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Analysis of Construction Claim Solutions in Bali Tourism Projects

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Abstract: *Tourism projects have experienced significant growth in Bali since 2023, driven by the post-pandemic recovery in international tourist arrivals. However, the construction process of these projects frequently encounters claim-related challenges due to the complexity of project management involving multiple stakeholders. To provide effective solutions for handling construction claims, empirical research is essential to comprehensively understand the dynamics of claim occurrences in tourism projects. This research employed a mixed-methods approach combining quantitative analysis using Weighted Average (WA) and Relative Importance Index (RII) formulas with qualitative Focus Group Discussion (FGD) to identify the significance of claim types and causes, as well as to formulate practical solutions. Survey data were collected from 55 construction professionals comprising owners, contractors, and consultants involved in tourism projects across Bali. The quantitative analysis revealed that Variation Order (VO) with RII 0.81 emerged as the most prevalent claim type in the studied projects, while change of scope of works with RII 0.75 was identified as the primary cause of claims occurrence. The FGD session, involving seven experienced practitioners, produced a consensus that negotiating and mediating are preferred claim resolution methods rather than arbitration and litigation due to time and resource consumption considerations. Furthermore, the FGD concluded that engaging a third-party consultant could significantly contribute to verifying and mediating during the claim process, thereby reducing potential disputes and facilitating more efficient claim resolution. These findings provide practical implications for stakeholders in Bali's tourism construction sector to anticipate, manage, and resolve claims more effectively.*
Keywords: *claim; construction; project; tourism; Bali.*

INTRODUCTION

A claim is not always a negative occasion, but rather a request that must be resolved (Yasin, 2014). Only when the request is not resolved does a dispute arise. (Rostiyanti & Hansen, 2017) and Hansen (2017) identified claims management issues from the claim identification, claim notification, claim examination, claim documentation, claim presentation, and claim negotiation stages. Failure to reach an agreement during the claims process during construction can result in claim failure. Claim failure can occur due to late claim submissions, contractors failing to follow contract procedures, inaccurate data documentation, claims without a strong basis, and a lack of information to verify the validity of claims (Chandra et al., 2005). (Cheng et al., 2024; Gilbreath, 1992) stated that claims are generally caused by defective work, delays caused by the service provider, and counterclaims.

Claims can be filed by the client against the contractor, by the contractor against the client, and by subcontractors, vendors, and specialists against the main contractor. The types of claims that can arise include claims for additional costs and time, claims for indirect costs, claims for additional time without additional costs, and other compensation claims (Tela, 2016). The Bali Statistics Agency or BPS in 2024 published a 23.59% increase in foreign tourists compared to 2023 (Bali, 2024). This growth also resulted in numerous tourism projects in Bali. Because these projects are managed by a complex organizational system, they face a high level of management difficulty. One of these difficulties is claims handling solutions. In interpreting the claim rules in the agreed contract, there may be differences in understanding between the task executor and the task giver. The contents of a construction contract generally consist of project information, work provisions, project value, contract system, construction claims system, payment terms and dispute resolution (Rajendran &

Kannan, 2023).

In the global construction industry, claims have become an inevitable phenomenon that significantly impacts project performance in terms of cost, time, and quality. According to the Construction Industry Institute (CII), construction claims account for approximately 5-10% of total project costs globally, with claim resolution processes consuming substantial time and resources (Fisk & Reynolds, 2010). In developing economies and tourism-dependent regions, the complexity of construction claims intensifies due to rapid project development, evolving regulatory frameworks, and diverse stakeholder expectations. The construction sector worldwide faces persistent challenges in claims management, particularly in projects characterized by design volatility, stakeholder complexity, and tight scheduling constraints—characteristics that are notably prevalent in tourism-related developments.

