segments of society benefit from the city's rapid transformation into a tourism hub (Acharya, 2024). However, despite these ambitious plans, challenges persist; insufficient data and planning gaps pose significant obstacles that could hinder progress (Nepal Desk, 2023). Moreover, while the tourism industry has shown resilience following global disruptions, sustained growth will necessitate ongoing investments in infrastructure, policy support, and collaboration among stakeholders at both local and national levels (Acharya, 2024). In this context this study evaluates tourists' perceptions, examine the quality of tourism-related infrastructure, and explore development opportunities in less-visited areas of Pokhara. Pokhara's transformation into a smart city is a multifaceted endeavor that blends tourism, technology, and sustainability. As the city continues to implement its ambitious plans, it stands to solidify its status as a global tourism destination while ensuring the long-term well-being of both its environment and residents.

RESEARCH METHODS

The methodology for the research titled "From Tourism Capital to Smart City: A Strategic Framework for Sustainable Tourism in Pokhara" is designed to comprehensively explore the city's transformation using a mixed-methods approach. The research adopts an exploratory sequential design, first gathering qualitative insights through interviews with key stakeholders such as local government officials, tourism operators, and urban planners to uncover perceptions and challenges related to smart city initiatives and sustainable tourism in hot spots areas like Lakeside, Pame, Pumdikot, Damside, Chhorepatan, Bindyabasini Temple, Sarangkot, Mahendra Cave and Begnas Lake and so on. The qualitative phase was followed by quantitative data collection through surveys administered to tourists and residents, measuring their awareness of smart city technologies, satisfaction with tourism services, and the perceived impact on

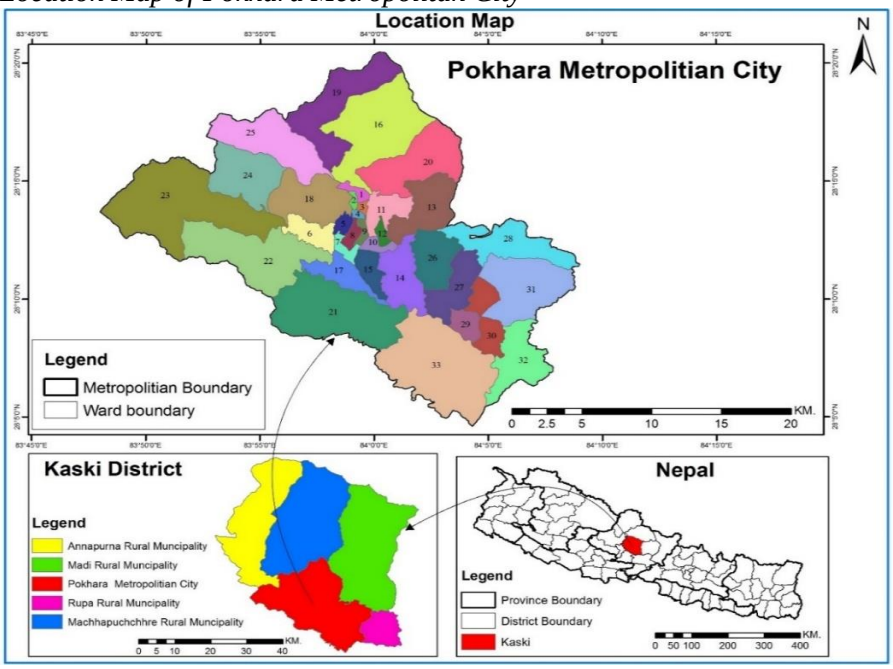
sustainability. By integrating both qualitative and quantitative methods, the research seeks to provide a holistic understanding of Pokhara's journey toward becoming a smart city.

To ensure a robust analysis, the framework incorporates both primary and secondary data sources. Primary data includes interviews and surveys, while secondary data is obtained through document analysis of government reports and policies as well as a review of academic literature on smart cities and sustainable tourism. A case study approach is applied to focus on Pokhara's unique context, with comparative analysis to other global smart city projects. This framework emphasizes a participatory approach through stakeholder engagement, ensuring that the findings are relevant to local needs and sustainable urban development objectives.

