The Role of Technology in Enhancing Tourist Safety and Security: Challenges and Opportunities

Antoneth T. Arzadon[1], Vanessa Jean S. Corporal[2], Kristine Joy P. Daquioag[3], Julian Faith B. Moreno[4], Anna Mae Roxas[5], Jaypee Fernan Miguel Ramirez[6]

[1,2,3,4,5]Student, College of Business Education, University of LA Salette, Incorporated

[6]Faculty, College of Business Education, University of LA Salette, Incorporated

ABSTRACT

This study investigates the significant role of technology in strengthening the safety and security of tourists, particularly in the context of Santiago City, Isabela. With the increasing reliance on digital innovations such as GPS tracking, emergency alerts, surveillance systems, and Al-enabled platforms, the tourism industry is experiencing a transformation in how it manages and responds to security concerns. These technologies have the potential to enhance real-time monitoring, improve emergency response systems, and build tourists' confidence while traveling. However, the study also identifies critical challenges that affect the widespread adoption of these advancements. Issues such as data privacy, high implementation costs, lack of digital infrastructure, and varying levels of digital literacy pose barriers, especially in developing areas.

A descriptive research design was employed to collect and analyze qualitative data through interviews with key stakeholders, including tourists, tourism operators, and local security personnel. Thematic analysis was used to extract recurring insights related to the effectiveness, accessibility, and perceptions of technological tools used in tourism safety The study focused on five essential themes: institutional infrastructure, personal responsibility, legal safeguards, government accreditation, and technological innovation. Results show that combining these factors, particularly through Department of Tourism (DOT) accreditation and the responsible use of digital tools, creates a more secure and trustworthy travel experience.

The concept of "safeguarding" emerges from the study, highlighting a holistic strategy that blends regulation, technology, and service quality to protect tourists. The study emphasizes the importance of collaboration between government, private sectors, and communities in promoting secure and sustainable tourism environments. Ethical practices such as informed consent and confidentiality were strictly observed throughout the research.

Keywords: Tourist Safety, Tourism Security, Technology in Tourism, Safeguarding

INTRODUCTION

Imagine being stranded in a foreign country during a natural disaster, with no way to communicate or access safety information. Technology becomes a critical lifeline in such situations, potentially saving lives and preventing panic. In recent years, technology has drastically transformed the tourism sector by enhancing the travel experience and improving safety and security measures for tourists around the globe.

Tourism, one of the fastest-growing industries in the world, is also one of the most vulnerable to risks. Tourists face many dangers, whether natural calamities, health crises, or criminal activities. However, with technological advancements, from Global Positioning System (GPS) enabled devices and emergency alert systems to facial recognition software and contact tracing apps, the landscape of tourist safety has evolved.

Researchers and policymakers have increasingly focused on integrating technology to minimize risks, making it an indispensable part of modern tourism management.

Despite the progress in technological innovations for tourism safety, significant gaps remain in fully utilizing these tools to their maximum potential. Many destinations, particularly in developing regions, struggle with adopting these technologies due to high costs and lack of infrastructure. Furthermore, concerns about data privacy and the ethical use of surveillance technology have raised questions about how far technology should go in ensuring tourist safety. This research paper seeks to determine how technology can effectively enhance tourist safety and security and the challenges of implementing these solutions.

This study analyzes the role of technology in enhancing tourists' safety and security. Specifically, it aims to explore the current technological tools available, the challenges associated with their adoption, and the opportunities they present for the future. By understanding these dynamics, this research seeks to provide recommendations for improving technology integration in tourism safety strategies.

As global travel continues to grow, this study's findings are crucial in ensuring that tourist destinations can offer secure environments for visitors. The research contributes to the ongoing discourse on tourism safety, shedding light on the practical and ethical implications of using technology in this context. Ultimately, the study hopes to inform policymakers and tourism stakeholders on better leveraging technology to safeguard tourists and enhance their travel experience.

This research underscores the essential function of technology in improving tourist safety, especially as global travel expands and risks evolve. Innovations such as Global Positioning System (GPS) tracking, emergency notification systems, and monitoring applications can significantly enhance security. Yet, obstacles like high expenses, limited infrastructure, and privacy issues hinder their practical use, particularly in less developed areas. The findings emphasize the need to overcome these challenges to maximize the potential of technology in ensuring tourist safety. By examining existing tools and their adoption issues, this study seeks to inform policymakers and tourism professionals about developing safer travel conditions. Successful technology integration is vital for maintaining tourism growth while safeguarding travelers.

Background of the Study

Tourism is one of the fastest-growing sectors of the global economy, contributing significantly to economic development and cultural exchange worldwide. According to the World Travel & Tourism Council (2019), the tourism sector accounts for over 10% of the global Gross Domestic Product (GDP), reinforcing its importance to developed and developing economies. However, the rapid expansion of tourism has also brought about numerous safety and security challenges. Tourists, often unfamiliar with the local environment, are particularly vulnerable to various threats, including crime, health emergencies, accidents, natural disasters, and geopolitical conflicts. In recent years, high-profile incidents such as terror attacks, political unrest, and pandemics have highlighted the critical need for adequate safety measures to protect tourists and maintain confidence in the global tourism industry.

In response to these growing concerns, technology has emerged as a vital tool in enhancing tourist safety and security. Innovations in digital technology have enabled the development of various solutions to prevent incidents, provide timely information, and facilitate quick responses in emergencies. Mobile applications now offer tourists real-time updates on local safety conditions, emergency contact information, and digital maps to navigate unfamiliar territories. Global Positioning System (GPS) and tracking systems allow tourists to share their location with friends and family or send distress signals in emergencies. Meanwhile, AI-powered surveillance systems and big data analytics help authorities predict and prevent security threats by analyzing patterns in tourist behavior and detecting potential risks.

Despite these advancements, integrating technology in tourism safety is not without challenges. Privacy and data protection concerns have become significant barriers to adopting surveillance cameras, facial

recognition, and Global Positioning System (GPS) tracking. Many tourists feel uneasy about being constantly monitored, while others worry about the safety of their data. Additionally, implementing and maintaining advanced security technologies can be prohibitive for many destinations, particularly in developing countries with limited resources. There is also a lack of understanding about the effectiveness of different technologies in various contexts and environments.

Given these challenges, this study aims to explore the role of technology in enhancing tourist safety and security, identifying the associated challenges and opportunities. But why is this important? The relevance of this study lies in its potential to bridge the gap between the growing risks that tourists face and the solutions that technology can offer. As students in tourism management, understanding these dynamics is crucial, as we will likely be involved in shaping how destinations integrate technology to ensure safe and sustainable tourism experiences. The study will help tourism professionals, policymakers, and tech developers identify effective, scalable solutions that can be adapted to various environments.

What do we expect from this study? First, we want to understand how various technologies, ranging from mobile apps to AI systems, are currently being used to protect tourists. Second, we aim to identify the key challenges (e.g., privacy concerns and high implementation costs) that may hinder the broader adoption of these technologies. Finally, the study explores future advancements that could further enhance tourist safety, particularly in an era of evolving global threats such as climate change and pandemics.

Recent research has highlighted the growing role of technology in the tourism sector. (Chevers, Spencer, & Grant, 2020) found that information and communication technologies (ICT) have become central to risk management in tourism, especially in high-risk regions like the Caribbean, where natural disasters are frequent. Similarly, (Sigala, 2020) emphasized the role of technology in responding to crises such as COVID-19, noting that digital tools allowed destinations to manage health risks more effectively and communicate safety protocols to tourists.

Other studies have explored the challenges associated with the use of technology in tourism safety. (Milano, Cheer, and Novelli, 2019) raised concerns about the privacy implications of surveillance technologies, particularly in destinations with high levels of overtourism. Meanwhile, (Tussyadiah, 2020) discussed the disparities in technological adoption between developed and developing countries, noting that while some regions have embraced advanced solutions like AI and big data, others still struggle with basic digital infrastructure.

Through this study, we expect to build on these insights by focusing on the opportunities and limitations of using technology to safeguard tourists. Ultimately, this research aims to contribute to the ongoing conversation on how the tourism industry can leverage technological innovations to ensure that travelers feel safe and secure, no matter where they choose to visit.

This study emphasizes how vital technology is to improving visitor safety in the face of the expanding and changing travel industry. Travelers face a range of threats, including health and criminal activity. As a result, technology advancements like smartphone apps, Global Positioning System (GPS) tracking, and artificial intelligence (AI) surveillance are critical to enhancing safety and disaster preparedness. However, issues like implementation costs, privacy concerns, and varying technological adoption rates must be addressed. To advise tourism stakeholders and policymakers on how to use technology best to build safer travel conditions, this study investigates current problems and possible future developments. Understanding this complexity is essential to developing a safe, sustainable tourist sector that boosts consumer confidence.

Research Questions

1. What are the leading factors to Safety and Security issues from the tourist destination's perspective?
2. What is the importance of Safety and Security in the tourist destination?
3. What is your in-depth understanding of tourism, safety, and security, and what actions should be taken to improve the safety and security of the tourist destination and guests?