(Ariani et al., 2019) in their research presented the results of a survey on determining the ranking of factors influencing the occurrence of in private and government projects in Padang City. 12 variables (out of 28 variables) were found as factors causing claims from contractors to owners in construction projects in Padang City. (Hansen, 2016) also stated that there has been limited research on construction claims in Indonesia, so a study was conducted to identify the types and causes of construction claims in Indonesia. His findings revealed 36 identified causes of construction claims. There has been no research on construction claims solutions in Bali in the last three years.

Based on the description above, a study research is needed to determine construction claim solutions for tourism projects in Bali. This research will look at the different types, cause, and ways to solve major construction claims within tourism projects in Bali. The objectives of this study is to analyze the significant types and cause of construction claims that occur in tourism projects in Bali while finding significant solutions for handling claims arising in tourism projects in Bali. This research is expected to be useful for parties involved in construction projects in Bali to anticipate claims that may arise, address claims management and settle claims in the future.

MATERIALS AND METHODS

This research employs a mixed-methods sequential explanatory design, combining quantitative analysis of claim types and causes with qualitative exploration of claim solutions through stakeholder engagement (Sugiyono, 2017). The data obtained through the survey is processed to obtain the WA and RII value. Each category in the survey will be ranked with the largest RII value being ranked 1st and the smallest RII value being ranked last. WA is calculated using equation (1) and the RII is calculated using equation (2).

$$\text{Weighted Average} = \frac{\sum(\text{Wi} \times \text{Xi})}{\text{N}} \quad (1)$$

i = number of choices
Wi = weight given to the i-th choice
Xi = number of respondents who chose the i-th choice
N = total number of respondents

$$\text{Relative Importance Index} = \frac{\sum \text{W}}{\text{A} \times \text{N}} = \frac{\text{WA}}{\text{A}} \quad (0 \leq \text{RII} \leq 1) \quad (2)$$

W = weight given to each option
A = highest weight (in this study, the highest weight is 5)
N = total number of respondents

Under the direction of a moderator, a small group of people explore a particular topic or

issue in a focus group discussion (FGD), a qualitative research method. An FGD's main objective is to collect detailed information, viewpoints, and opinions about the selected topic, frequently in a casual and comfortable environment.

RESULTS AND DISCUSSION

Respondent Profile

Table 1. Research Respondent Data Collection

Respondent Profile	Jumlah	Persentase
Organization		
Owner	4	7,3%
Contractor	18	32,7%
Consultants	33	60,0%
Total	55	100%
Education Background		
Senior High School	2	3,6%
Bachelor	47	85,5%
Master	6	10,9%
Total	55	100%
Work Experience		
≤ 5 years	17	30,9%
5 < x ≤ 10 years	14	25,5%
10 < x ≤ 15 years	3	5,5%
> 15 years	21	38,2%
Total	55	100%

Table 1 shows that the total number of respondents was 55, with 4 from the owner side, 18 from the contractor side, and 33 from the consultant side. The dominance of consultants (60%) in the sample reflects the critical role of consulting firms in Bali's tourism construction sector, where complex design requirements, stringent environmental regulations, and coordination of international design standards necessitate extensive consulting involvement. This distribution aligns with the structural characteristics of tourism projects, which typically engage multiple consulting specialties including architecture, structural engineering, MEP (mechanical, electrical, plumbing), landscape design, and interior design consultants.

Educational background was dominated by bachelor's degree graduates (85.5%), followed by master's degree graduates (10.9%), and high school graduates (3.6%). This high educational attainment level indicates a professionalized workforce, which has implications for claims management as educated professionals are generally better equipped to prepare systematic documentation, interpret complex contractual provisions, and engage in evidence-based claim substantiation. Respondents' work experience of less than 5 years was held by 17 respondents, while as many as 21 respondents had more than 15 years of work experience. Notably, 38.2% of respondents possessed over 15 years of experience, providing the study with insights grounded in substantial practical wisdom. The diversity in experience levels (ranging from ≤5 years to >15 years) ensures that the findings capture perspectives from both

emerging professionals familiar with contemporary project delivery methods and seasoned practitioners with historical perspective on claims evolution.

