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# THE SEGMENTATION OF MOBILE APPLICATION USERS IN THE HOTEL BOOKING JOURNEY

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## ABSTRACT

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| Aim/Purpose | This study aims to create customer segmentation who use Online Travel Agent (OTA) mobile applications in Indonesia throughout their hotel booking journey. |
| Background | In the context of mobile hotel booking applications, research analyzing the customer experience at each customer journey stage is scarce. However, literature increasingly acknowledges the significance of this stage in comprehending customer behavior and revenue streams. |
| Methodology | This study employs a mixed-method and exploratory approach by doing in-depth interviews with 20 participants and questionnaires from 207 participants. Interview data are analyzed using thematic analysis, while the questionnaires are analyzed using descriptive statistics. |
| Contribution | This study enriches knowledge in understanding customer behavior that considers the usage of mobile apps as a segmentation criterion in the hotel booking journey. |
| Findings | We developed four user personas (no sweat player, spotless seeker, social squad, and bargain hunter) that show customer segmentation based on the purpose, |

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| | motivation, and actions in each journey stage (inspiration, consideration, reservation, and experience). |
| Recommendations for Practitioners | The resulting customer segmentation enables hospitality firms to improve their current services by adapting to the needs of various segments and avoiding unanticipated customer pain points, such as incomplete information, price changes, no social proof, and limited payment options. |
| Recommendations for Researchers | The quality and robustness of the customer segment produced in this study can be further tested based on the criteria of homogeneity, size, potential benefits, segment stability, segment accessibility, segment compatibility, and segment actionability. |
| Impact on Society | This study has enriched the existing literature by establishing a correlation between user characteristics and how they use smartphones for tourism planning, focusing on hotel booking in mobile applications. |
| Future Research | For future research, each customer segment's demographic and behavioral factors can be explored further. |
| Keywords | customer journey, customer segmentation, mobile hotel booking application, online travel agent, smartphone |

## INTRODUCTION

Mobile technology, enabled by the internet and the presence of apps, is a game-changing development for many industries, including tourism and hospitality, in terms of improved customer service and engagement (Han et al., 2021; Mahrous & Hassan, 2017; Wang et al., 2016). Recent research demonstrates a significant shift in consumer shopping behavior due to the proliferation of smartphone use (De Haan et al., 2018; Herhausen et al., 2019). In 2020, on average, mobile bookings represented over 27% of total bookings for hotels studied and remained above 40% in 2021. According to Phocuswright's latest travel research report, U.S. Hotel & Lodging Market Report 2021-2025, Online Travel Agent (OTA) hotel gross bookings rose 97% from 2020 to nearly $41 billion, and OTAs represented more than half (52%) of hotel online leisure sales in 2021 (Sileo, 2022). In this context, the OTA refers to an online platform that facilitates the exploration and reservation of various travel-related offerings, encompassing accommodations such as hotels. Prominent examples of OTAs include Expedia, Trip, and Booking. OTA's investment in mobile technology is anticipated to alter consumers' booking habits (Yin et al., 2019).

The conversion rate for mobile shopping still lags behind desktop shopping for consumers despite an increase in mobile traffic for online retailers (Tupikovskaja-Omovie & Tyler, 2020a). Most mobile consumers are dissatisfied with mobile apps and retail websites, as they face various problems when shopping using smartphones (Tupikovskaja-Omovie & Tyler, 2020a). Studies on tourism consumers show that they use their smartphones more to find tourism information than to order products (Cretio, 2018; Eriksson, 2013; M. C. Murphy & Dweck, 2016; Okazaki et al., 2015; Vallespín et al., 2017). In this case, the most affected companies are online operators, such as OTAs, since the digital space is the only point of contact with their customers (Tupikovskaja-Omovie & Tyler, 2020b). Therefore, online operators need to think about the point of view and experience of customers on the journey to searching for and ordering their products (Klosse, 2018).

Customers do not follow a simple path in the customer journey as they use cross-devices for searching and purchasing (Xu et al., 2017). Lemon and Verhoef (2016) have previously established that customers will encounter various touch points along their journey. Each touchpoint influences the customer's journey experience, which may or may not influence their purchase decision (Lemon & Verhoef, 2016). For instance, in the hotel booking process, consumers visit various websites to collect information, going back and forth between the OTA and the hotel website before deciding to

book a hotel (Klosse, 2018). The situation implies that hotel booking, in practice, happens not on one touchpoint but several touchpoints, making it a very complex process (Think with Google, 2015). Compared to desktop, tablet, and offline customers, mobile customers have distinct characteristics, such as shorter user sessions, no idle time, being preoccupied, having specific goals, and zero tolerance (Carey et al., 2017). Therefore, tourism-related businesses must identify customer profiles to provide services that meet their needs and avoid pain points (Vallespín et al., 2017). It is well-known that customer segmentation can help businesses gain insights into customers' needs, positioning, and behavior (Kotler & Keller, 2006).

In the context of mobile hotel booking applications, limited research has been found that analyzes the customer experience in all stages of the customer journey (Think with Google, 2015). Most previous studies mention that smartphones are used as important additional search channels and touchpoints in the early stages (journey starter) (Eriksson, 2013; Herhausen et al., 2019; H. C. Murphy et al., 2016; Vallespín et al., 2017). Several studies have mentioned the potential of mobile phones (Kang et al., 2020; Ozturk et al., 2017).

Numerous studies have examined customer segmentation based on mobile phone usage before and/or during a trip (Falcão et al., 2019; Kang et al., 2020; H. C. Murphy et al., 2016; Okazaki et al., 2015; Vallespín et al., 2017). Smartphone usage after a trip has received scant attention; for example, Eriksson (2013) examined all customer journey stages. However, marketing literature is increasingly recognizing the importance of this stage in understanding customer behavior and revenue streams, and calls have been made to incorporate after-sales channel usage into the segmentation scheme (De Keyser et al., 2015). The customer journey, also known as the customer decision journey, purchase journey, or path to purchase, is a chronological process that customers go through at all stages and touchpoints of the total customer experience (Lemon & Verhoef, 2016). Klosse (2018) has shown that analyzing the customer journey is essential to understanding and improving the experience regarding the customer and its results (e.g., conversions), especially in situations of high complexity, when the customer goes through many touchpoints across multiple channels. This study takes a customer journey perspective to develop customer segmentation by identifying their behaviors during the pre-purchase, purchase, and post-purchase stages when they utilize a mobile hotel booking application.

This research was conducted in Indonesia, the country with the highest digital economy gross merchandise value in Southeast Asia (e-Conomy SEA, 2019). Indonesia and China are the only Asian-Pacific markets where mobile devices are preferred over personal computers for travel research and booking (Amadeus, 2017). According to Vallespín et al. (2017), culture influences the adoption of mobile commerce, and it would be interesting to conduct a broader, cross-cultural study in various countries (Falcão et al., 2019).