4. What is the role of travel and security information in shaping destination choice and travel behavior?
5. What technologies are used by the travel agency and tourist destination for the safety and security of the tourist?

Significance of the Study

This study emphasizes the increasing importance of safety and security in the travel and tourism sector, especially in light of the potential dangers that can impact travelers and host communities. It highlights how technological advancements such as digital identity verification, real-time communication, Global Positioning System (GPS) tracking, and surveillance systems offer new approaches to addressing these critical issues.

The primary goal of this research is to provide practical insights into how technology can be effectively integrated to enhance safety measures in tourism. By examining both the benefits and challenges technology presents, the study aims to guide industry stakeholders and policymakers in creating safer travel environments. Ultimately, this will contribute to the sustainable growth of tourism, which is especially vital in a world increasingly marked by crises and uncertainties.

Tourists. Tourists will benefit from enhanced safety measures that improve their overall travel experience, allowing them to explore new destinations with greater peace of mind.

Tourism Industry Stakeholders. Tourism industry stakeholders, including hotel operators, tour guides, and travel agencies, will gain valuable insights into implementing technology to bolster safety and security and thus attract more travelers.

Local Communities. Host communities will benefit from improved safety measures that protect tourists and residents, fostering a more secure environment that promotes positive interactions between visitors and locals.

Academic Researchers. This study will contribute to the academic literature on tourism safety and technology, providing a foundation for future research and exploration in this critical area.

Future Researchers. This study is significant to future researchers as a basis for literature and replicating this study to other stakeholders.

THEORETICAL BACKGROUND

Theoretical Framework

The routine activity theory (Cohen & Felson, 1979) is based on classic concepts of human ecology, and at the center of this theory are routine activities in everyday life. Cohen and Felson argue that the structure of routine activity affects criminality and trends in crime. Here, criminal activity is treated as routine activity, and this routine activity is associated with other routine behavior. Emphasis is placed on the interdependence between the structure of criminal activities and the organization of everyday activities. According to this theory, three elements must converge for the crime to occur: 1) motivated offenders, 2) suitable victimization targets, and 3) the absence of a guardian who can prevent victimization. Tourists are suitable targets because they carry money or valuable things and are in an unknown environment. The perpetrators of criminal offenses are motivated, especially in the poorer countries, by seeing an apparent difference between those who have and those who have not. If there are no suitable guardians, such as police or security, the possibility of perpetrating criminal offenses against tourists is increased (Holcomb and Pizam 2006).

The other theoretical approach, Hot Spot Theory (Crotts, 1996), is based on environmental criminology, and it analyses criminal focuses; it emphasizes that certain places may be associated with higher crime rates.

"Places where tourists are at greatest risk of becoming victimized have been shown to cluster in a few specific types of places" (Crotts, 1996)

The third theoretical approach to studying the relationship between tourism and crime is based on economic theory. This approach views criminals as rational decision-makers who, in addition to making potential gains, also analyze potential costs (possibility of being arrested, the severity of punishment, social stigma) before committing criminal activity. Applying this theory to the relationship between tourism and crime, the basic argument is that tourism development and an increase in tourists can stimulate economic activity, increase employment opportunities and wages for local people, and also increase opportunities for criminal activities (Montolio & Planells-Strusse, 2013) because of the increased number of potential victims.

In addition to general criminological theories, which can be applied beyond the field of tourism security, there are, unfortunately, only a few attempts to theoretically ground the relationship between crime and tourism. One of them is (Prideaux, 1996), who developed the Tourism Crime Cycle. Prideaux argues that there are four stages in the development of tourist destinations: local tourism, where the owners of the facilities are local people and tourists and employees are also mostly local; regional tourism, where external (non-local) investments and the number of external seasonal workers are increasing; national tourism, where, with the development of tourism infrastructure and nightlife, destinations include alcohol and drugs, and mass tourism.
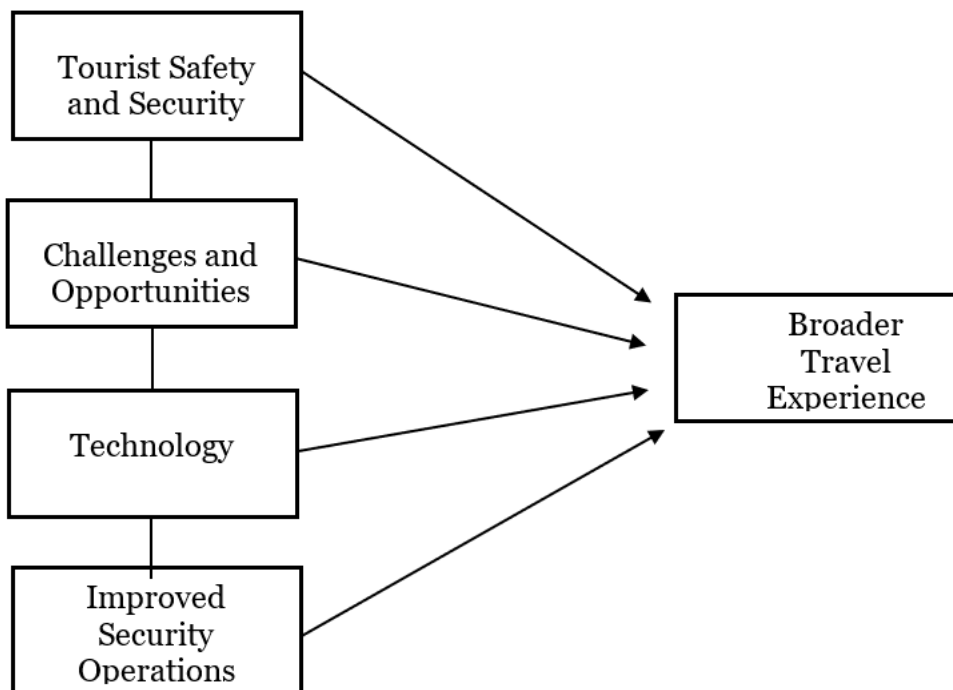
Conceptual Framework

Figure 1. Factors Contributing to Broader Travel Experience

This research examines the conceptual framework to understand better the opportunities and problems associated with using technology to improve tourists' safety and security. The study will examine the numerous technological breakthroughs that can be used to protect visitors through an analysis of their possible effects on the travel experience.

Tourist Safety and Security encompasses the various threats and risks tourists face, including physical farms, theft, terrorism, and natural disasters. It also includes multiple technologies like mobile applications, software, computers, and data analytics.

Challenges and Opportunities. This examines the potential benefits and drawbacks of using technology to enhance tourist safety and security, including ethical considerations, cost-effectiveness, and potential for misuse.

Improved Security Operations. Data analytics can help security personnel optimize resource allocation, identify high-risk areas, and predict potential threats, leading to more efficient and effective security operations.

LITERATURE REVIEW

Tourist safety and security have become growing concerns as the travel and tourism industry expands globally. Recent technological advancements have provided innovative solutions to mitigate risks faced by tourists. This review examines current research on the role of technology in enhancing tourist safety, the challenges associated with its implementation, and the opportunities for the tourism industry to develop safety measures further.

The Role of Technology in Tourism Safety

Research has consistently emphasized technology's critical role in ensuring tourists' safety. According to (Chevers, Spencer, & Grant, 2020), Information and Communication Technologies (ICTs) have transformed how destinations manage risk, particularly in regions prone to natural disasters and political instability. Technologies such as mobile applications that provide real-time safety alerts, Global Positioning System (GPS) tracking, and AI-powered surveillance systems have become essential tools in safeguarding tourists.

Similarly, (Sigala, 2020) explored the role of technology during crises like the COVID-19 pandemic. The study found that digital tools, including contact tracing apps and health monitoring systems, allowed destinations to manage health risks better and maintain tourists' trust by offering transparent communication about safety measures. This emphasizes how technology prevents accidents and manages tourists' perceptions of safety.

Benefits of Technology in Tourism Safety

The integration of technology offers several benefits to both tourists and industry stakeholders. (Koo, Chung, & Lee, 2021) identified that mobile apps providing real-time information such as weather warnings, emergency contact details, and safety advisories significantly reduce risks by keeping tourists informed. Global Positioning System GPS-based technologies also help track tourist locations in emergencies, providing a safety net for tourists and local authorities.

Furthermore, AI-powered systems have been shown to enhance surveillance capabilities at popular tourist destinations. As (Tussyadiah, 2020) noted, big data analytics can predict tourist behavior patterns, enabling destinations to address potential security threats preemptively. This predictive technology has proven effective in mitigating risks and managing large crowds at high-risk events or tourist hotspots.

Challenges in Implementing Safety Technologies

While technology provides clear benefits, several challenges often hinder its implementation. (Milano, Cheer, & Novelli, 2019) highlighted concerns over privacy and the ethical implications of surveillance technologies such as facial recognition and Global Positioning System (GPS) tracking. Many tourists express discomfort with being constantly monitored, and the potential for misuse of personal data raises significant barriers to adopting certain technologies.

