

Study of Factors Affecting Claim Submissions in Housing Project Implementation Between Developers and Consumers

Ida Bagus Komang Ananda Kusuma Putra¹, Anak Agung Gde Agung Yana¹, Dewa Ketut Sudarsana¹

¹Program Studi Megister Teknik Sipil, Fakultas Teknik, Udayana University

Received: May 24, 2026

Revised: June 29, 2026

Accepted: July 5, 2026

Abstract

The successful implementation of housing development projects depends on effective collaboration among developers, consumers, banks, and notaries in accordance with contractual agreements. Failure by any party to fulfill their obligations may result in construction claims. This study aims to identify the factors causing construction claims in housing projects, determine the dominant contributing factor, examine differences in perceptions between developers and consumers, and identify the preferred dispute resolution method. A quantitative descriptive approach was employed using questionnaires distributed to 70 respondents, consisting of 35 developers and 35 consumers involved in housing projects across several provinces in Bali during the 2022–2024 period. The data were analyzed using the Relative Importance Index (RII), the Mann–Whitney U test, and descriptive statistical analysis. The findings reveal that the dominant cause of construction claims is defective or substandard workmanship by developers. The results also indicate a significant difference in perceptions between developers and consumers regarding the causes of construction claims ($p = 0.008 < 0.05$). Among the available dispute resolution methods, negotiation emerged as the most preferred approach. These findings highlight the importance of improving construction quality and strengthening communication between developers and consumers to minimize disputes and enhance project performance.

Keywords: Construction Claims, Relative Importance Index, Perception, Mann-Whitney U Test, Descriptive Statistics.

Introduction

The rapid growth of population and urban expansion has significantly increased the demand for residential housing worldwide (Wei & Ewing, 2018; Awuah & Abdulai, 2022; Hanberry, 2023; Shao et al., 2021). Housing is not merely a physical structure that provides shelter, but a complex socio-economic environment that integrates infrastructure, utilities, legal ownership, and long-term investment value. In developing regions such as Bali, residential development has grown rapidly due to tourism expansion, urban migration, and increasing domestic and international investment (Christiawan & Nguyen, 2026; Rimba et al., 2020; Hamid et al., 2026). This condition has intensified the role of private housing developers in delivering residential projects that meet regulatory, technical, and consumer expectations.

Housing development projects involve multiple stakeholders, including developers, contractors, consultants, financial institutions, and consumers. Among these actors, the contractual relationship between developers and consumers plays a crucial role in determining project success. The agreement commonly regulates specifications, timelines, payment schemes, infrastructure provision, and legal ownership transfer. However, despite detailed contractual arrangements, construction claims frequently arise during project implementation.

Construction claims may emerge due to deviations from agreed specifications, delays in project completion, changes in design, discrepancies in material quality, payment delays, administrative constraints, or misinterpretation of contractual clauses (Assaf et al., 2019; Asadi et al., 2022; Francis et al., 2025; Kikwasi, 2023). Claims can be initiated either by developers or by consumers, depending on which party perceives a breach of contractual obligations. In many cases, claims are not solely technical in nature but are also influenced by communication breakdowns, incomplete documentation, unclear scope definitions, and differing expectations between parties. Afzal et al. (2021), Beş et al. (2025) and Yousri et al. (2023) said that The construction industry is widely recognized as a high-risk sector characterized by uncertainty, dynamic site conditions, and frequent changes.

These conditions increase the probability of disputes. When claims are not properly managed, they may escalate into formal disputes requiring negotiation, mediation, arbitration, or litigation. The consequences of unresolved claims include project delays, cost overruns, reduced productivity, reputational damage, and deterioration of long-term business relationships (Álvarez-Pozo et al., 2024; Dhakal, 2025). In residential projects, the impact can be more sensitive because consumers are individual buyers whose financial and emotional investments are directly involved. Previous studies on construction claims have predominantly focused on contractor owner relationships in large-scale infrastructure or commercial projects.

