

Review of Arbitration Practices in Construction Projects: A Case Study of Highway Projects in Nepal

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Abstract

Arbitration is a commonly adopted method for resolving disputes in construction contracts. The arbitration process and dispute settlement mechanisms are governed by legal provisions, contractual agreements between the parties, and procedures established by international institutions. However, in Nepal's highway projects, the dispute resolution process has proven to be inefficient, adversely affecting contract management and overall project governance. To address this issue, this research examines existing arbitration practices, claim issues, and decision-making approaches using data and arbitration decisions from highway projects implemented under the Department of Roads. The study analyses 93 ongoing and completed arbitration cases to identify prevailing trends through qualitative and descriptive statistical analysis and investigates five detailed case study projects to explore current practices, issues, contractual and legal grounds for decision-making, and the effectiveness of dispute resolution in highway construction. The case studies are thoroughly reviewed using existing documentation available within the Department of Roads, providing valuable insights for project managers, planners, and contract administrators in identifying key dispute areas and arbitration decision approaches. Furthermore, this research contributes to understanding the trends, issues, and decision patterns in contractual claim resolution. Its findings support improvements in construction contract management by highlighting critical dispute areas that can be mitigated through proactive planning, effective arbitration handling, using standardised forms of contracts and capacity enhancement of stakeholders involved in resolving construction disputes.

Key Words: Construction Arbitration; Road Projects; Dispute; Contract Management; Dispute Resolution.

1. Introduction:

Arbitration is a dispute resolution mechanism that addresses conflicts arising between contracting parties. It serves as an alternative to litigation in the construction industry, offering several advantages such as the freedom to select arbitrators, cost-effectiveness, flexibility in handling both legal and technical disputes, confidentiality, and timely resolution of contractual conflicts (Stephenson, 2003). Construction contracts explicitly include arbitration clauses as part of standard contract documents that are widely adopted in civil infrastructure projects worldwide, enabling professionals to manage and resolve contractual disputes efficiently (Beaumont, 2019). The standard contract forms developed by the International Federation of Consulting Engineers (FIDIC) pinpointed the key risk factors that can be settled through the use of standardised mechanisms such as Dispute Avoidance and Adjudication Board (DAAB) and Arbitration (FIDIC, 2017). Those standard forms of contracts are used by public institutions all around the world in executing infrastructure construction projects. The implementation of arbitration is governed by the legal framework of each country and the procedural rules established by international institutions (Voser, 2011; Caron & Caplan, 2013). Although arbitration proceedings may vary across jurisdictions, the core objective remains consistent to resolve contractual disputes effectively and within a reasonable timeframe. Despite existing legal provisions in Nepal's construction sector, arbitration decisions often face limited acceptance from both employers and contractors, frequently escalating to litigation. This situation raises concerns regarding the effectiveness of contract management and the overall efficiency of dispute resolution mechanisms (Mishra & Aithal, 2022). Institutional effectiveness and good governance are critical factors that support foreign direct investment (FDI) in middle- and low-income countries (Walsh & Yu, 2010). Therefore, enhancing institutional capacity and governance in construction contract administration can significantly contribute to improving dispute resolution practices and sustaining FDI inflows in Nepal's infrastructure sector.

Furthermore, the decisions made by arbitration, dispute boards, or adjudication panels in the Nepal's highway infrastructure sector during the fiscal year 2022 highlight the current efficiency level of dispute resolution mechanisms. Out of 120 registered disputes, only 41 were resolved through the contractual dispute resolution process facilitated by the Nepal Council of Arbitration (NEPCA) (NEPCA, 2024). However, most arbitration decisions were subsequently referred to the courts, where proceedings often extend from several months to years before reaching a final judgment. An analysis of arbitration case records from the Department of Roads over the past decade revealed that arbitration awards requiring Employers to compensate Contractors amounted to approximately NPR 2,740 million (DoR, 2024). These findings indicate that the existing arbitration practices in highway infrastructure projects are not functioning effectively in resolving disputes between contracting parties. Accordingly, the primary objective of this research is to review the current dispute resolution practices in highway infrastructure implementation management to identify prevailing procedures, issues, legal provisions, and potential improvements for enhancing future decision-making. The contribution of this study lies in identifying weaknesses in the existing system and providing insights into addressing major sources of disputes in future contracts through the adoption of appropriate mitigation measures and improved dispute resolution mechanisms.

