

Investigating Hotel Management System Employed by SME Business Owner in Rural Area: A Preliminary Study.

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ABSTRACT

The hotel industry extensively uses online automated systems to manage and enhance its operations, such as client reservations and payments, staff salaries and duties, pricing and refunds, marketing, and hotel review. The benefits of deploying hotel management systems has been well documented in the literature, however, these systems are typically used by well-established hotels that have the necessary resources and manpower. It is important to note that, in rural areas, there also exists a small business owner who runs and manages a hotel to serve the needs of its community with diverse capabilities in terms of resources, manpower and technological limitations. Thus, a preliminary study has been conducted by interviewing the business owner, staff, and their clients to investigate the hotel management system employed. The thematic analysis has shown that the limited capabilities have forced them to employ a manual system to manage their hotel. Issues and problems were found such as booking efficiency, customer support and satisfaction, financial transactions.

INTRODUCTION

Machang is a district located in central Kelantan state, the east coast of Malaysia. Machang has a coverage of 529 km² that consists of 115,200 population as estimated by the Department of Statistics Malaysia (DOSM, 2023). Machang was first founded in 1880 by civilians, led by Mr. Senik and officially named Machang in 1952. (Pejabat Tanah dan Jajahan Machang, 2024). In those days, the civilians made a living through small business and agriculture. According to DOSM (2020), there are 753 bungalows, 192 semi-D, 2448 terraces, and 3212 low-cost homes in Machang. While there are no apartments, flats, or condominiums in Machang. The average expenses of households in Machang are estimated at around RM 2,929 (DOSM, 2023). Moreover, a renowned public university is in Machang, namely, Universiti Teknologi MARA (UiTM) Kelantan Branch has resided 8,659 staff and 172,686 students since its operation (DOSM, 2023). Apart from UiTM, Machang also has a district hospital. As Machang is located in central Kelantan, Machang has become an important road for those travelling from Kuala Lumpur to Kelantan

biggest city Kota Bharu, and also to the neighboring state, Terengganu. Apart from them, Machang also became an important road for those travelling from the east coast of Malaysia towards the North of Malaysia. The growing popularity of Machang has led to opportunities for local small business owners to venture into the hotel industry. The hotel would attract temporary business travelers, local tourists, parents of UiTM students, and family members of hospital patients. Other than that, it is important to note that Malaysia has multiracial ethnicities that have many annual festive seasons, namely Hari Raya Aidilfitri, Hari Raya Aidiladha, Chinese New Year, and Thaipusam. During these festive seasons, locals who work outside Kelantan would come back to Machang to celebrate with their families. It is reported that more than 1 million cars are traveling towards Kelantan during these festive seasons. This scenario has provided significant opportunities for locals to venture into the hotel industry. To date, there are currently 2 hotels in Machang, namely Qadira Hotel and DSega Hotel. However, how the hotel operates is currently unknown in the literature as future clients need to rely on information provided by trip advisor websites. Both hotels still do not have their own websites. This study seeks to understand how the hotel operates by observing the issues surrounding the hotel management system. Interviews with hotel owners, staff, and clients have been conducted to present initial findings and propose a solution through the development of hotel management information system.

LITERATURE REVIEW

Sharma & Sehrawat (2022) highlight the necessity for Online Hotel Booking Systems (OHBS) to adapt to changing customer expectations through effective IT management. The study employs a mixed methods approach which is qualitative and quantitative. Qualitative involves semi-structured interviews with OHBS users in India to authenticate existing criteria. The study identifies key criteria such as cost minimization, best pricing, easy cancellations, and refund policies. The study highlights the importance of using OHBS to support decision-making processes by the management. OHBS also were found to offer personalized and efficient services and develop targeted marketing strategies to attract and retain users through rigorous marketing programmes. Other than that, having the online system would present another significant opportunity for hotels as examined by Zhang et al., (2020), the authors explain the influence of having Key Online Reviews (KORs) on online booking systems to influence hotel booking decisions to be made online. However, despite KOR encouraging future clients to make reservations, hotel managers need to ensure that their hotels are receiving good reviews by providing excellent services. To employ an online Hotel Management System, Ratna et al., (2018) emphasized important factors that implicate user satisfaction in using the system. The authors explain the characteristics, namely, task characteristics, technology characteristics, and task-technology fit that would influence user interaction with the online system, eventually leading to making online reservations and payment. A survey of 164 on 164 respondents in South Kalimantan, Indonesia has revealed that these factors influence online hotel booking system use. The study recommends that hotel management prioritize the evaluation of task-technology fit when implementing new information systems to achieve higher customer satisfaction. To develop a highly effective hotel management system, the management and developers would need to understand the task characteristics, and task-technology fit of the user.