## LITERATURE REVIEW

### *THE CUSTOMER JOURNEY IN THE HOTEL BOOKING APP*

The customer journey has become crucial for comprehending complex consumer behaviors and gaining insight into their experiences. The term 'customer journey' commonly refers to a process or sequence that a customer goes through to access or use an offering of a company. Examining customer journeys proves valuable in identifying pivotal service moments and touchpoints that are significant in shaping the customer experience (Tueanrat et al., 2021). Generally, the purchase stage can be divided into three stages: pre-purchase, purchase, and post-purchase (Lemon & Verhoef, 2016). Eriksson (2013) divides the customer journey in hotel bookings into six stages: search, reserve, pay, cancel/change reservation, check-in, and reflect. Our study aims to extend the previous research by looking at the needs, behavior, and motivation during the whole journey.

In this study, we aim to examine the customer journey of a hotel booking process in five stages: inspiration, consideration, reservation, experience, and review/post-experience (Gevelber & Heckmann, 2015). As shown in Figure 1, the customer booking journey consists of inspiration, consideration, reservation, and experience. The customer journey always starts by expressing a need or solving a problem. Maybe they need a change of scenery, want to meet up with friends, or need to go on a business trip. To meet their need, the customer begins their journey with what is known as the inspiration phase (Loeb, 2023). Once the customer has chosen a destination and committed to going, they will start planning their stay and looking for a hotel. This is where the consideration and planning stage begins (Loeb, 2023). When moving to the reservation phase, customers choose from their narrowed down and decide on the right accommodation. They want a smooth and convenient booking process (Huynh, 2021). The experience phase is important to decide if the customers want to return to the hotel for their next destination visit. Along with experiencing the services, the post-experience sharing action starts. Social media and review sites are the platforms where they distribute their sharing most (Huynh, 2021).

## *User Segmentation in Travel and Tourism*

Customer segmentation is widely known to help companies better understand their consumers, identify specific market segments, and determine the correct positioning (Kotler & Keller, 2006). Segmentation allows marketing managers to develop strategies for customers in different markets, improving customer satisfaction, company profits, and effectiveness (Chatterjee & Mandal, 2020; Hung & Tsai, 2008). The increasing smartphone penetration is forcing tourism service providers to launch mobile applications to reach specific audiences (Vallespín et al., 2017). Therefore, designing mobile market strategies imposes identifying the various profiles of individuals who consume tourism services.

According to Parasuraman (2000), not all consumers adopt technological innovations in the same way or for the same amount of time, and different user profiles can be identified. Cohen et al. (2014) stated that effective tourism marketing requires a thorough understanding of how technology shapes tourism consumer behavior. Several previous studies have attempted to categorize mobile internet users in travel. Okazaki et al. (2015) explored the profiles of Spanish travelers using hospitality-related mobile applications and found four distinct groups of travelers according to pre-travel and on-site mobile usage for 13 activities (e.g., finding accommodations, making reservations, and sharing experiences). These four groups are Savvies, Planners, Opportunists, and Low-techs. Eriksson (2013) segmented a sample of Finnish tourists based on mobile usage for six travel service activities (searching, booking, paying, canceling, checking in, and writing reviews). Eriksson (2013) found five clusters: non-users (individuals who do not use mobile for any travel service), info-seekers (use mobile only for information search), checkers (use mobiles mainly for checking-in), bookers (use mobile essentially to book or cancel reservations) and all-rounders (use mobile extensively for all services). To fill the gap in previous studies, we would like to identify and segment the users of a hotel booking application into several groups based on their needs and behavior during their customer journey.

Several factors can be used to develop customer segmentation, such as individual characteristics, trip frequencies, e-shopping/teleshopping, frequency of internet use, number of mobile phones in the household, presence of telephones at home for business purposes, and presence of personal computers at home (Jamal & Habib, 2019). Research conducted by Eriksson (2013) identified four categories of smartphone users for travel services, and the individual characters that influence the most are age, gender, frequency of travel, and online experience. Moreover, Vallespín et al. (2017) identified two significant predictor variables based on statistical data, namely socio-demographic characteristics (age, gender, income, marital and occupational status) and behavior (length of use of smartphones and number of annual holiday trips).

Mahrous and Hassan (2017) used psychographics (customer innovativeness, convenience seeking, shopping enjoyment, price conciseness, perceived risk, channel experience, and frequency of travel)

and socio-demographic factors (age, gender, income, and education) in creating customer segmentation based on the purchase channel used. Loker and Perdue (1992) argued that combining descriptive variables (e.g., demographic) with predictive factors (e.g., behavioral) yields greater insight because customers belonging to identical demographic groups can exhibit vastly different behaviors. Based on the references from the studies mentioned above, this study's theoretical framework is depicted in Figure 1.

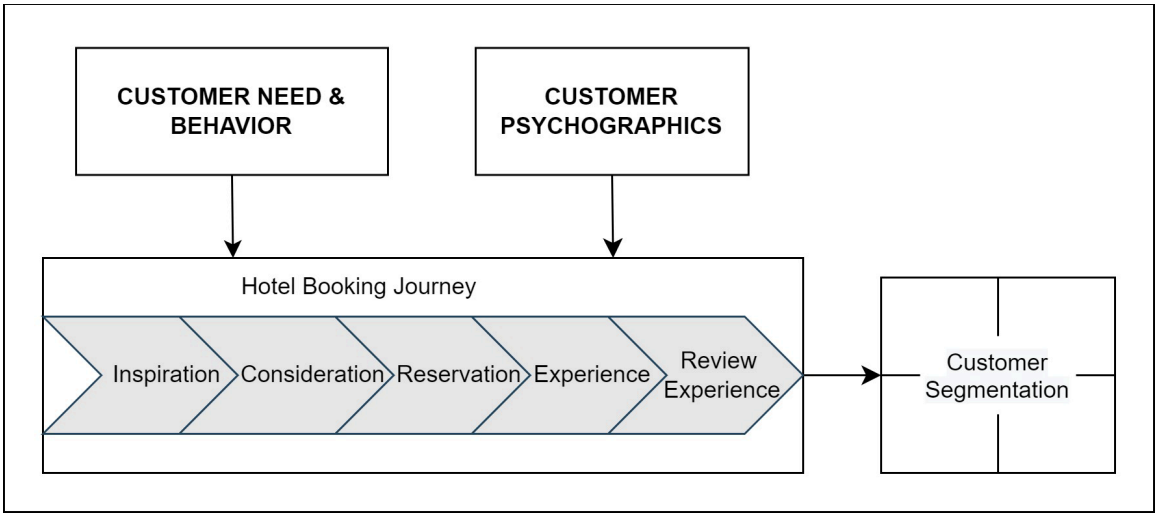


**Figure 1. Theoretical framework**

# METHODOLOGY

## *EMPIRICAL CONTEXT*

The study was conducted in the context of the Indonesian population. Indonesian consumers exhibit unique behaviors compared to consumers in other countries regarding hotel booking, in which 60% of consumers book their accommodation online, and 71% complete their booking via smartphone, exceeding three times the number of people buying via desktop (Think with Google, 2015). OTAs (29%) and search engines (28%) are the most widely used touchpoints among all online touchpoints in the country (Think with Google, 2015). Moreover, a study regarding the most popular platforms for Indonesian customers conducted by Zebua (2018) in collaboration with the JakPat Mobile Survey Platform in February, 2018, showed results that complemented the research (Think with Google, 2015). More than 83% of respondents access OTA services most often through their smartphones, compared to the desktop or mobile web, which are only 6% and 7%, respectively.