2. Data Collection

The road and bridge construction contracts implemented by the Department of Roads (DoR) that were under arbitration or litigation were collected from the Legal and Dispute Management Unit of the DoR. Among the 93 disputes under DoR since from last 10 years; 40 of which had already been decided through arbitration, while the remaining cases were still under process. For the resolved cases, most disputes were subsequently referred to the High Court for further adjudication. Due to confidentiality requirements, the names of the contractors involved have not been disclosed in this research.

Using data from both ongoing and completed arbitration cases related to road and bridge contracts, the study examined trends in arbitration and litigation within DoR projects. Based on this analysis, five representative case study projects were selected and analyzed in detail to identify key arbitration issues, arbitrators' decisions, and the current status of disputes. These case studies encompassed variations in financing arrangements, infrastructure types, bidding methods, arbitration proceedings, contracting approaches, and the frequency of contractors' involvement in arbitration.

The findings from the qualitative and quantitative data analysis and case studies provide valuable insights and a way forward for improving the effectiveness of arbitration in highway construction projects, thereby enhancing overall construction contract management.

3. Methodology

To conduct this research, both ongoing and completed arbitration cases were analyzed using qualitative data analysis approach, quantitative data analysis through descriptive statistics and detailed case studies of selected contracts. Initially, 93 ongoing disputes under the Department of Roads (DoR) were examined through qualitative and statistical analysis to identify issues, decision approach, legal and procedural shortcomings and trends in dispute occurrence across different project environments, including financing arrangements, infrastructure types, contracting methods, company structures, and bidding approaches. Those analyses provided an overview of issues, legal and contractual gaps and the prevailing patterns in dispute resolution within highway construction contracts.

In addition, five arbitration case study projects were selected representing diverse financing arrangements, infrastructure categories, bidding methods, and contracting approaches. These case studies were examined based on arbitration proceeding documents, policy documentation and arbitration awards and court decisions on contractual claims available in the Legal and Dispute Management Unit of the DoR. Each case was thoroughly analyzed qualitatively to understand the nature of disputes, their current status, the basis of claims, and their implications for construction contract management.

4. Results and Discussion

4.1 Results of Quantitative Analysis

Firstly, the results obtained from the descriptive statistical analysis were examined and interpreted. The findings revealed that among the 93 ongoing and completed arbitration cases, 13 contractors were involved in five or more disputes during contract execution (Figure 1). Notably, two of these contractors accounted for approximately 30% of the total arbitration cases in highway projects, while four contractors collectively represented about 45% of all ongoing and completed arbitration matters.

These results indicate that a limited number of construction companies are repeatedly involved in arbitration, suggesting a pattern of recurring contractual disputes. Such information provides valuable insight into the claim and litigation history of contractors, which serves as an important evaluation criterion during the bidding and contractor selection process.

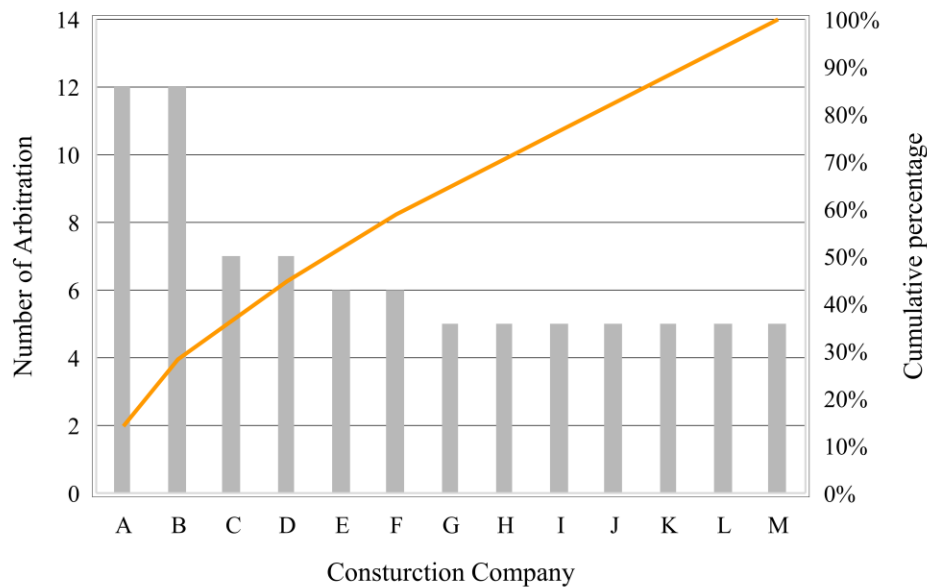


Figure 1. Construction Companies actively involved in Arbitration and litigation in highway projects

