Assessing the Travel Industry: Basis for a Centralized Travel and Tour Operation Management System

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Abstract: *Most travel and tour operation management systems often suffer from fragmentation, lack of integration, inefficient processes, and limited scalability. These issues lead to delays, errors, poor coordination, and, ultimately, dissatisfied customers. Additionally, there is a notable absence of centralized platforms that can effectively manage various aspects of travel and tour operations, including bookings, itineraries, payments, and customer communications. To address these challenges, this study introduces a Centralized Travel and Tour Operation Management System for the tourism industry in Surigao City, Philippines. The proposed system will seamlessly streamline operations, enhances customer satisfaction, and improves overall efficiency in the travel and tourism sector by utilizing User Experience (UX) and User Interface (UI) design principles. This is to ensure that the system is accessible to users with different needs. The features of the system also include booking management, inventory management, customer relationship management (CRM), billing and invoicing, reporting and analytics, content management, and compliance and security. The study was conducted using both qualitative and quantitative research methods. The purposive sampling method was used to select participants based on specific criteria relevant to the research objectives. Tourists, both local and international, were asked to evaluate the current system and identify the problems or issues they encountered during the booking process. The results showed there are several key challenges in terms of the competition among tourism businesses and economic factors. There is also a need for an improved infrastructure, particularly transportation and safety measures, to facilitate easier access and ensure the security of tourists. The centralized booking and management systems is considered as a way to streamline planning and enhance convenience for visitors. that the proposed system is highly relevant in enhancing the tourism sector, contributing to the development and improvement of the travel and tourism industry.*

Keywords: Centralized Travel and Tour Operation Management System (CTTOMS), Competition among Tourism Businesses, Economic Factors, Government Regulations, Technology Utilization, Tourism Seasonality

I. INTRODUCTION

The tourism industry plays an important role for country's economy and progress. It comprises a lot of factors such as beautiful beaches, awesome islands, old landmarks, rich culture, and vibrant festivities. With the advancement of technology and globalization, new things were slowly emerging in the society and transforming the process of traveling and organizing tours. However, the existing literature highlights several unsatisfactory conditions and gaps that are prevalent in the current travel and tour operation management systems, including the absence of a unified system that can handle all aspects of the operation seamlessly. Furthermore, there is a lack of research focusing specifically on the development of centralized management systems tailored to the needs of the travel and tour industry.

Surigao City, a small town located at the north eastern side of Mindanao in the Philippines, has a thriving tourism sector. The current travel and tour operation management system in the city often experienced fragmentation, lack of integration, inefficient processes, and limited scalability. These issues often lead to delays, errors, poor coordination,

causing dissatisfaction from the travellers. Additionally, there is a notable absence of centralized platforms that can effectively manage various aspects of travel and tour operations, including bookings, itineraries, payments, and customer communications.

The research was conducted within the context of local travel and tour industry, with a focus on domestic market of Surigao City. The study analyzed the operations of various travel agencies, tour operators, and related businesses to gain insights into the challenges they face and the requirements for an effective management system. There is a growing need for advanced technological solutions that can streamline processes, enhance customer experiences, and improve overall business performance. By analyzing the existing systems and identifying their shortcomings, the research seeks to propose a comprehensive Centralized Travel and Tour Operation Management System (CTTOMS) that can streamline processes, improve efficiency, and enhance overall customer satisfaction

The proposed Centralized Travel and Tour Operation Management System requires sophisticated system software, algorithms, processes, and potentially an enterprise resource planning (ERP) framework. These components are essential for designing a comprehensive solution that can automate tasks, optimize resource allocation, facilitate real-time communication, and provide valuable insights for decision-making. The study aimed to find a better way of managing travel and tour operations, ultimately improving the present system. The centralized nature of the proposed system will enable seamless coordination, enhance operational efficiency, reduce costs, and elevate the overall quality of services offered by travel agencies and tour operators.

II. OBJECTIVES OF THE STUDY

The fulfillment of this study is guided by the following objectives:

- To identify the challenges in managing bookings and resources in thetourism industry.
- To propose a centralized travel and tour operation management system.
- To formulate recommendations that further enhance the tourism industry.

III. RELATED LITERATURE

The study of Asit Joshi, , et al. [1]aims to evaluate the impact on operational efficiency, customer experiences, and business performance. The authors revealed that over the past decades the used of travel and tour management system are surprisingly important as travel and tourism became an essential part of our lives in recent world.