## *STUDY DESIGN AND DATA COLLECTION*

This study uses a mixed research approach, combining quantitative and qualitative approaches (Fetters et al., 2013). The mixed method is the sequential mixed method, specifically the sequential exploration strategy. We use sequential mixed method strategies to combine or extend the findings obtained from qualitative approaches with the results of quantitative approaches. The results of the qualitative stage (i.e., themes finding) are used to identify and build the most suitable instruments in quantitative studies. By doing so, we may have a deeper insight through the in-depth interview process and obtain confirmation through the survey data.

The qualitative approach was applied by collecting qualitative data in the first stage by interviewing 20 customers, the most important source of learning (Poon, 1993). The respondents came from five

cities in Indonesia – Jakarta, Bandung, Makassar, Medan, and Surabaya – each city totaling four people (two people traveling solo and two in a group). The data is analyzed using thematic analysis.

From the result of the thematic analysis, we developed a questionnaire to collect quantitative data from 207 customers during the second stage, as shown in Figure 2. Quantitative research instruments in questionnaires are prepared to confirm the results (confirming thematic findings) obtained from the qualitative research stage. Based on the factors found in the qualitative stage, quantitative question instruments are formed to be spread to a larger population (n>200). The goal is to validate factors in the customer experience journey, such as goals, motivational factors (psychographics), and needs at each stage. Participants answered single or multiple-choice questions included in the questionnaire.

## *Samples Profile*

Qualitative data collection is carried out using the purposive sampling method, where respondents are selected based on the assessment of researchers who can meet the following criteria:

1. The respondents must have experience booking hotels online and previously booked a hotel room online in the last three months.
2. The respondent must have a particular job or income to ensure that hotel bookings are realistic for the respondent.

Respondents should have sufficient knowledge of the hotel booking business process to ensure that others' opinion will not affect their booking process. In other words, a respondent can only participate in the study if he/she does not work in a hotel/travel business.

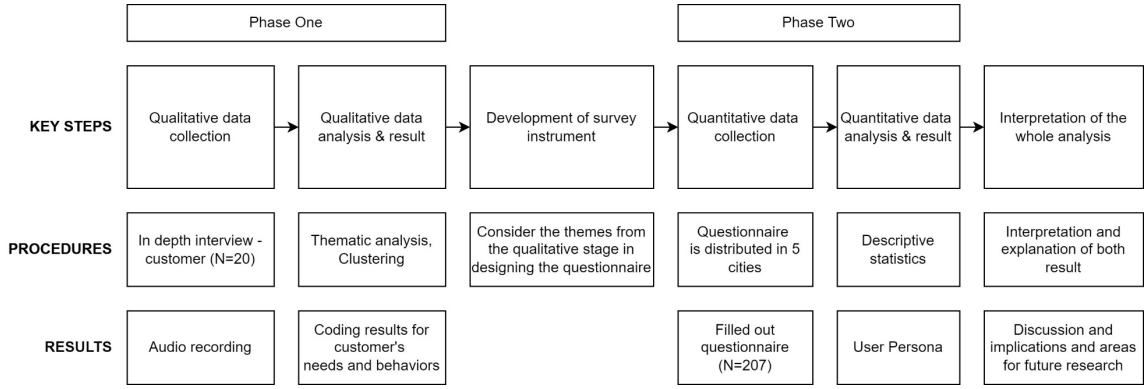


**Figure 2. Research methodology adapted from exploratory sequential design (Creswell, 2014)**

## *Analysis Methods*

The interview transcript used the NVivo 12 software to conduct the thematic analysis. In the first phase, coding was carried out using open coding techniques. The second stage was carried out using axial coding, which was grouping coding results into specific themes and sub-themes. Furthermore, the analysis of the questionnaire results was processed using basic statistics to validate the results of customer segmentation that had been carried out in qualitative testing. In the end, qualitative and quantitative data analysis results were integrated.

The interview data collected were transcribed and imported into the NVivo 12, and a thematic analysis was carried out as follows:

1. In the first stage, coding was carried out using open coding techniques.
2. The second stage was axial coding, which was grouping coding results into specific themes and sub-themes.

3. The next stage was the analysis process using the Agglomerative Hierarchical Clustering (AHC) method against psychographic factors (motivational factors).

The input for the AHC method is the axial coding results of customers' purpose (such as to fulfill an obligation or to seek pleasure) and motivation (such as certainty or ease of use) and results found in all stages of the customer journey (Inspiration, Consideration, Reservation, Experience, Review Experience). Using this method, we can form a hierarchy resembling a tree structure with the primary objective of grouping customers based on similar characteristics (e.g., purpose and behavior). We used data sets generated from the thematic analysis process against in-depth interview data because meaningful applications of grouping methods in mixed methods research depend largely on a solid grounding in theory, a comprehensive understanding of context, and a deep comprehension of qualitative data sets.

Before the quantitative data was further processed, it was necessary to test the validity and reliability of the quantitative data produced. The validity test aimed to test the accuracy and accuracy of measuring instruments (questionnaires) in performing their functions. The test used the correlation bivariate method based on Pearson correlation coefficients using two-tailed test significance with N = 207. The questionnaires passed the validity test correlation with the Pearson correlation >0.1778 (0.01 levels) or >0.1358 (0.05 levels). The reliability test aimed to ensure the degree of stability, consistency, predictability, and accuracy of the questionnaire results. The test used the reliability analysis method for all items questioned, and N = 207 showed Cronbach's alpha results of 0.897, which showed the reliability of the questionnaire.

The quantitative research results were processed using descriptive statistical analysis, a statistical technique used to analyze data by describing the collected data. The results of quantitative research described: (1) the purpose of booking a hotel, (2) factors that influence customers to choose a hotel, (3) inspiration, (4) consideration, (5) reservations, (6) experience, and (7) reviews.

Qualitative and quantitative study results were integrated at three levels: design method, interpretation, and reporting. The integration of the design level was carried out using a sequential exploratory approach. Integration at the method level was carried out using a building approach, where the results of qualitative studies became the basis of the data collection approach at the quantitative stage (Fetters et al., 2013). The question items entered in the questionnaire were arranged based on the results of qualitative studies. Finally, for integration at the level of interpretation and reporting, the results of qualitative and quantitative studies were combined through the organization of related data in a tabular form.

## RESULTS

This section describes the outcomes of the qualitative and quantitative analyses conducted on the collected data and describes hotel guests' behavior at each stage of the reservation process. Finally, we segment the customers into four groups using the clustering technique.

### *RECOGNIZING CUSTOMER'S PURPOSE (CODE: P)*

To identify the customer's purpose, we asked the first question to all participants: "For what purpose do you usually book hotels?" In the first stage, coding is carried out using open coding techniques that resulted in 11 sub-themes. In the second stage, axial coding, we group the results of open coding into five themes. Based on the axial coding process, the participants' five main goals when doing the hotel booking process are shown in Table 1.

