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Service Innovation in Resort Management: The Case of a Tourism Firm in Indonesia

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Abstract. *Purpose: This study adopted a design thinking approach to create an artificial intelligence (AI)-integrated chatbot that enhances service responsiveness while simultaneously leading to operational efficiency and enabling personalization. Methodology: Through qualitative research techniques comprising a literature review and interviews with nine people, this study identifies critical service-specific pain points. It delves into the transformative role of AI within the realm of resort management performance. Here, the Gioia Methodology was used to analyse the qualitative data, thereby enabling systematic coding and concept development, as well as the development of robust theoretical propositions for future research. Findings: The results provide relevant information on AI-driven knowledge co-creation, operational transformation through AI chatbots, and customer-centric innovation. This analysis yielded three theoretical implications: (1) AI chatbots enable knowledge co-creation that benefits interdepartmental communication and real-time information sharing; (2) AI chatbots transform service operations by addressing knowledge gaps and allowing automation in coordination; and (3) AI-driven personalization fosters customer experiences, which subsequently fosters service innovation in the context of resort management. Implications for Theory and Practice: The study theoretically extends service-dominant logic (SDL) and the technology acceptance model (TAM) by showcasing how AI facilitates co-creation and personalized service. Practically, it offers resort managers actionable insights on leveraging AI to improve operational workflows, service quality, and customer satisfaction. Originality/Value: This study offers a novel contribution by applying the Gioia Methodology within a resort management context. It produces grounded theoretical propositions that can guide future research on AI-driven service innovation. The originality of this work lies not only in the context of SME-based resorts but also in the methodological rigor and development of transferable insights for theory and practice.*

Keywords: *Service innovation, resort management, customer experience, customer-centric innovation, AI chatbot, and design thinking.*

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Introduction

Resorts facing particular problems require innovative approaches to meet changing traveler expectations. Design thinking is critical in the response process because it focuses on empathy, ideation, and rapid prototyping, thus providing an excellent methodology (Xiang et al., 2021). Design thinking is an adaptable, analytical, and creative process that can iteratively develop and refine solutions based on feedback (Gwangwava, 2021; Razzouk & Shute, 2012). It is an ideal approach for solving complex resort management challenges (e.g., managing disruption, efficiency, demand, and new services; Gwangwava, 2021). Adopting an approach that allows resort managers to see the customer's perspective more deeply and adapt services to suit specific needs leads to more flexible and practical innovations in line with the customer journey (Kumar, 2018; Lim et al., 2017).

In the resort management, service quality is a determining factor for survival in competitive environments (Crick & Spencer, 2011). This becomes even more challenging within resorts, given the difficulty of cross-departmental coordination that typically leads to latency in services and disjunctive customer experiences. Researchers have highlighted that speed and interaction quality strongly influence customer satisfaction (Barsky, 1992). Notably, user experience requires a broader view beyond transactional outcomes (Dominici & Guzzo, 2010). To respond to these specific needs, resorts are encouraged to innovate and adopt customer-centered practices (Victorino et al., 2005); for example, in terms of service automation and artificial intelligence (AI) integration, which may increase a service's agility and personalization (Chang et al., 2016; A. M. Torres & Sipe, 2020).

However, inward constraints exist at many resorts, including legacy systems, outdated attire, understaffing problems, and a lack of cross-department communication (Sangpikul, 2021), highlighting the need for tailored, design thinking-informed interventions that could improve responsiveness and consistency.

The hospitality field includes diverse service industries such as lodging, food and beverage, travel, and event planning, which share a common focus on delivering a memorable customer experience (Bottorff, 2013). Resort management is loosely defined as managing an integrated establishment offering accommodation and other leisure services (Brey, 2010). Resort operations are often more complex than standard hotel services due to their multidisciplinary nature and reliance on seasonal demand, cross-departmental coordination, and experiential consistency. Given these distinctive qualities, the research adopted in this study focused on resort management to investigate how innovation in services particularly through AI-based interventions may respond to resort-specific difficulties in Indonesia.

Valley Resort, despite its strong average rating of 8.8 out of 10, has also received alarming scores of 1 (very dissatisfied) and 2 (unhappy), indicating service failures that require urgent attention (Brey et al., 2008). Common complaints include delays in service, incorrect room allocation, and staff's inability to resolve issues, reflecting gaps in internal communication and service delivery (Lewis & McCann, 2004). Design thinking can potentially develop solutions to these problems; however, this has not been fully applied in resort management. Since tourists' acceptance of service innovation depends on perceived value, ease of use, and enjoyment '(Han et al., 2021), there is a need to accommodate technological solutions as part of user requirements.

Although technology in the tourism sector has been widely explored, few studies have approached design thinking as a systematized human-centred form of innovation. This study addresses that gap by using design thinking to uncover operational pain points and inform AI-based interventions in resort settings. It extends the technology acceptance model (TAM; Go et al., 2020) by examining how chatbots are adopted based on usefulness and usability.

It aligns with service-dominant logic (SDL; Lusch & Vargo, 2014) by positioning AI chatbots as enablers of value co-creation. This integration offers a novel theoretical contribution to digital service innovation in hospitality.

The principal research questions explored in this study are presented as follows: What are the predominant challenges that Valley Resort encounters? What are the most effective solutions to address these challenges? How can the solutions address key pain points in resort operations and contribute to new insights in service management? These research questions were constructed based on the qualitative exploratory mechanism of this study, derived from a human-centred innovation perspective. Rather than assuming a predefined solution, the study starts by articulating the challenges that Valley Resort faces on the ground by observing user needs and operational requirements. This flexible approach facilitates the emergence of novel solutions, such as AI-driven service enhancements, through iterative analysis and design. Thus, this study aims to identify priority problems in Valley Resorts and create appropriate solutions.

Literature Review

The resort industry is a unique sector of the hospitality field, operating in an environment where multiple contemporary issues may present themselves for managers to deal with. Notably, previous studies have paid limited attention to the philosophy of resort management. Additionally, research must provide clear and distinct resort practices that distinguish are distinguishable from hotel operations in general (Brey et al., 2008). Brey (2010) reviewed existing mechanisms and management styles used in the resort industry and addressed how management controls consumers and employees, as well as precisely what is happening. The resort context is unique and has yet to be discussed in the literature regarding crowdsourcing. It devotes further attention from theory to practice because operational issues at resorts are particularly challenging due to their seasonality, high variance in customer demographics, and the integration of leisure and resort management services.

In the resort industry, service quality is crucial for the success and delivery of memorable customer experiences (Brey, 2010). Resort managers must deal with everything from consumer expectation management to employee engagement and productivity (Brey et al., 2008). Costa et al. (2004) identified service reliability, responsiveness, and empathy as critical determinants of customer satisfaction in a resort environment. A long wait time to receive a service, misallocating rooms, and slow troubleshooting by staff could cause profound customer disappointment (Sangpikul, 2021). Uslu et al. (2024) provide insights into how the quality of experience affects the satisfaction of visiting consumers, thereby increasing their loyalty. Previous studies have also stressed the need to consider consumer preferences and incorporate advanced and innovative technologies to improve customer experiences (Brey, 2010).

Innovation involves developing new and effective resort services to enhance the image, reliability, integrity, and quality of a resort (Wikhamn et al., 2018). Indeed, several recent studies have suggested that innovation is increasingly essential in resort management. It can improve customer experience and efficiency, giving enterprises within this sector a competitive advantage. The advantages of including cutting-edge emerging technologies in resort management have been highlighted through recent research in areas such as virtual reality (VR) and augmented reality (AR). In short, these novel technologies can alter the management of tourists and their experiences and demands, resulting in customized immersive on-site encounters (Brey, 2010). This is particularly emphasized in the context of the resort sector, where innovation is crucial. Chang et al. (2016) studied the feasibility of a universal innovation service in the Taiwan resort industry and proved that

technology integration simplifies operational processes, enhances service quality, and improves efficiency.