Figure 2 illustrates the time delays experienced in projects due to prolonged arbitration decisions and subsequent litigation. In most cases, projects have already exceeded ten years and remain under litigation, despite having been decided through arbitration. This situation raises concerns about the effectiveness of dispute resolution mechanisms, which are intended to provide timely and cost-effective remedies for contractual issues arising during project implementation (Stephenson, 2003). Such inefficiencies not only undermine the performance of institutional mechanisms but also erode credibility in both local and international markets. Consequently, they have a direct and indirect impact on the foreign investment climate within a country's infrastructure construction sector (Wang et. al, 2021). These findings highlight the need for a more efficient contract management environment that enables smooth project execution without hindering the performance of contracting parties or compromising potential project benefits.

Figure 3 illustrates various project management environments within Nepal's highway infrastructure sector, highlighting the occurrence of arbitration cases under specific project conditions. The analysis revealed that road contracts financed by the Government of Nepal (GoN) and executed through joint venture arrangements among contractors experienced a higher frequency of arbitration and litigation. This suggests that GoN-funded projects are

more susceptible to contract management challenges such as delays, site possession and clearance issues, termination disputes, and financial management problems compared to projects financed by foreign development partners.

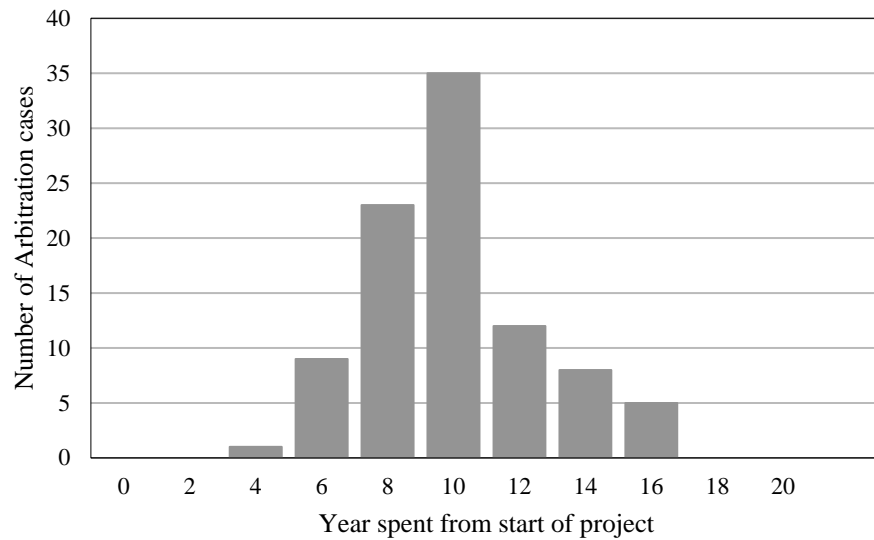


Figure 2. Time spent by contracting parties on Arbitration and litigation

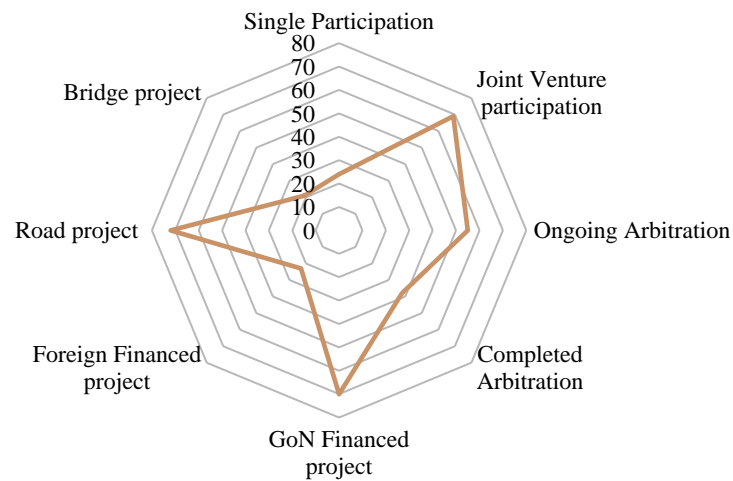


Figure 3. Arbitration and litigation issues in a varying project environment

Similarly, bridge contracts exhibited relatively fewer arbitration and litigation cases among the studied projects. Moreover, contracts involving joint participation of contractors showed a greater tendency toward arbitration than those executed by single contractors. These variations across contract management environments provide insights into the current landscape of contractual disputes, serving as a foundation for further analysis of the underlying causes in

specific project contexts. Accordingly, the subsequent section presents detailed case studies aimed at identifying key dispute issues and proposing improvements for future contract document formulation.