Pokhara is located in the Kaski district of Gandaki Province, nestled at the base of the Annapurna range. It is positioned between latitudes 28°04'10" N and 28°20'30" N, and longitudes 83°48'40" E and 84°09'50" E. As the largest city in Nepal, it spans an area of 464.24 square kilometers, with elevations ranging from 418 meters at the confluence of Kotre Khola and the Seti River to 2,115 meters Kalilekh, Armala. Known as the "Lake City," Pokhara is home to renowned lakes such as Phewa, Begnas, Rupa, Khaste, Dipang, Maidi, Niureni, Gunde, and Kamalpokhari, which draw numerous tourists each year. It is often regarded as the tourism hub of Nepal. Madi and Rupa Rural Municipalities are located to the east, while the Annapurna Rural Municipality lies to the west. To the north are Machhapuchhre and Madi Rural Municipalities, and to the south are the Syangja and Tanahun districts. In 2016, Pokhara was designated as a Metropolitan City (figure 1).

Figure 1

Location Map of Pokhara Metropolitan City



Source: Department of Survey of Nepal

RESULTS AND DISCUSSION

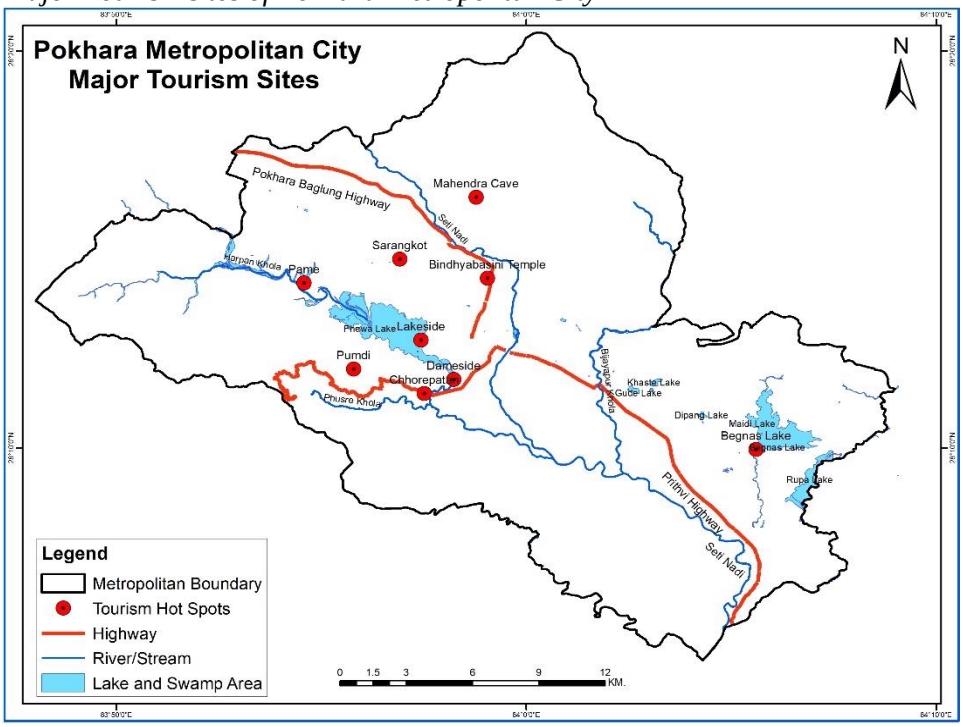
Results

Major Tourism Sites

Pokhara is the land of lots of natural attraction due to which it become one of Nepal's key destinations for both domestic and international tourists. Phewa Lake is one of the largest and most popular lakes in Nepal, known for its scenic beauty and boating opportunities. The Lakeside area, located along its shore, is a vibrant hub filled with restaurants, hotels, and shops, making it a central tourist attraction. It also offers beautiful reflections of the Annapurna range and is a base for various adventure activities. Sarangkot is a well-known viewpoint situated on a hill, offering panoramic views of the Himalayas, including Annapurna, Dhaulagiri, and Machapuchare, as well as stunning sunrises and sunsets. It's also a prime location for paragliding and attracts adventure seekers. This is one of the most important and oldest religious sites in Pokhara. The Bindhyabasini Temple, dedicated to the Hindu goddess Bhagwati, is located on a hilltop, providing both religious and cultural significance, as well as views of the surrounding landscapes. Situated north of the city, Mahendra Cave is a karst cave known for its stalactites and stalagmites (figure 2). It is a natural attraction that offers a unique underground experience for tourists. Begnas Lake located further east of the city, Begnas Lake is a more serene alternative to Phewa Lake (Paudel & Upadhyay, 2020). It is less crowded and offers peaceful boating, fishing, and hiking opportunities, surrounded by lush greenery.

Figure 2

Major Tourism sites of Pokhara Metropolitan City