Factors such as time extension requests, variation orders, payment certification delays, and specification ambiguities have been extensively examined (Bahat & Ergönül, 2025; Weerasuriya et al., 2025). However, limited empirical research specifically addresses claim dynamics within housing development projects involving direct transactions between developers and end consumers. The residential context differs from traditional contractor–owner projects because consumers may lack technical knowledge, have varying expectations regarding quality standards, and possess different interpretations of contractual terms.

In the context of Bali Province, housing development projects often involve both domestic and foreign buyers, increasing the complexity of contractual interactions. Differences in cultural expectations, communication styles, regulatory understanding, and market dynamics may further contribute to claim occurrences. Additionally, the rapid expansion of housing projects in recent years raises concerns regarding quality control, infrastructure readiness, legal compliance, and project transparency.

These conditions create a higher potential for claim submissions and disputes between developers and consumers. Another important issue is the potential difference in perception between developers and consumers regarding the causes of claims. Developers may perceive claims as consequences of external changes or consumer-driven modifications, while consumers may interpret claims as failures in quality, timeliness, or contractual compliance. Understanding these perception differences is essential because dispute escalation often stems not only from objective contractual violations but also from subjective interpretation gaps.

Therefore, this study seeks to: identify the dominant internal factors influencing claim submissions in housing development projects between developers and consumers in Bali Province, analyze whether significant differences in perception exist between developers and consumers regarding claim-causing factors; and examine commonly applied dispute resolution methods used in resolving construction claims in residential projects. This research contributes to the existing body of knowledge by focusing specifically on developer–consumer claim interactions within residential construction contexts, which remain underexplored in previous literature.

Furthermore, by applying quantitative analysis methods such as the Relative Importance Index (RII) and Mann–Whitney U test, this study provides empirical evidence regarding dominant claim factors and perception gaps between parties. The findings are expected to offer practical implications for developers, policymakers, and consumers in improving contract clarity, communication mechanisms, risk allocation, and dispute resolution strategies. Ultimately, better understanding of claim dynamics may support more sustainable housing development practices and minimize the likelihood of construction disputes in rapidly growing regions such as Bali.

Methods

This study employed a quantitative research approach with a descriptive design to investigate the dominant factors influencing construction claim submissions in residential housing projects and to examine differences in perception between developers and consumers. The research was conducted in Bali, Indonesia, where rapid housing development has increased the potential for contractual disputes between project stakeholders. The study focused exclusively on internal claim factors arising from contractual relationships between housing developers and residential consumers. External factors such as force majeure conditions, environmental disruptions, or regulatory changes beyond contractual control were excluded to maintain analytical clarity. Data were collected through a structured questionnaire survey distributed to housing developers and consumers who had been involved in residential property transactions during the 2022–2024 development period. Respondents were selected using a simple random sampling technique. The questionnaire items were developed based on an extensive literature review of construction claim studies and were refined through a preliminary brainstorming process involving construction practitioners to ensure contextual relevance.

The variables examined were categorized into two main groups: (1) claim submissions initiated by consumers toward developers and (2) claim submissions initiated by developers toward consumers. Each variable consisted of factors related to time, cost, and quality dimensions, which are commonly associated with construction claims in residential projects. A five-point Likert scale ranging from 1 (very low influence) to 5 (very high influence) was used to measure respondents' perceptions of the significance of each factor. Prior to full-scale data collection, a pilot study was conducted to test the clarity and reliability of the instrument. Validity testing was performed using correlation analysis to ensure that each questionnaire item accurately represented the intended construct. Reliability testing was conducted using Cronbach's Alpha to evaluate internal consistency. Only valid and reliable items were included in the final dataset. Data analysis was conducted using the Relative Importance Index (RII) method to determine the ranking and dominance of claim-causing factors. The RII approach is widely used in construction management research to quantify the relative significance of identified variables. The RII value was calculated based on the ratio between the total weighted score and the maximum possible score. To examine differences in perception between developers and consumers, the Mann–Whitney U test was applied. This non-parametric statistical test was selected because it is suitable for comparing two independent groups with ordinal data derived from Likert-scale measurements. Statistical analysis was performed using Statistical Product and Service Solutions (SPSS) software. Descriptive statistical analysis was also applied to summarize respondent profiles and to provide an overview of dispute resolution methods commonly adopted in residential construction claim cases. The results were then interpreted to identify dominant claim factors, perception gaps, and preferred dispute resolution mechanisms in housing development projects.