4.2 Results of Qualitative Analysis

The completed arbitration decisions and ongoing cases were qualitatively reviewed with a focus on key aspects such as the nature of disputes, analytical approaches adopted by arbitration panels, relevant contractual provisions, defence documents submitted by Employers and Contractors, court rulings on claims, and the legal references used during arbitration proceedings. Additionally, the qualitative assessment examined how different project management environments characterised by variations in financing mechanisms, contracting methods, infrastructure types, contractor participation, and arbitration procedures addressed contractual disputes.

The content analysis identified the project time extension, termination of contracts, exceptional events and design-related issues as major issues of disputes. Furthermore, the review of arbitration awards, policy documents, and project management contexts highlighted the importance of effective project planning and capacity development for both contracting parties and arbitrators involved in the arbitration and decision-making process. The recurring themes and keywords identified from document reviews further confirmed weaknesses in contract management practices, particularly in the effective settlement of contractual disputes.

4.3 Results of Arbitration Case Studies

The selected arbitration cases representing different project environments were thoroughly examined to identify the key issues underlying each dispute. This analysis was conducted by reviewing the claim documents submitted by the claimants and the corresponding defence documents provided by the respondents. The major disputable issues in each project, along with the remedies determined through arbitration proceedings, were analysed to provide insights into how disputes arise, their resolution status, and potential strategies for improving future dispute management through arbitration. Furthermore, this case study analysis within the highway infrastructure sector contributes to identifying practical mitigation measures aimed at minimising contractual disputes during the early stages of project implementation.

4.3.1 Project 1

The first case involved a bridge construction project financed by the Government of Nepal (GoN) and administered by the Division Road Office. The contract was awarded to a joint venture construction company through a National Competitive Bidding (NCB) process. Arbitration proceedings were conducted under the Nepal Council of Arbitration (NEPCA) rules in accordance with the Arbitration Act of Nepal. The contractor initiated arbitration, raising several issues, including wrongful termination of the contract, encashment of the performance bond, non-payment of the remaining contract amount, compensation for loss of profit, costs associated with idle equipment and manpower, bank commission for security bonds, court proceeding fees, and insurance premiums.

Initially, the contractor issued a notice of termination citing the employer's default, followed by a subsequent termination notice from the employer alleging the contractor's default. The arbitration panel determined that the contractor's termination was valid, concluding that the employer had failed to fulfil its contractual obligations, and accordingly rejected the employer's later termination. The panel further ruled that the employer's termination was unlawful and directed compensation to the contractor, including payment of the outstanding contract amount.

As the arbitration decision was unfavourable to the employer, the employer challenged the award in the High Court, alleging that the arbitrators had exceeded their authority and violated contractual provisions. The High Court, however, upheld the arbitration award and instructed its implementation. Subsequently, the employer appealed to the Supreme Court seeking to overturn the High Court's decision. The project, which commenced in 2018, remains unresolved to date. This case exemplifies the inefficiency of the dispute resolution process and raises serious concerns regarding the performance of contracting parties and the effectiveness of current contract management and dispute settlement practices.

4.3.2 Project 2

The second case involved a road construction project financed by the Government of Nepal (GoN) and administered by the Division Road Office. The overall project environment and arbitration procedures were similar to those in Project 1, with minor differences in the claims presented. In this case, the contractor initiated arbitration, citing non-payment of the final bill, failure to issue the Taking Over Certificate, non-release of the performance bond, compensation for time extension and prolongation costs, and release of retention money with applicable interest. The contractor's claims encompassed both monetary compensation and contractual relief.

Out of the five claims submitted, the arbitration panel accepted three and rejected two. Dissatisfied with the outcome, the Employer appealed to the High Court, arguing that the arbitrators had exceeded their authority and violated the terms of the contract. The project, which commenced in 2013, remains unresolved, reflecting continued inefficiencies in the dispute resolution process within construction contracts.

The issues raised in this case primarily relate to contract management deficiencies that could have been effectively addressed by the employer during project execution to reduce compensation costs. Claims associated with time extension and prolongation could be minimised through proactive planning, timely decision-making, and improved resource management throughout the project lifecycle.

4.3.3 Project 3

The third case study involved a road construction project financed by a foreign development partner and implemented under the Road Improvement and Development Project Office. The contract was awarded to a national–international joint venture through an International Competitive Bidding (ICB) process. Arbitration proceedings were conducted in accordance with the Nepal Council of Arbitration (NEPCA) rules and the Arbitration Act of Nepal.