**Table 1. Coding result for traveling purpose (P)**

| Axial code – purpose/need | Description | Example quotes |
|---|---|---|
| To fullfill obligation | Reserve a hotel room because there is a task from the office. | "Travel according to the purpose from my office." |
| To fulfill social needs | Reserve a hotel room driven by the desire for a vacation with friends. | "I take a vacation with friends." "Staycation with friends." "I have a hobby of traveling with friends." |
| To fulfill basic needs (shelter) | Reserve a hotel room driven by the need to stay overnight after working late at night. | "I need to stay overnight." |
| To get economic benefit | Reserve a hotel room driven by attractive promos offered by OTAs | "Take advantage of promos offered by OTAs." |
| To seek pleasure | Reserve a hotel room driven by the need for a vacation | "I need to rest, relax." |

The quantitative results confirmed the five objectives found in qualitative data analysis and showed the population size of each goal. Of the five purposes/needs, the largest population is the purpose of meeting the basic needs of staying overnight (38%), followed by meeting social needs with friends and family (23%), fulfilling obligations (17%), and seeking pleasure (16%). The most insignificant goal is to take advantage of the discount (6%), as shown in Figure 3.

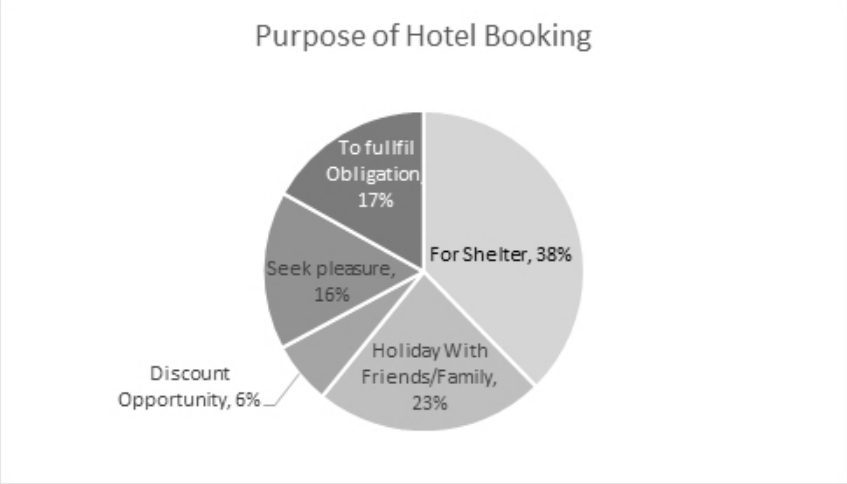


**Figure 3. Customer distribution based on hotel booking purpose/need**

## *CUSTOMER JOURNEY STAGES*

This section shows the coding result of each customer journey stage: inspiration, consideration, reservation, and experience (Gevelber & Heckmann, 2015). The following are questions during the interview:

1. Where do you find inspiration to stay?
2. What motivates you when using hotel booking applications?
3. What made you choose a particular hotel booking app?
4. What experience do you expect when staying at a hotel?
5. What do you do after going through all the hotel stays?

### Inspiration (Code: I)

The inspiration stage is when customers have explored destination options and ideas but have no firm plans. In the first stage, coding is carried out using open coding techniques that resulted in 10 related answers. In the second stage, axial coding, we group the results of open coding into four sub-themes. Table 2 shows that the way they find inspiration may be different depending on their purposes. For example, when they find ideas for a holiday, they will likely browse through search engines and apps. However, they tend to decide more quickly for business purposes where they have fixed destinations and schedules.

**Table 2. Coding result for inspiration stage (I)**

| Axial Code - Inspiration | Description | Example Quotes |
|---|---|---|
| Browse places for relaxing | Get holiday ideas through an internet search. | "Searching on Google and apps." |
| Decide the destination and fixed schedule | Already get the decision of the destination and the date to travel. | "Need approval from my company." My company has determined it." |
| Explore the promo information on the application | Some promotions provide low prices | "Get the lowest price." "There are promotions from OTAs." |
| Make a plan for a place to stay | Make plans to go on vacation/travel | "Planning a vacation." "Get holiday ideas from online channels (blogs, reviews, OTAs)." |

Based on quantitative data, Figure 4 shows that OTAs are the top channels to find inspiration, followed by Instagram, recommendations from friends and family, YouTube, and Google searches. In addition, customers also use features that offer social proof in the form of user-generated content, such as hotel reviews.

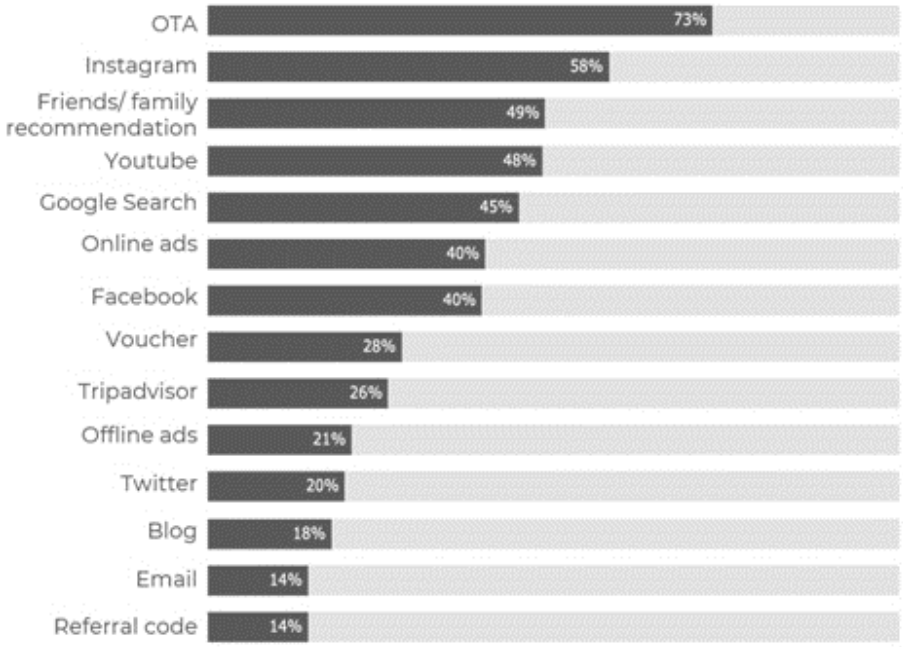


**Figure 4. Channels to get inspired**

Moreover, some participants confirmed that they use the desktop/web for search activities and proceed to use the mobile application for the ordering process because the price offered is cheaper as follows:

> "Typically, I use both cellphones and desktops; desktops are used to conduct searches, and cellphones are used to make purchases because of the lower price, and it is easier to access." (DAV)
>
> "I often search for the hotel via mobile phone because the apps offer lower prices compared to laptops or desktops." (NIA)
>
> "The desktop has the advantage of multiple tabs, allowing you to read blogs and reviews." (TED)

### Consideration (Code: C)

When customers have decided on a goal, they enter the consideration stage. In this stage, they are looking for a suitable date, flight, place to stay, and everything else they will do while they are at the destination. In the first stage, coding is carried out using open coding techniques that resulted in 11 related answers. In the second stage, which is axial coding, we group the results of open coding into four sub-themes. Table 3 shows that customers consider hotel booking applications that can cater to their needs and primary purposes.