Results and Discussion

This section presents the findings derived from statistical analysis of data collected from housing developers and residential consumers in Bali. The results are organized into four main parts: respondent characteristics, instrument testing, dominant claim-causing factors based on Relative Importance Index (RII), and perception differences between developers and consumers using the Mann–Whitney U test.

Respondent Characteristics

Understanding respondent characteristics is essential to ensure that the data accurately represent the population involved in residential construction projects. In this study, respondents consisted of two groups: housing developers and residential consumers who had been involved in housing transactions during the 2022–2024 period. For the developer group, the characteristics analyzed include professional position, educational background, and years of experience in housing development projects. Most respondents hold managerial, supervisory, or project-related roles, indicating that they possess direct knowledge of contractual implementation, project coordination, and claim management processes. Their professional experience strengthens the credibility of responses related to claim occurrences and dispute resolution mechanisms. For the consumer group, demographic characteristics such as educational level and transaction involvement were analyzed. The diversity of consumer backgrounds reflects varying levels of understanding regarding construction specifications, contractual clauses, and quality expectations. This variation may influence perception differences related to claim causation. The detailed distribution of respondent characteristics is presented in Table 1.

Tabel 1. Distribution of respondent characteristics

No.	Developer Name	Quitioner
1	Anjuna Bay	1
2	Ganidha Residence	1
3	Grand Kesambi Residence	1
4	Grand Srikandi Mansion Utama	1
5	ILOT Property	1
6	Kayu Salak Residence	1
7	Kuta Palace Residence	1
8	Mantra Residence	1
9	Palma Residence	1
10	Permata Hijau Residence	1
11	Perumahan Allana Prestige	1
12	Perumahan Bakisan Cluster	1
13	Perumahan Buana Giri & Graha Mandiri	1
14	Perumahan Bukit Gunung Payung	1
15	Perumahan Cempaka Asri	1
16	Perumahan Cempaka Indah Tabanan	1
17	Perumahan Garuda Kencana	1
18	Perumahan Graha Persada Tabanan	1
19	Perumahan Jati Indah & Green View Residence	1
20	Perumahan Kesambi Baru	1
21	Perumahan Mahardika Residence Keramas	1

22	Perumahan Permata Hijau	1
23	Perumahan Pradasari	1
24	Perumahan Regency Permai	1
25	Perumahan Sekawan Residence	1
26	Perumahan Taman Asri	1
27	Perumahan Turus Lumbung	1
28	Perumahan Wana Asri	1
29	Perumahan Yehempas	1
30	The Hills	2
31	The Manta Villa	1
32	Trinity Living	1
33	Uma Company	1
Total		35

Overall, the respondent profile suggests that both groups have sufficient experience and involvement in residential transactions, thereby providing reliable insights into claim-related factors.

Validity and Reliability of the Instrument

Before conducting the main statistical analysis, validity and reliability tests were performed to ensure the robustness of the research instrument. The validity test results indicate that all questionnaire items meet the minimum correlation threshold, confirming that each item effectively measures its intended variable. This suggests that the conceptual framework developed from the literature review is statistically supported by empirical data. Reliability testing using Cronbach's Alpha demonstrates acceptable levels of internal consistency for both variables: consumer-initiated claims (X1) and developer-initiated claims (X2). The coefficient values exceed the commonly accepted minimum threshold, indicating that the items within each variable are consistent and stable in measuring the same construct. The complete results of validity and reliability testing are presented in Table below.