Cost is another critical challenge. (Tussyadiah, 2020) noted that the financial burden of implementing advanced technologies such as AI surveillance systems or Global Positioning System (GPS) networks can be prohibitive for destinations, especially in developing countries. Many regions lack the infrastructure and

financial resources to adopt such systems, creating a disparity between technologically advanced and less-developed tourist destinations.

Additionally, there is a knowledge gap about the effectiveness of specific technologies in different contexts. (Wang & Fesenmaier, 2021) pointed out that while some technologies work well in urban environments, they may be less effective in rural or less-developed areas, where internet connectivity and infrastructure are limited.

Technological Opportunities for Enhancing Safety

Despite the challenges, technological innovation offers numerous opportunities to improve tourist safety. Blockchain technology, for example, has been proposed to enhance digital identity verification and improve the security of personal data. (Zhu, Hu, & Li, 2022) found that blockchain can offer a more secure and transparent way to manage tourist information, reducing concerns over identity theft and unauthorized access to personal data.

Furthermore, these innovations offer destinations the chance to implement more innovative safety measures tailored to their specific context, whether preventing crime or managing large-scale emergencies.

Addressing Privacy Concerns

Privacy concerns are a significant barrier to the adoption of specific technologies. Studies by (Milano et al. 2019 & Tussyadiah, 2020) have highlighted the growing unease among tourists about being constantly tracked and monitored. These studies suggest that addressing these concerns will require balancing safety with privacy. For instance, data anonymization techniques and consent-based tracking systems could help alleviate privacy concerns while ensuring tourists' safety.

The literature reveals that technology is critical in enhancing tourist safety, but its integration is challenging. The benefits of real-time communication, predictive analytics, and AI-driven surveillance systems are clear, but privacy concerns, high implementation costs, and uneven access to infrastructure remain significant obstacles. This study seeks to build on existing research by exploring the opportunities and challenges of integrating technology into tourism safety measures. Addressing the gaps in the literature will contribute to a deeper understanding of how technology can be effectively used to create safer travel environments for tourists.

Advancements in Digital Safety Technologies for Tourism

Recent studies have highlighted the increasing role of digital technologies in enhancing tourist safety. (Lei Xia, Baghaie, & Mohammad, 2023) explored the impact of the digital economy on tourism security, emphasizing the integration of artificial intelligence and blockchain for fraud prevention and identity verification. Similarly, (Sarnacchiaro et al. 2024) analyzed how blockchain technology improves transaction security, ensuring safer financial exchanges for tourists. (Mishra, & Tiwari, 2023) examined the role of IoT-enabled technologies in smart tourism destinations, highlighting their effectiveness in real-time monitoring and emergency response systems.

The Role of AI and Big Data in Tourism Security

Artificial intelligence and big data analytics have revolutionized security measures in tourism. (Torralba & Ylagan, 2021) investigated safety and security protocols among resorts, emphasizing the importance of AI-driven surveillance systems in detecting potential threats. (Wang & Xie, 2023) discussed the role of predictive analytics in identifying security risks, allowing destinations to implement proactive safety measures. Additionally, (Liu, Zhang, & Li, 2021) explored how AI-powered chatbots and virtual assistants enhance tourist safety by providing real-time guidance and emergency assistance.

Challenges in Implementing Digital Safety Solutions

Despite technological advancements, several challenges hinder widespread adoption. (Milton, 2023) reviewed the ethical concerns surrounding AI surveillance, particularly regarding privacy and data security. (Lapuz, 2023) examined the digital transformation of rural tourism, highlighting disparities in technological adoption between urban and rural destinations. (Georgieva & Bankova, 2021) emphasized the need for standardized safety protocols to ensure consistent implementation of digital security measures across different regions

Future Directions in Tourism Safety Technology

Emerging technologies continue to shape the future of tourism safety. (Sustacha, Baños-Pino, & Del Valle, 2023) explored smart destination innovations, emphasizing the role of augmented reality in enhancing tourist awareness of safety measures. (Huixian et al. 2023) examined elderly tourism management, highlighting the need for specialized safety technologies catering to vulnerable traveler groups. (Rebuya & Gasga, 2022) discussed strategic planning for local tourism development, advocating for the integration of digital safety tools in destination management.

Smart Technologies and Digital Transformation in Tourism Safety

The integration of smart technologies has significantly enhanced safety measures in tourism. (Sunder Srinivasan et al. 2024) explored how digital innovations, including AI-driven analytics and IoT-enabled monitoring systems, contribute to real-time risk assessment and emergency response. Similarly, (Kaszás & Keller, 2022) examined the emergence of safety and security strategies in European tourism, emphasizing the role of digital surveillance and automated security protocols in mitigating risks.

The Impact of AI and Machine Learning on Tourist Security

Artificial intelligence and machine learning have revolutionized security operations in tourism. (Toker & Emir, 2023) conducted a bibliometric analysis of safety research in tourism, highlighting AI's role in predictive security measures and automated threat detection. (Manjunatha, 2022) investigated how AI-powered customer service platforms enhance tourist safety by providing instant assistance and emergency alerts.

Cybersecurity and Data Protection in Tourism

With the rise of digital transactions and online bookings, cybersecurity has become a critical concern in tourism safety. (Sarnacchiaro et al. 2024) analyzed blockchain applications for secure financial transactions, reducing fraud risks for tourists. **Lapuz (2023)** examined the role of local community empowerment in digital transformation, emphasizing the need for secure data management systems to protect tourist information.

Sustainable Safety Strategies in Tourism

Sustainability in tourism safety involves balancing technological advancements with ethical considerations. (Georgieva & Bankova, 2021) explored the impact of safety measures on sustainable tourism, advocating for responsible data usage and privacy protection. (Rasethuntsa, 2023) examined strategies adopted by African economies to enhance tourism security, emphasizing community-based safety initiatives and technological integration.

METHODS

Research Design

The study used a descriptive research design, which is a type of research aimed at describing the characteristics of a population or phenomenon. It focuses on answering the "what" rather than the "why" of a

situation. (Aggarwal, 2008) states, "Descriptive research is devoted to gathering information about prevailing conditions or situations for description and interpretation."

The purpose of using a descriptive design is to systematically describe how technology contributes to the safety and security of tourists while identifying the potential challenges and opportunities that arise from these advancements. This approach is appropriate for gathering information on the current use of technology, its effectiveness in ensuring safety, and the opinions of tourists and industry experts.

Data was collected by interviewing tourists, tourism operators, and security personnel. Interviews are suitable for obtaining firsthand insights from stakeholders involved in tourist safety. They provide qualitative data, allowing the researcher to capture the depth of the issue. For instance, survey questions will include open-ended questions for detailed insights. While this method offers valuable data, it's important to acknowledge potential biases in self-reported information. Overall, the descriptive design aligns well with our research questions by providing a comprehensive overview of technology's role in enhancing tourist safety and security.

Study Site and Participants

The study was conducted in Santiago City, Isabela, a tourist destination where technology has enhanced tourist safety and security measures. Participants will include tourists, security personnel, and tourism operators who have experienced or implemented technology in tourist safety. Individuals without direct experience with technology in tourism safety will be excluded from the study.

The population comprises tourists, tourism operators, and security personnel who have utilized or interacted with safety technologies such as surveillance systems, online safety apps, or automated emergency systems. Respondents will be chosen based on their knowledge, experience, and relevance to the study's focus on tourist safety and technology.

Participants were recruited through local tourism offices and direct outreach at tourist destinations and experience both International and Local. Ethical considerations, including obtaining informed consent and ensuring confidentiality, will be prioritized to protect participants' rights and privacy throughout the study.

Population, Sampling Size and Sampling Method

This study's population includes tourists, tourism operators, and security personnel in key tourist destinations, particularly in Santiago City, Isabela. Participants must be tourists, local tourism operators, or security personnel with direct experience with technology systems to enhance tourist safety, such as surveillance cameras, mobile safety apps, or automated emergency response systems. Individuals who have not interacted with or lack knowledge of technology in tourism safety will be excluded from the study.

Participants must be 18 years and older, as the focus is on adult tourists and personnel. The study included individuals of all genders to ensure a diverse perspective. The sample consisted of tourists, who may be students or professionals, as well as tourism operators and security personnel. The primary focus is on individuals currently visiting Santiago City, Isabela.

The study utilized purposive sampling, selecting participants based on their relevance to the research. This approach ensures that only those with direct experience using safety technologies in tourism will be chosen. The sample size will consist of approximately 15 respondents, depending on the availability and willingness of qualified participants. Data will be collected through interviews, providing valuable insights into technology's effectiveness in enhancing tourist safety.

INSTRUMENT

The primary instrument for this study will be a semi-structured interview guide designed to gather insights from tourists, tourism operators, and security personnel about their experiences and perceptions of

technology used for tourist safety. The guide will include prompts to explore key themes, such as demographic details, usage of safety technologies, perceptions of their effectiveness, challenges in adoption, and additional feedback or suggestions. The data collected will be analyzed through qualitative methods, identifying recurring themes, patterns, insights, and in a thematic analysis.