Applying design thinking across sectors, such as entrepreneurship, has boosted innovation and customer interaction by empathetically following an approach to understanding client needs. This involves generating ideas and testing prototypes for solutions (Menon et al., 2023). Design thinking has captured the attention of management and the audience's imagination across various design disciplines, including tourism. The core principles of design thinking empathy, ideation, and prototyping can help resort operators develop new solutions to problems. When applied to the resort field, design thinking can elevate customer experiences (Aggarwal, 2024). Another study on hotel service design used the benefits of deploying a design thinking approach to identify customers' pain points and develop new solutions that appeal more to customer preferences. Design thinking can also facilitate the successful implementation of technologies such as AI and VR to enhance customer experiences. Moreover, considering the human side of such complex structures, both issues and solutions revolve around the relationship between humans and machines (Mingotto et al., 2021). Design thinking principles could serve an even more significant role for resort managers in finding the right balance between human touch, technology, and the delivery of personalized and unforgettable customer experiences.

There are certain critical steps that resort managers should apply to efficiently utilize design thinking in their context. According to Brey (2010), the preliminary condition for resort managers is to have a thorough knowledge of the needs, preferences, and discomforts occurring during their customers' holidays through empathetic research and observation. This method can include customer interaction, determining what motivates customers, and finding ways to enhance their overall experience. Second, resort managers should create a culture of innovation and collaboration to allow their teams to generate new ideas (Marasco et al., 2018). This culture could include workshops, brainstorming sessions, or rapid prototyping to execute and iterate ideas. Finally, resort managers must utilize an iterative design process to obtain real-time feedback and continuously improve customer experiences (Kandampully et al., 2015). This agility implies that resort operators can quickly react to myriad shifts in customer preferences and market conditions.

AI-Driven Knowledge Co-Creation in Resort Management

Resort management innovation is changing with AI-based collaborative knowledge creation. AI has evolved from a one-layer automation mechanism to an interactive intelligence that adds service excellence by learning from customer interactions and operations. With interactive, AI-powered content and experiences, appreciation grows, leading to satisfaction and long-term loyalty (Borges-Tiago & Avelar, 2025; Majeed, 2024). Simultaneously, automating AI chatbots can relieve some of the functions of routine service people so that staff can focus on tailored, high-impact customer interactions, thereby improving business efficiency (Jamshed et al., 2024).

AI enables hyper-personalization in resort services by leveraging real-time customer data to offer tailored recommendations, such as room preferences and dining options, thereby enhancing service smoothness and memorability (Gupta & Pareek, 2024; Panjrolia et al., 2023). Beyond customer service, AI supports sustainability and innovation by helping businesses optimise resources, reduce waste, and implement data-driven initiatives to improve energy efficiency and system flexibility (Avula et al., 2024; Borges-Tiago & Avelar, 2025). This shift toward AI-powered service co-creation represents an emerging game-changer in resort management. This concept bridges technology with human expertise to create efficient, customized, and industry-leading experiences.

Operational Transformation Through AI Chatbots

Integrating AI-powered chatbots into resort management marks a significant shift from traditional manual service operations to automated, predictive, and real-time service management. This transformation is being facilitated by AI technologies, including natural language processing (NLP) and machine learning, which equip chatbots to deliver on-demand assistance, tailored suggestions, and round-the-clock service –(Ahmad et al., 2024; Talukder & Kumar, 2024; Vashishth et al., 2024). The TAM suggests that people adopt a technology when they find it valuable and easy to use. This also applies to using AI chatbots in the resort field (Go et al., 2020; Ho et al., 2022; Mogaji et al., 2024). Using AI and machine learning-driven automation during peak hours can overcome communication barriers and enable real-time orchestration between systems to reduce human error and processing time. Additionally, self-learning AI-based models allow resort organizations to continuously improve chatbot-driven operational workflows, thereby evolving legacy service models into a more scalable and data-centric framework (Dewangan et al., 2024; Jogarao, 2024; Panjrolia et al., 2023; Talukder & Kumar, 2024).

Customer-Centric AI Innovation in Resort Management

Integrating AI into resort management redefines service processes by positioning customer experience as the core of innovation. AI enables personalized service experiences by analyzing customer preferences and history to provide tailored suggestions, individualized travel itineraries, and unique marketing campaigns. This experience creates another layer of personalization to ensure that every customer undergoes a well-designed, streamlined experience that ultimately contributes to customer happiness and loyalty. Additionally, AI-based chatbots and virtual assistants provide real-time, 24/7 access to customers for reservations, questions, and personalised opportunities, thereby improving interactions and eliminating service gaps to ensure seamless customer experiences. Furthermore, resorts are increasingly employing VR and/or AR systems to offer immersive previews of their accommodations, amenities, and local points of interest, thus empowering customers to make educated decisions about their visit (Das et al., 2024; Jamshed et al., 2024; Panjrolia et al., 2023).

Beyond enhancing customer experiences, AI optimizes operational efficiency by automating reservation management, inventory control, and pricing strategies, thereby reducing human error and ensuring better resource allocation. AI-powered predictive analytics further enable resorts to predict variability in demand, allowing them to adjust their employee count in real-time and be prepared for any situation, thereby improving sustainability outcomes through activities such as decreasing waste generation and energy consumption (Dewangan et al., 2024; Jamshed et al., 2024; Jogarao, 2024). AI also promotes data-led decision-making, making it easier for resorts to enhance their CRM with targeted marketing campaigns, customer-specific engagement, and strategic pricing models. By using advanced analytics, resorts can gain a deeper understanding of customer preferences, behaviour patterns, and emerging travel trends, enabling them to stay ahead of market demands. This transition to customer-centric innovation underpinned by AI is not merely an exercise in automation it is a holistic transformation in the resort management experience, where technology augments and amplifies the human touch rather than superseding it.

Existing studies in the resort field have primarily focused on measuring service quality and customer satisfaction, as well as applying digital tools to enhance user experiences (Crick & Spencer, 2011; Torres & Sipe, 2020). However, limited research has applied a design thinking approach to identify and address service challenges in resort settings, particularly in Indonesia. Most of the extant literature frames solutions from a top-down perspective, often predefining technological interventions without involving users in the

problem discovery process. The present study addresses this gap by using design thinking to explore user pain points in operational coordination, where AI-driven solutions emerged during the iterative process as contextually appropriate innovations.

Research Methodology

This study used a qualitative research approach to implement design thinking in the resort industry. It gathered insights from previous literature reviews, field interviews, and observations to thoroughly understand the phenomenon. The literature review provides insights into prior research on design thinking, customer experience, and innovation within tourism, focusing on resorts. The theory built through these findings identifies common themes and best practices.

In the empathy phase, in-depth interviews were conducted with existing customers and resort staff. These interviews were structured to validate the customer experience pain points, understand the struggles of resort operators, and identify improvement opportunities through design thinking. The study included five customer interviews, which were adequate for presenting varied opinions. Interviews were also conducted with four resort staff members, who represent a key figure for the entire object. According to Nielsen Norman's group theory, nearly all (85%) usability problems can be identified with just five users, making the sample size sufficient for this qualitative study –(Bevan et al., 2003).

The interview instruments used in this study were semi-structured guides with open-ended questions tailored to each group, which allowed the deep exploration of experiences and expectations. Informants were selected based on their direct engagement with resort operations or recent customer experience (within the last 6 months), thus ensuring relevance to the study context. To enhance data validity, member checking was applied during follow-up sessions, where key interpretations were confirmed with selected participants. Peer debriefing was also performed with scholarly colleagues to minimize bias and confirm arising codes. To ensure that the findings aligned with user needs and operational requirements, validation was incorporated throughout each level of analysis as part of the design thinking process. In the empathy phase, customer insights were directly validated with resort customers to ensure the accuracy and relevance of the identified pain points.