**Table 3. Axial coding for consideration stage (C)**

| Axial Code - Consideration | Description | Example Quotes |
|---|---|---|
| Select hotel booking applications that relieve the perceived risk | Consider applications based on the accuracy of the information and warranties provided | "Objective information from other customers (photos, reviews)."<br>"Hotel certainty in meeting a special request."<br>"Precise and reliable brand."<br>"Completeness of information provided (facilities, review rating, price, view, photo, hotel location)." |
| Select hotel booking applications that are simple and quick to find and book a hotel | Consider applications based on the ease and speed you can find and process hotel bookings | "Simple system."<br>"Fast system loading when used." |
| Select hotel booking applications that offer many attractive hotel options | Consider applications based on the availability of exciting hotel options | "Important photos/images when choosing."<br>"Great/interesting photos."<br>"Instagram-able."<br>"Details in the photo." |
| Select hotel booking applications that offer the most significant discounts | Consider applications based on the number of discounts provided | "Lower price."<br>"See the promo."<br>"Reward points earned." |

The quantitative result confirmed the finding of customer behaviors in Table 3. Moreover, we also found that customers often encounter pain points during the consideration phase in hotel selection. Three main factors are incomplete information (33.33%), followed by the lack of social proof in the form of hotel reviews (31.4%), and price changes (31.40%). Other obstacles in detail can be seen in

Figure 5. Interestingly, similar behavior to the previous stage, customers usually search through the desktop and continue ordering using the mobile applications, as said by the following participant:

> "I used to Google, read the reviews and blogs, then search online, and if the price is reasonable, I would consider booking. After doing some research, I discussed my options with my family. I check the facilities and online reviews from guests to be more objective. After that, I can get the best value for my money. Yes, I search for hotels on my desktop first because it is more convenient for me, then I compare it to the mobile app to see if I can get the best price." (TED)

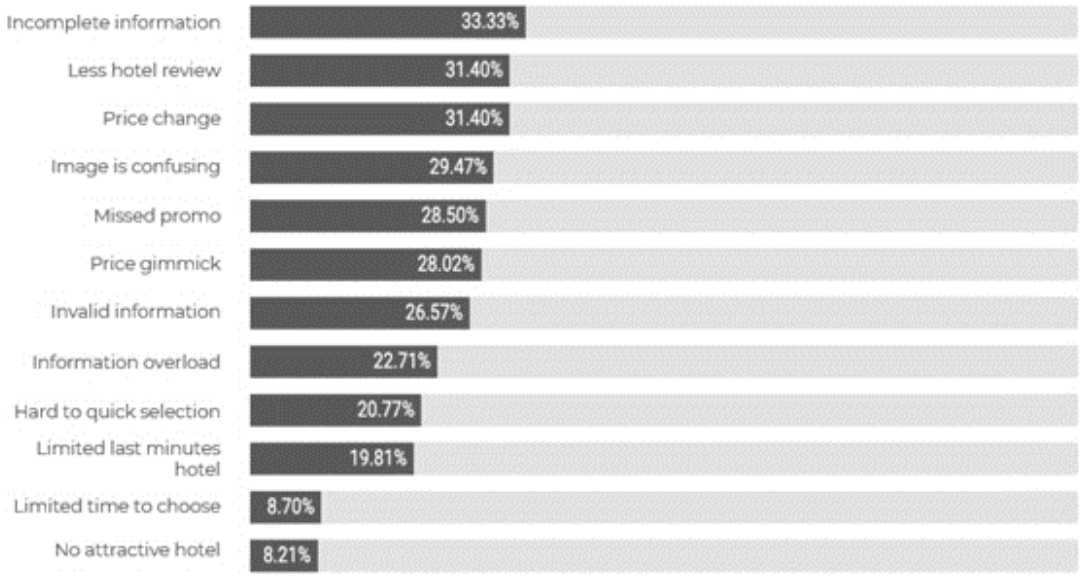


**Figure 5. Obstacles in hotel selection**

## Reservation (Code: R)

The reservation stage occurs when the research is finished, and customers are ready to book their tickets and rooms. In the first stage, coding was carried out using open coding techniques that yielded eight related answers. In the second stage, axial coding, we group the results of open coding into four sub-themes. Table 4 shows the coding result of customer behaviors during the reservation stage of the customer journey.

**Table 4. Axial coding for reservation stage (R)**

| Axial Code - Reservation | Description | Example Quotes |
|---|---|---|
| Book the room and insert the promo code | Make a hotel booking based on the discounted price obtained | "It depends on the current promo." "I can use my reward points." |
| Book room based on the consensus with the squad | Booking hotels based on a group agreement | "If I go with friends using a particular payment method (credit card)." "The hotel selection is left to one of the group members." |
| Quickly book a room using the simplest payment method | Book hotels based on the easiest payment method. | "Using a payment method depends on my needs." "Payment methods like to change." |

| Axial Code - Reservation | Description | Example Quotes |
|---|---|---|
| Read the cancellation policy and recheck submission data before pay | Make a hotel booking based on the cancelation policy and detailed information provided | "Take another look at the cancellation policy."<br>"Double-check room and hotel information." |

Based on quantitative data, the four primary pain points in making a reservation are the surprise of additional fees (24%), limited choice of payment methods (22%), limited payment deadlines (18%), and promo codes that cannot be used (17%). Moreover, the most influential factors in hotel bookings are as follows:

1. Payment option (27%) - Diverse payment methods
2. Perceived ease (20%) - Easy and fast to place an order
3. Perceived risk (18%) - Security, trust, certainty
4. Information quality (14%) - Ordering information, payment instructions
5. Urgency (12%) - Limited time to book a hotel
6. Availability (9%) - Limited number of rooms.

## Experience (Code: E)

The experience stage takes place while the journey is still in progress. Customers are eager to experience and share the trip of their dreams. In the first stage, open coding techniques were carried out, resulting in nine related answers. In the second stage, axial coding, we group the results of open coding into four sub-themes. Table 5 shows the coding result of customer behaviors during the experience stage of the customer journey.

