

CRUISING COMFORTABLY? A QUALITATIVE INSIGHT INTO LIVEBOARD TOURISM IN LABUAN BAJO, INDONESIA

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Article Info	Abstract
<p>Keywords: liveboard, marine tourism, maritime safety, regulatory compliance, risk management.</p> <p>Received: October 21, 2025</p> <p>Approved: May 13, 2026</p> <p>Published: June 29, 2026</p>	<p>Labuan Bajo, the primary gateway to Indonesian marine tourism, faces significant safety challenges due to the rapid growth of its liveboard industry. This study examines a two-day, one-night liveboard experience on open-deck boats, focusing on regulatory compliance and the gap between comfort amenities and safety procedures. Employing a descriptive qualitative methodology, data were collected through interviews with operators, regulators, and tourists, as well as participant observation. The findings reveal a pronounced safety-comfort paradox: operators consistently meet tourist expectations regarding tangible aspects such as deck aesthetics, cleanliness, and food presentation, yet systematically fail to comply with mandatory maritime safety standards. These failures include the absence of fire extinguishers, safety information boards, and consistent pre-departure safety briefings. Cognitive biases in risk appraisal among both operators and tourists, combined with inadequate regulatory enforcement by port authorities, further exacerbate this issue. This study contributes to the maritime risk management literature by demonstrating that perceived comfort can overshadow risk perception in emerging tourism destinations. It is recommended that operators integrate safety protocols into the voyage's experiential narrative and that maritime authorities conduct random onboard inspections to strengthen safety culture in Indonesia's mid-range liveboard industry.</p>

How to cite:

Masjhoer, J. M., Prakoso, A. A., (2026). Cruising Comfortably? A Qualitative Insight into Liveboard Tourism in Labuan Bajo, Indonesia. *Jurnal Kepariwisata Indonesia: Jurnal Penelitian dan Pengembangan Kepariwisata Indonesia*, 20(1), 159-178. <https://doi.org/10.47608/jki.v20i12026.159-178>

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INTRODUCTION

Liveaboard tourism has become a prominent sector of marine tourism, generating substantial economic benefits worldwide. The industry is expanding in regions such as Europe, which hosts thousands of marinas in the Mediterranean, and Australia's Cairns region, which produces significant annual revenue (European Commission, 2017; Peden et al., 2021; Stoeckl et al., 2010; Venturini et al., 2016). Indonesia, as an archipelagic nation with extensive marine resources, has identified liveaboard tourism as a key attraction within the emerging Nature, Eco, Wellness, and Adventure (NEWA) tourism paradigm (Kemenparekraf, 2021). This approach aims to shift from conventional tourism models to ones that emphasize unique, high-quality, and sustainable experiences. Labuan Bajo has emerged as a primary destination for liveaboard tourism, with approximately 90% of tourists selecting it as their main gateway to Komodo National Park (BPIW, 2023). Recent data by Sustour (2019) indicate that 32% of visitors travel to Labuan Bajo specifically for the liveaboard experience, while an additional 25% are attracted by snorkeling and island-hopping opportunities. Labuan Bajo, as a top-priority destination in Indonesia and the gateway to Komodo National Park, has experienced a significant surge in liveaboard boat operations. In 2023 alone, 738 tourist boats were recorded operating in the waters of Labuan Bajo (Ardin, 2023). While existing studies on cruise and liveaboard tourism have explored environmental sustainability, market segmentation, service quality benchmarking, and operational efficiency, the specific safety and security vulnerabilities of traditional open-deck boats remain a largely neglected area of scholarly inquiry.

Protection Motivation Theory (PMT) offers a critical framework for analyzing operator behavior and tourist risk perception. According to PMT, an individual's motivation to engage in protective actions is determined by two cognitive evaluation processes: threat appraisal and coping appraisal (Haag et al., 2021). Within the operational context of liveaboards in Labuan Bajo, distortions frequently arise in both processes. Operators often underestimate threat appraisal under economic pressure, while coping appraisal is perceived primarily as an additional cost rather than a strategic investment. This dynamic interacts with the Service Quality (SERVQUAL) Model, which identifies gaps between consumer expectations and management perceptions of service quality (Šebrek & Marković, 2020). In the marine tourism sector, tangible attributes are frequently prioritized to meet tourists' immediate desires, whereas credence attributes are often overlooked because their benefits are not immediately apparent (Bahadur & Ali, 2023; Velastegui-Hernández et al., 2024). While standard frameworks such as Safety Management Systems (SMS) and Risk Management Theory address organizational compliance, they often overlook the psychological aspects of tourists' risk perception and operators' bias. The integration of Protection Motivation Theory (PMT) and SERVQUAL addresses this limitation by modeling protective motivations and service expectations, which are essential in marine tourism, where safety is both a technical and a psychological requirement throughout the journey. Despite the establishment of clear benchmarks by Indonesian regulations (Minister of Tourism No. 4/2021 and Minister of Transportation No. 62/2019), a gap in implementation remains. Small open-deck operators, in particular, with limited resources, face challenges in consistently translating these legal mandates into operational practice.