The contractor raised several dispute issues, including claims for prolongation costs due to contract period extensions, delayed payment interest, compensation for rate revision by the Engineer, compensation for road damage caused by overloaded vehicles during the defect liability period, and payment for additional haulage costs not anticipated during project planning. Compared to the previous two cases, this project presented distinct claims, particularly concerning rate revision compensation and road damage due to heavy vehicle operations.

In this case, the Engineer had revised certain rates to a level below the Engineer's estimate at the time of contract award. The contractor, however, contested this decision and sought payment based on the actual cost conditions prevailing during the variation. Another notable claim involved damage to the constructed road caused by vehicles carrying loads beyond the legal limit, for which the contractor sought compensation.

Upon reviewing all the claims, the arbitration panel ruled in favour of the contractor on all issues except the claim related to road damage caused by overloaded vehicles. Although the project commenced in 2014, the contractual dispute remains unresolved. The employer rejected the arbitration award and referred the matter to the High Court, alleging that the arbitrators had acted beyond their authority, similar to the previous two cases. The High Court upheld the arbitration decision, but the employer again appealed to the Supreme Court, where the case is still pending. This ongoing litigation highlights weaknesses in contract enforcement and demonstrates that the fundamental purpose of arbitration to resolve disputes efficiently within the framework of contractual provisions is not being effectively upheld in international construction contracts in Nepal (Beaumont, 2019).

4.3.4 Project 4

The fourth case study involved a bridge construction project financed by the Government of Nepal (GoN) and administered through a project office established at the construction site. The contract was awarded to a single national contractor through a National Competitive Bidding (NCB) process, and the arbitration proceedings were conducted

under the Nepal Council of Arbitration (NEPCA) rules. The contractor initiated arbitration to seek the settlement of disputes arising during project execution.

The major dispute issues included termination of the contract by the employer, subsequent termination by the contractor, release of the performance bond, payment of outstanding amounts after termination, release of retention money, compensation for idle resources, prolongation costs due to delays, loss of profit resulting from termination, and reimbursement of legal expenses incurred during the dispute process. Most of these issues were consistent with those observed in other case studies, though the sequence of termination differed. Unlike Project 3, where the contractor terminated the contract first, this case involved an initial termination by the employer, followed by the contractor's termination in response. The contractor sought to invalidate the employer's termination and claimed compensation for costs and delays.

Upon review, the arbitration panel accepted all of the contractor's claims except those related to idle charges and administrative costs associated with dispute proceedings. Although the project commenced in 2014, the contractual disputes remain unresolved, as the employer appealed to the High Court seeking to nullify the arbitration award because the decision exceeded the arbitrators' authority and violated contractual provisions. The High Court is currently reviewing the legal validity of the award.

This prolonged dispute, similar to the other cases, underscores the inefficiency of dispute resolution and highlights the challenges in implementing construction contracts within Nepal's highway infrastructure sector. It further emphasises the need to strengthen contract management practices and enhance the institutional capacity of implementing agencies to align with international best practices in contract administration and dispute resolution.

4.3.5 Project 5

The final case study involved a road construction project financed by a foreign development agency. The project was administered by a project office with the provision of an international supervision consultant and a dispute board to manage day-to-day contractual issues cost-effectively. The construction contract was awarded through an International Competitive Bidding (ICB) process to a national–international joint venture. Arbitration proceedings were conducted under the UNCITRAL rules.

The disputes in this project were initially reviewed by the dispute board. However, the employer did not accept the board's decision and referred the matter to arbitration for further determination. The contractor's claims primarily concerned the prolongation costs and delayed payments of interim payment certificates. Upon review, the arbitration panel upheld the contractor's claims, concurring with the earlier findings of the dispute board.

The project commenced in 2015 with an original construction period of two years, but was extended by more than three years for completion. Despite physical completion in 2018, the contractual disputes remain unresolved. Although the arbitration award favoured the contractor, the employer appealed the decision to the High Court, asserting that the arbitrators exceeded their authority and violated contractual provisions. Under Nepal's Arbitration Act, judicial review of arbitration decisions is permitted only on limited grounds, such as when arbitrators act beyond their mandate or disregard contractual terms. Nevertheless, the employer's appeal remains under High Court review.