Devi's Fall also known as waterfall is a popular spot located near Pokhara city. It has an underground tunnel where the water from Phewa Lake plunges, creating a stunning natural phenomenon. Situated near Devi's Fall, Gupteshwor Cave is a sacred cave that houses a shrine of Lord Shiva. It is one of the most visited religious sites in Pokhara, especially during the Shivaratri festival. This area is located on the outskirts of Pokhara and is a developing tourist site, ideal for those looking for more secluded and natural spots. It's known for hiking, bird-watching, and exploring the rural countryside. Pumdikot, located on a hilltop near Phewa Lake in Pokhara, is an emerging tourist destination known for its scenic views and cultural significance. It offers panoramic vistas of the Annapurna and Dhaulagiri mountain ranges, making it a popular spot for sunrise and sunset viewing. A major attraction at Pumdikot is the recently constructed Lord Shiva Statue, which stands at a height of about 51 feet and has become a spiritual and cultural landmark. This peaceful location provides a blend of natural beauty, religious importance, and a growing attraction for hiking enthusiasts looking to explore more of Pokhara's serene landscapes (Paudel & Upadhyay, 2020). These tourism sites reflect the diversity of Pokhara's attractions, ranging from religious and cultural landmarks to adventure tourism and natural beauty. The city's combination of scenic lakes, caves, temples, and panoramic mountain views makes it a central hub for tourism in Nepal.

Community and Tourist Place Distribution

A varied distribution of tourist activity across nine prominent sites in Pokhara, reflects the city's diverse tourism landscape (table 1). Lakeside emerges as the most popular destination with 24 tourists, followed by Mahendra Cave and Pame, both attracting 12 tourists. The lower tourist counts at places like Damside and Pumdikot, with only 8 and 11 tourists respectively, suggest these locations are less frequented or may lack the necessary attractions or facilities compared to others. The community respondent numbers are relatively consistent, indicating a balanced local involvement across different sites, which is crucial for understanding community-tourist dynamics in Pokhara.

Table 1

Community and Tourist Place Distribution

Place	Community Respondents	Tourist Respondents
Begnastal	7	12
Bindyabasini	9	10
Chhorepatan	5	12
Damside	5	8
Lakeside	12	24
Pame	5	12
Pumdikot	7	11
Sarangkot	6	12
Mahendra Cave	6	13
Total	**62**	**114**

Source: Field Survey, 2024

Advancing Towards a Sustainable Future: The Smart City Transformation of Pokhara

Pokhara is transforming into a smart city by combining technology, sustainability, and inclusivity. With a focus on digital innovation and eco-friendly practices, it is strengthening its role as a major tourism destination and a global example of sustainable development. This vision aims to improve the quality of life for its residents while creating a better experience for visitors (Acharya, 2024; Pokhara Research Centre, 2021; Nepal Desk, 2023). Based on the field survey regarding smart city the perceptions of tourists found accordingly (table 2).