Data Gathering Procedure

- The study, titled "The Role of Technology in Enhancing Tourist Safety and Security: Challenges and Opportunities," is approved. Researchers then review existing research, develop a framework, and create a questionnaire to gather information.
- Participants are recruited from tourism settings. Data is collected using questionnaires, interviews, and observations.
- Data is analyzed using qualitative methods. Findings are interpreted, key themes are highlighted, and a research paper is written.
- Participants are informed about the study's purpose, procedures, and potential risks and benefits.
- The questionnaire is offered on paper. Participants' responses are kept anonymous and confidential.
- Data is stored securely and can be accessed only by authorized researchers. Measures are in place to prevent unauthorized access or changes to the data.

Data Analysis

The qualitative data gathered through interviews and open-ended responses were analyzed using thematic analysis. This method allowed the researchers to identify recurring themes, patterns, and insights into the role of technology in enhancing tourist safety and security.

The analysis began with organizing interview transcripts, ensuring that the data was systematically prepared for review. The research team closely examined the transcripts to gain an in-depth understanding of the participants' perspectives. Key phrases and ideas were highlighted and grouped into broader themes through coding. These themes reflected participants' experiences, challenges, and suggestions related to the use of technology in tourist safety.

The identified themes were then analyzed and interpreted to construct a comprehensive narrative addressing the research objectives. This approach provided a detailed account of participants' insights, emphasizing commonalities and unique viewpoints. To enhance the credibility of the findings, the researchers conducted member checking by sharing preliminary results with participants for validation. Additionally, peer debriefing was employed, allowing experts in qualitative research to review and provide feedback on the analysis process and findings.

This systematic and non-numerical approach ensured that the analysis captured the richness and depth of the participants' responses, providing valuable insights into the research topic.

Ethical Consideration

The study focuses on exploring the benefits and challenges associated with using technology to improve the safety and security of tourists. Participants stand to benefit from gaining insights into how technology can make their travel experiences safer, contributing to better safety practices within the tourism sector. However, potential risks include concerns over data privacy, as participants may need to provide sensitive information regarding their travel habits or safety needs. We will ensure that all personal information is anonymized and securely stored to mitigate these risks, with strict protections against unauthorized access.

Additionally, informed consent will be obtained from all participants, allowing them to withdraw at any time. The advantages of this research, such as fostering safer tourism and enhancing tourists' confidence in security, outweigh the minimal risks, provided that ethical guidelines are rigorously adhered to.

RESULTS

The data were presented in a tabular presentation with thematic analysis.

The researchers presented the gathered data in a thematic presentation, using verbatim and analyzing it according to the different themes.

Research Question 1. What are the leading factors to safety and security issues from the tourist destination's perspective?

Informant Number	Response	Thematic Themes
Informant 1	In the tourism industry solely, there are plenty of safety and security to be considered. It is broad when we talk about infrastructure, we talk about how disaster proof. Second is when it comes public safety in terms of emergence or the attendance of security personnels. Like for example in the local government unit, we have the DPOS or in many other tourist destinations like police officers. So, there are leading factors to safety and security issues In our perspective.	Safety and Security Standards
Informant 2	When we offer destinations, especially hotel accommodations and other tourism-related services, they must always be accredited by the DOT. Because if they are accredited by the DOT, it means they have been inspected by the DOT and have passed its standards.	Traveler Safety Practices
Informant 3	That means our guests are safe there, and we can be assured that they will receive quality service because we placed them in that destination or hotel.	Risk Management
Informant 4	The factor of safety for our tourists is ginagawa naming for sure for their safety we are consistent, and if we are going to send tourist to other international tourist place, we are conducting close monitoring from the day they depart and the day they arrive. That is what we do to ensure that they arrive safely at their destination and return securely.	Health and Sanitation Protocols
Informant 5	First of all, I need to check the background of the destination and research what are the things that I need to bring when I need to travel in that place.	Tourist Rights and Data Privacy
Informant 6	Of course, when I travel alone I always consider checking if this place is accessible for transportation like vehicle like that.	
Informant 7	I will tell my parents where I am going or traveling alone. And I always send my tracker to them so that they will know if I'm safe or not.	
Informant 8	Also food, health and sanitation are big factors that I can consider in terms of safety and security present in any tourist destination.	
Informant 9	For me, one thing that comes to my mind when we say safety and security is when there is a security personnel.	
Informant 10	I will get travel insurance to ensure that I am safe in case something unfortunate happens.	
Informant 11	As a traveler, I consider my safety and security when it comes into transportation and security personnel when I am traveling alone.	
Informant 12	I will have a contact in emergency hotline like police and rescue in case of emergency.	
Informant 13	I will be vigilant to avoid danger and protect myself from scams. Data privacy and the legal rights of tourists must be upheld.	
Informant	I am going to take a ride in a licensed vehicle.	

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Informant 15	I'll plan my route in advance to avoid lost in unfamiliar places.	

Individuals' perspectives regarding safety and security in tourism settings vary based on the responses. The key themes that emerged from the responses are as follows:

Institutional and Infrastructure-Based Safety

- Sa tourism industry solely, there are plenty of safety and security to be considered. It is broad when we talk about infrastructure, we talk about how disaster proof.
- Public safety in terms of emergency response or the attendance of security personnel like DPOS or police officers.
- Kapag nagbibigay kami ng mga destinations, lalo sa mga hotel accommodations and other tourism-related, dapat lagi silang accredited ng DOT.
- Because if they are accredited by the DOT, it means they have been inspected by the DOT and have passed its standards.
- That means our guests are safe there, and we can be assured that they will receive quality service because we placed them in that destination or hotel.
- If we are going to send tourists to other international tourist places, we are conducting close monitoring from the day they depart and the day they arrive.

As mentioned above, the researchers focus on safety and security standards, disaster resilience in Tourism Infrastructure, Government Accreditation and Compliance, and Destination Monitoring Protocols, which the government sets, like the Department of Tourism and Local Government Units, to ensure safety.

Personal Safety Measures and Travel Behavior

Different Informants state the following statement:

- First of all, I need to check the background of the destination and research what are the things that I need to bring.
- Of course, when I travel alone, I always consider checking if this place is accessible for transportation.
- I will tell my parents where I am going or traveling alone and I always send my tracker to them.
- I will get travel insurance to ensure that I am safe in case something unfortunate happen.
- I'll plan my route in advance to avoid getting lost in unfamiliar places.
- For me, one thing that comes to my mind when we say safety and security is when there are security personnel.
- I will have a contact in emergency hotline like police and rescue in case of emergency.

The researchers analyze travelers' safety practices, individual risk management, personal travel security, and travel preparedness, recommending that tourists take these actions to stay safe and secure travel insurance.

Health, Transportation Legality, and Tourist Rights

Food, health and sanitation are big factors that I can consider in terms of safety and security.

- I will be vigilant to protect myself and avoid dangers such as scams.
- Data privacy, the legal rights of the tourists must be covered
- I am going to take a ride in a licensed vehicle.

The researchers found that health and sanitation protocols, transportation services, tourist rights, data privacy, and consumer protection are essential in the tourism industry.

Ensuring tourist safety involves the implementation of government-accredited safety standards, individual risk management practices, and adherence to health, transportation, and legal protection protocols. From the tourist destination's perspective, the leading factors to safety and security issues include implementing government-accredited safety standards, the reliability of infrastructure and emergency response systems, and the assurance of health, legal, and transportation compliance to protect and build trust among travelers.

From the tourist destination's perspective, what are the leading factors in safety and security issues?" The best answer would be Tourism Risk Management or safeguarding. This theme captures all aspects of the tourism destination, such as government standards, infrastructure readiness, personal safety, health, legal compliance, and emergency protocols.

It is highly compressed of protecting tourist through institutional and infrastructure-base safety, personal responsibility, legal compliance and health standards in one unified concept and that is safeguarding.

Research Question 2. What is the importance of safety and security in the tourist destination?
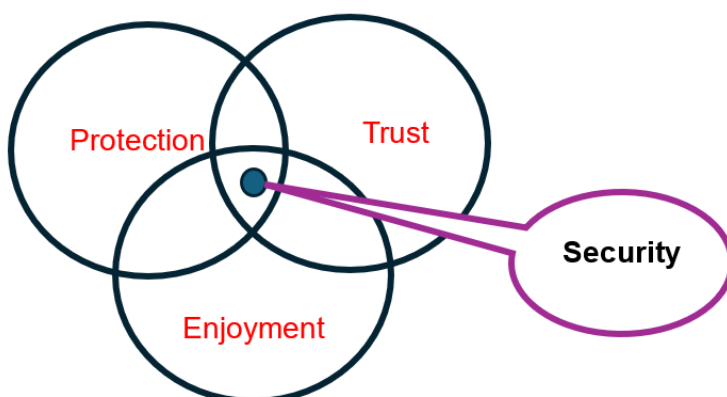
Informant Number	Response	Thematic Themes
Informant 1	Just the same with other places, when you go to a certain place, the number one consideration is your safety, because when you travel, your right to travel in abode must be in accordance to your right to your safety. So, it is very important in a manner that should be considered a top priority of any tourist destinations of all local government units and of course those who are working in the tourism industry.	Safety and well-being
Informant 2	As a travel agency, our number one goal is to provide quality service. As mentioned earlier, if they are accredited by the DOT, it means they have passed the standards, so our guests will receive quality service because the establishments undergo training before accreditation.	Building trust and quality service
Informant 3	It is important because, of course, we want to make sure that our guests are far from harm.	Peace of mind and enjoyment
Informant 4	That is important because it adds to the quality of services. One form of quality service is ensuring that tourists feel safe, and it's all about taking care of them—caring for the tourists. Whether they are clients, passengers, or simply booking a ticket, we always do our job.	
Informant 5	I want to recommend safe destinations to others—places they will keep returning to because they know they are safe there.	
Informant 6	It will protect myself from harm and injury.	