The authors Shiyu Wang and Liwei Chen et al. [2], use map technology to provide a route arrangement more reasonable to the tourists and to conduct simulation experiment. With the use of this technology, tourist can plan itineraries used mapped application to search destination and attractions, accommodations, and activities, enabling them to create detailed itineraries tailored to their interests and preferences.

The utilization of web application system in the study of Shrudhi, C., et. Al [3]deals with online booking and monitoring travelling of picnic spot. It incorporates the uses various tour packages which allow the tourists to select the tour packages and make the payment online for faster and easy transaction. The integration of this application is to help the tourist for an easy transaction, faster collaboration and communication for both tourists and the travel agencies.

The Impact of Online Travel Information Search on Travel Decision-making: The Moderating Effects of Online Reviews by Chien-Chi Chuang, et. al, [4] explores the influence of online travel information search, particularly online reviews, on travel decision-making processes. The authors examine the role of online reviews in shaping consumer perceptions, preferences, and behaviors related to travel booking and destination selection. The review synthesizes findings from various studies in the fields of tourism, consumer behavior, and information technology to provide insights into the mechanisms underlying the impact of online travel information on consumer decision-making.

Upon the review of previous literatures and studies, it can be noted that the integration of the techniques and technologies is essential for the proposed Centralized Travel and Tour Operation Management System, collaboration among stakeholders is essential. This method should encompass human efforts and the incorporation of new designs and technologies. The Centralized Travel and Tour Operation Management System is crucial for the improvement and expansion of tourism, exerting a significant impact on the tourism industry.

IV. METHODOLOGY

4.1 Research Approach and Design

The current study used mixed method approach with the integration of descriptive research design through qualitative and quantitative methods. This approach provides detailed insights of the tourism industry of Surigao City. It provided a deeper understanding of all the data collected. The quantitative approach gathered numerical data and measurable responses from a larger sample of respondents on factors like satisfaction levels and usage patterns. The qualitative data gather detailed insights and opinions from stakeholders such as travel agencies, tour operators, accommodation providers, and tourists.

4.2 Research Instruments

The survey questionnaire includes understanding tourists' preferences for accommodations, transportation, and activities, as well as their satisfaction levels with the overall travel infrastructure and services in Surigao City.The survey questionnaire was contributed through Google form allowing for efficient data collection and analysis.

The semi-structured interview was conducted to gather qualitative data that pertains to challenges, gaps and recommendations for the improvement of the tourism sector. The interview questions were designed to explore various aspects of the travel industry, including operational processes, customer interactions, technological capabilities, and regulatory frameworks.

4.3 Participants of the Study

The study's participants include Surigao City Tourism officials, travel agencies, and tourists. Surigao City Tourism provides insights into destination management and promotion. Travel agencies facilitate travel arrangements, while tourists contribute to the city's economy and culture. Other stakeholders, like accommodation providers and local businesses, may also participate. By engaging these stakeholders, the study aims to understand and improve Surigao City's tourism industry.

4.4 Sampling Method

In the study of the Centralized Travel and Tour Operation Management System, a non-probability sampling method was utilized to gather data from relevant stakeholders. The purposive sampling method was used to select participants based on specific criteria relevant to the research objectives.

4.5 Data Gathering Procedure

The data were collected through online survey questionnaire and semi structured interview. The survey questionnaire designed using google forms, collected the data quantitative data of the performance of the existing system of Surigao City tourism sector. Interview were conducted face to face to gather qualitative data on the challenges, gaps and further recommendations of the system for the improvement of tourism sector.

4.6 Data Analysis

This study used a mixed method approach to analyze the from both qualitative and quantitative data. The quantitative data were analyzed using statistical methods such as descriptive statistics and inferential statistics. Descriptive statistics will be used to summarize the demographic characteristics of the sample and the survey responses. Inferential statistics, such as chi-square tests, will be used to analyze the relationships between variables. Table 1.0 shows the interpretation of the weighted mean for the respondents' level of assessment of the current system of travel and tour in Surigao City tourism sector. The qualitative data were analyzed using thematic analysis. The interview transcripts were coded and categorized to identify recurring themes and patterns.