The prolonged dispute has continued to consume significant administrative and financial resources from both parties, demonstrating weaknesses in contract administration and dispute management. Such inefficiencies also increase the cost of dispute resolution and adversely affect the implementation performance of other projects managed by the same institutions. This case, in particular, underscores the shortcomings in administering dispute resolution mechanisms in large-scale international contracts involving foreign contractors, consultants, and full-time dispute boards. It highlights the necessity for a comprehensive review of all types of contracts, whether for roads or bridges, financed by the Government of Nepal or external agencies, and with or without dispute board provisions, to enhance the overall effectiveness of dispute resolution practices.

The review of all five case study projects indicates that key dispute issues are largely similar across projects, including claims related to time extensions, contract termination, idle costs, prolongation costs, and interest. In most cases, arbitration panels ruled in favour of the construction companies, requiring the employer to provide compensation. The panels frequently emphasised employer-related risk events such as delayed site possession, late issuance of design documents, and labour strikes. Some issues, such as adverse weather conditions, earthquakes, and the COVID-19 pandemic, were recognised as beyond the control of either party. Several disputes raised by the employer, however, pertained to resource management and planning deficiencies on the part of the construction companies. Most claims from contractors were associated with project time overruns and their consequential impact on performance. In evaluating these claims, arbitration awards were generally determined based on risk events explicitly stated in the contract agreement. It was observed that arbitration panels did not consistently conduct detailed reviews of contractor work plans, the efficiency of construction companies, or the impact of employer-related disruptions on critical activities (Ndekugri et. al, 2008). These aspects of delay claim analysis were often overlooked in highway project arbitration decisions. This research, therefore, identifies a significant gap in the construction contract dispute resolution practices within Nepal's highway infrastructure sector. Moreover, it underscores the need for arbitration experts handling construction disputes particularly those related to delays to possess in-depth knowledge of construction contract management to ensure more comprehensive and equitable decision-making.

5. Conclusion

In conclusion, the study found that thirteen construction companies were frequently involved in raising contractual claims, with two companies accounting for approximately 30% of all arbitration cases. This research identified the major arbitration issues raised by construction companies in road and bridge projects across different project management environments. On average, projects take more than ten years to resolve contractual disputes. Prolonged dispute resolution not only consumes significant resources but also reduces efficiency in managing new projects due to resource constraints and raises questions about the efficiency of institutions involved in contract management and dispute resolution.

The intended efficiency of arbitration as a dispute resolution mechanism is undermined in practice, with contracting parties taking excessive time to settle disputes. Frequent appeals to the High Court following arbitration decisions indicate a disregard for contractual provisions that are widely recognized in international construction contract management. Such practices raise concerns regarding project governance and negatively affect the country's foreign direct investment climate (Dollar et. al, 2006).

The analysis revealed that joint ventures in Government of Nepal (GoN) financed road contracts experienced a higher number of arbitration cases, reflecting lapses in fulfilling contractual obligations by the employer. Learning from claims raised by contractors is essential to correct these deficiencies. In the projects studied, most claims are still under arbitration or judicial review. Regardless of infrastructure type road or bridge, common issues include site possession delays, late issuance of designs, contract termination, delayed payments, and prolongation costs arising from employer-related risk events.

This comprehensive qualitative and quantitative review of arbitration cases demonstrates that arbitration awards, particularly for time extension claims, are often insufficiently evaluated. Critical analysis of contractors' resource plans and actual resource availability is necessary to ensure claims are assessed accurately. Consequently, this study highlights a future research direction in analysing delay-related claims, which constitute a significant portion of contractual disputes and involve substantial claim and administrative costs.

Overall, this research contributes to construction project management literature by providing new insights into the utilization of arbitration in developing countries like Nepal. It emphasises the need for capacity enhancement among contracting parties to resolve disputes efficiently and evaluates the performance of arbitration in the infrastructure development sector, offering guidance for improving contractual dispute resolution practices through the adoption of existing legal and procedural provisions and international best practices.

6. Recommendations

These research findings explore the nature of disputes in highway construction projects in Nepal and the practices adopted for their resolution through arbitration. Based on the review of arbitration processes, key recommendations for enhancing future dispute resolution in construction contracts include effective project planning with adequate resources, capacity building of contracting parties to better manage delay-related risks, development of robust delay analysis methodologies, and strengthening the competence of arbitrators to ensure fair and independent assessments of construction disputes. Additionally, enhancing institutional capacity through the adoption and proper implementation of standardized contract forms, such as FIDIC standards, is essential to improve dispute resolution mechanisms and attract greater foreign investment in infrastructure development within developing countries.

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