Although Labuan Bajo holds the prestigious status of a UNESCO World Heritage Site and a Super Priority Destination, recent maritime incidents have raised concerns about its international reputation. In 2024–2025, fifteen tourist boat accidents with four casualties occurred in the waters of Labuan Bajo and Komodo National Park, East Nusa Tenggara, primarily due to extreme weather and technical failures (Krisanti, 2025). These incidents reflect a systematic failure to act on the very threat appraisal and coping appraisal indicators that PMT identifies as preconditions for protective behavior. Similarly, from a SERVQUAL lens, the accidents expose a critical credence-attribute gap, the absence of visible safety infrastructure that tourists neither demand nor evaluate until an emergency occurs. Conversely, destinations and operators that have successfully embedded safety and comfort indicators have leveraged these attributes as competitive differentiators, demonstrating that safety compliance can simultaneously serve as a branding tool that enhances tourist trust and destination reputation.

The existing literature on tourism in Labuan Bajo primarily addresses the ecological impacts of mass tourism (Bahar, 2023; Masjhoer et al., 2025; Muchtar et al., 2023), development policies (Fauzi et al., 2024), and economic growth (Yudhoyono et al., 2021). In contrast, broader cruise research has mainly focused on Phinisi boats, emphasizing design and seaworthiness (Suardi et al., 2023), health protocols (Sari, 2022), and marketing strategies (Nanut et al., 2024; Rizkiyana, 2023; Tapaningtyas, 2021). However, there is a notable gap in the literature regarding qualitative studies of open-deck boats, which are traditional fishing boats converted for tourism at lower price points. These operators are subject to less stringent oversight than luxury Phinisi boats, resulting in their limited representation in safety research. Although most studies attribute safety failures to external hazards or regulatory shortcomings, this study contends that internal risks also arise from routine trade-offs between aesthetic comfort and procedural safety. By examining the underexplored open-deck segment and considering the influence of operator cognition and tourist perceptions, this research makes a unique contribution to the cruise safety literature. It analyzes how resource limitations and the normalization of neglect, intended to maintain the aesthetic experience, introduce subtle vulnerabilities. This perspective ultimately challenges the prevailing assumption that participants in marine tourism consistently evaluate safety through rational decision-making.

This study examines rising safety risks in open-deck boat operations, exacerbated by growing tourist demand, insufficient regulatory oversight, and limited compliance. The research has two primary objectives: to provide a comprehensive account of the 2D1N liveaboard experience in Labuan Bajo and to analyze the gap between comfort-oriented amenities and the enforcement of safety protocols. Using a qualitative, immersive methodology that departs from prevalent survey-based approaches, this research uncovers tacit safety trade-offs and the normalization of procedural neglect often overlooked by quantitative audits. The study reconceptualizes liveaboard safety by examining the cognitive and perceptual factors that enable vulnerabilities to persist beneath appealing surface experiences. The findings seek to establish safety as the essential underpinning of comfort in both policy development and destination branding.

METHODOLOGY

A descriptive qualitative approach was used to examine liveaboard safety and service quality on open-deck tourist boats in Labuan Bajo, East Nusa Tenggara. Data collection involved participant observation, in-depth interviews, and documentation in May 2022. During the observation phase, the researcher participated in a two-day, one-night (2D1N) tour package along the Labuan Bajo–Terang Bay–Karang Gusung–Papagarang Island route, adopting a tourist's perspective to document operational realities (see Figure 1). Interviews were conducted with seven purposively selected informants from three groups: two liveaboard operators (a boat captain and a crew member), two government regulators (from the West Manggarai Tourism Office and the Labuan Bajo Port Authority), and three tourists (see Table 1 for details). Interview questions were structured using the SERVQUAL and Protection Motivation Theory (PMT) frameworks to investigate service gaps, risk perceptions, and coping behaviors (see details in Table 2).

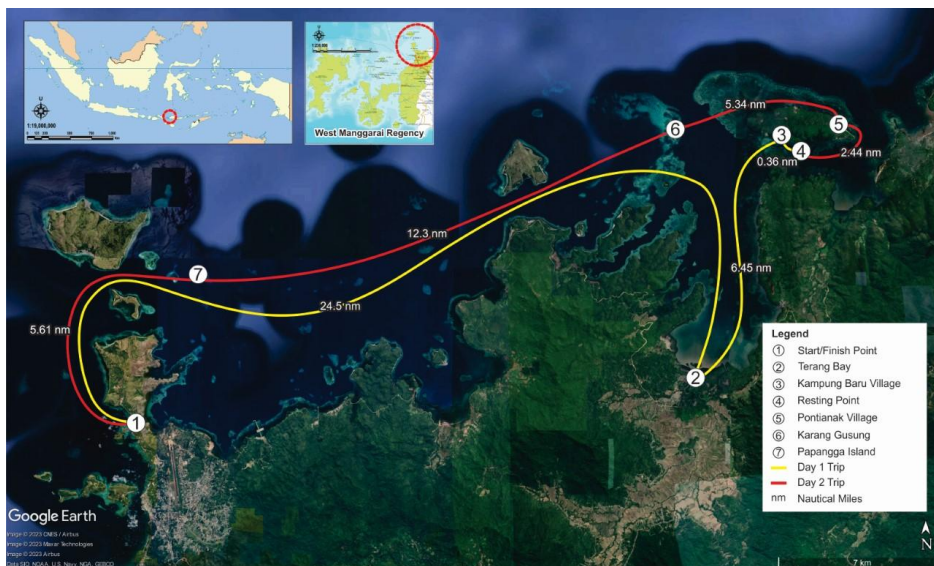


Figure 1. Location and liveaboard itinerary.