TABLE 1.0 INTERPRETATION OF RANGE OF THE WEIGHTED MEAN

Range of the Weighted Mean	Interpretation
4.51 – 5.00	Strongly Agree (for the questions asked)
3.51 – 4.50	Agree (for the questions asked)

2.51 – 3.50	Moderately Agree (for the questions asked)
1.51 – 2.50	Disagree (for the questions asked)
1.50 and below	Strongly Disagree (for the questions asked)

By employing mixed methodology in the study of centralized travel and tour operation management systems provides a comprehensive understanding by blending qualitative insights with quantitative data, enabling validation, contextual understanding, and actionable recommendations for optimization.

V. RESULTS AND DISCUSSION

This chapter discusses the analysis and interpretation of the data gathered from participants' responses in answering the specific questions of the study.

5.1 Demographic Profile of the Respondents

Table 2.0 Profile of the Respondents in Terms of Age

Age	Frequency	Percentage %
18 – 24 years old	14	30.4
25 – 34 years old	12	26.1
35 – 44 years old	9	19.6
45 – 54 years old	7	15.2
55 – 64 years old	0	0
65 years old and above	4	8.7
Total	**46**	**100%**

Table 2.0 presents the distribution of participants by age. It can be noted that most of the participants are between eighteen to twenty-four years old (18-24), comprising 14 or 30.4%. On the other hand, the age group sixty-five and above (65+) comprises 4 participants or 8.7%. There were no respondents in the age group fifty-five to sixty-four (55-64). This implies that most of the participants are young.

Table 3.0 Profile of the Respondents in Terms of Gender

Sex	Frequency	Percentage %
Male	26	56.5
Female	20	43.5
Total	**46**	**100%**

Table3.0 displays the distribution of participants by gender. It can be noted that many of the participants are male, comprising 26 or 56.5%, compared to 20 or 43.5% female participants. This implies that most of the tourists, both local and international, interested in the centralized travel and tour operation management system are male.

Table 4.0 Profile of the Respondents in Terms of Occupation

Occupation	Frequency	Percentage %
Student	6	13
Employed (Full-time)	21	45.7
Employed (Part-time)	4	8.7
Self-employed	7	15.2
Unemployed	3	6.5
Retired	3	6.5
Others	2	4.4
Total	**46**	**100%**

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The table 4.0shows the distribution of participants by their occupation. It can be noted that many of the participants are Employed (Full-time), comprising 21 or 45.7%. On the other hand, participants who answered "others" comprise 2 or 4.4%. This implies that most of the participants are Employed (Full-time).

Table 5.0 Profile of the Respondents in Terms of Classification

Classification	Frequency	Percentage %
International Tourist	10	22.2
Local Tourist	35	77.8
Total	**45**	**100%**

As can be seen on Table 5.0 is the distribution of participants by classification. It can be noted that many of the participants are local tourists, comprising 35 or 77.8%, compared to 10 or 22.2% international tourists. This implies that most of the participants interested in the centralized travel and tour operation management system are local tourists.

Table 6.0 Respondents Visit to Surigao City for Tourism

Question	Answer	Frequency	Percentage%
Have you visited Surigao City for tourism purposes in the past year?	Yes	45	97.8
	No	1	2.2
Total		**46**	**100%**

In Table 6.0, the frequency column indicates the number of participants who chose each answer option, while the percentage column represents the proportion of respondents for each answer option relative to the total number of participants. The overwhelmingly high percentage (97.8%) of participants who visited Surigao City for tourism purposes in the past year suggests a significant interest in tourism activities in the city among the surveyed population. On the other hand, the small percentage (2.2%) of respondents who did not visit Surigao City for tourism purposes could indicate various factors such as lack of interest, travel restrictions, or other priorities.