On top of the benefits of implementing an online hotel booking system, Emir et al., (2016) addresses the issue of low online hotel booking adoption in Malaysia, despite the global increase in online travel bookings. The authors' research objectives are identifying the factors that influence customers' intention to book hotel accommodations through the hotel website. The perceived value and the booking decision seem to be influenced most by the usefulness of the information on the hotel's website in lifting customer satisfaction and loyalty (Ratna et al., 2018). Other than that, hotel management should create strong policies and measures to enhance security in protecting personal data, to inculcate customer trust. The author further argued that careful and proper word choice when describing the services on the hotel's website is also crucial in influencing the use of the system, plus with the enhancement to beautify and usability of the

website to attract the customer, and proper precaution on data pertaining to the customer. Finally, this article provides a clear perception concerning various factors influencing the intention of booking hotels online. A study by Abdullah et al., (2017) examined the impact of perceived interactivity, ease of use and usefulness of hotel booking websites on consumers' booking intentions. This study aims to establish a conceptual model that explains the relationship between perceived interactivity, perceived ease of use and perceived usefulness on the use intention of consumers when booking hotels online. The study recommends further empirical research to validate the proposed framework. This study reveals that perceived interactivity, perceived ease of use and perceived usefulness are the factors influencing the consumers' intention of booking hotels online. The following are very important that may make online hotel booking websites more effective for hoteliers which should always be the right mix of interactivity and simplicity.

Khalil & Sharma (2023) identified a significant research void concerning the recognition of the impact of online satisfaction on hotel booking intentions using the Information System Success Model (ISSM). This study seeks to fill this gap by evaluating the effect of system quality, information quality and service quality on the user's satisfaction in improving the hotel booking intention. The aim is to provide an opportunity to explore the effectiveness of the Information System Success Model concerning satisfaction assessment of online bookings. Due to the measurement of the research model along with the variables such as system quality, information quality and service quality, this study employs Partial Least Square (PLS) – Structural Equation Modelling (SEM) technique. The data collected amounted to 225 responses and the data analysis was conducted by employing SmartPLS software. More precisely, it is realized that information and service satisfaction impact intentions to book online. These are system quality where efficiency and functionalities of the OTA website are central in influencing the satisfaction of the users, information quality including accuracy, completeness, and relevance of the information provided by the OTA to the users and service quality that focuses on the overall service delivery of the OTA. Thus, this research offers the existing body of knowledge related to online satisfaction and hotel booking intentions a theoretical framework of enhancing the Information System Success Model. The implication of this research can assist OTA website and app developers to understand user needs and preferences more in a bid to improve their platforms.

Based on the aforementioned studies, it can be deduced that having an online automated system would present significant competitive advantage for hotel owners. However, the online hotel booking system needs to be developed in accordance with user ease of use, satisfaction, and capabilities. Literature has shown that the online automated system employed by well-established hotels has a direct relationship with intention to use and hotel booking. However, there are limited studies that look upon hotel management systems in rural areas with less capabilities than the well-established hotels. Thus, this study explores the gap in the literature that looks upon the implementation of the hotel booking system in east coast Malaysia, Kelantan.

METHODOLOGY

An exploratory qualitative interview method has been utilized to gather information directly from primary sources, as there is a lack of extensive studies available in the existing literature on this topic. This research involves conducting face-to-face interview sessions with a range of participants, including hotel owners, staff, and clients. The primary objective of this study is to investigate the hotel management system employed in Machang province, Kelantan, Malaysia. By engaging with these key stakeholders, the study seeks to gain a deeper understanding of the operational practices and challenges involved in the management of hotels in this region.

Study setting

This study was carried out in the Machang province of Kelantan, Malaysia. The hotels are located in Machang town. According to statistics they are approximately 3 hotels in Machang. The researchers act as an instrument and directly interview the business owner, staff, and clients to explore the hotel management system employed.

Study design

The exploratory qualitative research design was chosen to explore the perceptions and practices of hotel owners, hotel staff, and clients to understand the process of hotel reservations, management, payments, and issues/problems. This research design was selected because empirical research on this topic on rural areas is limited in the literature. This exploratory research is designed to gain a deeper understanding of how hotel owners manage their business, how their staff perform their jobs, and how the client eventually made reservations and payments.