**Table 5. Axial coding from experience stage (E)**

| Axial Code -Experience | Description | Example Quotes |
|---|---|---|
| Make sure the room condition and special requests are as expected | When arriving at the hotel, the customer ensures that the condition of the room is as expected | "Before arriving, I call the hotel to ensure everything."<br>"Write a special request." |
| Do hotel check-in as quickly as possible and take a rest | Customers hope the check-in process is fast when they arrive at the hotel and can rest soon | "The important thing is that the check-in process is smooth."<br>"Easy check-in procedure." |
| Use the hotel facilities to get some fun | When they arrive at the hotel, customers hope to use the hotel facilities to have fun | "The hotel's service is good, so vacationing with friends feels comfortable." |
| Utilize the facility and service of the hotels as much as possible | When they arrive at the hotel, customers hope to be able to use the hotel's facilities and services as much as possible | "Want to make the most of the time at the hotel."<br>"Satisfied if the service is good and the facilities can be used." |

In the quantitative survey, we also ask about the factors that most affect customer satisfaction when staying at a hotel. Based on quantitative data, factors influencing customer satisfaction for hotel services are:

1. Cleanliness (82%): the floor and bed sheets are not dusty and smell good.
2. Service (76%): responsive, friendly, hospitality, and customer-oriented

3. Facilities (73%): rooms (including bathrooms) and hotel facilities.
4. Comfort (71%): quiet, environment, size
5. Location (61%): near the city center, events, restaurants, and tourist spots
6. Food (57%): tastemaker, variety, restaurants availability
7. Property condition (56%): modern, minimalist

### Review experience (Code: RE)

The review experience stage occurs at the end of the journey. Afterward, customers can rate and review their used services and products. In the first stage, open coding techniques were carried out, resulting in nine related answers. In the second stage, axial coding, we group the results of open coding into four sub-themes. Table 6 shows the coding result of customer behaviors during the review experience stage of the customer journey.

The findings are confirmed by the quantitative data in which the factors that most influence customers to give reviews are satisfaction (49%), followed by rewards such as loyalty points (30%), perceived risks of personal data (15%), and perceived ease (5%).

**Table 6. Axial coding for review experience stage (RE)**

| Axial Code - Review Experience | Description | Example Quotes |
|---|---|---|
| Give a review in detail of all the aspects | After staying, customers review voluntarily, especially if they get a good stay. | "Reviews for both good and bad experiences."<br>"If satisfied, I will review it happily."<br>"I just reviewed it if I got a good experience." |
| Give a review only if the review process is quick and simple | After staying overnight, customers are reluctant to fill out reviews unless the process is easy and fast. | "As long as it is not complicated when I submit it."<br>"I submit the content directly in the app, which is not so complicated." |
| Share the "Instagram-able" spot on the hotel | During their stay, customers immediately provide reviews via social media on the spot to ensure their social circles are updated in real-time | "The room's atmosphere is essential and should look nice in the picture."<br>"Photos of the pool and room atmosphere are essential for Instagram." |
| Write a review if there is an economic benefit | After staying, customers are reluctant to fill out reviews unless they get benefits, such as reward points. | "Some OTAs like giving more reward points if the customer reviews."<br>"Too lazy to give reviews. When I am done staying overnight, then it has done."<br>Unless the customer is given something." |

### Customer Motivational/Psychographic Factor (Code: MF)

We discovered several factors that motivate customers to choose and make hotel reservations through hotel booking applications based on interviews with participants. In the first stage, coding was carried out using open coding techniques that yielded 30 related answers. In the second stage, axial coding, we group the results of open coding into 12 sub-themes. Table 7 shows the coding result of customer motivational factors when choosing a hotel booking application.

**Table 7. Axial Coding for motivational/psychographic factor (MF)**

| Axial Coding - Motivational Factor | Example Quotes |
|---|---|
| Certainty | "The location of the villa likes to be unclear. So, I would appreciate it if the manager contacted us a few days earlier and shared the location." |
| Ease of use | "Usually, I use my cellphone to find and book a room. It is easy for me and can be done anywhere." |
| Enjoyment | "Customers feel most satisfied if the facilities provided by the hotel are customized, the rooms are clean, and the food is good." |
| Information Quality | "I need the most information about essential places around the hotel's location and the reviews to see photos from users." |
| Last minute availability | "If it is for work, my company usually orders it at D-1." |
| Loyalty reward | "I also like to calculate the reward points obtained." |
| Novelty | "I love trying a recently opened hotel." |
| Price Sensitivity | "The price factor is the main one."<br>"I usually choose the right one that gives the lowest price." |
| Social Push/need to confirm | "Usually invited by friends to stay on weekends, to relax together."<br>"I used to look around directly for applications and group travelers." |
| Speed/time pressure | "If it is for office work purposes, I choose based on the city and location, so it is faster to book." |
| Trust | "I use OTAs because they are faster to book, and I believe in OTAs. I want OTAs that can display photos as they are." |
| Visual Appeal | "I chose a hotel that has a good view. The photo looks interesting." |

The findings are confirmed by the quantitative data, in which the dominant factors influencing customers to choose a hotel in the hotel booking applications are prices and promos (price sensitivity) in all respondents who book hotels for any purpose. When asking about factors that influence customers in choosing a hotel, price (57%), facilities (49%), promos (43%), and location (36%) are the four main factors that influence, as shown in Figure 6.

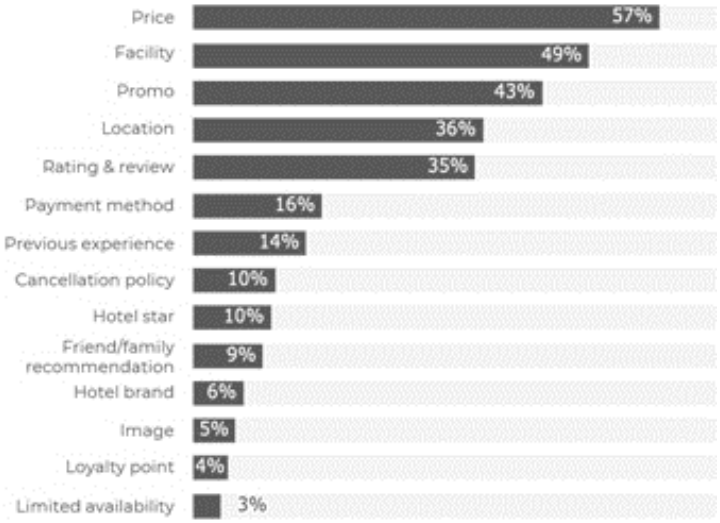


**Figure 6. Factors that influence customers in choosing a hotel in hotel booking applications**

## *Customer Segmentation*

In this section, we segment the interview participants using the Agglomerative Hierarchical Clustering (AHC) method based on the axial coding of customers' purpose and motivation and during all stages of the customer journey (Inspiration, Consideration, Reservation, Experience, Review Experience). Using this method, we can form a hierarchy resembling a tree structure with the primary objective of grouping customers based on similar characteristics. This analysis results in a dendrogram showing the progressive grouping of customers, allowing us to get an idea of the number of appropriate classes into which the customers can be grouped. Figure 7 shows a dendrogram of all factors found in the axial coding, resulting in four clusters of customers.