Informant 7	It provides peace of mind for me to enjoy the trip—truly relaxing and stress-free.	
Informant 8	It will reduce the number of scam victims because we know the place is secure.	
Informant 9	It will build trust in local services and people because that is what we have experienced	
Informant 10	It will keep both local people and visitors in that area worry-free, ensuring that they feel no fear or anxiety.	
Informant 11	I can meet new people without worrying about my safety—just catching up with friends and enjoying the place.	
Informant 12	I won't get lost in the places I visit because I know there are people around whom I can ask for directions.	
Informant 13	I feel safe walking around in new places, knowing that I am secure even when I am alone.	
Informant 14	It can protect my important documents, especially those needed when traveling abroad.	
Informant 15	I can avoid unsafe activities or attractions.	

Informants gave their experiences and observation on the different factors of travel safety priority and even the quality services that is needed for the tourist. The different themes like assurance of safety and well-being that safety as top priority for both tourists and local communities to ensure from harm, injury, dangers like scams and unsafe activities as mentioned by informants 3, 5, 6, 8, 11, 14 and 15. As stated that "It will protect myself from harm and injury," "It will reduce the number of victims of scams," "It will keep local people and visitors in that area worry-free."

Trust in destinations and services is built through proper accreditation, training, and consistently delivering safe environments for tourists. A destination's safety record directly influences the quality of service provided. As mentioned by the informants 1, 2, 4, 9, and 10 that "If they are accredited by the DOT, it means they have passed the standards." "It is important because we want to make sure that our guests are far from harm." "It will build trust in local services and people." The generate the theme building trust and quality service.

Informants 4, 5, 7, 8, 11 and 13 mentioned that "Provides peace of mind for me to enjoy the trip," "I feel safe walking around in new places," "I can meet new people without worrying about my safety." It means that safety allows tourist to fully enjoy their travel experience, leading to a stress-free and relaxed journey. Feeling secure enables tourists to explore freely and enjoy their time without worries as generate peace of mind and enjoyment. These themes generate a picture:

These themes capture the core aspects of why safety and security are vital to tourists and their destinations. The words encapsulate the primary ideas behind the importance of safety and security in tourist destinations.

It captures the theme of security, which encompasses protection, trust, and enjoyment. It reflects the importance of the safety and well-being of tourists and the people of tourist destinations.

Research Question 3. What is your in-depth understanding of tourism safety and security and actions that should be in place in order to improve the safety and security of the tourist destination and guests?
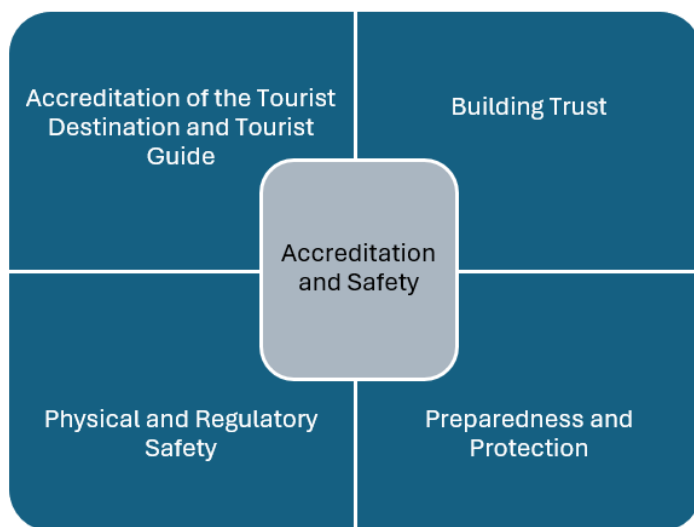
Informant Number	Response	Thematic Themes
Informant 1	The best way to enhance the safety and security of any tourist destination—particularly for guests—is through the institutionalization and empowerment of all tourism laws. By doing so, everything follows accordingly. Tourism laws serve as the foundation for protecting the rights of both guests and the tourist destinations themselves. There is a distinction between safeguarding infrastructure or the destination itself and protecting the tourists. These two elements are different, but they must go hand in hand to ensure that safety is not compromised. For example, if a tourist is visiting a location with a 30-minute trek, the preservation of the site is important, but the question remains: can all tourists handle such a trek? There should be guidelines in place to address this. What actions should the local government unit (LGU) and the destination owners take? They need to establish rules and regulations, ensuring that tourists are accompanied by a guide, have given their consent, and that there are immediate rescue measures available. Additionally, assessments must be conducted to determine whether a guest can endure a trek of that duration.	Accreditation Holistic Protection Preparedness Safe Secure Physical and Regulatory Safety
Informant 2	Of course, it is a must to have a safety and security in one place especially in the destination. It is for the tourist for them to know if the place that they like to visit is a safe place and far from harm like, rape and accident something like that.	
Informant 3	For example, in Cauayan, it is not DOT accredited, has no quality seal, and has many guests who booked but had their money stolen. In such cases, DOT does not intervene because the establishment is not accredited. Booking there is a risk. Some businesses that do not seek accreditation lack what is called working capital, which is why they may fail due to a lack of bookings. Unlike DOT-accredited establishments, which have a working capital ranging from P700,000 to P1 million.	
Informant 4	My understanding of tourism, as well as safety, is that once tourists feel that a destination or place is safe, they will always return. Additionally, this encourages more tourists to visit—not just in our area but also across the country. The most important factor is ensuring safety because if they know there is danger, they will not come back.	
Informant 5	If we are talking about destinations, for example, here in Region 2, before they are offered, they go through product development and familiarization. First, product development is conducted, where the LGU assesses whether the area is safe. Then, all personnel undergo training. Tour guides, for instance, train, pay for their credentials, and have IDs to ensure safety. That's why I emphasize that a place is safe once it has been inspected by the DOT and awarded its quality seal.	

	For example, with us, you can safely book because we are DOT accredited. In case something happens—such as money being taken—the guest can go to the DOT, and the DOT will contact us. Therefore, if a travel agency is not accredited, it means it did not comply with the required documents submitted to the DOT. This means it is not perfectly safe. In fact, it is not safe at all because guests have no guarantee that the agency is legitimate, and there is a risk that their money may be taken later on.	
Informant 6	My in-depth understanding about safety and security is having good personnel for the destination so that we can prevent any harm like robbery. And I think in my own opinion security personnels are very important to implement safety and security in one destination.	
Informant 7	Destinations can enhance safety by utilizing technology, educating tourists on potential risks, and collaborating with hotels and businesses to maintain a secure environment. When we know we are safe, we can enjoy the place more and are more likely to return.	
Informant 8	Local authorities can enhance safety by implementing measures against scams, establishing clear disaster preparedness plans, and ensuring that safety information is easily accessible. This process also begins within the local community.	
Informant 9	Tourist safety is just about making sure people can travel without stress. Good transport, safe hotels, and helpful locals also make a place feel secure.	
Informant 10	As a tourist, I always prioritize safety by choosing destinations with strong security measures. Nowadays, most areas within tourist destinations have CCTV cameras, which are essential for preventing theft. Reliable transportation and well-reviewed accommodations also contribute to a secure and worry-free travel experience.	
Informant 11	Reliable transportation, and well-reviewed accommodations.	
Informant 12	For me, safety and security in the destination is very important because it is a leading factor for the tourist destination to become a hit or trend to the people and the tourist that would like to visit that specific place.	
Informant 13	For a stress-free trip, I stay aware of my surroundings, follow local guidelines, and use trusted travel services. Destinations can enhance security by improving street lighting, having tourist police patrols, to help visitors feel safe and welcome.	
Informant 14	When I travel, I feel safer knowing that destinations have well-maintained infrastructure, a clean and stable environment, and no signs of collapse or hazards. I appreciate having clear emergency contacts, designated safe zones, and accessible medical facilities.	
Informant 15	I always research my destination's safety policies and follow local recommendations to avoid risks. When we have advance knowledge about a place, we won't get lost or feel uncertain.	

Informants 2, 3, and 14 believed and states that emphasized the importance of DOT accreditation as a standard for safety, legitimacy, and trust which means that certification infers with laws, regulations, training, and quality standards of any tourist destination as mentioned by the informants 1, 2, 3, 5, 6, 8 and 10 even the readiness in during calamities or it serves as basis for institutional action for guest protection and legitimacy of service providers for guest safety and destination protection. Most informants focus on safety,

compliance with the different laws and standards, and the protection of guests and the environment. Accreditation focuses on the institutional and operational aspects of tourism safety, with repeated emphasis by the informants on safe, safety, or even security for the places, people, and policies that accreditation makes the tourist feel trust, building the confidence of the tourist destination that they are always coming back when they experience and feel safe.