Sampling procedure

The purposive sampling method was used to recruit participants. Participants were included if they met the following criteria: (1) Hotel owners in Machang; (2) Staff working in the hotel (3) Clients who have experience reserving the hotel. Individuals who met the above-mentioned criteria were contacted by the researcher through WhatsApp application, phone call, and email for appointment. Moreover, they were asked to identify any other staff and client through their contacts. The recruitment was guided by rich information. In total, seven (7) participants were interviewed. Most participants were between 25 and 40 years of age, and all of them were male. Although the samples were all male, the majority of participants hold at least a bachelor's degree qualification from public universities in Malaysia.

Data collection

The data was collected with a semi-structured interview guide. The interview was conducted bilingually in English and Malay via an in-person session at the hotel. The interview had a duration of around 90 minutes and took place in June 2024. The participants were queried according to their respective roles (owners, staffs, clients) regarding their current management practice, existing booking system, obstacles encountered, payment method and security, and suggestions on online automated system. The interview was recorded via smart phones with the participant's consent. During the data-collecting procedure, rich replies were obtained when the participant offered extensive detail in response to the researcher's inquiries.

Data analysis

The interview transcripts were translated and analysed using thematic analysis. Thematic analysis enables a more comprehensive and profound understanding of ontological and epistemological perspectives. Following the transcription process, the researcher thoroughly reviewed and analysed the transcript to become acquainted with the data and to create initial codes. Coding was implemented to condense the raw data into a more manageable volume and to isolate the portions that are pertinent to the research inquiries. Afterwards, the original codes were restructured and rearranged to obtain more precise codes. Subsequently, codes with analogous ideas were consolidated into sub-themes, and those sub-themes with comparable notions were analysed to create the ultimate themes. Ultimately, the applicability of the themes was verified, elucidated, and substantiated with quotes extracted from the transcribed material.

FINDINGS

After the data collection and analysis, various themes were generated. The themes include client experience, booking efficiency, financial transaction, and resources. The themes are presented below to broaden the understanding regarding the current hotel booking system. Received reviews from the hotel's personnel

help in raising the important questions that indicate the major strengths and weaknesses of the considered system as much for the customer as for the staff. The types of response that were captured included the client feedback related to the bookings and payments, staff feedback on obstacles encountered, and owners feedback related to available resources

Theme: Client experience

Clients mentioned there is no website of any Hotel in Machang. Clients would need to use other servicing websites such as Agoda, Booking.com, Hotels.com, and Facebook. Although the servicing website can be used to perform reservations, the client explained that the existence of a website for hotels would increase trust, reduce uncertainty, and positive feeling towards the hotel (Emir et al., 2016; Ratna et al., 2018). This is because users noted that it may lead to confusion when using servicing websites for reservation, room browsing, and payments.

Codes:

1. Servicing websites: "We need to use Agoda or Booking.com to browse room and made reservation". "I need to use Facebook to find out if there are any hotels in Machang, however, the phone number provided is not in service anymore". "There is no official website of any Hotel in Machang". "I prefer to browse the official website of the hotel first before made any reservations".
2. Uncertainty: "We doubt that our reservations are recognized by the hotel staff". "The payment options are confusing". "Official website of hotel would increase trust, and reduce uncertainty, although we know booking can be made through servicing websites such as Agoda, Trivago, and booking.com". "I will have more positive feeling if the hotel has their own website".

Theme: Booking efficiency

Clients and staffs both have expressed their doubt in the current booking practice as some of clients have experienced loss of booking and overlap in booking. This leads to frustration and loss of trust in the hotel management.

Codes:

1. Loss of booking: "I have experience that my booking is lost after I made reservation". "My booking was not recorded by the hotel staff". "We as a staff often encountered loss of booking from our client, in which we are not informed about the booking and payment made".
2. Booking Overlap: "I remember I have been informed by the hotel staff that my reservation needs to be cancelled due to booking overlap, I am frustrated but thankfully, I managed to reserve another room at different hotel". "We sometimes have to deal with booking overlap, as staff from previous shift did not record the first booking made by client". "Booking overlap causes client to become very upset and angry".

Theme: Financial Transactions

The opinion concerning the financial transactions was observed, and clients expressed their hope that the hotel would provide alternative payment methods, such as QR codes and online banking transactions, instead of relying solely on credit cards and cash. This was highlighted by clients, who noted that the use of credit cards is not preferred due to their past experiences.

Codes:

1. Transaction Security: "I have bad experience in using credit card". "I don't have credit card". "Credit card usage made me nervous". "Im afraid to use credit card". "There are a lot of cases regarding credit cards".

2. Payment Options: “I would like to use QR pay”. “I would like to use online CIMB transactions”. “QR pay was my preferred choice”. “QR pay was so convenience”. “Credit card and QR pay? I definitely prefer QR pay”.

Theme: Resources

The idea of having an automated system was highly appreciated by both hotel owners and staff, however, they cited that lack of resources prevent them from having integrated automated system.