Data analysis employed source triangulation and cross-checked interviews, observations, and documentary data to enhance validity. Facility conditions were evaluated against the standards outlined in Minister of Tourism Regulation No. 4 of 2021, while safety equipment and procedures were assessed against the standards set out in Minister of Transportation Regulation No. 62 of 2019. A descriptive-comparative approach was employed to identify discrepancies between regulatory standards and actual practices, followed by an explanation-building analysis to interpret patterns in the findings.

Table 1. Research Informant

Group	Quantity	Code
Liveaboard Operator	2	BC.1 – boat captain
		BC.2 – crew
Regulator	2	LG.1 – tourism office staff
		LG.2 – Port Authority
Tourist	3	TRT.1 – tourist from the UK
		TRT.2 – tourist from the UK
		TRT.3 – tourist from Jakarta

Source: Prepared by the authors



Table 2. Structured Interview Guide

Component	Dimension	Focus of the question		
		Operator	Tourist	Government officials
Servqual Model	Tangibles Dimension	The questions address the provision and routine maintenance of comfort and safety facilities.	The questions address the alignment between visual expectations and the actual facilities provided.	This theme examines the boat's compliance with relevant regulations regarding its physical condition and equipment.
	Reliability Dimension	This theme evaluates the crew's operational integrity in maintaining continuous boat performance and service.	This theme assesses the consistency between the service promised and the on-site experience.	This theme verifies the operator's compliance with established procedures and protocols.
	Assurance Dimension	This theme addresses the standardization of crew training in both hospitality and safety.	This theme examines the tourist's confidence in the operator's ability to foster psychological safety.	This theme evaluates the validity of crew competency certificates as legal guarantees of professionalism.
Protection Motivation Theory	Threat Appraisal	This theme addresses awareness of operational risks, particularly the potential for fatal accidents on board the boat.	This theme explores the extent of tourists' awareness regarding potential weather hazards and sea conditions while on the boat.	This theme identifies accident-prone areas in the waters and examines the frequency of violations.
	Coping Appraisal	This theme evaluates the effectiveness of mitigation measures, including safety equipment and evacuation procedures.	This theme explores confidence and knowledge related to self-rescue efforts and the use of safety equipment during emergencies.	This theme evaluates the effectiveness of law enforcement efforts.

Source: Prepared by the authors

FINDINGS AND DISCUSSION

Liveaboard 2D1N Description

The tour package offered by the open-deck tour boat operator starts on Friday, 27 May 2022, at 08.30 WITA. The first destination is the mangrove forest in Teluk Terang (8°26'36.07"S, 120° 5'29.22"E), with the trip taking approximately three hours from the departure point, namely the Sylvia Hotel pier (8°27'40.13"S, 119°52'18.39"E). The tour boat enters a river estuary surrounded by very thick mangrove trees. Mangrove forests are habitats and breeding grounds for various invertebrate and vertebrate species with abundant food, shelter, and minimal predator pressure (Blanton et al., 2024). Many birds, fish, and reptiles move in this location during the day. Tourists find observing animal activity in the mangrove forest interesting. The boat could not go any further into the mangrove forest and its small channels.

Our boat is too big to enter the small gaps in the mangrove forest, when it does, many animals can be seen (code BC.2 – crew).

Our boat is open, so sleeping in the mangrove forest is not a good idea, as there are lots of mosquitoes (code BC.2 – crew).



Besides focusing on wildlife observation, other mangrove forest exploration activities include fishing and overnight boating (Avau et al., 2011). According to Blanton et al. (2024), the land/water plants, as well as the wildlife species, within mangroves are significant tourist attractions. Therefore, it is unsurprising that mangrove tourism has become a multi-billion-dollar industry, attracting millions of visitors (Spalding & Parrett, 2019).

The second destination is Kampung Baru Village (8°21'0.51"S, 120° 7'34.79" E) on the south side of Longos Island. Migrants from Bima, West Nusa Tenggara, inhabit this village. At this location, tourists interact with the local community while observing daily activities and local buildings (See Figure 2b & 2c). In this village, people live alongside the Komodo dragons that live wild on Longos Island (see Figure 2a). Although Komodo dragons often prey on livestock, residents do not attempt to hunt or kill them due to their protected status. This relationship between humans and Komodo dragons makes Longos Island unique. The community's uniqueness is the main attraction of rural tourism (Pudianti & Vitasurya, 2019). According to Yanan et al. (2024), in village tourism, residents become the leading actors, serving as service providers, traders, and artisans, contributing to the overall visitor experience. Residents understand local customs, culture, and environment while serving as practitioners and conveyors of traditional culture (Su et al., 2016).