Informants 1, 5, 6, 9, and 12 repeatedly mentioned safety, which the tourist destination always practices the law provided by the Department of Tourism and the tourist agencies or businesses, as reiterated by informants 1 and 14. Because of these informants 2, 3, 4, 7, 10, 11, and 15, the holistic protection covers the physical safety, the regulation practices as stated in DOT accreditation, rules, and qualified personnel that deliver quality services and boils into the theme accreditation and safety.

The different informants believed that safety is necessary which they can experience from the tourist guide and even the tourist destination.

Research Question 4. What is the role of travel and security information in shaping destination choice and travel behavior?
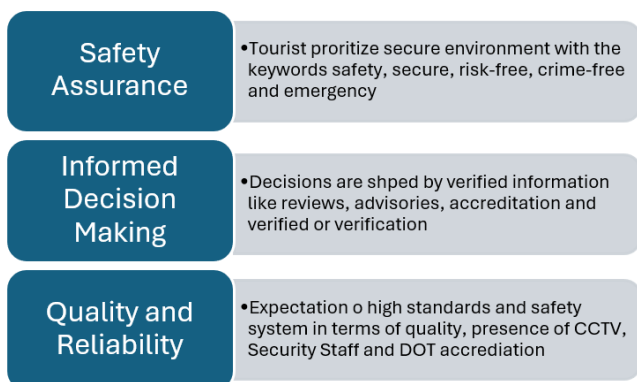
Informant Number	Response	Thematic Themes
Informant 1	It's significant—it plays a very big role. Travel and security information are crucial in shaping destination choices and travel behavior. As a guest or tourist, I would always prioritize locations with high security measures to ensure that I can fully enjoy my experience. But the main question is: Am I safe in that place? That is the number one priority. For example, if I plan to climb a mountain, I would first check if others have attempted it, whether there have been any fatalities, and how dangerous the trek might be. I would assess all these factors, and this evaluation shapes the choices of most tourists when deciding on a destination.	Safety Protection Assurance Reliability
Informant 2	When you travel, you always check if your destination is safe, right? You also look at reviews—that's what we call travel information security—ensuring that the place you're going to is truly safe. As a travel agency, I deal with suppliers. For example, I have suppliers abroad. How do I verify that they are legitimate? Because at any time, I could transfer	Awareness Knowledge

	money to them, only for them to disappear. I might think that my guest is traveling there, but in reality, there is no booking at all. That's why I take precautions. I need to meet them first. I have to check their documents to confirm their legitimacy. I also verify their memberships—are they part of the International Agency Association? Or any other accredited organization under DOT? These safeguards ensure that everything is secure and trustworthy	Clarity Trust Quality Credibility
Informant 3	It's not just about meeting the supplier—I also need to ask around and find out who has already tried their services. How is their service? Is it good or not? If you were to rate it from 1 to 10, how would it score? Even if my supplier is expensive, I prioritize quality service because that's what I offer as well. The quality we provide is what guests pay for. Unfortunately, nowadays, many people focus only on finding the cheapest options, even if the service isn't that great, just so they can reach their destination.	Experience Standards
Informant 4	Our role as a travel agency is significant in ensuring that everyone is safe. We assess which destinations are ideal for travelers and evaluate the situation once they arrive. It is essential to identify both the advantages and disadvantages of a location. Based on this assessment, we can then suggest the best possible destinations for them to visit.	
Informant 5	I read the reviews of another tourist if it is really safe to explore.	
Informant 6	I will come back again to the destination, if my experiences are really safe and secure, if it's worth the money and quality.	
Informant 7	If a destination is known for scams, or bad safety measures, I might avoid it or change my plans.	
Informant 8	We all know that safety and security play a big role in our industry. Because of this, the tourists are not scared anymore to visit even if the destination is a little bit dangerous for adventure, but like CCTV and security personnel, they handle it very well that is why.	
Informant 9	Travel and security info help tourists feel prepared and confident. Knowing about safety tips, emergency contacts, and local rules makes trips smoother and less stressful.	
Informant 10	It tells us what to expect, what to avoid, and how to handle emergencies. The more we know, the more relaxed and confident we feel.	
Informant 11	A risk-free destination means I won't have to worry too much about any potential dangers that might occur.	
Informant 12	Before I travel, I always check safety reports and travel advisories. If a destination has low crime rates and strong security measures, I feel more confident visiting. Reliable safety information helps me decide where to go and which areas to avoid.	
Informant 13	Knowing about a destination's security policies and emergency services helps me prepare better. I research local laws, medical facilities, and safe transportation options to ensure a smooth and stress-free travel experience.	
Informant 14	Travel warnings and real-time security updates influence how I move around in a new place. If I hear about political unrest, scams, or dangerous areas, I adjust my itinerary, choose safer routes, and stay in secure accommodations.	
Informant 15	When a destination is known for its strong security measures and provides clear safety guidelines, I feel more comfortable exploring. Having access to trustworthy travel and security information allows me to enjoy my trip with peace of mind.	

The researchers believed that the respondents responses shows that safety is the most emphasize statement by the informants or simple their top priority is safety in selecting the tourist destination and it should be risk-free or there is a high record of safety and stated by informants 1, 3, 7, and 11 what creates a safety, risk-free, secure, crime, danger free even the informants 5, 6, 7, and 11 repeatedly states the safety.

The respondents believed that they have an informed decision making due to active activities like read reviews, verify legitimacy, and research on the tourist destination, accommodation and even transportation by making them confident and informed about their choices as the different informant mention like I read the reviews of another tourist if it is really safe to explore, before I travel, I always check safety reports and travel advisories and You first need to see their documents to verify that they are legitimate, according to the informants 1, 2, 3, 5, 6, and 12 that would create a theme like reviews, advisories, accreditation, verified, information-based and preparedness.

The quality and reliability of service as mention by informants 2, 4, 8, 9, 13, 14, and 15 that they value quality service and offer cheap option that is a well-managed destinations with trained staff, security personnel and technology based safety system like CCTV. Sadly, nowadays, many people prioritize the cheapest options—even if the service isn't great—just so they can reach their destination like CCTV and security personnel, they handle it very well that is why they can handle their tourist very well, and Knowing about a destination's security policies and emergency services helps me prepare better. I research local laws, medical facilities, and safe transportation options to ensure a smooth and stress-free travel experience with these findings the researchers state the different themes like quality service, CCTV, security personnel, trusted travel service and safe transportation.

The researcher believed in safety as a theme, with protection, security, assurance, and reliability. Knowledge, preparedness, insight, and clarity give a theme of awareness and credibility, experience, legitimacy, and standards. It surely provides a theme of quality that the researchers decided or analyzed the role of travel and security information in shaping destination choice and travel behavior. Confidence is made up of safety, awareness, and trust because the tourists feel confident and are more likely to select and visit the tourist destination.

Research Question 5. What are the technologies used by the travel agency and tourist destination for safety and security of the tourist?

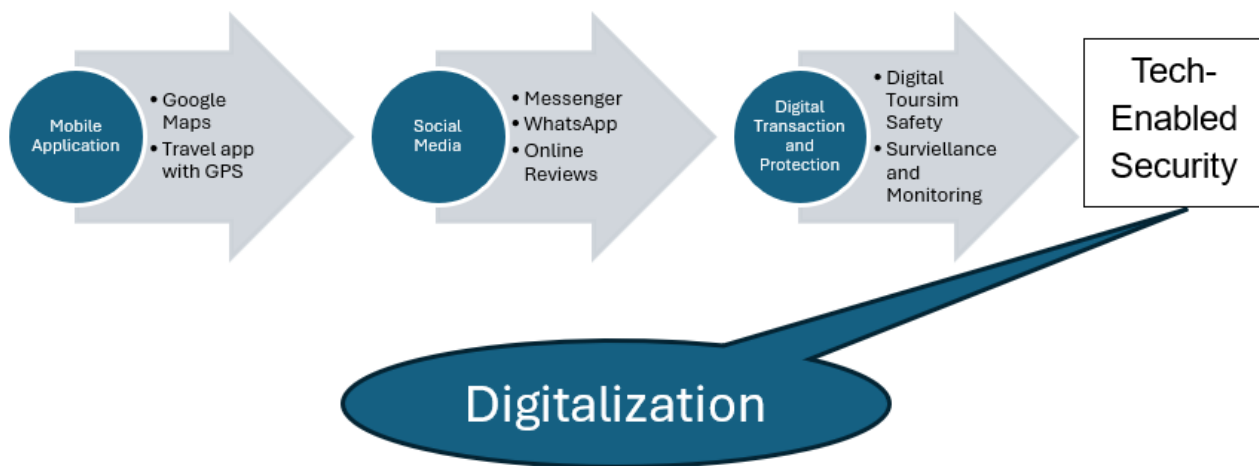| Informant Number	Response	Thematic Themes
Informant 1	This is actually beyond the scope of the office, but it relates to digitalization. The ICT has methods for this, and they have always collaborated with the DOT. Regarding technologies used by travel agencies and tourist destinations for the safety and security of tourists, they have applications that help with self-assessment. This practice started during the COVID-19 pandemic, when destinations implemented health precautions. However, some have continued using these applications even after the pandemic. DOT Region 2 has certain applications in place, though I am not sure about the exact one they use. Nonetheless, they utilize digital tools, including applications, digitalization, and paperless transactions.	Use of mobile application Social Media Digital tools
Informant 2	To gather details about a destination, checking social media is essential. Look at reviews and search for information from the local government unit (LGU) to determine if the destination is safe and whether those handling tourists are well-trained. Ensuring guest safety is a top priority, and as a travel agency, securing travel insurance is a smart move. If anything happens, both you and your guests will be protected.	Digital Transaction Data protection Digital Tourism Safety Surveillance and monitoring
Informant 3	We do not post visas due to guest security and privacy concerns. Regarding technology, many individuals may not understand English, so translations into their native language are also provided.	
Informant 4	Our primary tools for monitoring safety are social media and phone contacts, which align with today's technological advancements. We also utilize phone-based technologies such as WhatsApp and Messenger, which are accessible even in other countries.	
Informant 5	Uhm, I think they are also using a computer for securing or restoring the information of every tourist and visitor that would like to visit a destination, for me computer help us to easily access the demographic of the person when if it is needed.	
Informant 6	As a tourist, the technology I used usually are maps or life 360 wherein I can see the locations.	
Informant 7	The technology I used is only google maps because it shows all the location	
Informant 8	My number one technology I used now a days is more on technology or social media.	
Informant 9	Sometimes, when we are visiting a destination of course the first thing that comes on our mind was "is it safe there?" and with that, it is the time that you can also think if that destination has a security personnel and also technologies like CCTV camera and what else, the tracker when you are entering that specific place it happens to scan your whole body to detect if you have a deadly weapon, something like that but I don't know what the name of that device.	
Informant 10	Is it consider when I say the social media? Because in my experience I	