Codes:

1. Lack of Resources: “I don’t have expertise to develop such websites”. “I wish our hotel use automated system to reduce our mistakes, but we don’t have the expertise to handle those system”. “It is difficult to find a website developer with affordable pay rates”. “We hope to have the necessary resources to deploy automated system”. “Our resources cannot compete with those well-established hotels”. “To implement online automated system, we need resources such as expertise, budget, and infrastructure.

DISCUSSION

The main operational issues found in the current reservation practice are error-prone, such as booking overlaps and loss of bookings. This causes clients to be very upset and angry, as they need to find another hotel despite having made reservations earlier. From the staff's point of view, staff need to find solutions to address this mismanagement, which puts them in awkward and difficult situations, having to deal with upset and angry clients. A proper online automated system would increase reservation efficiency, as the system would store reservation details in a centralized database that is easily accessible to both clients and staff, which would most likely fully eradicate this error. Additionally, the deployment of such a system would positively affect clients emotionally, thus increasing their satisfaction and loyalty (Emir et al., 2016; Ratna et al., 2018; Khalil & Sharma, 2023; Abdullah et al., 2017).

Currently hotels in Machang do not have an adequate automated system which effectively omits those errors. Lack of an automated system leads to inefficient allocation, scheduling of rooms, and pricing strategies, which leads to mismanagement. The absence of an automated system would hinder the guests' loyalty and returns (Zhang et al., 2020). Improvement in reservation systems is one of the trends in the well-established hotels that should be incorporated in Hotel Machang as well. This should make management much easier, by consolidating the automated process of reservation and payment. Automated systems also would enhance the resource management by monitoring room's availability and adjusting the prices accordingly, thus increasing the occupancy level and income. The goals of the automated system are to enhance the service delivery and satisfy the client needs through the ease of browsing available rooms, associated rates and immediate reservation, along with effective marketing strategies. Moreover, automated systems that are able to manage reservations and cancellations would reduce manual work, thus reducing the error rate, hence increasing satisfaction for both clients and staff. Moreover, increased efficiency in the management of the reservation system would completely eradicate the problem of overlapping bookings due to the utilization of a centralized database to effectively manage and display the reservation details. The new automated system at Hotel Machang would provide implications to the business, for instance, operational benefits due to the automation of numerous processes and overall enhancement of the reservation process and management of rooms. Automated systems are expected to contribute towards increased revenue by improving the reservation and payment. The experience of using an automated system would lead to clients' satisfaction, thus leading to excellent review. Hence, Hotel Machang will be able to increase their competitive advantage in terms of profitability and high-quality services.

Another operational issue captured during the interview is regarding the payment. Clients suggest several payment methods should be available such as QR pay and online banking, instead of credit cards

as the sole payment option. The use of credit cards has cast doubts due to security inefficiencies such as the number being stolen by unauthorized individuals. The use of QR pay and online banking are preferred nowadays as it provides confidence and ease of use. The usage of QR pay encompassed daily transactions in the market, cafes, grocery stores, restaurants, and online booking. The hotel needs to have their own websites to enable alternative payment methods for their clients. Currently, these hotels in Machang depend on servicing websites that limit their payment preferences. The issue of payment methods should not be taken lightly by the management as ease of use has been found to positively impact client satisfaction, retention, and loyalty (Emir et al., 2016; Ratna et al., 2023). Moreover, limited options on payment methods would negatively affect client emotional and experience (Khalil & Sharma, 2023).

The hotel's owner and staff were found to have high awareness regarding the positive impacts of the deployment of hotel websites, automated reservation systems, and alternative payment options. However, the owners cited the lack of resources as the main stumbling block. They stated that they would prefer to deploy those systems if they have adequate resources such as the expertise to develop and manage those systems, the capabilities of staff to handle the daily operations using the system, and the infrastructure required. The deployment of an online reservation system indeed requires expertise of owners and staff to ensure operational effectiveness and ease of use. This is where academic institutions nearby, such as UiTM Machang need to play its roles by serving the nearby community by conveying their expertise through consultation, training, and advice in systems development. In UiTM Machang, there are Computer Science and Information Management courses that offer system development subjects that produce students with adequate capabilities in developing those systems. Moreover, the lecturers also have adequate knowledge and expertise to provide consultation, training, and even to develop the systems. The collaboration between UiTM and Hotels in Machang is duly needed to foster the advancement of the community. Universities need to convey their expertise towards the community for many reasons, such as to highlight their importance and relevance to the community. The collaboration between universities and the community would only provide benefits to both parties. Universities can't afford to become standalone entities and remain standing still inside their campus, while the community nearby suffers from lack of knowledge and expertise.