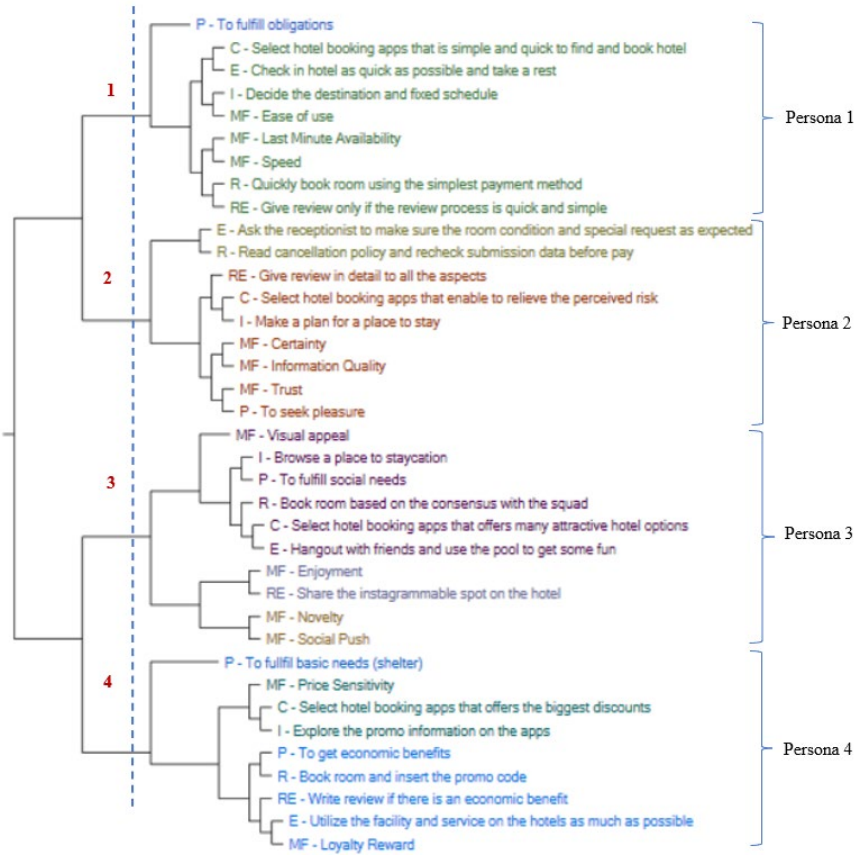


**Figure 7. Clustering result based on all axial coding**

Based on the clustering result, we developed four user personas that show customer segmentation based on the purpose and action along all the journey stages (inspiration, consideration, reservation, and experience) and psychographic factors, as shown in Table 8.

This first type of customer (the No Sweat Player) has the purpose of booking a hotel to fulfill business obligations (such as meetings, seminars, and conferences) or personal obligations (health problems and visiting friends). This segment represents 17% of the customer population and tends to make hotel bookings suddenly (last-minute booking) due to uncertain or tentative travel schedules. A strong theme of this customer segment is the ease of use. At the pre-purchase stage, customers need the feature's convenience to quickly scan hotel information and narrow down hotel options. Customers need the easiest payment method at the reservation stage, according to customer conditions. At the experience stage, customers expect an easy check-in process so that they can rest immediately. Likewise, writing a review must be as simple and fast as possible, or it will not be done at all. To provide services that suit customer needs, we must provide a large selection of hotels that provide last-

minute availability, especially in cities with active business activities. This customer requires hotel information in the fastest and easiest way possible at the consideration stage. To speed up and make it easier for them in the consideration stage, we need to provide features to narrow down hotel options with the help of price range filters and hotel rating score filters with a comfortable-to-use design. In addition, we also need to provide quality information with a good presentation, for example, displaying good quality photos of rooms and hotels according to categories, displaying hotel facilities that are arranged alphabetically, and not repeating unnecessary information.

The second type of customer (the Spotless Seeker) is to book a hotel to find pleasure, relaxation, and stress relief by vacationing and staying there. This customer segment represents 16% of the customer population. It tends to carefully make hotel reservations to avoid various risks, such as being unable to change reservations, non-refundable, unable to check in, natural disasters/accidents, vouchers not being issued, or special requests not being fulfilled. A strong theme of the second type of customer segment is risk aversion. At the pre-purchase stage, customers need clarity and certainty. All information regarding hotels and reservations must be displayed in detail. At the reservation stage, the customer needs a detailed cancelation policy, and the reservation (check-in date, check-out, room type, special request) is displayed with a clear layout to be reviewed quickly. Likewise, at the experience stage, customers expect the hotel to pay attention to the special requests that have been submitted. At the review writing stage, customers expect the security of personal data. For this type of customer, risks need to be reduced by increasing the degree of certainty or reducing consequences. To improve services to the second type of customers, we must provide features that reduce the risks they worry about. At the pre-purchase stage, we can provide social proof by the traveling community or third-party applications, good cancellation policies, travel insurance, security labels on the payment process, user-generated invoices, and check-in requests. In addition, other features that can be provided at the post-purchase stage include communicating with the hotel, managing bookings (change dates, rooms, names, special requests), quick refunds, and 24-hour customer service.

The third type of customer (the Social Squad) is to book a hotel to have fun with their group, whether a couple, friends, family, or other groups. This customer segment represents 23% of the customer population and has a unique need to have as much fun as possible. Hedonic behavior is a strong theme that colors the third type of customer segment. In the pre-purchase stage, customers need a variety of hotel choices, attractive hotel appearances, social proof in the form of customer reviews, photos from other customers, and confirmation from social media, friends, and family. The customer needs a payment method with enough deadlines at the reservation stage. Most of the methods used by the group are credit cards. At the experience stage, this type of customer will quickly share their photos and experiences via social media. To serve this type of customer, we can provide ideas of hotels and popular tourist destinations that have been curated with exciting photos. To convince them at the consideration stage, we can also present a visual tour of the hotel showing the attraction or selling point of the hotel and fun activities that can be done at the hotel.

The fourth type of customer (the Bargain Hunter) is to book a hotel to meet basic needs, get shelter, and take advantage of OTAs' economic benefits through promos/discounts. This customer segment represents the largest population of customers, namely 44%, and typical Indonesian customers who like discounts. A strong theme that colors the fourth type segment is the price value. At the pre-purchase stage, customers expect convenience in obtaining promotional information, clarity of promotional terms and conditions, and prices. Customers need various payment methods at the reservation stage with no surprise fees and ease of applying promos. At the experience stage, the customer expects the hotel to be the same as displayed on the OTA application page. At the review stage, this type of customer will be more enthusiastic about doing it if given the lure of reward points that can be used to get payment discounts on subsequent purchases. To serve this type of customer, we can provide attractive promos and discounts, provide convenience in applying promos, and provide guarantees for the lowest prices that can be found.