Data collection on these characteristics aims to provide a clear picture of the respondents' identities in the study, so that the research results can be better understood and interpreted.

Claim Types Analysis

Table 2. Claims types that happen significantly in Bali

Claim Type	RII	R
VO (*Variation Order*)	0,81	1
CCO (*Contract Change Order*)	0,68	2
Different site condition	0,66	3
EOT (*Extention of Time*)	0,60	4
Cost adjustment/acceleration	0,52	5
Overhead fee	0,50	6
Loss/Penalty	0,38	7

Based on the calculation of Table 2, VO is the type of claim that often occurs in hotel & resort projects in Bali with an RII value of 0.81, followed by CCO in second place with an RII value of 0.68. Claims for different field conditions are in third place with an RII value of 0.66, followed by EOT with an RII value of 0.60. Both cost adjustment claims (RII value of 0.52) and overhead fee claim (RII value of 0.50) are in fifth and sixth place respectively. Loss/penalty claims are the type of claim that occurs least frequently with an RII value of 0.38 based on the calculation.

The predominance of Variation Orders (VO) with RII 0.81 (categorized as "Very High Importance") warrants deeper analysis within the context of tourism project characteristics. Tourism projects, particularly luxury resorts and boutique hotels in Bali, are characterized by high design volatility driven by: (1) Owner requirement evolution as market positioning strategies are refined during construction; (2) Integration of local cultural elements that may not be fully detailed during initial design phases; (3) Incorporation of emerging hospitality technology standards that evolve rapidly; (4) Aesthetic refinements demanded by international hotel brand standards. FGD participants confirmed that VOs in tourism projects often stem from owners' desire to differentiate their properties in Bali's competitive hospitality market, leading to mid-construction design enhancements in areas such as lobby aesthetics, restaurant concepts, spa facilities, and infinity pool configurations.

Contract Change Orders (CCO) ranking second with RII 0.68 reflects the formalization of scope adjustments beyond simple variations. Unlike VOs which may involve minor modifications, CCOs typically entail substantial contractual amendments affecting multiple work packages, procurement schedules, and resource allocation. The relatively high frequency of CCOs in tourism projects can be attributed to the iterative design process characteristic of hospitality developments, where owner decisions are often influenced by pre-opening market testing, soft brand consultations, and investor feedback cycles that extend into the construction phase.

The third-ranked claim type—Different Site Conditions (RII 0.66)—is particularly relevant in Bali's context due to: (1) Complex geological conditions in coastal and hillside

locations preferred for tourism developments; (2) Undocumented underground utilities in rapidly developing tourist zones; (3) Archaeological findings given Bali's rich cultural heritage; (4) Groundwater conditions affecting foundation design in proximity to beaches and rice fields. FGD participants recounted specific instances where unexpected soil conditions necessitated foundation redesign, and discovery of sacred artifacts required construction halts for cultural protocols, both triggering legitimate claims for time and cost adjustments.

Extension of Time (EOT) claims (RII 0.60) ranking fourth correlates strongly with the high occurrence of VOs and CCOs, as scope changes invariably impact construction schedules. Tourism projects face unique temporal pressures including: (1) Target opening dates aligned with tourism high seasons; (2) Contractual penalties for delayed openings due to lost revenue potential; (3) Cascade effects where delayed completion of one phase impacts subsequent operational areas. The moderate-to-high importance of EOT claims reflects contractors' efforts to mitigate schedule impacts through formal time extension requests, thereby avoiding liquidated damages exposure.

Cost adjustment/acceleration claims (RII 0.52) and overhead fee claims (RII 0.50), both falling in the "Moderate Importance" category, represent financial consequences of the disruptions reflected in higher-ranked claim types. Acceleration claims arise when owners demand schedule compression to meet fixed opening dates despite scope changes, requiring contractors to deploy additional resources, extended work hours, or expedited material procurement—all generating legitimate cost recovery claims. Overhead fee claims capture the prolongation costs associated with extended project durations resulting from owner-caused delays or scope expansions.