5.2 The Challenges Faced by the Respondents in the Tourism Industry of Surigao City

Table 7.0 presents a survey analysis of tourists' perceptions regarding various factors influencing tourism experiences in Surigao City. It outlines specific challenges or experiences encountered in areas such as technology utilization, tourism seasonality, economic factors, government regulations, competition among tourism businesses, and marketing strategies. The Weighted Mean (WM) scores provide quantitative assessments of these perceptions, categorized into predefined ranges for interpretation, ranging from "Strongly Disagree" to "Strongly Agree". In the category of Technology Utilization, the first statement about encountering problems in online booking platforms received a Weighted Mean (WM) score of 2.87, falling within the neutral range of 2.51-3.50. This suggests that respondents have a moderate stance on this issue, neither fully agreeing nor disagreeing. Similarly, statements under Tourism Seasonality and Marketing Strategies also received WM scores within the neutral range, indicating a similar moderate stance towards those aspects of tourism.The agree responses signify that respondents generally agree with the statements presented. For instance, under Economic Factors, the statement about facing challenges in managing travel expenses due to hidden fees or price disparities received a WM score of 3.09, falling within the agree range of 3.51-4.50. This indicates a notable level of agreement among respondents regarding this issue. Similarly, statements under Competition Among Tourism Businesses received WM scores within the agree range, indicating general agreement with challenges related to pricing transparency and fair competition in the tourism industry.

Table 7.0 The Challenges Faced in the Tourism Industry of Surigao City

Factors	Statements	WM	Category Value	Interpretation
Technology Utilization	Iexperience problem in online booking platform when arranging accommodations, transportation	2.87	2.98	Moderately Agree

	and tours in Surigao City.			
	I encountered issues in accessing reliable internet connectivity or mobile network coverage while booking accommodations.	3.09		
Tourism Seasonality	I have difficulties in balancing my travel budget due to price fluctuations.	2.96	3.01	Moderately Agree
	I am struggling to find available accommodations and transportation especially during peak season.	3.06		
Economic Factors	I face challenges in managing my travel expenses due to hidden fees, unexpected surcharges, or price disparities.	3.09	3.06	Moderately Agree
	I experience fluctuation in currency exchange rates impacting pricing and affordability.	3.02		
Government Regulations	I encountered difficulties or delays in obtaining necessary permits or approvals for participating in certain tourist activities or accessing specific areas in Surigao City.	2.29	2.65	Moderately Agree
	I experienced insufficient support and incentives for tourism businesses for promoting growth and development in Surigao City.	3.00		
Competition Among Tourism Businesses	I encounter challenges in terms of pricing transparency or fair competition	3.26	3.23	Moderately Agree
	I experience competing businesses offering similar services create confusion among tourists during the booking process.	3.21		
Marketing Strategies	I encountered wrong information published in social media platforms related to tourism opportunities in Surigao City	2.96	3.01	Moderately Agree
	I encounter challenges in accessing relevant and up-to-date information about tourist attractions, events, and services	3.06		
	Average Weighted Mean		**2.99**	**Moderately Agree**

5.3 The Proposed Centralized Travel and Tour Operation Management System
5.3.1 The Provision of Centralized Travel and Tour Operation Management System
Table 8.0 Presents the results indicate a high level of belief in the potential effectiveness of a centralized travel and tour operation management system in improving the efficiency of booking and resource management in Surigao City's tourism industry. A significant majority, comprising 78.3% of respondents, expressed confidence in the system's ability to enhance operational efficiency. Meanwhile, only a small minority, accounting for 4.3% of respondents, expressed doubt regarding its effectiveness. Additionally, 17.4% of respondents indicated uncertainty about the system's potential impact. Overall, these findings suggest strong support for the implementation of a centralized management system, with the majority of respondents believing it would positively contribute to the efficiency of booking and resource management in Surigao City's tourism industry.

Table 8.0 Respondents Belief on the Provision of Travel and Tour Operation Management System

Question	Answer	Frequency	Percentage%
Do you believe a centralized travel and tour operation management system would improve the efficiency of booking and resource management in	Yes	36	78.3
	No	2	4.3
	Unsure	8	17.4

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Surigao City's tourism industry?			
Total		**46**	**100%**

5.3.2 The Features of Centralized Travel and Tour Operation Management System

Table 9.0 presents a breakdown of features within a system, accompanied by their corresponding frequencies, percentages, and ranks based on their occurrence frequency. It provides insights into the relative importance or demand for each feature within the system, highlighting areas of focus and priority for development or improvement.