LIMITATIONS AND RECOMMENDATIONS

The research is conducted with several limitations, such as the limited number of respondents (7). To enhance the findings, it is recommended that future research utilize a questionnaire survey targeting the hotel's staff, owners, and clients to capture their perceptions and experiences. The survey would allow statistical data to be analyzed and quantified, hence providing accurate explanations on the impacts of automated systems on client and staff satisfaction, as well as profit generation.

CONCLUSION

The current practice of manual reservation system presents several challenges that negatively impact the hotel operational efficiency, client satisfaction, and overall competitiveness. This study highlights the critical need to transition to a modern, automated reservation system to address these shortcomings. The automated system offers numerous benefits, including improved reservation process, enhanced business productivity, effective marketing, and increased profit. Other than that, the deployment of an automated system would reduce human errors, expedite the reservation process, organize information in centralized databases, increase staff productivity, and generate positive experience, leading to higher client satisfaction and loyalty. While there are potential challenges, such as time constraints, budget limitations, and the necessity for staff training, the advantages of adopting a modern reservation system far outweigh these obstacles. This technological upgrade represents a strategic financial investment that will elevate Hotel

Machang's service quality, operational efficiency, and market competitiveness. Ultimately, the implementation of an automated reservation system will not only enhance operations but ensure clients receive exceptional and positive experiences. This step is vital for the hotel's long-term growth, sustainability, and ability to thrive in an increasingly competitive market.

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REFERENCES

- Abdullah, D., Jayaraman, K., Shariff, D. N., Bahari, K. A., & Nor, N. M. (2017). The effects of perceived interactivity, perceived ease of use, and perceived usefulness on online hotel booking intention: A conceptual framework. *International Academic Research Journal of Social Science*, 3(1), 16-23. Retrieved from https://www.academia.edu/30887508/The_Effects_of_Perceived_Interactivity_Perceived_Ease_of_Use_and_Perceived_Usefulness_on_Online_Hotel_Booking_Intention_A_Conceptual_Framework
- Colcol, S. (2024). Hotel Reservation System: Everything You Need to Know. SiteMinder. <https://www.siteminder.com/r/hotel-reservation-system/>
- Department of Statistics Malaysia (2023). Negeri Kelantan Darul Naim: Banci Penduduk & Perumahan Malaysia 2020. Newsletter.
- Emir, A., Halim, H., Hedre, A., Abdullah, D., & Azmi, A. (2016). Factors influencing online hotel booking intention: A conceptual framework from stimulus-organism-response perspective. Retrieved from https://www.researchgate.net/publication/311674994_Factors_Influencing_Online_Hotel_Booking_Intention_A_Conceptual_Framework_from_Stimulus-OrganismResponse_Perspective
- Khalil, A. & Bhuvanesh K. S. (2023). Online Satisfaction and Hotel Booking Intentions: An Information System Success Model Perspective. *Journal of Quality Assurance in Hospitality & Tourism*. <https://doi.org/10.1080/1528008X.2023.2283502>
- McPeterson, & McPeterson. (2023). What is an Online Hotel Booking System. WeLoveWeb Agencia De Diseno Y Desarrollo Web. <https://www.weloveweb.eu/en/blog/what-is-anonline-hotel-booking-system/>
- Pejabat Tanah dan Jajahan Machang. (2024). Portal Rasmi Pejabat Tanah dan Jajahan Machang. Retrieved at <https://ptjm.kelantan.gov.my/index.php/ms/profail/info-sejarah/sejarah-jajahan-machang>
- Ratna, S., Astuti, E.S., Utami, H.N., Rahardjo, K. and Arifin, Z. (2018). Characteristics of tasks and technology as a driver of task-technology fit and the use of the hotel reservation information system. *Journal of Information and Knowledge Management Systems*. 48 (4). 579-595. <https://doi.org/uitm.idm.oclc.org/10.1108/VJIKMS-05-2018-0035>
- Sharma, M., & Sehrawat, R. (2022). The application of interpretive structure model in evaluating criteria for online-hotel-booking-website. *Proceedings of the 25th Conference of FRUCT Association*. Retrieved from https://www.academia.edu/87075911/The_Application_of_Interpretive_Structure_Model_in_Evaluating_Criteria_for_Online_Hotel_Booking_Website?sm=b
- Zhang, D., Wu, P., & Wu, C. (2022). The role of key online reviews in affecting online hotel booking: An empirical investigation. *Industrial Management & Data Systems*, 122 (2), 499-520. <https://doi.org/10.1108/IMDS-06-2021-0355esagas>