Figure 2. (a) Komodo Dragons information; (b) Kampung Baru atmosphere; (c) Locals daily activities
Source: author's documentation

In the afternoon, the trip continued to the third location, the waters on the south side of Longos Island (8°21'19.41"S, 120° 7'59.88" E), not far from Kampung Baru Village. At this location, the boat is anchored for the night, and tourists enjoy calm waters for snorkeling and other water activities. At dusk, tourists are presented with hordes of bats emerging from Longos Island towards Flores Island. Thousands of large bats create a fascinating spectacle as they enjoy the sunset. Tourists stay on the boat, which provides the necessary facilities. Sha Fang (2020) explains that the uniqueness of a liveaboard lies in the experience of staying on a boat for several nights. Furthermore, live-aboard travelers have different motivations from those of cruise ship passengers. Social media's influence has contributed to the growth of liveaboard travelers (Rizkiyana, 2023). Relaxation, social recognition, learning, bonding, and socialization are the motivations of live-aboard tourists (Sha Fang, 2020).

At the beginning of the last day of the trip, tourists are shown thousands of giant bats returning to Longos Island after their nighttime activities on Flores Island. The crew provides a simple breakfast of fried bananas and bread with fruit jam. The journey

continued to Pontianak Village (8°20'43.79"S, 120° 8'55.44" E), located on the north side of Longos Island. Unlike Kampung Baru, this village is mainly inhabited by the Bajo tribe. The Bajo tribe is often called the Sea Nomads and has lived alongside the sea for thousands of years (Ilardo et al., 2018). The villagers primarily work as fishermen and are skilled at crafting traditional boats. The daily life of the Bajo tribe is a unique attraction to learn (see Figure 3). The houses in Pontianak Village are mostly built on stilts, overlooking the beach. Common Bajo tribe housing conditions are found due to changes in the lives of sea nomads who settle on the beach (Rahim et al., 2018; Suliyati, 2017). Most people in this village are Muslim, and when we visited, it coincided with a Thanksgiving event for a villager preparing to perform the Hajj. They slaughtered a cow and cooked it together for distribution to all the villagers. The hospitality of the villagers provides a sense of security and comfort for tourists. They greet and try to chat as long as tourists walk around. Cultural interaction between tourists and local communities has great potential in developing tourism villages (Pudianti & Vitasurya, 2019; Scheyvens, 2003; Yanan et al., 2024). However, environmental cleanliness in Pontianak Village is poor because the community does not manage waste effectively. Solid waste issues are the primary challenge to ecological sustainability on small islands, particularly in Labuan Bajo (Masjhoer, 2024; Masjhoer et al., 2021, 2025).



Figure 3. (a) Traditional Boat Making; (b) Pontianak Village Atmosphere; (c) Cooking Together Activity
Source: author's documentation

After walking around for about an hour in Pontianak Village, the boat sailed back to a point with a coral reef on the west side of Longos Island, namely Karang Gusung (8°20'36.57"S, 120° 4'52.36"E). Tourists are presented with the beauty of coral reefs and various reef fish through snorkeling activities. Marine tourism activities are featured in this area. Marine tourism is a tourist activity that depends on the health of the coral reef ecosystem (Masjhoer & Mazaya, 2024; Mazaya et al., 2020). In addition to snorkeling, tourists can enjoy coral reefs through SCUBA diving activities, which are an integral part of a liveaboard (Sha Fang, 2020). After the marine tour at Karang Gusung, the boat sailed to the last destination, Papangga Island (8°24'21.59"S, 119°53'17.97"E). On this uninhabited island, tourists can enjoy the white sand beach or swim while waiting for the crew to prepare lunch. The liveaboard trip concludes at the departure point, the Sylvia Labuan Bajo Hotel dock.

Open-Deck Boat Facilities

In Labuan Bajo, 90% of visitors to Komodo National Park make it their primary destination. Besides wanting to see Komodo dragons firsthand, tourists are motivated to live aboard and go island-hopping. Sustour (2019) Studies show that 32% of tourists are encouraged to visit Labuan Bajo for liveaboard experiences, and 25% for snorkeling and island hopping. Using liveaboard boats allows tourists to visit other islands in the destination while observing wildlife on the cruise itinerary (Tapaningtyas, 2021). In addition to phinisi boats, liveaboards in Labuan Bajo can use modified traditional fishing boats, also known as open-deck boats (see Figure 4a). Initially, these modified boats were used for tourist transportation from Labuan Bajo to Komodo National Park, and were later equipped with additional facilities to support liveaboard activities. Phinisi boats are available in various facilities, from luxury to deluxe, with a price range of USD 2,510.98-5,649.71. On the other hand, smaller open-deck boats offer lower prices, ranging from USD 125.55-313.87 (Komodorental, 2024).