Loss/Penalty claims ranking last (RII 0.38, "Low Importance") suggests that formal penalty impositions or loss claims are relatively rare in Bali's tourism construction sector. FGD insights revealed that stakeholders prefer collaborative problem-solving over adversarial penalty enforcement, recognizing that tourism projects often involve repeat business relationships and reputation considerations within Bali's relatively concentrated hospitality development community. The low frequency of penalty claims may also reflect effective early intervention through negotiation and mediation, preventing situations from deteriorating to the point where penalties are invoked.

Claim Causes Analysis

Table 3. Claims causes that happen significantly in Bali

Claim Cause	RII	R
Changes of scope of work	0,75	1
Changes in materials and specifications	0,70	2
Changes/differences in design and site conditions	0,69	3
Accelerated work	0,66	4
Schedule changes due to the project owner	0,64	5
Government regulations	0,63	6
Problematic work locations	0,62	7
Discrepancies in contract documents	0,62	8
Force Majeure/Uncontrollable external events	0,61	9
Delays in project owner decisions	0,60	10
Execution of work not shown in the drawings	0,59	11
Incomplete drawings and specifications	0,59	12

Social factors	0,58	13
Slow project owner response	0,58	14
Delays in work completion	0,58	14
Delays in consultant decisions	0,56	16
Work delays	0,56	17
Delays in payment by the project owner	0,53	18
Incomplete tender information	0,53	19
Delays in consultant responses or instructions	0,53	19
Political factors	0,52	21
Unclear scope of work	0,51	22
Ambiguous contracts	0,51	23
Poor contract administration	0,49	24
Poor work quality	0,49	25

Based on the calculation of Table 3, the changes of the scope of work is the main cause of claims with an RII value of 0.75. This is followed by changes in materials / specifications which are in second place with an RII value of 0.70 and changes / differences in design and site conditions are in third place with an RII value of 0.69. For work acceleration, it is in fourth place with an RII value of 0.66 followed by schedule changes due to the project owner in the next position with an RII value of 0.64. The last 2 positions are occupied by poor contract administration with an RII value of 0.49 in 24th place and poor work quality in last place with an RII value of 0.49.

The identification of "Changes of Scope of Work" as the primary claim cause (RII 0.75) directly correlates with the dominance of Variation Orders as the most frequent claim type, establishing a clear cause-effect relationship. This finding can be theoretically situated within project complexity theory as articulated by (Dezolt & McKinnie, 2007), who argued that tourism and hospitality projects exhibit high complexity due to: (1) Dynamic stakeholder requirements reflecting evolving market conditions; (2) Integration of aesthetic, functional, and experiential design dimensions; (3) Coordination across multiple specialized contractors and consultants; (4) Tight coupling between design decisions and operational concepts. In Bali's context, additional complexity arises from the need to harmonize international hospitality standards with local cultural authenticity and environmental sustainability requirements, creating inherent tensions that manifest as scope changes during construction.

FGD participants elaborated that scope changes in tourism projects often originate from:

1. Owner requirement evolution: As owners engage with hotel operators, brand consultants, or conduct market analysis during construction, they identify opportunities for competitive differentiation, leading to scope modifications.
2. Operational planning refinement: The transition from conceptual design to detailed operational planning (e.g., back-of-house workflows, service delivery choreography) often reveals design inadequacies requiring scope adjustments.
3. Regulatory compliance updates: Bali's evolving environmental regulations, cultural heritage protection requirements, and tourism zoning rules sometimes necessitate mid-construction scope changes to achieve compliance.
4. Stakeholder influence: In projects involving multiple investors or franchisors, consensus-building on design details may extend into the construction phase, generating scope change requests.