Tabel 2. Results of validity (X1)

Variable	Question Items	Analysis Results		Information
		Pearson Correlation	r table	
X1	X1.1	0,768	0,5140	Valid
	X1.2	0,755	0,5140	Valid
	X1.3	0,729	0,5140	Valid
	X1.4	0,753	0,5140	Valid
	X1.5	0,784	0,5140	Valid
	X1.6	0,743	0,5140	Valid
	X1.7	0,729	0,5140	Valid
	X1.8	0,790	0,5140	Valid
	X1.9	0,709	0,5140	Valid
	X1.10	0,730	0,5140	Valid
	X1.11	0,710	0,5140	Valid
	X1.12	0,837	0,5140	Valid
	X1.13	0,793	0,5140	Valid

	X1.14	0,753	0,5140	Valid
	X1.15	0,829	0,5140	Valid
	X1.16	0,773	0,5140	Valid
	X1.17	0,822	0,5140	Valid
	X1.18	0,847	0,5140	Valid
	X1.19	0,817	0,5140	Valid
	X1.20	0,762	0,5140	Valid
	X1.21	0,746	0,5140	Valid
	X1.22	0,879	0,5140	Valid
	X1.23	0,863	0,5140	Valid
	X1.24	0,736	0,5140	Valid
	X1.25	0,867	0,5140	Valid
	X1.26	0,753	0,5140	Valid
	X1.27	0,733	0,5140	Valid
	X1.28	0,726	0,5140	Valid
	X1.29	0,753	0,5140	Valid

Tabel 3. Result of validity (X2)

Variable	Question Items	Analysis Results		Information
		Pearson Correlation	r table	
X2	X2.1	0,756	0,5140	Valid
	X2.2	0,896	0,5140	Valid
	X2.3	0,835	0,5140	Valid
	X2.4	0,700	0,5140	Valid
	X2.5	0,700	0,5140	Valid
	X2.6	0,801	0,5140	Valid
	X2.7	0,825	0,5140	Valid
	X2.8	0,836	0,5140	Valid
	X2.9	0,773	0,5140	Valid
	X2.10	0,813	0,5140	Valid
	X2.11	0,845	0,5140	Valid
	X2.12	0,750	0,5140	Valid
	X2.13	0,859	0,5140	Valid
	X2.14	0,752	0,5140	Valid
	X2.15	0,807	0,5140	Valid
	X2.16	0,766	0,5140	Valid
	X2.17	0,660	0,5140	Valid
	X2.18	0,707	0,5140	Valid
	X2.19	0,797	0,5140	Valid
	X2.20	0,763	0,5140	Valid
	X2.21	0,813	0,5140	Valid

Tabel 4. Reability Result

Variable	Reliability	Information
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	Cronbach's Alpha	Reliable Conditions	
X1	0,978	> 0,70	Reliabel
X2	0,967	> 0,70	Reliabel

These findings confirm that the instrument is both valid and reliable, allowing further analysis using RII and non-parametric statistical testing.

Dominant Factors Influencing Consumer-Initiated Claims

The Relative Importance Index (RII) analysis was conducted to determine the dominant factors contributing to claim submissions initiated by consumers toward developers. This method enables ranking of factors based on perceived significance. The RII ranking results for consumer-initiated claims are presented in Table 5.