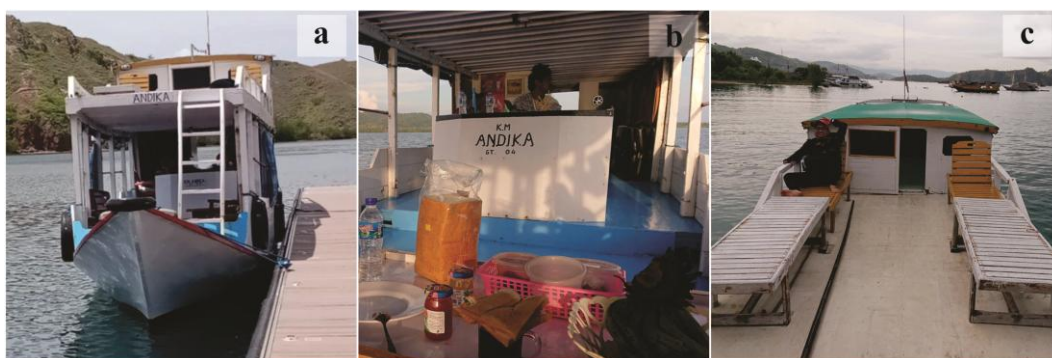


Figure 4. (a) Open-deck Boat; (b) Main Deck; (c) Chairs and Bedroom on the Upper Deck
Source: author's documentation

The Labuan Bajo open-deck boat is a wooden boat with a capacity of six people. A captain and a crew steer the boat. Facilities offered during this liveaboard include a room on the upper deck with mattresses and pillows, toilets, four meals, life jackets, and snorkeling equipment (see Figures 4b and 4c). Facilities similar to liveaboards with phinisi boats provide a 'living' experience on board (Tapaningtyas, 2021). Although not as comprehensive as using a phinisi boat, the liveaboard facilities on the Labuan Bajo open-deck boat are sufficient to meet the needs of tourists for a short two-day, one-night trip. The facilities provided can meet tourists' needs during the trip. There are no shortcomings that cause discomfort during the liveaboard. The manager has complied with the regulation of the minimum facilities for accommodated tourist boats in Indonesia, which has been regulated in the Minister of Tourism Regulation No. 4 of 2021, which includes the provision of eating and drinking, trash bins, toilets, rooms, and public areas, including tables and chairs, lighting, and air circulation. Based on interviews with travelers (Code TRT.1 and TRT.2) on similar boats, the facilities on liveaboard boats are adequate. They are not a significant problem. The facilities on open-deck boats in Labuan Bajo demonstrate that operators prioritize the tangible dimensions of the Servqual model by focusing on visible physical attributes. Field observations reveal that elements such as deck aesthetics, communal area cleanliness, and food presentation have been improved to better align with contemporary tourists' expectations. This emphasis on recreational physical evidence

significantly influences tourists' perceptions of the liveaboard experience, as supported by the informant's statement (code TRT.1).

Our boat is not as luxurious as a Phinisi, but we offer a unique experience with the facilities available on board (code BC.1 – Boat Captain).

Overall, the boat I travelled on was quite comfortable. We were provided with food, mattresses to sleep on, and beautiful nature to enjoy (code TRT.1 – Tourist from UK).

I found the toilets to be very cramped, but I rarely used them during the trip. Most importantly, the destinations we visited were worth the money we paid (code TRT.2 – Tourist from UK).

According to a statement from an informant (code TRT.2), liveaboard tourists do not mind the facilities as long as their primary goal can be fulfilled, namely, snorkeling or diving activities (Stoeckl et al., 2010). This statement suggests that the tangibles dimension related to the condition of the boat's facilities can be overlooked as long as the boat operator ensures a positive passenger experience during the journey. Open-deck liveaboard facilities are undoubtedly different from cruise ships because they adjust the capacity and nature of the activities the manager offers (Sha Fang, 2020). The facilities provided enhance comfort while enjoying the atmosphere during the cruise, as stated by the informant (code TRT.3).

We are excited about the destinations and activities we will be doing during the cruise. The onboard facilities are pretty comfortable and adequate (code TRT.3 – Tourist from Jakarta).

We had a good idea of the boat's facilities as soon as we conducted our research on the website (code TRT.2 – Tourist from UK).

Tourists who prioritise functionality over luxury generally prefer these facilities. Informed tourists who know about the facilities when purchasing a liveaboard tour package often value new experiences during the cruise rather than the amenities themselves. The informant's statement (code TRT.2) shows that they deliberately gather information about available facilities before selecting the open-deck boat service. Prior knowledge and individual characteristics subconsciously shape tourists' experiences (Santos et al., 2012). Consequently, open-deck boats in Labuan Bajo meet the comfort requirements of specific tourist segments. Positive experiences likely encourage tourists to participate in similar activities in the future.

Facilities on open-deck boats in Labuan Bajo demonstrate operators' emphasis on the Tangibles dimension of the SERVQUAL model by prioritizing visible physical attributes. Field observations indicate that features such as deck aesthetics, communal area cleanliness, and food presentation are elevated to satisfy modern tourist expectations. This focus on recreational physical evidence shapes tourists' perceptions of liveaboard trips. However, boats that balance visible comforts with accessible safety equipment and routine emergency drills provide greater service assurance, revealing the risks of prioritizing aesthetic appeal over essential safety infrastructure. The emphasis on aesthetics contrasts with the limited availability and accessibility of safety facilities, which are essential in the SERVQUAL model. Insufficient fire extinguishers and life jackets stored in inaccessible locations indicate a management knowledge gap. A recent incident in which access to life jackets was delayed because they were stored in locked compartments underscores the real-world consequences of neglecting accessible safety provisions. This suggests that operators

misjudge tourists' priorities, allocating resources to aesthetics rather than critical safety needs.