The interview questions for customers focused on their overall experiences at resorts, as well as their expectations and preferences. The resort staff's interview questions concerned their current practices and challenges in providing the best possible customer experiences. Interviews with current customers and resort employees lasted for 60 minutes. This stage led to creating user journey mapping and personas for resort customers. Staff resort interviews provided empathy map insights into customer experiences and management practices. Key interview insights were analyzed at the defined stage to understand the pain points and identify emerging themes. Using this data, the team produced a problem statement and design objectives to guide the ideation and prototyping stages. Formulating the point of view statement and "how might we" (HMW) questions aimed to focus the design thinking process on the most critical issues facing resort customers and operators.

During the ideation stage, this study used a series of brainstorming workshops to generate creative solutions that addressed the identified problems and aligned them with design criteria. The team explored ideas with 6-3-5 brainwriting. The 6-3-5 brainwriting method is a brainstorming technique that allows participants to organize ideas in a structured session. In total, there were six participants, including experts in resort management (one person), potential customers (two persons), existing customers (two persons), and internal staff (one person). Using this method, six participants wrote down three ideas each,

which were rotated or passed on to other participants to be added to or expanded for five rounds. The results were integrated into three main groups of ideas based on similarities. The ideas were then evaluated for their potential impact and ease of implementation using a 2×2 matrix and expert opinions. In the ideation stage, the proposed ideas were reviewed by both resort customers and employees.

In the prototype stage, the team selected the most promising ideas to develop low-fidelity prototypes for validation with customers and staff. The prototypes were created using Figma and focused on critical areas requiring user testing, including current customers and resort staff. The final prototype was illustrated by creating a video so that users could easily observe it. In the prototype stage, the usability and feasibility of the solutions were tested and refined through feedback from resort employees.

The prototypes were then tested on five participants: three existing customers and two resort staff. The evaluation criteria were established before the testing phase, and this study used the System Usability Scale (SUS). Feedback from customers and staff during the test phase was used to refine and iterate the design solutions. The methodology of usability testing was as follows:

(1) Participants: Recruit participants who matched the demographics of resort users (e.g., age, gender, and travel frequency);
(2) Use cases: Real-world scenarios where participants might use the system to book a massage after a long day or during a resort vacation;
(3) Observations: Observe users performing tasks and write notes to identify usability problems; and
(4) Interviews: The participants were interviewed after they performed the tasks. This step helps us better understand user experiences and identify potential improvement areas.

The SUS (Brooke, 2014) is an excellent measure of system usability. It consists of 10 questions answered on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Users rated the system based on their experience. All the item scores were summed to calculate the SUS score. The contribution score of each item varied from 0 to 4. For odd-numbered items (positive statements) (negative statements), the score contribution is usually (scale position-1). The score contribution is usually (5-scale position) for even-numbered items. To obtain the overall value of SUS, the final sum of scores was multiplied by 2.5. The total value of SUS ranged from 0 to 100. Meaning of SUS: If 70 or higher is considered good, it indicates a high level of satisfaction; if it is below 70, this suggests that improvement is required.

This study used a mix of design thinking and the Gioia Methodology to make sense of the qualitative data obtained from interviews. Design thinking was adopted to match the exploratory and user-centred nature of the study. This approach enables the researchers to dig deeper with customers and staff to find practical service pain points and co-create potential new solutions. Throughout the analysis process, the facilitation techniques of the Gioia Methodology were employed to ensure academic rigor, which consists of using emergent insights to cluster the data into first-order concepts, second-order themes, and aggregate dimensions (Gioia et al., 2013). An integrative approach of creative idea generation and systematic structuring permits the identification of contextual challenges and AI-driven innovation strategies in resort management. Figure 1 highlights how this methodological integration enabled the study to move iteratively from problem discovery to conceptual insight while maintaining user relevance and analytical robustness. The research methodology process is illustrated in Figure 1.

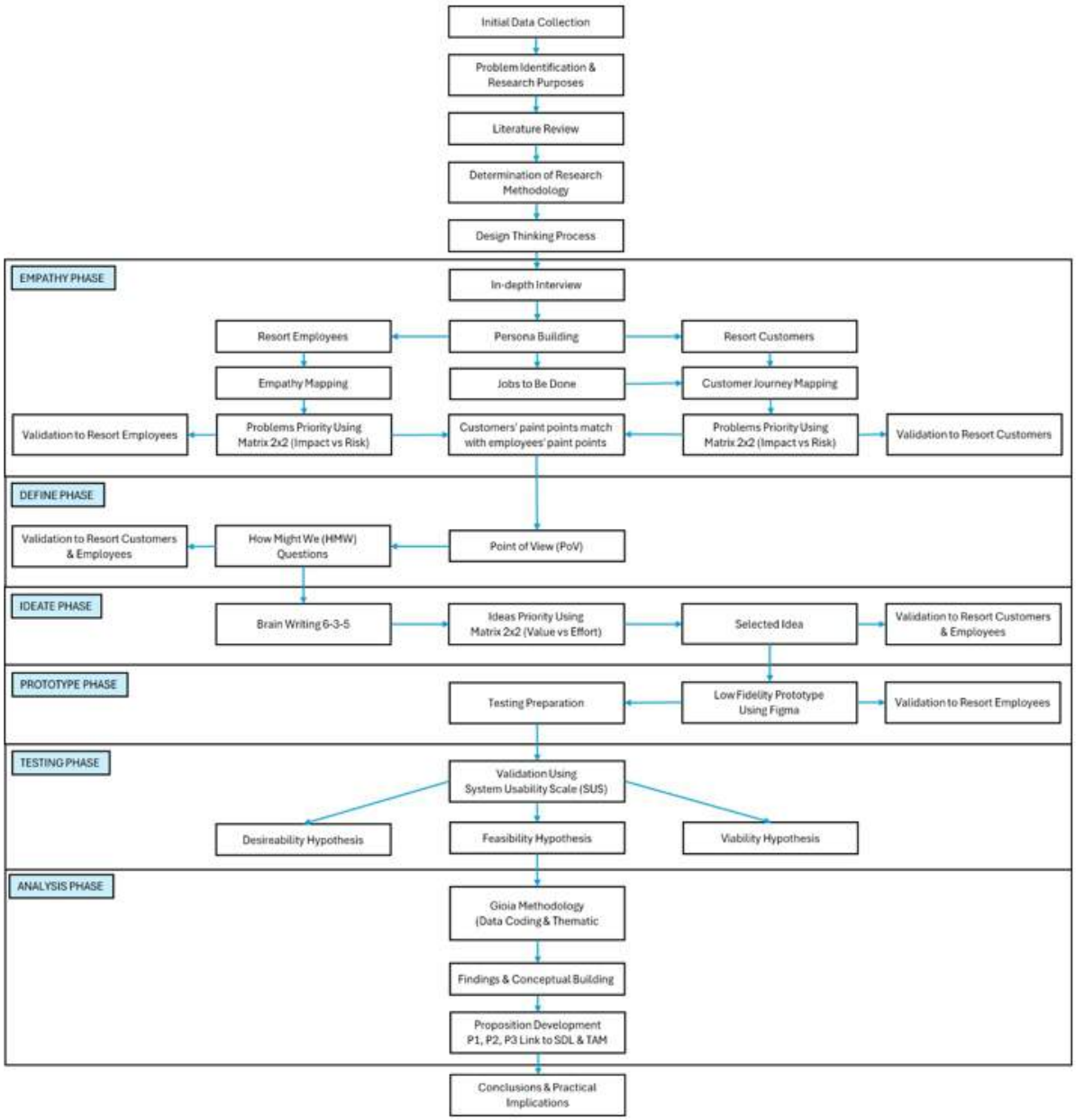

Figure 1.
Research Methodology
(Source: Authors).