**Table 8. User persona based on clustering result**

| User Persona Type | Purpose | Journey Stages | | | | | Psychographic (Motivational Factors) |
|---|---|---|---|---|---|---|---|
| | | Inspiration | Consideration | Reservation | Experience | Review | |
| 1 The No Sweat Player | To fulfill obligations | Decide the destination and fixed schedule | Select hotel booking applications that are simple and quick to find and book the hotel | Quickly book a room using the simplest payment method | Check-in at the hotel as quickly as possible and take a rest | Give a review only if the review process is quick and simple | Speed, Ease of Use, Last Minute Availability |
| 2 The Spotless Seeker | To seek pleasure | Make a plan for a place to stay | Select hotel booking applications that relieve the perceived risk | Read the cancellation policy and recheck submission data before pay | Make sure the room condition and special requests are as expected | Give a review in detail of all the aspects | Trust, Certainty, Information Quality |
| 3 The Social Squad | To fulfill social needs | Browse a place to relax | Select hotel booking applications that offer many attractive hotel options | Book room based on the consensus with the squad | Hangout with friends and use the pool to get some fun | Share the "Instagramable" spot on the hotel | Novelty, Social Push, Enjoyment, Visual appeal |
| 4 The Bargain Hunter | To fulfill basic needs (shelter) and to get economic benefits | Explore the promo information on the apps | Select hotel booking applications that offer the most significant discounts | Book the room and insert the promo code | Utilize the facility and service of the hotels as much as possible | Write a review if there is an economic benefit | Loyalty Reward, Price Sensitivity |

## DISCUSSION

As the customer journey literature has heavily focused on customer perception and service environment in the purchase phase (Tueanrat et al., 2021), this study has investigated the behavioral responses throughout the journey. This investigation on emotional responses is becoming increasingly essential with the growing popularity of technology embodiment, as stated by Tueanrat et al. (2021). Thus, the results of this study could be beneficial to improving and developing innovative touchpoints that enable travel providers, such as OTAs, to give value, interact with customers, and deliver experiences in a fundamentally new approach that optimizes sales and relationship-building potential.

The widespread acceptance of smartphones changed consumer behavior, whereby activities related to hotel bookings showed exciting behavior patterns. This research shows the industry's strong influence on customer behavior in the use of devices. In previous research, customers tended to move to PC devices at the booking stage, even though they used various devices at the hotel search stage (Eriksson, 2013; H. C. Murphy et al., 2016; Vallespín et al., 2017). Meanwhile, Indonesian customers exhibit the opposite behavior due to the encouragement of the OTA industry that provides promos/discounts, which only apply to mobile applications. This study also reflects the uniqueness of the characteristics of Indonesian customers, which are different from customer behavior in most countries where they use smartphones more to search than to purchase products (Eriksson, 2013; H. C. Murphy et al., 2016; Vallespín et al., 2017).

The user persona based on segmentation is depicted in Table 8. It is key to understanding customer activity through the customer journey to identify behavior patterns from the data that we collected about customers and convey them clearly in character form. We have used the most effective and widely used method for data collection, which is an in-depth interview, as proposed by Goodwin (2009). As this study focuses on hotel booking through mobile applications, the customer segmentation results deepen prior research that employed segmentation to classify travelers, as shown in Table 9.

**Table 9. Research related to smartphone user segmentation for travel and tourism**

| Authors | Segmentation Variable | Segments | Context |
|---|---|---|---|
| This study | Behavior and psychographics during the customer journey | The No Sweat Player<br>The Spotless Seeker<br>The Social Squad<br>The Bargain Hunter | Segmenting customers who use the OTA hotel booking app and developing user persona, Indonesian |
| (Gajdošík, 2020) | Characteristic behavior (the use of smart technology, co-creation, and willingness to share data), psychographic characteristics concerning technology acceptance, and sociodemographic | No-sharers<br>Compensators<br>Technophobes<br>Traditionalists<br>Recipients<br>Smart tourists | To find out whether smart tourists are a real market segment and analyze their characteristics and travel behavior, Slovakian |
| (Falcão et al., 2019) | Variables related to the user's acceptance of technology include perceived usefulness, ease of use, intentions to use smartphones for tourism purchases, and m-commerce perceptions of risk. | Risk Ignorers<br>Cautious Users<br>Conservatives | Segmenting travelers according to their predispositions regarding acceptance and usage of smartphones during travel, Brazilian |
| (Vallespín et al., 2017) | The segmentation variables are the length of smartphone use and age and number of yearly leisure trips | Five segments based on greater to lesser frequency of internet | Consumer's current use of smartphones to search and book tourism products, Spanish |

| Authors | Segmentation Variable | Segments | Context |
|---|---|---|---|
| | | used in the search for tourist information | |
| (H. C. Murphy et al., 2016) | The commonly used devices in the hotel booking process | Tablet/PC<br>Smartphone/PC<br>Phone/PC | Hotel searching process, Swiss |
| (Okazaki et al., 2015) | Mobile usage pattern and perceived benefits of mobile internet usage | Savvies<br>Planner<br>Opportunist<br>Low tech | Travel planning and execution, Spanish |
| (Eriksson, 2013) | Activities conducted on mobile devices (search, reserve, pay, cancel/change reservation, check-in, and reflect) | All-rounders<br>Bookers<br>Checkers<br>Info-seekers<br>Non-users | Mobile travel service, Finnish |
| (MacKay & Vogt, 2012) | Technology adoption based on IT equipment ownership and frequency of Internet use | Low Tech<br>Medium Tech<br>High Tech | Everyday use and vacation, Canadian |

## CONCLUSION, CONTRIBUTION, LIMITATION, AND FUTURE RESEARCH

This study aims to segment customers who use OTA mobile applications throughout the hotel booking process. This study has produced four user personas based on customer segmentation when they make hotel reservations using hotel mobile booking applications provided by online travel agents. The results showed that customers with different purposes in booking hotels would show different behaviors. Based on the results of qualitative data analysis obtained in the interview, there are five main objectives of hotel booking. Each of these objectives is confirmed by statistical data obtained through questionnaires. Based on this analysis, we found that although prices and promos are decisive in choosing a hotel, customers do not see this as the primary goal in booking. The need to get room to rest, gather with friends/family, and go on business trips are still the main goals of the customer in reserving a hotel room. However, this study also demonstrates the significant impact of the OTA players on consumer device usage. In Indonesian customers, a new behavior to get economic benefits has emerged due to the OTA industry's encouragement of exclusive promotions and discounts on mobile applications.

As a theoretical contribution, this study has enriched the existing literature by establishing a correlation between user characteristics and how they use smartphones for tourism planning, focusing on hotel booking in mobile applications. This study sheds light on customer behavior throughout the hotel booking journey via mobile applications, whereas previous research has focused primarily on the journey's initiation. As a practical implication, the resulting customer segmentation provides insight for hoteliers and online travel agents to improve their current services by adjusting themselves according to different segments' needs and avoiding customer pain points. For OTA application enhancements, it should be noted that customer behavior will vary depending on the booking purpose. In other words, a particular customer can belong to different segments, depending on the purpose. Therefore, at the customer search stage, the purpose of the purchase can be asked by the OTAs so that they can create more effective and targeted advertising campaigns for customers and adjust the service accordingly.

This study has limitations since it was conducted in only one country. Therefore, the results may vary when applied to other nations. In addition, limitations in the number of participants can also affect the segmentation's outcomes. Each customer segment's demographic and behavioral factors can be

explored further for future research. The introduction of demographics and behaviors of customers can be used for digital marketing activities on social media so that the advertisements displayed for each customer can be more personalized. Moreover, the quality and robustness of the customer segment produced in this study can be further tested based on the criteria of homogeneity, size, potential benefits, segment stability, segment accessibility, segment compatibility, and segment actionability.

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