Table 2

Tourist Perception in Pokhara

Category	Very Poor	Poor	Acceptable	Excellent	Very Excellent	Total (N=114)
Perception upon arrival	1.8%	3.5%	16.7%	28.9%	49.1%	100%
The personality of reception agent	0.9%	-	25.4%	28.1%	45.6%	100%
Port of entry arrangement	3.5%	14.9%	18.4%	32.5%	30.7%	100%
Arrival transfer facility	8.8%	4.4%	22.8%	36.0%	28.1%	100%
Accommodation facilities and quality	5.3%	-	19.3%	32.5%	43.0%	100%
Communication skills of employees	3.5%	-	14.9%	46.5%	35.1%	100%
Shopping experience	3.5%	10.5%	27.2%	35.1%	23.7%	100%
Attitude of product vendors	2.6%	2.6%	32.5%	36.0%	26.3%	100%
Quality of walking street	6.1%	12.3%	25.4%	35.1%	21.1%	100%
Street lights/evening security	9.6%	8.8%	28.1%	29.8%	23.7%	100%
Easy to walk around	3.5%	4.4%	16.7%	45.6%	29.8%	100%
Availability of public amenities	7.9%	8.8%	40.4%	25.4%	17.5%	100%
Greenery around the city	8.8%	-	8.8%	26.3%	56.1%	100%
Signposting	9.6%	7.9%	27.2%	26.3%	28.9%	100%
Evening entertainment	4.4%	4.4%	32.5%	37.7%	21.1%	100%
Places for families	13.2%	-	16.7%	24.6%	45.6%	100%

to visit						
Places for adults to visit	-	-	20.2%	33.3%	46.5%	100%
Overall city information	3.5%	4.4%	29.8%	32.5%	29.8%	100%
Traffic management	18.4%	9.6%	20.2%	36.0%	15.8%	100%
Freedom to walk around	-	-	25.4%	35.1%	39.5%	100%
Availability of dining facilities	0.9%	7.9%	21.1%	28.9%	41.2%	100%
Food quality and variety	0.9%	11.4%	34.2%	32.5%	21.1%	100%
Service quality (proficiency)	2.6%	-	22.8%	49.1%	25.4%	100%
General cleanliness	3.5%	7.9%	33.3%	39.5%	15.8%	100%
Friendly and genuine local support	2.6%	2.6%	17.5%	36.0%	41.2%	100%
Value for money	3.5%	6.1%	28.9%	36.8%	24.6%	100%
Pokhara as an automated city	10.5%	12.3%	36.0%	24.6%	16.7%	100%
Electronic payment gateway	7.0%	9.6%	49.1%	33.3%	0.9%	100%
QR scanning at sightseeing spots	7.9%	21.1%	30.7%	35.1%	5.3%	100%
Public transportation organization	14.0%	5.3%	57.0%	11.4%	12.3%	100%
Tech-friendliness for travelers	0.9%	14.9%	40.4%	25.4%	18.4%	100%

Source: Field Survey, 2024

Table 2 provides a comprehensive analysis of tourists' perceptions of various aspects of their experience in Pokhara, Nepal. The data covers 114 respondents, with categories ranging from their initial impressions upon arrival to specific aspects of service, infrastructure, and overall satisfaction. The percentages indicate the distribution of responses, allowing for an understanding of how different facets of tourism in Pokhara are perceived, with ratings from "Very Poor" to "Very Excellent."

Upon arrival in Pokhara, nearly half of the tourists (49.1%) rated their perception as "Very Excellent," with another 28.9% marking it as "Excellent." This suggests that most visitors have a positive first impression of the city. In contrast, only 1.8% rated their arrival experience as "Very Poor." Similarly, the personality of reception agents received high marks, with 45.6% indicating "Very Excellent" and 28.1% choosing "Excellent." Such ratings reflect a general satisfaction with initial interactions and hospitality, essential components of the tourism experience.

However, not all aspects were as positively perceived. For example, "Port of entry arrangement" and "Arrival transfer facility" showed a more varied distribution of responses. While many rated these aspects highly (30.7% and 28.1% for "Very Excellent," respectively), a significant percentage expressed dissatisfaction, with 14.9% marking "Poor" for port arrangements and 8.8% rating arrival transfers as "Very Poor." These areas may require further improvement to enhance tourists' overall satisfaction and convenience.