Findings and Discussion

Findings

1.1 Empathy Phase

According to insights from existing customers' interviews, this study builds the persona or archetype of existing customers. This persona reflects the existing customer segment of Valley Resort. The description is as follows: "Aghina, 38 years old, is a corporate executive who frequently attends retreats and conferences. Efficiency, as a matter of speed, is one thing she admires. She works full-time, so the quality of time spent at the resort is lovely. She looks for easy service without thinking or stressing about service deficiencies from her past experiences, allowing her to maximise her relaxation time. She is frustrated because she often feels the service is slow and lacks follow-up from the resort staff. For example, when she requires assistance with dinner reservations or room service requests, she routinely makes reminders for staff, breaking the tranquility of her stay. These experiences created a sense of dissatisfaction, making her reluctant to return or refer to the resort to colleagues." The jobs to be done by Aghina are listed in Table 1. The journey mapping insights from interviews with five existing customers are summarized in Table 2.

Table 1.
Jobs To Be Done

Situation	Motivation	Outcome	
		Functional Jobs	Emotional and Social Jobs
To remove herself from the daily routine, Aghina goes on recreational trips to Valley Resort on weekends to unwind from work mode and enjoy bonding with her family.	She wanted to enjoy recreation and relaxation, but only had a short time during her holiday. She wanted an effortless experience that would re-energize her and allow her to return to work with a renewed spirit.	a. Prompt Service Response: She must receive prompt responses from the staff concerning any services requested, from room service to exceptional assistance. b. Consistent and Accurate Information: She values accurate and timely information regarding resort facilities and activity schedules to help her plan.	Feeling Valued and Essential: She must be satisfied with the resort staff's responsiveness and obligation toward her preferences, which helps validate her as a customer.

Source: Authors.

Table 2.
Existing Customer Journey Mapping

Stages	Awareness	Consideration	Acquisition	Service	Loyalty
Steps	People are looking for a convenient, fully serviced place to relax.	People compare Valley Resort with other resorts in the area.	People decide to book a stay.	People experiencing a stay at Valley Resort.	People provide feedback.
Thinking	I want a place to relax comfortably without worrying about the quality.	Am I getting the best deal for my money at Valley Resort compared to others?	Does Valley Resort offer the type of accommodation I am looking for?	We expect a high level of service that aligns with the price paid.	Consider returning or recommending the resort to others.
Doing	I searched for online reviews and searched for promotions on social media.	Visit the official website, ask through the call centre, and compare the packages offered.	Make a reservation via a travel agent.	Using the facilities and services at the resort.	Provide feedback via social media.
Feeling	I desire to find a place to meet my recreational needs with satisfactory service.	I am inquisitive but may be hesitant due to reviews about slow service.	I am excited and look forward to a pleasant stay.	I was frustrated when services were not responded to immediately, or I had to repeat requests.	Disappointment if the experience was terrible, happiness and satisfaction if expectations were met.
Pain Points	Difficulty finding complete and reliable information about services and facilities.	Inconsistent information across platforms.	No pain point.	Slow service, especially in large areas and during peak customer stays.	No follow-up on feedback or complaints was given.
Opportunities	The resort could strengthen its online presence through SEO, positive reviews, and interactive promotions on social media.	The resort could provide chatbots for fast responses and integrated information across all digital platforms.	No suggestion.	The resort could implement mobile technology, such as mobile applications that directly connect to the required services.	The resort could make attractive loyalty programs.

Source: Authors.

According to Table 1, four pain points were identified. This study focuses on the steps that people take to stay at resorts, which can help them improve their performance (first priority pain point). Based on the impact and risk analysis, the ranking of pain points was identified from existing customer interviews, starting from the most critical:

(1) service is slow and inefficient (service stage);
(2) invalid information (awareness and consideration stage);
(3) ineffective correspondence (loyalty stage); and
(4) service is not personalized (service stage).

The insights from the interviews with four internal resort staff members are summarized in Table 3.

Table 3.
Empathy Map of Resort Staff

Insights	Roni Front Desk Officer	Dewi Housekeeping Supervisor	Doni Concierge	Sari Operations Manager
Thinking	He wants each customer to feel welcome and know what is going on.	She has to ensure that all rooms are decorated and ready on time. On weekends, she needs more workers.	He should know what is new in the restaurant since he should recommend it to customers.	She must ensure the departments work well and hard; this will be a hectic weekend.
Doing	"I greet arriving and departing customers, answer phones, or provide information on arrivals, room availability, and facilities."	"We coordinate with housekeeping, check rooms, and prepare room supplies."	"Inform and guide customers and control transportation as well as reservations."	"Responsible for daily activities on the property, including coordinating with the front desk, housekeeping, F&B, and customer services."
Feeling	Feelings of tension and being overwhelmed occur when the queue is long, and it starts to show that the clients are getting impatient.	Overwhelming and frustrated when lacking resources but loaded with expectations.	Helping and seeing the customers enjoy their stay.	Stress occurs when teams do not meet their key performance indicators.
Saying	"We will help you soon. Thank you for your patience."	"We care about achieving efficiency and speed."	"This is a great area with many cool things to do here and in the vicinity. Let me help you organize those."	"Efficiencies and customer experiences are top priorities."
Pain	It is hard to work with the queues, requests do not come out at peak moments, and systems are slow.	During peak times at the restaurant, there is pressure to clean as much as humanly possible, even if they are short-staffed.	Nearly all requests are too complex to meet simultaneously.	Managing and reserving enough resources to deal with peak times is challenging.
Gain	He wants to see the customers smiling.	Feeling of pride when customers or management recognize her team's hard work.	A feeling of delight when a customer appears again, saying, "A friend referred me, so I thought to try it."	Proud of having satisfied customers, which reflects the team's hard work.

Source: Authors.

Based on the pain points highlighted by the four resort staff, key areas must be addressed as part of human resources and technology management. Here are the priority issues to address based on risk and the impact on operational efficiency and staff well-being:
(1) lack of workforce and resources;
(2) old technology systems;
(3) unclear interdepartmental communication; and
(4) improper training.

The top three employee pain points match the priority pain points of existing resort customers. The pain points from customers and employees highlight an urgent need for service innovation within the resort. The study began with an empathy stage to comprehend user discovery and requirements. The interviews with existing customers and direct observations clarified that consumers need help to be completely satisfied with the speed and efficiency of service.

1.2 Define Phase

In the define phase, the research team consolidated the collected data to form a clear point of view (PoV). The PoV developed is centred on improving the responsiveness and consistency of hotel services so that customer experiences become more satisfying. According to Kimbell (2011), determining an accurate PoV is critical in a user-centred design because it defines the direction in which the solution will be developed. This study developed a problem statement that reflects functional needs and users' emotional and social needs, which, according to Sanders and Stappers (2008), are essential in empathetic design.

This study also developed HMW questions based on synthesizing user insights to stimulate creative thinking and open up various possible solutions. HMW questions, including "How might we improve the responsiveness of our staff to ensure that all customer requests are addressed promptly and satisfactorily?" were reflected in encouraging ideation in the next phase. The PoV and HMW question are presented in Table 4.