This imbalance between physical comfort and safety extends to the Assurance and Reliability dimensions, where accountability for tourists' sense of security is often placed primarily on crew interpersonal friendliness. While the crew demonstrates high responsiveness to daily needs, the absence of engaging, narrative-driven safety briefings indicate inadequate operational reliability in risk management at the management level. By reframing the safety briefing as an integral part of the adventure, inviting guests to imagine themselves as capable explorers prepared for every challenge, operators can transform what is typically perceived as a routine lecture into a compelling start to the journey. For example, the crew might introduce safety instructions by weaving them into the story of a classic Komodo marine voyage, briefing guests as if they were fellow crew members readying for an expedition, as required by management protocols. This approach not only equips tourists with essential information but also fosters empathy and empowerment, satisfying both the Assurance and Empathy dimensions. Without such narrative integration and clearly assigned responsibility for implementing effective procedures, tourists may experience a false sense of security, feeling protected by friendly service and comfort, despite lacking confidence that emergency procedures will be carried out effectively in the event of a maritime incident.

In summary, the situation on open-deck boats underscores a significant imbalance between tangible recreational features and credence attributes associated with maritime safety. The application of the SERVQUAL model demonstrates that current service quality addresses immediate comfort but does not provide a robust foundation for safety in overall service provision. Without harmonizing comfort facility standards with rigorous safety protocols and without holding both operator management and relevant authorities accountable for addressing these shortcomings, the mid-range liveaboard sector in Labuan Bajo risks perpetuating a paradox that may erode international tourists' confidence in the destination's long-term sustainability.

Open-deck Boat Safety

Safety is a significant factor in nature-related tourism activities. Minister of Transportation Regulation No. 62 of 2019 establishes minimum requirements for tourist boats to provide safety equipment, including life jackets, fire extinguishers, safety information, and first-aid kits. Based on observations and interviews with the crew, the Labuan Bajo open-deck boat has only life jackets and first-aid kits. Still, no safety information or fire extinguishers were found. The incomplete safety facilities on tourist boats in Indonesia are often a finding. Idris (2023) found that the Kapuas River tour boat lacks safety equipment, including life jackets, life buoys, fire extinguishers, and first-aid kits. Every recreational boat should carry at least a first-aid kit that enables immediate treatment of minor cuts and bruises, and the administration of appropriate high-concentration oxygen therapy and resuscitation when necessary (Pye & Greenhalgh, 2010). Low awareness among boat managers of safety issues is the primary cause of most accidents (Faturachman & Mustafa, 2012). This statement is in line with research by Idris (2023), which found that the failure to implement safety standards on boats stems from a lack of awareness among organizers. Boat owners must pay more attention to providing

complete safety equipment because they have not experienced accidents and are familiar with local water conditions (Sadipun & Sudirman, 2021).

We used to provide fire extinguishers because they had expired, and we didn't want to keep getting new ones (code BC.1 – boat captain).

Passenger safety equipment, such as life jackets and life buoys, is outdated and requires replacement (Code LG.2 – Port Authority).

We pay close attention to onboard safety, especially life jackets and first-aid kits (code TRT.1 – Tourist from the UK).

The first thing we look for in an operator is safety assurance, and we're assured that our boats are safe to operate (code TRT.3 – Tourist from Jakarta).

Boat operators and passengers independently assess the safety risks associated with insufficient safety equipment. Captains often express confidence in their ability to transport guests safely, relying on their knowledge and expertise despite minimal safety equipment (code BC.1). This reliance on local knowledge of water and weather conditions is a primary factor influencing captains' willingness to operate under such circumstances. Conversely, tourists select open deck liveaboard services based on their evaluation of the captain's competence and the visible presence of safety equipment (code TRT.3). Most tourists are unconcerned about the absence of safety equipment beyond what they deem essential, such as life jackets and first aid kits (code TRT.1). In terms of threat assessment, both operators and tourists frequently disregard the risk of marine accidents, perceiving such incidents as infrequent or not immediately apparent. This perception fosters cognitive bias, diminishing vigilance regarding safety measures and creating a false sense of security. When accidents are considered rare, individuals may underestimate actual risks (Yao et al., 2026). This cognitive bias reduces vigilance among both operators and tourists concerning safety protocols (Lu et al., 2022). Wilks et al. (2025) further note that the lack of immediate, visible danger in marine environments can lead to negligence. Additionally, threats may arise from unsafe actions by tourists and operators, such as disregarding safety protocols or engaging in risky behaviors that precipitate accidents. Such behaviors are often attributed to insufficient awareness or training, as well as the belief that accidents are unlikely to occur (Yao et al., 2023).