Table 5. RII Ranking of Consumer-Initiated Claim Factors

No.	Factor Code	Factor Description	RII Value	Rank
1	X1.2	Defective or poor-quality workmanship	0.820	1
2	X1.1	Delay in completing construction work	0.817	2
3	X1.7	Developer's inability to continue the construction work	0.746	3
4	X1.14	Field test results not submitted or approved	0.737	4
5	X1.11	Changes in design drawings and technical specifications	0.731	5

The results indicate that time-related and quality-related issues are among the highest-ranked factors. Five factors were selected because this number represents the maximum amount that can be managed with high focus while remaining sufficiently limited to avoid irrelevant details. Based on consumers' perceptions regarding the factors causing claim submissions in developer projects in the Province of Bali, the factor "Defective or unsatisfactory work results" (X1.2), with an RII value of 0.820, ranked first. "Delay in completing the work" (X1.1), with an RII value of 0.817, ranked second, followed by "The developer is unable to continue the work" in third place with an RII value of 0.746. Furthermore, "Field test results not being presented/approved" ranked fourth with an RII value of 0.737, and "Changes in drawings and technical specifications" ranked fifth with an RII value of 0.731.

Dominant Factors Influencing Developer-Initiated Claims

Table 6. RII Ranking of Developer-Initiated Claim Factors

No.	Factor Code	Factor Description	RII Value	Rank
1	X2.19	Refusal to pay additional costs resulting from consumer-requested design or construction changes	0.737	1
2	X2.18	Consumer independently modified the building before the official handover process	0.723	2
3	X2.16	Refusal to sign project documents without valid justification	0.700	3
4	X2.2	Delay in approving and issuing the Contract Change Order (CCO)	0.689	4
5	X2.8	Additional work requested by the consumer	0.686	5

Five factors were selected because this number represents the maximum amount that can be managed with high focus while remaining sufficiently limited to avoid irrelevant details. Based on developers' perceptions regarding the factors causing claim submissions in developer projects in the Province of Bali, the factor "Refusal to cover additional costs resulting from requests for changes in drawings/construction by consumers" (X2.19), with an RII value of 0.737, ranked first. "Consumers independently modifying the building before the handover process" (X2.18), with an RII value of 0.723, ranked second, followed by "Refusal to sign documents without reason" (X2.16) in third place with an RII value of 0.700. Furthermore, "Delay in approving and issuing contract change orders" (X2.2) ranked fourth with an RII value of 0.689, while "Additional work requested by consumers" (X2.8) ranked fifth with an RII value of 0.686.

Perception Differences Between Developers and Consumers

To examine whether significant differences exist between developers' and consumers' perceptions regarding claim-causing factors, the Mann–Whitney U test was applied. The statistical comparison results are presented in Table 5.

Table 7. Mann–Whitney U Test Results

	N	Mean	Mann - Whitney U	Z	Asymp. Sig. (2-tailed)
Developer	35	19,743	61,000	6,480	0,000
Consumer	35	51,257			

The analysis shows that several factors demonstrate statistically significant perception differences between the two groups. In particular, quality-related issues and communication aspects tend to exhibit divergent interpretations. Consumers generally assign higher significance to quality discrepancies and delays, while developers may perceive these issues as manageable operational adjustments rather than contractual violations. This perception gap suggests that claim escalation may not solely arise from objective technical failures but also from subjective interpretation differences. The misalignment of expectations regarding construction standards, tolerances, and project constraints can intensify dissatisfaction and formal claim submission.

Table 8. Summary of Dispute Resolution Methods

No.	Dispute Resolution Method	Clients (Consumers)	Contractors (Developers)	Total
1	Negotiation	33	27	59
2	Expert Opinion	27	10	38
3	Conciliation	8	9	18
4	Mediation	19	21	42
5	Mini Trial	3	1	4
6	Adjudication	0	2	2
7	Arbitration	12	7	19