Table 4.
PoV and HMW Question

Insights	Needs	Point of View	How Might We Question
Valley Resort's service demands are high, especially on weekends, and consumers have significant expectations. Busy executives like Aghina come to the resort seeking a place to escape from their regular work environment. Everyone wants quick bookings with responsive service and accurate information about resort amenities and activities. However, they are frequently disappointed by slow service, especially when requesting special services such as spa treatments or specific meals.	(1) The resort staff's response time to every request is another key factor since it allows clients to never be kept waiting and keeps them happy. (2) Ensuring Quality and On-Time Information: A fast-reference guide to resort amenities allows customers to plan better.	As a busy executive, Aghina considers time valuable. She believes a resort should provide services that meet basic needs and optimise the recreation and relaxation experience. Any failure in service is seen as a severe deterrent to the resort's ability to fulfil its primary purpose as a luxurious escape.	How might we improve the responsiveness of our staff to ensure that all customer requests, such as those of Aghina, are addressed promptly and satisfactorily?

Source: Authors.

1.3. Ideate Phase

6-3-5 brainwriting is a structured method used to help people organize ideas in a brainstorming session. Using this method, six participants contributed at least three ideas and rotated them from one participant to another for up to five rounds, adding further insights. The generated ideas were then grouped around how to help make staff more responsive and promptly handle all customer requests. The following provides some solution ideas that were obtained using this approach:

(1) Round 1: Six participants approved three leading groups of ideas:
   (a) dispatch a mobile or tablet app, thereby enabling staff with real-time customer request technology and informing their follow-up actions;
   (b) rapid response to staff training; and
   (c) task scheduling.
(2) Round 2: Six participants approved three leading groups of ideas:
   (a) wearable devices for staff;
   (b) a management control real-time dashboard; and
   (c) a quick response incentive program.
(3) Round 3: Six participants approved three leading groups of ideas:
   (a) standardized response time targets for all requests;
   (b) basic request handling by AI chatbots; and
   (c) improving internal communication technology.
(4) Round 4: Six participants approved three leading groups of ideas:
   (a) customer real-time feedback loop following every response;
   (b) request management system data analysis, as well as ongoing training and feedback; and
   (c) develop a customer service team.
(5) Round 5: Six participants approved three leading groups of ideas:
   (a) review operational processes and optimisation;
   (b) upgrade facilities and work aids; and
   (c) provide staff with monthly stress management workshops.

This study then took the 15 ideas and rated them on a value-based scale related to how they might impact staff response (for better or worse) and the effort (resources, time, cost) required to implement the ideas. This assessment was conducted by an expert with more than 5 years of experience in resort management practices, staff members, current customers, and potential tourists who frequently visit family resorts. Here is how the topics were broken down.

(1) High value, low effort:
   (a) basic request handling by AI and chatbots;
   (b) task scheduling;
   (c) response time targets are standardized for all requests; and
   (d) customer real-time feedback loop established following every response.
(2) High value, high effort:
   (a) dispatch a mobile or tablet app, enabling staff with real-time customer request technology and informing their follow-up actions;
   (b) rapid response to staff training;
   (c) wearable devices for staff;
   (d) request management system data analysis, as well as ongoing training and feedback; and
   (e) develop a customer service team.
(3) Low value, low effort:
   (a) improve internal communication technology; and
   (b) provide staff with monthly stress management workshops.
(4) Low value, high effort:
   (a) management control real-time dashboard;
   (b) quick response incentive program;
   (c) review and optimisation of operational processes; and
   (d) upgrading facilities and work aids.

After analyzing how much each idea would increase staff responsiveness and the urgency of its implementation, the team ranked all ideas under "high value, low effort" in terms of operational efficiency. The criteria used for prioritization were based on the resort's limited workforce.

This assessment included opinions from an expert with over 5 years of experience in resort management practices, a resort staff member, an existing customer, and a future prospective tourist to family resorts. The priorities are as follows:

(1) Basic request handling by AI chatbots
Operational efficiency (high priority): AI chatbots can consistently handle many repetitive tasks (e.g., check-in times and booking requests), freeing up human resources to focus on more complex tasks. They can also operate 24/7, ensuring immediate response without human intervention.

(2) Task scheduling
Operational efficiency (moderate to high priority): Properly scheduling staff to handle peak hours improves operational flow, reduces bottlenecks during busy periods (e.g., check-ins and meal times), and ensures that resources are available when needed. However, this still requires human labour, which limits the overall efficiency gain.

(3) Standardize the response time targets for all the requests
Operational efficiency (moderate priority): Setting response time targets helps to streamline processes and ensures timely service delivery. However, it does not directly reduce the manual workload or eliminate inefficiencies; it simply ensures that the existing processes are more consistent.

(4) Customer real-time feedback loop following each response
Operational efficiency (moderate priority): The feedback loop improves service quality by offering insights into customer satisfaction in real-time, allowing for immediate corrective actions. However, it does not directly impact the operational flow or significantly reduce the workload.

After the ideation process, the AI chatbot emerged as the most feasible solution to address the resort's key challenges. Table 5 presents a thematic framework linking specific pain points to their innovation directions to clarify how this solution aligns with customer and staff concerns. This framework demonstrates how an AI chatbot offers practical responses to the core problems identified during earlier research stages.

Table 5.
Key Pain Points and Innovation Directions in Resort Management

Stakeholder	Pain Point	Theme	Innovation Direction
Customer	Service is slow and inefficient (top priority)	Service efficiency	Use an AI chatbot to answer questions and requests quickly.
Customer	Service is not personalized	Personalised experience	An AI chatbot gives different answers based on the customer's needs.
Staff	Lack of workforce and resources	Scalable operations	An AI chatbot helps with repeat tasks so staff can focus on more complex jobs.
Staff	Old technology systems	Technology upgrade	Add an AI chatbot without changing the whole system.
Staff	Unclear interdepartmental communication	Better coordination	AI chatbots give the same information to customers and the team, reducing miscommunication.

Source: Authors.

1.4. Prototype Phase

(1) Concept description: A simple AI chatbot for the WhatsApp platform to handle basic customer requests.
(2) Overview:
An AI chatbot application using the WhatsApp platform was developed to answer Valley Resort customers' basic inquiries faster and more efficiently. Powered by AI, this solution automates customer communication, allowing customers to obtain instant responses 24/7.
(3) Objectives:
   (a) Quick response to requests;
   (b) Lightened staff workloads; and
   (c) Improved customer experience.
(4) Key features:
   (a) Integration with WhatsApp;
   (b) Natural language processing;
   (c) Reservation and booking automation;
   (d) Notifications and alerts; and
   (e) Feedback (Real-time).
(5) Implementation:
   (a) Development of an AI chatbot;
   (b) AI training;
   (c) Testing and iteration; and
   (d) Launch.
   (6) Expected benefits:
   (a) Higher operational efficiency;
   (b) Greater customer satisfaction; and
   (c) Data and insights.

A WhatsApp chatbot for booking services was created using the design tool Figma. The six steps of the booking process were as follows:
(1) greeting screen;
(2) menu services;
(3) select service;
(4) schedule an appointment;
(5) confirm details; and
(6) confirmation of booking.

Each step in this prototype is designed to provide the user with an easy and intuitive interaction, booking a massage in a hotel room as fast as possible. Screenshots taken at each step show a clear layout, simple use of text, and straightforward step-by-step instructions to make it look like the chatbot has been integrated into a platform such as Figma. An illustration of this is shown in Figure 2. An AI chatbot-based approach to simple WhatsApp-based request handling at Valley Resort may be able to cater to some of the following critical customer pain points identified from their interviews:
(1) service is slow and inefficient (service stage);
(2) service is not personalized (service stage); and
(3) ineffective correspondence (loyalty stage).

Thus, AI chatbots can serve as reliable front-liners in handling customers to ensure that they obtain a prompt and correct response. This can be made even more possible by reducing the pressure on human staff, thus ensuring that the human staff does not become overloaded with work. Therefore, AI chatbots enhance the speed and quality of the service and the overall customer experience at the resort to higher satisfaction levels, which naturally attracts positive reviews.