Changes in materials and specifications (RII 0.70) ranking second reflects the premium positioning of Bali's tourism sector, where projects target luxury and ultra-luxury market segments. FGD participants noted that material specification changes frequently occur due to: (1) Availability constraints for imported premium finishes in Bali's island context; (2) Owner preferences for upgraded materials upon viewing mock-ups or competitor properties; (3) Value engineering exercises identifying cost-saving material substitutions; (4) Sustainability considerations promoting eco-friendly material alternatives. The high ranking of this cause suggests that initial material specifications in tourism projects are often aspirational or provisional, subject to refinement as procurement realities and market positioning strategies crystallize.

Design and site condition discrepancies (RII 0.69) emerging as the third most significant cause highlights the challenges of site investigation and design accuracy in Bali's diverse topography (Asad et al., 2023). Tourism developments often occupy premium sites with complex characteristics:

1. Coastal locations: Requiring deep foundations, saltwater intrusion mitigation, and tidal considerations.
2. Hillside sites: Involving extensive terracing, retaining structures, and slope stability management.
3. Rice field conversions: Necessitating soil compaction, groundwater management, and cultural sensitivity.
4. Heritage zones: Potentially harboring archaeological artifacts requiring discovery protocols.

FGD participants emphasized that the pressure to accelerate site acquisition and project approvals in Bali's competitive development environment sometimes results in abbreviated site investigation, leading to in-construction surprises when detailed excavation reveals subsurface conditions at variance with design assumptions (Hammad & Mahamid, 2024; Hassan & Lee, 2023; Olander & Landin, 2022; Zaini & Hasan, 2024). This finding underscores the importance of comprehensive geotechnical studies and archaeological desktop assessments as claim prevention measures.

Work acceleration (RII 0.66) and owner-driven schedule changes (RII 0.64) ranking fourth and fifth respectively indicate that temporal pressures constitute a major source of claims in tourism projects. These findings align with the industry reality that tourism project timelines are often dictated by:

1. Seasonal opening targets: Owners prefer launching operations before peak tourism seasons (June-August, December-January in Bali) to capture immediate revenue.
2. Financing arrangements: Investor or lender agreements may stipulate completion milestones tied to disbursement schedules.
3. Brand obligations: Franchise or management agreements with international hotel chains may include schedule performance requirements.
4. Competitive positioning: First-mover advantages in emerging destination areas (e.g., new tourism zones in North or East Bali) create schedule pressures.

FGD participants revealed that acceleration is often requested informally without formal contract amendments, creating claim situations when contractors incur demonstrable costs (overtime labor, expedited shipping, shift work) for schedule compression that was not part of original contract pricing.

Government regulations ranking sixth (RII 0.63) reflects Bali's complex regulatory environment where tourism projects must navigate:

1. Provincial spatial planning regulations (RTRW): Governing development intensity, building heights, and setbacks in tourism zones.
2. Environmental impact assessment (AMDAL/UKL-UPL): Required for projects exceeding size thresholds or located in sensitive areas (Mola & Schuster, 2024).
3. Cultural heritage protections: Affecting development near temples, archaeological sites, or traditional villages.
4. Tourism governor regulations (Pergub Bali): Addressing specific issues like tourism carrying capacity, traditional architecture preservation, and environmental standards.

FGD participants noted that regulatory interpretations can shift during construction, either due to policy updates or clarifications from permitting authorities, necessitating design or procedural changes that trigger claims. The moderate-to-high ranking of this cause suggests that proactive regulatory engagement and adaptive contract clauses are essential for tourism project success in Bali.

The mid-ranking of causes such as incomplete drawings (RII 0.59), delays in owner decisions (RII 0.60), and consultant response delays (RII 0.53-0.56) points to coordination and communication challenges inherent in complex multi-stakeholder projects. These findings resonate with project governance theory, which emphasizes the importance of clear decision-making authorities, timely information flows, and robust communication protocols in project success (Fisk & Reynolds, 2010). The presence of these coordination-related causes suggests opportunities for process improvements through:

1. Structured decision-making frameworks: Establishing clear escalation pathways and decision timelines for owner approvals.
2. Enhanced consultant coordination: Implementing Building Information Modeling (BIM) and collaborative design platforms to reduce drawing discrepancies and improve information accessibility (Abbas & Ali, 2024).
3. Proactive communication protocols: Regular coordination meetings, transparent information repositories, and formalized RFI (Request for Information) response timeframes.