At the beginning of the cruise, the open-deck liveaboard carrying the researchers did not provide safety briefings or information boards. The information presented here differs from that collected from other travelers (codes TRT.1 and TRT.2). These individuals reported that the boat captain provided an introduction to the boat. However, neither noted the presence of any posted safety instructions. The discrepancy is noteworthy because tourists from Jakarta (code TRT.3) are also not provided with briefings. Disparate briefings suggest that uniform service standards are not consistently applied across all boats. This inconsistency not only affects the overall visitor experience but also poses real risks in crisis situations. The absence of standardized safety protocols can have severe consequences. For instance, in 2018, a liveaboard boat operating in the Indonesian archipelago experienced a fire at night. Passengers later reported that unclear briefings contributed to the delayed evacuation, resulting in injuries and underscoring the critical importance of crisis preparedness on board. As documented in risk-management literature, such incidents illustrate how a lack of clear protocols can intensify the impact of

emergencies for both tourists and crew. According to Fang et al. (2021), interpretation communicates information to influence tourists' attitudes and behaviors. Regarding safety, briefings by boat crews to tourists before undertaking shipping activities are crucial. The information provided may include first steps to take in the event of an accident, instructions for using a life jacket, and potential encounters with dangerous animals. The information will enhance tourists' vigilance in the event of unwanted incidents during the trip. Briefings can increase tourists' awareness of the information conveyed by the operator (Meschini et al., 2021). Tourism activities in natural environments with potential hazards benefit from briefings for both tourists and operators (Van der Merwe et al., 2019). For visitors, the information provided will offer a perspective on the most effective way to travel, increase awareness of hazards, and encourage vigilance and careful behavior (Fang et al., 2021; Saunders et al., 2019). For operators, briefings can minimize the potential negative impacts of tourist activities by encouraging tourists to behave in an environmentally responsible or desirable manner (Wolf et al., 2013).

We took a tour of the boat and learned what to do in the event of an incident (code TRT.2 – Tourist from UK)

A brief briefing before departure, then continuing on to the first stop (code TRT.1 – Tourist from the UK)

We only received information on where the life jackets were located, there was no safety briefing, then we prayed that the trip would go smoothly (code TRT.3 – Tourist from Jakarta)

Variations in experiences between researchers and other tourists reveal inconsistencies in the application of operational safety and security standards. These inconsistencies may result from insufficient safety awareness among boat operators. The threat assessment framework adopted by operators, which is based on sailing expertise rather than systematic risk assessment, often leads to the neglect of preventive measures. Inadequate safety management systems and insufficient training programs contribute to a diminished safety culture. When operators do not prioritize safety, the perception that risks are negligible is reinforced. Operators frequently cite the complexity and cost of safety procedures, such as safety briefings and equipment maintenance, as significant barriers. Organizational factors, including inadequate training and low safety awareness, are primary causes of safety incidents in yachting tourism, underscoring the urgent need for enhanced safety management systems to mitigate accident risks (Yao et al., 2026). Addressing these issues requires strict adherence to international safety standards for marina construction, boat equipment, and emergency procedures, with ongoing improvements necessary to ensure passenger safety (Favro et al., 2009). Central to these efforts is the implementation of effective barrier management to prevent adverse (Mentes et al., 2016). This approach must be supported by a comprehensive understanding of human factors, as compliance depends on individual knowledge, trust in safety information, and the perceived costs associated with noncompliance (Hendricks & Peres, 2021; Niu et al., 2025).

In addition to internal boat-related factors, external conditions also contribute to accidents. In particular, inadequate enforcement of boat safety regulations is a concern. The Harbormaster's Office and Port Authority of Labuan Bajo (HOPA) supervise and enforce shipping safety and security in Labuan Bajo (Sadipun & Sudirman, 2021). HOPA can deny sailing permits to boats that do not meet safety requirements (code LG.2). The operation of

boats without sailing permits and seaworthiness certificates indicates negligence on the part of HOPA (Suryani et al., 2018). In practice, the enforcement process typically involves three main steps. First, boat owners submit permit applications, which HOPA reviews for completeness and compliance. Second, on-site inspections are conducted to verify the boat's actual condition. Finally, sanctions may be imposed on operators who fail to meet requirements or operate without permits. HOPA representatives have noted that limited personnel constrain their capacity to monitor permits. Gaps can arise if any of these steps are not strictly followed. According to a source from the tourism office (code LG.1), more than half of the boats operating in Labuan Bajo waters lack official permits. Negligence is not limited to HOPA. Boat operators also frequently disregard regulations concerning seaworthiness. Rahman et al. (2017) identified human negligence as a significant cause of boat accidents. Mapping the responsibilities and actions at each step reveals that accountability often stalls at the inspection and enforcement stages. Insufficient follow-through allows unlicensed or unsafe boats to continue operations. Preventing tourist boat accidents requires strict compliance with regulations. There must also be increased awareness among operators regarding boat safety. Furthermore, HOPA's supervisory role should be strengthened. This can be achieved by introducing new rules for obtaining sailing permits. More importantly, rigorous enforcement of existing regulations is necessary.