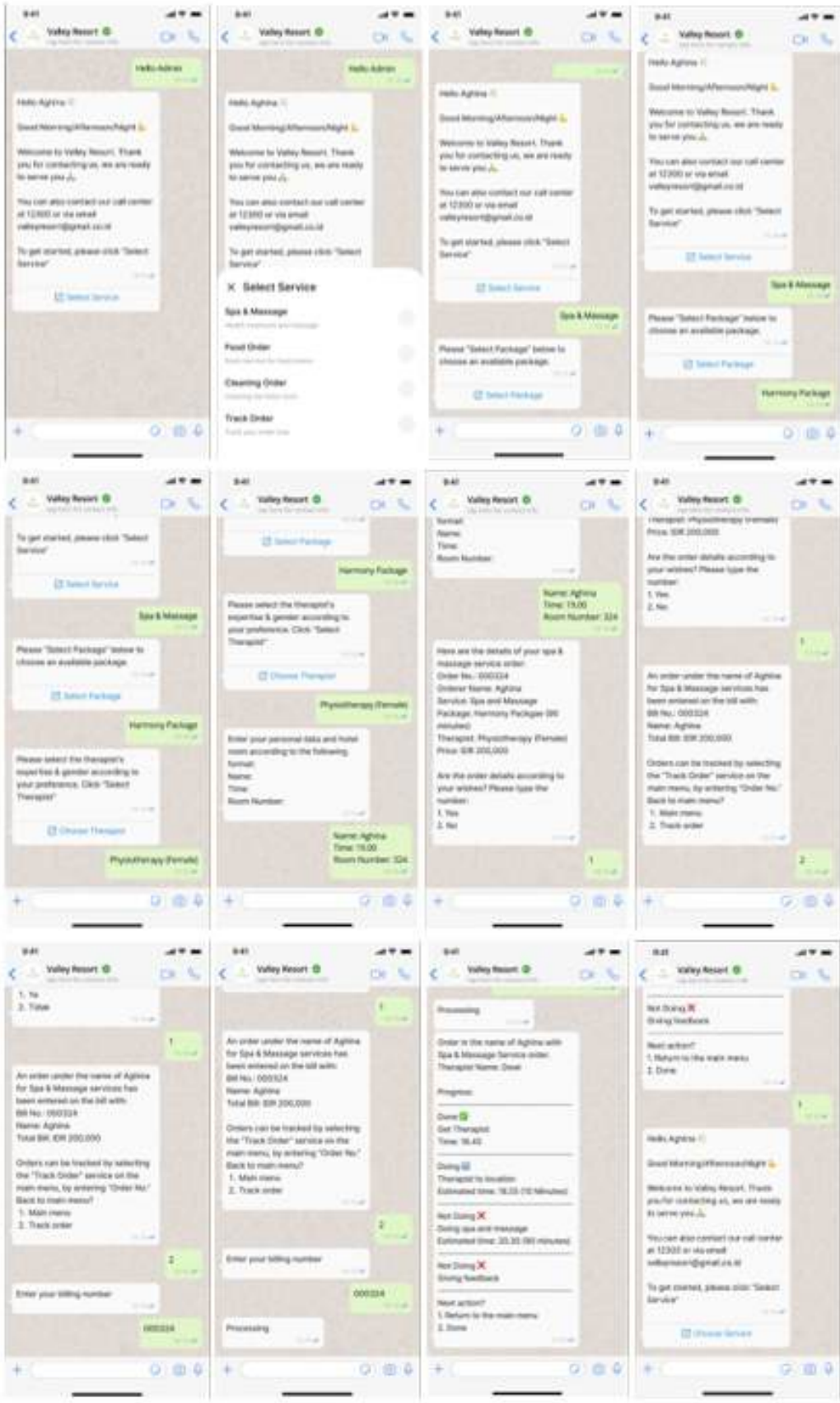

Figure 2.
Prototype of WhatsApp AI Chatbot (Source: Authors).

1.5. Testing Phase

The participants were asked to watch a video from a prototype created by the research team, as shown in Figma. Thereafter, participants were interviewed regarding their positive or negative responses to the prototype. This study evaluates the WhatsApp AI chatbot's desirability, feasibility, and viability as a service innovation in resort management. Participants were asked to complete a SUS assessment, followed by qualitative feedback to evaluate the desirability. The goal was to determine whether the chatbot is perceived as easy to use and effective. In examining the feasibility, the study investigates the chatbot's technical and operational integration into existing resort workflows, isolating potential issues regarding adoption. Lastly, as part of the viability assessment, the study examined the chatbot's impact on cost savings and customer engagement to establish whether it offers a sustainable and value-added strategy for resort management.

The practical implications of these findings for resort managers are significant since they provide insights into the potential benefits of integrating a WhatsApp chatbot into their operations. It was through testing these three hypotheses that the study thoroughly assessed AI service enhancement in resort management. Additionally, the participants were asked to provide feedback to improve the quality of the prototype before it was launched. This test aims to measure user agreement and satisfaction with the solution to increase the effectiveness and efficiency of resort services. The test results and feedback are presented in Table 6.

Table 6.
Usability Testing Results

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Profile	Sarah, aged 34, is a frequent business traveler	Moka, age d 45, prefers a relaxed travel experience	Milla, age d 29, frequently travels with friends	Jemi, age d 52, is looking for convenience in all services	Linda, age d 38, prioritizes convenience and efficiency
SUS Score	75	70	80	70	75
Feedback	Suggested adding photos of the service.	Positive feedback; suggested calendar integration for reminders.	Provided positive feedback and suggested adding photos of the service.	Provided constructive feedback; would have liked more precise instructions.	Positive feedback: recommend e d improvement s to provide a clear description of services.

Source: Authors

The average SUS score was 74, indicating that the prototype is good. According to the findings, certain steps can be taken to achieve general improvement:

(1) Visual improvements: integrating more accurate information and intuitive visuals will help users better understand what they will get with the service;
(2) Tutorials and FAQs: easily accessible user guides can help new or less technical users; and
(3) Time format adjustments: clearly state the time input formats that can be accepted and provide examples to avoid confusion.

Discussion

In user-centred design, understanding users' emotions and needs is fundamental to shaping meaningful experiences since different individuals may respond uniquely to specific interactions based on their perceived needs (Norman, 2013). This study reveals that inconsistent information and challenges with the digital ordering system have led to customer confusion. These findings are consistent with those who emphasize the significance of uniformity and accessibility in service encounters. This is evidenced by the results of sentiment analysis on online reviews, which show a generally negative attitude towards the resort's response time concerning service (Stickdorn & Schneider, 2011). Furthermore, user stories provide valuable insights into critical service dimensions that are often overlooked by providers (Bødker et al., 2009), offering direction for addressing more specific and actionable service design issues.

Various potential solutions were developed during the ideation phase in response to the HMW questions. As advocated by Osborn (1993), brainstorming facilitates idea generation without constraints a crucial aspect of service innovation. This creativity allows for the exploration of incremental and radical innovation to satisfy changing customer needs (Oe et al., 2022). The generated concepts were then tested regarding their usability and practicality, thus allowing for the selection of the most optimal concepts. Under these constraints, a critical role of prototyping is practical evaluation, which enables iteration in the redesign process in both technical and procedural matters. As pointed out by other studies on tourism policies, this procedure is more relevant than ever –(Seker et al., 2023). Previous studies further emphasize the need for sustainable digital innovation within resort management (Ruppenthal & Rückert-John, 2024).

A prototype was developed to validate the solution's function in real-world scenarios. Prototyping is inherently iterative, involving early model development, user feedback collection, and refinement before final implementation. In this study, low- and medium-fidelity prototypes simulated user interactions to assess their effectiveness in addressing key user experience pain points (Buxton, 2007). Beyond confirming initial design assumptions, prototyping also helps reveal operational challenges in natural settings. Validating a prototype in this way ensures that it remains relevant and functional for real user needs (Houde & Hill, 1997).