Table 9.0 The Features of Centralized Travel and Tour Operation Management System

Features	Frequency	Percentage%	Rank
Customer Relationship Management (CRM)	40	87	1
Booking Management	38	82.6	2
Compliance and Security	37	80.4	3
Billing and Invoicing	34	73.9	4
Content Management	33	71.7	5
Reporting and Analytics	33	71.7	6
Inventory Management	32	69.6	7

It can be noted that Customer Relationship Management (CRM) is the most demanded feature, with 87% of respondents indicating its importance. Following closely are Booking Management and Compliance and Security, suggesting a strong emphasis on managing bookings and ensuring data security. Features like Billing and Invoicing, Content Management, Reporting and Analytics, and Inventory Management also hold significant importance, indicating a comprehensive set of functionalities desired within the system. Overall, the table highlights the diverse needs and priorities of users, providing valuable insights for system development and enhancement.

5.3.3 System Development Process of the Proposed Centralized Travel and Tour Operation Management System
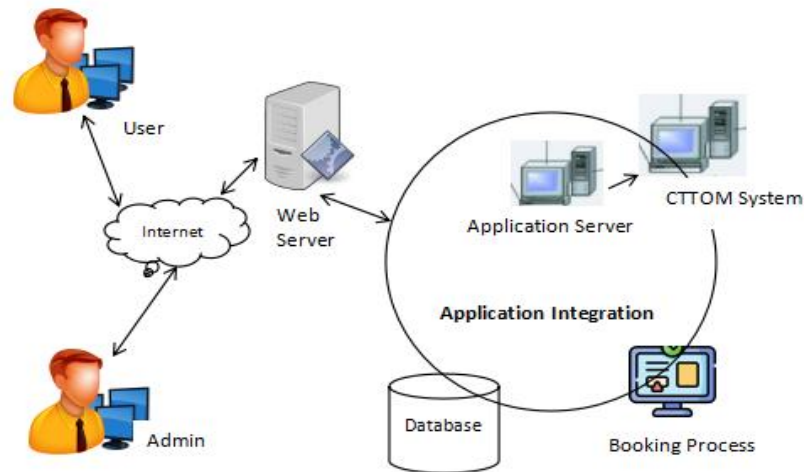
Figure 1.0 System Development Process of the Proposed System

The conceptual framework of the proposed system is shown in Figure 1.0 is the overall process of the components of the system. The Centralized Travel and Tour Operation Management System (CTTOMS) will be accessed by tourists and the office admin. It allows users to manage their booking process, book online, and choose their desired tourist destinations. Alternatively, users can directly visit the travel agency to make a booking. The Admin Staff or the Agency Staff will handle the booking process for them. The Admin will monitor all the data throughout the system.

5.4 Suggestions for the Improvement of the Current Tourism Industry in Surigao City

The respondents also provide a diverse range of opinions and suggestions regarding ways to enhance the tourism experience in Surigao City. Through analysis, several key themes include the need for improved infrastructure, particularly transportation and safety measures, to facilitate easier access and ensure the security of tourists. The centralized travel and tour operation management system is a way to streamline planning and enhance convenience for visitors. The information dissemination and promotion are crucial for guiding tourists and attracting more visitors to the city. The suggestions also focus on beautifying tourist spots and fostering collaboration among local stakeholders to improve service quality. Lastly, promoting sustainable tourism practices is emphasized to ensure the long-term viability of tourism in Surigao City.

Overall, addressing these aspects comprehensively can significantly enhance the overall tourism experience in the city. The participants have provided a wealth of suggestions on how the local government or tourism authorities can better promote Surigao City as a tourist destination. These include implementing targeted marketing campaigns that highlight the city's unique natural attractions, cultural heritage, and adventure opportunities. Enhancing the online presence through social media campaigns, creating visually appealing promotional materials, and fostering partnerships with travel agencies were also emphasized. Moreover, suggestions ranged from improving facilities and infrastructure to promoting local events and festivals, engaging in sustainable tourism practices, and seeking partnerships with travel agencies and tour operators. The consensus among participants underscores the importance of leveraging digital marketing channels, investing in infrastructure development, and showcasing Surigao City's unique offerings to attract tourists effectively.

VI. CONCLUSION AND RECOMMENDATION

In conclusion, centralized travel and tour management systems offer significant benefits to the industry, enhancing efficiency, customer service, and profitability while promoting sustainability. Its essential for stakeholders to invest in these systems, leveraging technology to stay competitive and deliver exceptional experiences to travelers. Looking ahead, collaboration among industry leaders, policymakers, and stakeholders is vital to maximizing the potential of centralized systems for sustainable growth and resilience in the travel industry.

VII. ACKNOWLEDGMENT

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