	use to allocate an information regarding to the safety and security of a tourist is always in social media.	
Informant 11	As a tourist of course it is very important for me that the destination should have a CCTV specially if that destination is very huge capacity when it comes on the lot, then it means it also prone on accidents and unexpected happenings on the surroundings.	
Informant 12	I rely on travel apps with GPS tracking, emergency contact features, and real-time alerts to stay safe. Destinations can enhance security by integrating these technologies into their tourism services, ensuring visitors receive instant updates and assistance when needed.	
Informant 13	Knowing that tourist areas have CCTV cameras monitoring gives me peace of mind. These technologies help prevent crime and allow authorities to respond quickly to any incidents, making destinations safer for travelers like me.	
Informant 14	I prefer using digital payments and contactless check-ins to avoid carrying cash and reduce the risk of theft. Destinations that adopt secure, cashless transactions make it easier and safer for tourists to explore without worrying about fraud or pickpocketing.	
Informant 15	Some destinations provide tourists with wearable safety devices or smart IDs that can be scanned in case of emergencies. These technologies help authorities locate and assist travelers quickly, adding an extra layer of security to the overall travel experience.	

The informants were very much aware and consistent with the use of technology to improve the safety and security in the tourism industry like the responses of informants 3, 5, 6, 7, 8, 12, 14, and 15 on the use of mobile application for health assessment, travel monitoring like google maps and digital transactions in using cashless transaction and contacts for added security to the tourist likewise with the data protection and privacy and computerized system in storing and handing basic information of the tourist. Other informants state the use of social media and online reviews was necessary for safety verification and updates and other tools like digital devices like the CCTV, GPS Tracking, body scan, and other wearable safety measures that have been mentioned by the informants (4, 9, 10, 11, 12, 13, 14 and 15) even informants 1 and 2 stating that DOT and LGU help to give safety and security for their tourist.

As stated by the informants, integrating the different digital tools, apps, and platforms is essential for the tourist and tourism industry or operators to secure safety, data, and efficient responses when they need help. It shows that technological innovations like social media, GPS, CCTV, digital devices, and other technological tools are designed for the safety of the tourist because they want to have real-time tracking, route planning, connecting for help, peace of mind of the tourist, reduce risk in the transaction, rapid response during needs, fast access for information management and data protection for the accessibility and rights of the tourist.

Researchers on tech-enabled security have analyzed digitalization, surveillance, data protection, and communication tools that combine to improve tourists' safety and experience. Informant 15 mentions wearable safety devices or smart IDs that can be scanned in case of emergencies to help authorities locate and assist travelers quickly.

While respondents reported no security issues during their travels, technology has enhanced travel safety through digital bookings, payments, and virtual assistance. Social media helps spread real-time updates and alerts. Travel insurance provides financial protection, while CCTV and security personnel ensure safety in tourist areas. Emergency contacts are crucial for immediate help.

DISCUSSION

The study focuses on the role of technology in enhancing tourist security and addressing challenges and opportunities. It focuses on how technology supports safety and security with the possibilities and chances of the challenges and opportunities of using technology in tourism safety.

The research questions identify the key challenges that technology may address, aligning with the "challenges and opportunities" part of the title. It also established the need for enhanced measures, justifying why technological solutions are essential in the first place in research question 2.

It also explores perception and needed improvements where technology can be positioned as a solution in asking for an in-depth understanding of tourism, safety, and security. It highlights how digital tools and tech-based information (e.g., mobile alerts, travel advisories) influence tourists, which directly connects to the role of technology and directly addresses the core of the study by identifying current technologies and possibly their effectiveness or limitations

The study's findings reveal that perceptions of safety and security in tourism settings vary across individuals, yet a unifying concern lies in the assurance of comprehensive risk management measures. Three major themes emerged from the participants' responses: institutional and infrastructure-based safety, personal safety measures and travel behavior, and health, transportation legality, and tourist rights.

The first theme is institutional and infrastructure-based safety, underscoring the critical role of disaster-resilient infrastructure, visible security presence, and strict adherence to government accreditation protocols, particularly those mandated by the Department of Tourism (DOT) and local government units. Respondents emphasized that tourism-related establishments, such as hotels, must be DOT-accredited to guarantee safety and quality. This notion aligns with recent studies highlighting the need for resilient and secure tourism infrastructure, especially in natural disasters and socio-political threats (Korstanje & George, 2020). Furthermore, continuous monitoring of tourists, particularly those traveling internationally, has become a best practice in ensuring ongoing safety, as supported by research emphasizing the role of institutional preparedness and crisis communication in destination safety (Richards & Hall, 2021).

The second theme focuses on personal safety measures and travel behavior, revealing how tourists actively manage their own safety through various practices. These include researching destinations, purchasing travel insurance, sharing itineraries with family, and having emergency contacts ready. The proactive behaviors of tourists reflect the growing trend of self-protection and individual responsibility in tourism, as supported by literature emphasizing traveler autonomy and preparedness (Yang & Nair, 2022). These behaviors are key

components of individual risk management, which has gained importance, especially in the post-pandemic travel era, where personal risk perception influences travel decisions significantly (Baum et al., 2020).

The third theme centers on health protocols, transportation legality, and tourist rights, where respondents stressed the importance of hygiene, licensed transport services, and legal protections such as data privacy and consumer rights. The COVID-19 pandemic has significantly heightened awareness of health and safety protocols, making sanitation and health-related infrastructure essential in tourist decision-making (UNWTO, 2021). Recent studies confirm that tourists now demand safe environments and legal assurance regarding their rights as consumers and protection from scams or exploitative practices (Gössling, Scott, & Hall, 2021).

Ultimately, the research concludes that tourist safety is best addressed through a holistic approach termed Tourism Risk Management or Safeguarding. This concept encapsulates institutional readiness, infrastructure resilience, personal responsibility, health standards, and legal compliance into a unified safety framework. Safeguarding protects the tourists physically and legally and strengthens public trust in tourism destinations. Literature confirms that a comprehensive safeguarding strategy enhances tourist confidence, destination reputation, and long-term sustainability of tourism activities (Novelli, 2020; Sirgy, 2023). Therefore, by integrating government-mandated standards with individual practices and legal frameworks, tourist destinations can effectively mitigate risks and ensure a safe and secure environment for all travelers.

The insights gathered from informants reveal that travel safety and service quality are closely intertwined and top priorities for tourists and the communities that host them. One recurring theme is the assurance of safety and well-being, with several informants emphasizing the importance of protecting tourists from harm, scams, and unsafe practices. Statements like "It will protect myself from harm and injury" and "It will reduce the number of victims of scams" reflect a deep concern for personal safety. These findings align with the literature highlighting the increasing need for risk prevention strategies and proactive safety measures in tourism, especially as global travel resumes post-pandemic (Baum et al., 2020; Yang & Nair, 2022).

Another theme that emerged is building trust and ensuring service quality, where informants noted that Department of Tourism (DOT) accreditation, proper training, and verified standards are essential in creating a safe and reliable environment for tourists. As informants said, "If accredited sila ng DOT, sure na pumasa sila," and "It will build trust in local services and people." This supports previous research stating that destinations with strong safety reputations and regulatory compliance earn higher tourist confidence and satisfaction (Sirgy, 2023; Richards & Hall, 2021). Accreditation and consistency in quality service are the foundations of a trustworthy destination.