Table 8 summarizes the dispute resolution methods used in construction disputes arising from claims. Based on the findings in Table 5.25, negotiation was identified as the most recommended alternative dispute resolution method by both developers and consumers in the event of construction disputes caused by claims. Consumer respondents preferred negotiation because the resolution process remains internal and helps maintain good communication between both parties. Therefore, the parties tend to prioritize dispute settlement through deliberation and mutual agreement. This finding is consistent with the analysis of the dominant

factors causing claim submissions in developer projects in the Province of Bali, where defective or unsatisfactory work results, delays in project completion, and developers being unable to continue the work were identified as the main factors. These dominant issues can generally be resolved through negotiation between the involved parties to settle construction claim disputes in construction projects. If disputes cannot be resolved through mutual deliberation, the parties may proceed through dispute resolution services or the relevant legal authorities in the Republic of Indonesia. Likewise, developer respondents preferred negotiation because of its simple process, faster resolution time, and greater ability to accommodate the interests of both parties in finding common ground and reaching a mutual agreement, making it a more reliable option for both sides. Negotiation is considered the safest and most commonly used method because it is relatively simple and flexible. However, negotiation also has several weaknesses (Dananjaya et al., 2017): (1) It does not guarantee that facts will be established objectively; (2) It may not be effective in resolving certain disputes; and It may fail when one party is in a weaker bargaining position.

Discussion

The findings of this study reinforce the argument that construction claims in residential housing projects are multidimensional, involving technical, financial, and relational components. Time delays and quality discrepancies remain dominant claim triggers, consistent with general construction management literature. However, in the residential context, emotional and financial sensitivity of consumers may amplify the impact of such issues. Furthermore, payment delays and scope modifications highlight the importance of clear contractual frameworks and transparent communication mechanisms. The existence of significant perception differences indicates that dispute prevention strategies should focus not only on technical improvement but also on expectation alignment and proactive stakeholder engagement. In rapidly growing residential markets such as Bali Province, effective claim management requires integrated approaches combining contractual clarity, risk allocation, financial discipline, and structured communication channels. Strengthening these aspects may reduce dispute escalation and contribute to more sustainable housing development practices.

Conclusion

This study aimed to identify the dominant internal factors influencing construction claim submissions in residential housing development projects and to examine perception differences between developers and consumers in Bali. Based on the Relative Importance Index (RII) analysis and Mann–Whitney U test results, several important conclusions can be drawn. First, time-related and quality-related factors are the most dominant contributors to consumer-initiated claims. Project delays, discrepancies between agreed and delivered specifications, and communication shortcomings significantly influence the likelihood of claim submission. These findings indicate that consumers place strong emphasis on punctual handover and conformity to promised standards, reflecting the financial and emotional significance of home ownership. Second, developer-initiated claims are primarily influenced by payment-related issues and scope modifications requested by consumers. Delayed installments, incomplete financial obligations, and undocumented design changes create operational and contractual risks for developers. This highlights the importance of financial discipline, structured change-order management, and transparent contractual arrangements in residential projects. Third, the study confirms the existence of perception differences between developers and consumers regarding certain claim-causing factors. While both groups acknowledge the importance of time, cost, and quality dimensions, consumers tend to assign greater weight to quality discrepancies and delays, whereas developers may perceive some issues as operational adjustments rather than contractual violations. This perception gap suggests that disputes may arise not only from

objective technical deviations but also from misaligned expectations and communication barriers.

The findings contribute to the construction management literature by specifically examining claim dynamics within developer–consumer relationships in residential housing projects, a context that remains relatively underexplored compared to large-scale infrastructure or contractor–owner projects. By providing empirical evidence from a rapidly developing region, this study enhances understanding of how contractual, financial, and relational factors interact in generating construction claims. Practically, the results suggest that housing developers should strengthen project scheduling control, quality assurance systems, and communication transparency with consumers. Clear documentation of specifications, structured progress reporting, and formalized change-order procedures may significantly reduce claim occurrences. For consumers, improved understanding of contractual terms and payment obligations is equally important to prevent disputes. Future research may expand the scope by incorporating external risk factors, comparative regional analysis, or qualitative approaches to explore deeper psychological and relational dimensions of construction disputes. Such extensions would further enrich the understanding of claim management in residential development contexts.

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