Key infrastructure elements like "Accommodation facilities and quality" and "Communication skill of employees" scored favorably, with 43.0% and 46.5% of respondents, respectively, rating these as "Very Excellent." Such feedback is crucial for maintaining high standards in the hospitality industry. On the other hand, "Public transportation organization" and "QR scanning at sightseeing spots" showed mixed responses, with 14.0% rating public transport as "Very Poor" and 21.1% indicating dissatisfaction with QR scanning availability. These findings suggest potential areas for further technological and infrastructural development to support a smart tourism framework.

Statistical Analysis

To examine the association between tourists' perceptions and various aspects of their experience in Pokhara, a Chi-Square test of independence was conducted. The Chi-Square test is used to determine if there is a statistically significant association between two categorical variables (McHugh, 2013). In this study, the variables of interest include tourists' ratings across different categories, such as accommodation quality, electronic payment system, and quality of walking street.

The formula used to calculate the Chi-Square statistic is:

$$x^2 = \frac{(Oi - Ei)}{Ei}$$

Where:

- *Oi* represents the observed frequencies from the data (e.g., the number of tourists who rated a particular service as "Excellent"),
- *Ei* is the expected frequency under the assumption that there is no association between the variables, calculated as:

$$Ei = \frac{(Row\ Total \times Column\ Total)}{Grand\ Total}$$

The test compares the observed frequencies with the expected frequencies across different categories. The sum of the squared differences between observed and expected frequencies, divided by the expected frequencies, gives the x^2 value (Agresti, 2018).

The degrees of freedom (df) for this test are calculated as:

$$df = (Number\ of\ Rows - 1) \times (Number\ of\ Columns - 1)$$

The calculated Chi-Square statistic is then compared to the critical value from the Chi-Square distribution table at a 0.05 significance level. If the calculated value exceeds the critical value, the null hypothesis will be rejected and conclude that there is a statistically significant association between tourists' perceptions and the evaluated categories.

Hypothesis 1: Relationship between Perception of Service Quality and Accommodation Facilities

The first hypothesis tested whether there is a significant difference in the perception of service quality based on the quality of accommodation facilities in Pokhara. The Chi-square test revealed a significant relationship, with a chi-square value of 15.31 and a p-value of 0.0016**,** which is below the significance level of 0.05. This indicates that tourists' perceptions of the service quality are significantly influenced by the accommodation facilities they experience in Pokhara. Higher-rated accommodation facilities tended to be associated with higher levels of satisfaction regarding service quality, while those who rated their accommodations as poor or acceptable also reported lower levels of service quality.

Hypothesis 2: Relationship between Automated City Perception and Satisfaction with the Electronic Payment System

The second hypothesis explored whether tourists who perceive Pokhara as an automated city are more likely to rate its electronic payment systems as well-organized. The Chi-square test showed a significant result, with a chi-square value of 21.19 and a p-value of 0.0003, indicating a strong relationship between the two variables. Tourists who viewed Pokhara as an automated and tech-friendly destination were more likely to report higher satisfaction with the city's electronic payment infrastructure.

Hypothesis 3: Relationship between Overall Visitor Experience and Quality of Walking Streets

The third hypothesis examined the relationship between tourists' overall experience and the quality of walking streets in Pokhara. The Chi-square test produced a significant result, with a chi-square value of 10.96 and a p-value of 0.0271, suggesting a significant correlation between the quality of walking streets and the overall visitor experience. Visitors who rated the walking streets of Pokhara as excellent or very excellent were more likely to report higher satisfaction with their overall experience in the city.