A third key theme identified is peace of mind and enjoyment. Informants expressed that feeling secure allows them to fully enjoy their trips, interact with new people, and explore new areas without fear. Phrases like "I feel safe walking around in new places" and "Provides peace of mind for me to enjoy the trip" emphasize how security contributes to a more enriching and stress-free travel experience. Literature reinforces this, indicating that emotional well-being and freedom from anxiety directly enhance the overall quality of a tourist's experience (Gössling, Scott, & Hall, 2021; UNWTO, 2021).

Together, these themes of security, trust, and enjoyment form the core understanding of why safety is essential for tourists and sustaining local tourism industries.

The study's findings emphasize the central role of Department of Tourism (DOT) accreditation in establishing safety, legitimacy, and trust in tourist destinations. Informants highlighted that DOT accreditation is not merely a formality but a framework that ensures compliance with existing laws, operational regulations, training, and safety standards. This institutional requirement provides a foundation for guest protection and service provider accountability, especially during emergencies or calamities. Other informants also mentioned that accreditation becomes a critical marker of readiness and reliability, reinforcing a destination's commitment to safeguarding tourists and preserving the integrity of its services and environment.

The consistent mention of safety, compliance, and protection among informants shows that accreditation impacts not just tourists' perceptions but also tourism businesses' operational behavior. For instance, some informants described how DOT regulations guide local practices to ensure safety standards are upheld. The Informants further emphasized that institutional frameworks drive continuous safety implementation. At the same time, some informants stressed that accreditation helps ensure physical safety, adherence to regulations, and the presence of trained personnel capable of responding to risks. This aligns with Sirgy (2023), who explained that regulatory accreditation builds trust among tourists by ensuring service quality and safety compliance.

Moreover, recent studies support the finding that accreditation builds long-term trust, influencing tourists to revisit destinations they previously felt safe and well-cared for (Gössling et al., 2021; UNWTO, 2021). Accreditation systems promote a holistic approach to safety, encompassing infrastructure, personnel, policies, and legal adherence, which ultimately strengthens tourist confidence and promotes destination sustainability (Richards & Hall, 2021; Novelli, 2020).

In sum, the "Accreditation and Safety" theme reflects the strong connection between institutional oversight and tourist confidence. By reinforcing legal standards, operational preparedness, and service quality, DOT accreditation creates secure, trustworthy, and return-worthy tourism experiences.

The study's findings reveal that safety is the most emphasized concern among the informants, making it a primary factor in choosing a tourist destination. Some informants repeatedly highlighted the need for destinations to be risk-free, secure, and free from crime or danger, reinforcing the idea that tourists prioritize personal protection above all else. This aligns with Gössling and Hall (2021), who assert that perceived safety is a key motivator in travel decision-making, especially in a post-pandemic context.

Respondents also demonstrated a strong tendency toward informed decision-making, engaging in proactive behaviors such as reading reviews, verifying legitimacy, and checking travel advisories and official documents. Informants mentioned these practices, showing that tourists rely heavily on digital information and accreditation when assessing the safety and credibility of destinations. This echoes the findings of Sirgy (2023), who emphasized that information-based trust—rooted in transparency and legitimacy—greatly influences travel behavior and destination selection.

Moreover, informants emphasized service quality and reliability, valuing trained staff, CCTV, and emergency protocols like security personnel. Despite the appeal of low-cost options, these informants favored destinations that offer well-managed and secure environments. Richards & Hall (2021) also support this view, stating that visible safety infrastructure and qualified personnel increase tourist confidence and satisfaction.

From these themes—safety, awareness, trust, and service quality—the researchers conclude that tourists make decisions based on a combination of perceived safety and the credibility of information sources. The concept of travel confidence emerges as the key driver of destination choice, shaped by institutional safeguards, technological readiness, and personal preparedness. As supported by UNWTO (2021), credible safety information improves tourist experiences and encourages return visits and long-term trust in destinations.

The study found that informants consistently emphasized the significant role of technology in enhancing safety and security within the tourism industry. Informants highlighted various technological tools such as mobile apps for health assessments, travel monitoring through Google Maps, and cashless transactions to ensure financial security and convenience. Social media, online reviews, and digital platforms were also noted as essential for verifying safety updates and providing tourists with real-time information. Informants further mentioned using advanced technologies like CCTV, GPS tracking, wearable safety devices, and body scans to improve security. According to some informants, support from government agencies like the

Department of Tourism (DOT) and Local Government Units (LGUs) was crucial in providing a safe environment for tourists.

Integrating these digital tools was deemed critical for tourists and operators to ensure safety, facilitate efficient emergency responses, and protect personal data. GPS, CCTV, and other digital devices enable real-time tracking, route planning, and quick access to emergency services, reducing risks and ensuring smooth transactions. These tools are also pivotal in safeguarding tourists' privacy through data protection systems, ensuring that tourists' rights are respected. This aligns with the work of Liu et al. (2021), who suggest that digital innovation, such as social media and GPS tracking, significantly enhances tourist safety and contributes to a more secure travel experience.

The digitalization of the tourism industry, including the use of surveillance, wearable safety devices, and communication tools, enhances travelers' overall safety and experience. Informant 15 specifically mentioned smart IDs or wearable devices that can be scanned in case of emergencies, facilitating quick location identification and assistance, supporting findings from research on tech-enabled security (Wang & Xie, 2023). Moreover, informants reported that while no security issues occurred during their travels, technology has significantly improved travel safety by enabling digital bookings and payments, offering virtual assistance, providing real-time updates via social media, and ensuring financial protection through travel insurance. The research highlights key themes essential for ensuring tourist safety and security. Safeguarding encompasses a comprehensive approach to protection, including physical security, health, and emergency preparedness. Security is reinforced through infrastructure, trained personnel, and technologies like CCTV and GPS tracking, which ensure real-time monitoring and rapid responses. Accreditation from authorities like the DOT provides legitimacy and assures tourists that destinations meet strict safety standards. Confidence is built through transparent safety measures, reliable services, and positive reviews, encouraging tourists to feel secure and revisit destinations. Lastly, digitalization is critical by enabling real-time monitoring, secure transactions, and data protection, enhancing overall safety and efficiency. Together, these themes create a safer, more trustworthy environment for tourists.

CONCLUSION

The study focused on five main questions, all of which highlighted the importance of safety and security in the tourism industry.

1. Tourist safety relies on strong institutional standards, personal responsibility, and legal protection. Government accreditation, personal precautions, and health and legal compliance all contribute to

secure travel. The concept of safeguarding, combining these elements, offers a complete approach to ensuring tourist safety and trust.

2. Safety, trust, and enjoyment are crucial in tourism. DOT accreditation and quality service ensure a secure, enjoyable experience, with a comprehensive approach needed to enhance safety and sustain the industry.

3. DOT accreditation is essential in promoting tourist safety, trust, and service quality. It ensures compliance with laws, guides local practices, and builds long-term confidence in destinations. By reinforcing safety and reliability, accreditation supports sustainable and return-worthy tourism experiences.

4. Tourists prioritize safety when choosing destinations. Accreditation, reliable services, and access to accurate information influence their decisions. Destinations that ensure security, quality service, and transparency build tourist confidence and encourage repeat visits.

5. Technology plays a crucial role in enhancing tourist safety through tools like GPS, CCTV, mobile apps, and wearable devices. These innovations, along with government support and social media, improve real-time monitoring, secure transactions, and emergency responses, ensuring a safer and more efficient travel experience.

Safeguarding effectively combines security, accreditation, confidence, and digitalization to ensure the protection and well-being of tourists.

RECCOMMENDATIONS

The following recommendation was drawn from the conclusion of the study:

All tourism businesses must get DOT accreditation and follow updated safety, health, and legal rules.

1. Provide clear safety tips, travel checklists, and local guidelines through campaigns, brochures, and online platforms for educating and informing the tourists.
2. Train tourism staff regularly to ensure excellent service and quick emergency response.
3. Use CCTV, GPS, safety apps, and emergency devices to protect tourists and improve their experience.
4. Create a tourism safety team with government, health, and private partners to improve monitoring, accreditation, and emergency response
5. Share real-time safety updates through websites and social media, and provide help desks and feedback stations in tourist spots.
6. Promote safety efforts and quality services in campaigns and highlight positive reviews to build trust and attract more visitors.
7. To protect visitor information and preserve trust, tourism stakeholders must give top priority to thorough cybersecurity frameworks that include encryption, frequent vulnerability assessments, and adherence to international data protection standards.
8. To coordinate safety activities, share data responsibly, and establish best practices, governments, technology companies, and tourism firms should work together.
9. When implementing safety technology, give priority to energy-efficient hardware, renewable energy sources, and responsible e-waste management in order to comply with sustainable tourism standards.
10. To promote safe technology adoption without impeding advancement, policymakers should draft flexible rules that strike a balance between innovation and safety, privacy, and ethical issues.

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