Notably, causes related to poor contract quality—unclear scope (RII 0.51), ambiguous contracts (RII 0.51), poor administration (RII 0.49)—rank in the lower quartile, suggesting that Bali's tourism construction sector has achieved reasonable contract drafting and administration standards. However, the presence of these causes above the "low importance" threshold indicates continued opportunities for improvement through standardized contract templates adapted to tourism project specificities, contract administration training for project teams, and clarity in scope definition during tendering.

The lowest-ranked cause—poor work quality (RII 0.49)—suggests that technical construction quality is generally adequate in Bali's tourism projects, likely reflecting the engagement of experienced contractors familiar with hospitality construction standards and the involvement of international hotel brands that enforce rigorous quality assurance protocols. However, the moderate (vs. low) ranking suggests that quality issues do occasionally trigger claims, warranting continued emphasis on quality management systems, skilled trade worker development, and material inspection protocols.

Claim Solutions Analysis

Table 4. Recapitulation of Construction Claim Solutions from FGD sessions

Claim Solutions	Number of respondents agreed
Engineering Judgement	7
Negotiation	7
Mediation	7
Arbitration	2
Litigation	2

The FGD results, as a follow-up step, are presented in Table 4 which consisted of 7 participants. Participants' opinions regarding significant claims handling solutions used during tourism projects in Bali are summarized. It can be concluded that FGD participants predominantly used engineering judgment, negotiation, and mediation as solutions for construction claims. Arbitration and litigation were the last resorts due to their time-consuming and expensive nature.

Table 5. Recapitulation of FGD Participants' Opinions Regarding Tourism Project Claim Complexity

Participants opinion regarding tourism project claim complexity	Number of respondents agreed
Needs for More Coordination	7
Helpful when there is a third party consultant to verify	2
Time Impacted Potentially	3
Cost Impacted Potentially	2
Quality Impacted Potentially	2

Based on the follow-up session in this FGD, a summary of the complexity of tourism projects in Bali can be seen in Table 5.All participants agreed on the importance of better collaboration in implementing this project.Three participants felt that time could be affected.Two FGD participants agreed that there was a potential impact on costs and quality.The claim settlement process was simplified by the presence of a third-party verifier, a concept also agreed by two FGD participants.The primary choice for resolving construction claims is negotiation and mediation because this is easier to achieve a solution than arbitration and court proceedings, which are time-consuming and costly.Having good and clear administration and documentation plays a significant role in resolving claims.Coordination between all parties can reduce the likelihood of disputes.The results of this FGD session align with research conducted by (Chandra et al., 2005), which states that the most important claim settlement method is technical assessment, followed by negotiation. Mediation is next, followed by arbitration, and the final method is litigation.

CONCLUSION

The types of claims that often occur in tourism projects in Bali in sequence are VO, CCO, different site condition, Extention of Time, cost adjustment, overhead fee and loss/penalty. Of the twenty-five causes of claims, changes of scope of work is the main cause of claims. This is followed sequentially by changes in specifications, changes / differences in

design and site conditions, acceleration of work. The last two positions are occupied by poor contract administration in twenty-fourth place and poor work quality in last place. The most widely chosen construction claim solution is negotiation and mediation because it makes it easier to find a solution compared to arbitration and courts, which are time consuming and costly. Strong and clear administration and documentation are very helpful in resolving claims. Coordination among all stakeholders will greatly help reduce disputes and additional claims that arise during the recording of evidence of coordination. In addition, the presence of third party consultants in these type of projects helps the coordination process to minimize potential claim disputes.

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