Discussion

The results underline the importance of aligning tourism infrastructure with visitor expectations while integrating smart city elements for a sustainable future. Pokhara's progress towards becoming a smart city has been largely driven by its strategic implementation of information technology and sustainable infrastructure. The introduction of smart transportation systems that incorporate e-ticketing for public buses and an increased focus on electric vehicles highlights Pokhara's commitment to eco-friendly mobility. These efforts align with the city's broader goal of achieving carbon neutrality by 2043, showcasing a forward-thinking approach to urban planning that not only enhances the efficiency of public transportation but also improves the overall tourist experience (Pokhara Research Centre, 2021; Nepali Sansar, 2024). In addition, Pokhara has embraced digital transformation through the development of a Digital Pokhara initiative, which integrates information and service delivery systems across various sectors. This system provides seamless access to municipal services, enhancing the user

experience for both residents and tourists. Moreover, the city's efforts to modernize revenue collection with GIS-based property tracking and support for business incubation centers underscore its commitment to fostering economic growth and innovation, positioning it as a model for smart city development (Epardafas, 2024).

Table 2 highlights that while most tourists leave Pokhara with a positive perception, there are certain areas, particularly in technology and public infrastructure that may benefit from targeted improvements. The finding of Hypothesis 1 suggests that improving the quality of accommodation facilities in Pokhara could lead to a corresponding increase in tourists' overall satisfaction with the service they receive. This aligns with the expectations that tourists generally correlate the quality of service with the type of accommodation they choose. Luxury and well-maintained accommodations not only enhance the comfort of the stay but also influence how tourists perceive other aspects of their trip, such as reception, responsiveness, and hospitality. Accordingly, Hypothesis 2 shows that the importance of integrating technological advancements, such as efficient electronic payment systems, into tourism services. As Pokhara continues to develop as a smart city, tourists' expectations for convenience and modern infrastructure grow. When these expectations are met, tourists tend to report higher levels of satisfaction. Thus, continued investment in technology, including secure and widespread electronic payment systems, can enhance the overall tourist experience, particularly among tech-savvy travelers who prioritize efficiency and automation during their travels. Hypothesis 3 proves that in the pedestrian-friendly areas, well-maintained walking streets contribute to ease of mobility and enhance the aesthetic and safety aspects of the tourist experience. In the case of Pokhara, improving pedestrian infrastructure, ensuring cleanliness, and maintaining street quality can significantly boost overall visitor satisfaction. The data supported all three hypotheses, highlighting key development areas in Pokhara's tourism sector. The findings also underscore the importance of continuous enhancements in service quality, communication, and ease of movement within the city to sustain and enhance Pokhara's reputation as a leading tourism destination.

CONCLUSION

Pokhara Metropolitan City stands as a key tourism hub in Nepal, with major attractions like Lakeside, Pame, Pumdikot, Damside, Chhorepatan, Bindyabasini Temple, Sarangkot, Mahendra Cave and Begnas Lake offering diverse experiences. While Lakeside remains the most popular area, there is considerable potential for growth in less-visited spots. The research emphasizes the importance of Pokhara's transition to a smart city, integrating sustainable infrastructure and technology to enhance the visitor experience. Statistical analysis reveals that higher accommodation quality correlates with better service perceptions and tourists who view the city as tech-friendly report greater satisfaction with its electronic payment systems. Additionally, the quality of pedestrian infrastructure plays a significant role in improving overall visitor satisfaction. The findings of this study also align with global practices, such as those observed in Singapore and Barcelona, where the integration of smart technologies significantly enhanced tourist satisfaction. However, in contrast to these examples, Pokhara faces challenges in data collection and planning, which could hinder effective implementation. Moreover, while the city aims for carbon neutrality by 2043, limited awareness and adoption of eco-friendly practices among stakeholders pose significant barriers.

Addressing these limitations through collaborative efforts and targeted investments is crucial.

Pokhara's commitment to smart tourism initiatives is central to its sustainable development. By integrating ICT solutions such as free Wi-Fi and mobile apps, the city enhances operational efficiency and personalizes the tourist experience. These technologies also contribute to better resource management and environmental sustainability. Pokhara's focus on service quality, technology, and sustainability helps strengthen its position in the global tourism market, promising long-term benefits for both its residents and the environment. This transformation sets an example for other destinations aiming to integrate tourism, technology, and sustainability.

CONFLICT OF INTERESTS

The authors have no conflicts of interest to disclose.

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