The port authority does not allow boats to sail without meeting administrative and equipment requirements. Limited manpower and the vastness of the sea are the main obstacles to monitoring and enforcement (code LG.2 – port authority).

More than half of the tour boats operating in Labuan Bajo lack operating licenses. Additionally, the tour boats lack standardization in boat specifications, machinery, and safety equipment maintenance, and crew services (code LG.1 – Tourism Office Staff).

Tourist boats owned by fishermen do not meet standards, and the quality of the human resources managing them remains lacking. At the same time, the operational standards for tourist boats must meet the government-set reference standards (code LG.2 – port authority).

Frequent accidents involving tourists can damage a destination's reputation, reduce visitation, and decrease revenue. In the current era of widespread information disclosure, negative incidents can rapidly disseminate through social media. Safety and security are critical factors influencing traveler's decisions to visit destinations and participate in activities (Liu & Pratt, 2017; Santana-Gallego et al., 2020). Furthermore, the travel and tourism industry may experience severe consequences if safety and security concerns at destinations are not adequately addressed (P. E. Tarlow, 2014). Destination managers are responsible for establishing environments that ensure tourists' safety and security (Cheng et al., 2022). Governments should promote security and safety awareness through enforceable policies in destination management. Security policies in the tourism sector are not solely domestic concerns but can also influence international market demand (Santana-Gallego et al., 2020).

The application of Protection Motivation Theory in marine tourism management requires an understanding of how tourists assess risk through threat and coping appraisals. Comprehensive knowledge of these cognitive processes informs marketing and management strategies aimed at fostering tourist trust, satisfaction, and loyalty, with particular emphasis on health crisis management, quality assurance, and transparent communication (Castaldo et al., 2024; Lemmetyinen et al., 2016). The success of these

strategies relies on precise customer segmentation, enabling safety and service messages to be tailored to each group's cultural and demographic characteristics. To guide operators in applying segmentation theory practically, three key traveler segments can be prioritized for safety messaging: families with children, adventure-seeking solo travelers, and senior tourists. These groups differ in both their perception of threats and their likely coping responses, as shown in Table 3.

Table 3. Threat and coping appraisal in different segments

Traveler segments	Threat appraisal	Coping appraisal
Families with children	Highly sensitive to perceived safety risks, especially regarding child protection and emergency readiness.	Value clear, visible safety infrastructure and comprehensive pre-trip briefings. Likely to ask about safety protocols in advance
Adventure-seeking solo travelers	May view risks as an accepted part of the experience, but are alert to operational reliability failures.	Respond well to assurances of professional crew training and advanced emergency technologies. Value real-time information and autonomy in managing risk.
Senior tourists	More concerned about health and mobility-related risks, as well as accessibility of safety equipment	Prefer explicit guidance, assistance from staff, and communication channels adapted to their needs

Source: Research data

This segmentation matrix empowers operators to deliver targeted safety messaging and allocate resources based on the distinct threat and coping profiles of each segment. Operators must integrate technology, such as smart sailing platforms and real-time analytics, to deploy adaptive risk-management tools and personalized communication channels. This approach actively increases tourists' perceived capability and confidence in managing potential risks during their travels.

CONCLUSION

The findings identify a pronounced safety-comfort paradox within the liveaboard tourism industry in Labuan Bajo. While boat operators typically meet or surpass basic tourist expectations for comfort amenities, including food, accommodation, and leisure, they consistently fail to comply with essential maritime safety standards. The absence of mandatory safety briefings, inadequate fire suppression systems, and improper storage of life jackets indicate that comfort is prioritized as a marketing strategy, whereas safety is treated as a secondary administrative concern. This disparity is further exacerbated by inconsistent enforcement by maritime authorities, creating a high-risk environment despite the destination's premium status.

This research contributes to maritime risk management literature by demonstrating that perceived comfort can overshadow perceived risk in emerging tourism destinations. The findings challenge traditional service quality models by illustrating that, within high-risk adventure tourism, high satisfaction with comfort does not necessarily align with safety compliance. The study provides a critical perspective on how small-scale operators in developing economies navigate the tension between operational costs and safety investments. For policymakers and maritime authorities, the results underscore the urgent need for a zero-tolerance enforcement policy. Beyond administrative checks at the port, random shipboard inspections are required to verify the functionality of safety equipment and the delivery of safety briefings. For boat operators, mandatory safety certification and



hospitality training for crew members are essential to address communication gaps with international tourists. Integrating safety protocols into the luxury experience may offer a competitive advantage rather than being viewed solely as an operational cost.

This study is subject to several limitations. The small sample of five key informants and the qualitative research design limit the generalizability of the findings to all boat types in Labuan Bajo, including larger Phinisi boats and luxury cruises. Furthermore, the research primarily focused on open-deck boats, which pose different operational risks than enclosed boats. Future research should utilize quantitative methods, such as large-scale surveys, to evaluate the impact of safety non-compliance on long-term tourist loyalty and destination image. Comparative studies between Labuan Bajo and other global marine destinations, such as Raja Ampat in Indonesia or the Whitsundays in Australia, may provide deeper insights into how varying regulatory frameworks influence safety culture in liveaboard tourism.

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