The last phase involved usability and the perceived value of the prototype being systematically tested. The dataset was evaluated using the SUS, a well-established instrument for assessing product usability (Brooke, 2014). The feedback accumulated in this stage was key in improving the solution and revealed meaningful learning about user satisfaction. In line with the study's view on usability evaluation, this stage uncovered latent issues that might otherwise hinder real-world adoption (Nielsen, 1994). This user-centered process validated the design and supported meaningful service improvements through design thinking.

Furthermore, the findings offer practical contributions to service experience design within resort management and serve as replicable guidance for broader hospitality innovation projects. Testing of the WhatsApp-based chatbot prototype highlights promising

potential for targeted deployment within specific customer segments. Notably, integrating strategic niche management principles with design thinking may enable ongoing adaptation of the chatbot through focused user feedback, thereby improving its technical functionality and implementation strategy (Schraven et al., 2021).

Integrating AI chatbots within resort management systems significantly influences knowledge processes, including creation, sharing, and transformation. These impacts are observed in several key areas.

a. AI chatbots serve as centralised information sources. They allow staff to access pre-approved answers and perform standard procedures when needed quickly (Lin et al., 2024; Rani et al., 2024; Singh & Kaunert, 2024). This availability enables consistent service provision and promotes a culture of knowledge sharing among employees (Albeshr et al., 2024; Lin et al., 2024). As a result, staff can readily obtain and disseminate relevant knowledge, thereby enhancing operational efficiency and ensuring a unified service delivery mode (Albeshr et al., 2024; Lin et al., 2024; J. O. Torres et al., 2024; Van Noordt & Misuraca, 2019).
b. AI chatbots gather valuable data about customer preferences, frequent questions, and concerns by analyzing customer interactions (Jamshed et al., 2024; Singh & Kaunert, 2024; Vashishth et al., 2024). The data reveal trends and potential impacts that can help management make better decisions. This ultimately improves customer satisfaction and overall service quality (Al-Barrak & Al-Alawi, 2024; Dewangan et al., 2024; Jamshed et al., 2024; Vashishth et al., 2024). Moreover, this enables resort managers to optimise operations and enhance customer experiences through nuanced and practical approaches (Jamshed et al., 2024; Singh & Kaunert, 2024; Vashishth et al., 2024).
c. Implementing AI chatbots also requires personnel to learn new technologies, creating an environment of ongoing training and technological knowledge improvement. This fosters employee learning of new skills and adaptation to innovative logic, further improving the organization's readiness and fitness in a rapidly changing industry (Bakir et al., 2025; Li et al., 2025; Zahidi et al., 2024). Indeed, in resort management, such a culture of continuous improvement is crucial for competitiveness and innovation (Calvaresi et al., 2023; Jogarao, 2024; Sharma et al., 2024).

To further conceptualize the theoretical contributions of this study, the Gioia methodology (Gioia et al., 2013) was applied to structure the key insights emerging from proposing AI chatbots as a service innovation in resort management. The resulting framework is presented in Figure 3.

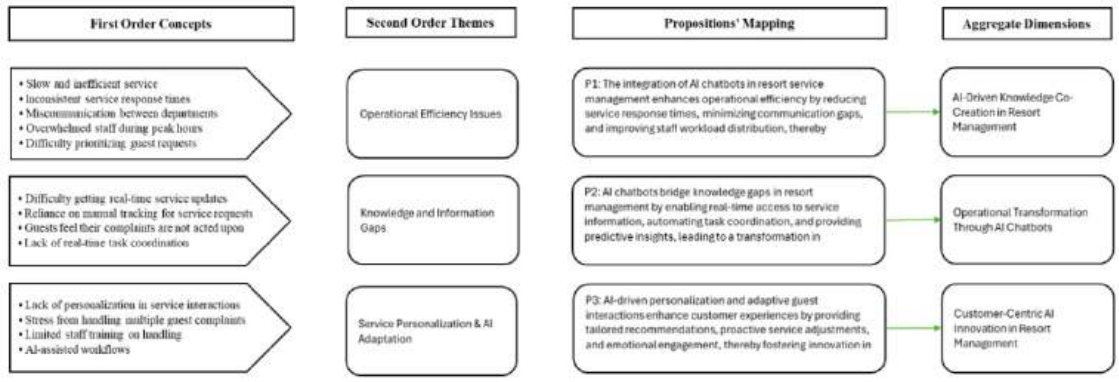

Figure 3.
Conceptual Model Based on Gioia Methodology (Source: Authors).

The analysis presented in Figure 3 demonstrates three primary aggregate dimensions: AI-driven knowledge co-creation in resort management; operational transformation through AI chatbots; and customer-centric innovation in resort management. These dimensions are derived from underlying themes concerning operational efficiency issues, knowledge and information gaps, and service personalization. These are grounded in first-order concepts derived from the qualitative data. This framework elucidates how AI chatbot technology bolsters service efficiency and catalyzes knowledge creation, underscoring the convergence of technology, knowledge management, and service innovation in the resort management domain. This methodical approach enriches the understanding of AI adoption theories within the realm of intelligent tourism and digital evolution in the service sector. These findings reflect the operational potential of AI chatbots in resolving key pain points and how technological integration shapes employee behaviour and strategic direction in resort settings.

AI-Driven Knowledge Co-Creation in Resort Management

The ongoing evolution of resort management has extended to aspects beyond human interaction. Service intelligence is actively built with the help of AI. For instance, AI-powered chatbots serve as virtual archives, continuously compiling information from customer interactions, staff questions, and service records. This can occur when a chatbot helps a customer choose the best restaurant in the resort or guides a newly onboarded employee in managing a particular special request. More than just automating responses, it is co-creating relevant knowledge. This process fills in gaps in staff knowledge, improves consistency in customer experiences, and turns customer interactions into actionable information. Over time, AI chatbots can evolve to incorporate institutional knowledge. They enhance service delivery through adaptability, responsiveness, and data-driven practices. This shift represents a movement away from the traditional top-down knowledge transfer structure and the emergence of a feedback-oriented learning cycle among customers, employees, and AI systems. It reinforces the notion that innovation in the resort setting is as much about learning as it is about serving. According to the SDL perspective, where value is always co-created by the service provider in collaboration with its customers, value creation in resort management through AI chatbots can be analyzed as follows.

AI chatbots are the strategic enablers that promote value co-creation by providing customers with necessary information and service solutions. This notion aligns with the findings of Lusch and Vargo (2014), highlighting the importance of operant resources for service value co-creation. AI chatbots help facilitate service delivery and provide moving knowledge repositories. By constantly absorbing customer engagements, AI chatbots create a feedback loop that recognises real-time service patterns, customer expectations, and organisational bottlenecks. This follows knowledge management theories suggesting that tacit knowledge from customer interaction is converted into explicit organisational understanding, leading to refined service and informed decision making (Bojnord & Chalak, 2012; Srivastava & Majumdar, 2006).

The results of the present study reveal that AI chatbots enhance service efficiency and facilitate knowledge sharing between employees and management. These chatbots are crucial in reducing miscommunication in resort management by reshaping traditional knowledge structures, reducing manual service tracking, and enabling data-driven decision-making. The transition towards AI-supported knowledge management aligns with the concept of co-created value since knowledge is continually updated through real-time interactions with a service. With this in mind, we propose the following suggestion: The integration of AI chatbots in resort service management enhances operational efficiency

communication gaps, and improving staff workload distribution, thereby facilitating knowledge co-creation.

Operational Transformation Through AI Chatbots

In resort management, the use of AI chatbots is not only about efficiency; their use represents a paradigm shift in hotel operations. Picture a bustling front desk during peak check-in periods, with customers queued for service and staff managing numerous requests. Instead of letting frustrations build, AI chatbots can intervene, handling routine inquiries, facilitating mobile check-ins, and guiding customers to self-service kiosks. This allows human staff to focus on personalized service and significantly improves the customer experience, potentially increasing customer satisfaction. Beyond customer interactions, chatbots bridge service silos, thereby enabling housekeeping, food and beverage, and concierge teams to coordinate seamlessly. This real-time synchronization reduces operational issues and improves both responsiveness and service accuracy. By streamlining mechanistic processes and enhancing communication between different departments, AI chatbots enable resorts to work smart, not just fast, guiding the resort management toward a hybrid approach where human skill and AI efficiency are bound to create waves. Customer acceptance of the chatbot technology can be explained by the TAM, which suggests that perceived usefulness and ease of use serve significant roles in technology acceptance. Kamal et al. (2020) show that technology adoption rates and service satisfaction largely depend on customer perceptions of the chatbot's usefulness and ease of use.

AI-driven automation in resort management has significantly impacted operational workflows by addressing knowledge and information gaps. AI chatbots can provide real-time service data, the predictive resolution of issues, and cross-departmental communication. This evolution alters the customer engagement continuum in resort service management, where complex operations can engage AI chatbots as genuine associates. These AI chatbots make resort service operations more efficient and empower operational decision-making, shifting it from reactive to proactive. Based on this evidence, we propose the following suggestion: AI chatbots bridge knowledge gaps in resort management by enabling real-time access to service information, automating task coordination, and providing predictive insights, leading to a transformation in operational workflows.

Customer-Centric Innovation in Resort Management

Hospitality is about offering a distinctly memorable experience. Integrating AI chatbots enables resort service personnel to function as digital concierges, providing proactive and personalized interactions that enhance customer engagement and satisfaction. Imagine a customer coming from a long flight to a resort. By the time he reaches the reception, his chatbot-based assistant has already organized a personalized room setup, recommended dining options that matched the customer's diet, and booked a morning spa appointment. These AI-augmented engagements go beyond convenience; they foster a sense of attention, anticipation, and emotional attachment, making the customer feel genuinely connected to the resort. Chatbots learn customer behaviours and preferences to personalize services in a way that makes every visit feel intuitive and unique. This shift shows that AI is more than a tool. It is now a core part of the customer experience, shaping how visitors interact with the resort. However, it is already becoming an intrinsic part of the customer experience, redefining how people interact with resorts and changing the paradigm from transactional to emotion-driven experiences.

AI has dynamically transformed resort management, from niche luxury hotel use cases to mainstream technology across the broadest market segments. In the beginning, luxury resorts spearheaded the introduction of AI-driven chatbots, utilising them to offer hyper-personalized customer services,

hyper-personalized customer services, anticipate customer needs, and bolster brand differentiation (Gupta & Pareek, 2024; Jogarao, 2024; Noor et al., 2024). With the integration of less costly, more perfunctory, and accurate AI technologies, mid-range resorts and boutique hotels started leveraging chatbots for the automation of customer inquiries, thereby reducing service response times and enriching digital concierge services (Gupta & Pareek, 2024; Kaur et al., 2024; Vashishth et al., 2024). In contrast, economy and budget resorts have adopted AI chatbots to a lesser extent, focusing mainly on cost-cutting strategies and automating essential customer services instead of automation at deeper levels (Camilleri & Troise, 2023; Sawon et al., 2024).

One of the most significant advantages of AI integration in resort management is its ability to enhance customer engagement through personalized and adaptive services. The unique capability of AI to understand and cater to customer preferences is a game-changer. AI chatbots offer personalized suggestions, eliminate service requirements, and take initiative in responding to customer queries. This degree of personalization significantly enhances customer satisfaction while contributing to service innovation. AI chatbots represent a strategic weapon that drives innovation in the resort management domain. According to these observations, we propose the following proposition: AI-driven personalization and adaptive customer interactions enhance customer experiences by providing tailored recommendations, proactive service adjustments, and emotional engagement, thereby fostering innovation in resort management.

Potential Scalability and Adaptability of the AI Chatbot Model

AI in resort management has developed from luxury hotel applications to mainstream technology across various market segments. Luxury resorts (early adopters) were the first to implement AI-powered chatbots to offer hyper-personalized customer services, anticipate customer needs (Jogarao, 2024; Noor et al., 2024), and strengthen brand differentiation (Gupta & Pareek, 2024). With the increasing affordability and user-friendliness of AI technologies, mid-tier resorts and boutique hotels have started using chatbots to automate customer inquiries, optimise service response times, and elevate digital concierge services (Gupta & Pareek, 2024; Kaur et al., 2024; Vashishth et al., 2024). On the other hand, economy and budget resorts have embraced AI chatbots to a lesser extent, primarily pursuing cost-saving initiatives and the basic automation of customer services without much use of in-depth personalization (Camilleri & Troise, 2023; Sawon et al., 2024).

AI chatbots show their scalability across segments. High-end resorts use them for immersive experiences, while mid-range and budget resorts apply them for activity planning and room allocation (Kaur et al., 2024; Marozzo et al., 2024; Rani et al., 2024; Richardson et al., 2023). First, while resort operations may be ground zero for AI chatbot implementation, their versatility holds promise for wider industries, such as cruise lines, vacation rentals, and travel agencies, which similarly struggle with engaging customers. Second, as we move towards the development of more sophisticated AI technology, the implementation of resort management service models will become increasingly context-sensitive and efficient, making AI chatbots a must in the resort management ecosystem (Ahmad et al., 2024; Jogarao, 2024; Kaur et al., 2024; Vashishth et al., 2024).

Conclusion

This study identified the key operational issues in resort management that significantly affect customer satisfaction and overall efficiency: slow service response, outdated systems, and insufficient staffing. Using a design thinking framework, the study proposed and experimented with an AI-driven WhatsApp

chatbot to solve a resort's problems. The solution improved service responsiveness, streamlined information flow, and reduced staff workload. These results demonstrate how empathy-inspired research can translate qualitative findings into actionable service innovations that are responsive to customer needs.

Theoretical Implications

The present study contributes to the expansion of design thinking in resort management by demonstrating how AI-based innovations can emerge from user-centred methodologies. Moving beyond traditional technology adoption frameworks, this research advances SDL by framing AI chatbots as an operant resource that enhances value co-creation between resorts and customers. It also extends the TAM to explain the impact of perceived usefulness and ease of use on consumers' willingness to adopt AI-driven services. Furthermore, this article provides a reproducible process combining stakeholder validation, iterative prototyping, and hypothesis testing, which fills a void in the current service innovation literature in the context of the resort industry.

Managerial Implications

This study has certain implications for resort management using AI-based chatbots to improve service productivity. By automating routine tasks and data flow, hotels can reply faster, delight customers, and free up staff to deliver high-value, personalized services. This is enabling improved load management, enhanced agile operations, and transforming resorts into technology-savvy enterprises. Notably, the successful integration of this technology demands investments in staff training and change management since AI is a support system not a surrogate for promoting a culture of innovation within resort operations.

Limitations and Future Research

This study is limited in that it only represents a case of Valley Resort and the use of a tested minimum viable product in a controlled environment. To improve the generalization of our findings into practice, a real-world service implementation should be conducted at several resorts to evaluate the long-term effects of applying this technology on customer satisfaction, operational performance, and cost savings. Cross-cultural comparisons could also reveal how such attitudes may vary across nations. Further research is necessary to examine whether the observed enhancements in the service quality and customer retention can be sustained and to measure the long-term return on investment for AI-based automation in resort management.

Declarations

Author contribution

All authors contributed equally as the main contributors of this paper. All authors read and approved the final paper.

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Competing interest

The authors declare that they have no conflicts of interest to report regarding the present study

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