

Factors affecting legal compliance in construction procurement of local administrative organizations

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Abstract: This article aims to study the factors affecting legal compliance in the construction procurement of local administrative organizations. A quantitative research methodology was employed using a rating scale questionnaire distributed to experts from local administrative organizations. The research findings revealed that the overall factors influencing legal compliance in construction contracts had an average score of 3.53 with a standard deviation of 0.86, which is considered a high level. When analyzed by category, personnel factors had the highest average score of 3.65 (high level), followed by factors related to compliance with other laws (average = 3.63, high level). Coordination factors and support factors had average scores of 3.46 and 3.40, respectively, which are considered moderate. The study indicated that personnel factors had the greatest impact on legal compliance. Therefore, local administrative organizations should enhance the competency of their personnel in relevant areas of law concerning public construction procurement, construction standards, and other applicable regulations such as the Engineers Act, the Town Planning Act, and the Building Control Act. This is to ensure that the procurement process is conducted efficiently and strictly according to legal requirements.

Keywords: Construction procurement, Legal compliance, Local administrative organization.

1. Introduction

The construction operations of local administrative organizations (LAOs) are a critical process closely tied to national budget management and play a key role in the development of the country's infrastructure. However, there are currently persistent legal compliance issues within the construction procurement processes of LAOs. These issues include non-compliance with relevant laws, a lack of transparency in construction procedures, and contractual problems that often result in delays and legal disputes. In Thailand, construction project procurement by LAOs must adhere to national policies, strategic plans at both the national and departmental levels, and the respective mandates of the organizations involved. The primary legal instruments governing this process include the Ministry of Finance (Thailand) [1] and its related ministerial regulations. These laws aim to standardize procurement practices by promoting public participation, transparency, and open access to information. Construction procurement must also consider the project's objectives, cost-effectiveness, efficiency, transparency, and auditability [1]. According to reports from the State Audit Office of the Kingdom of Thailand, in the past five years, there has been a continuous increase in corruption and legal non-compliance in LAOs' construction procurement. In 2022 alone, more than 150 corruption cases were reported in LAOs' construction procurement, causing total damages exceeding 1.2 billion baht [2].

Moreover, other critical issues persist in construction procurement, such as inaccurate cost estimations, inadequate internal and external audits, and insufficient support from related individuals or agencies [3]. Problems also include failure to comply with contract details, improper procurement of materials, and deviations from prescribed procedures [4]. Communication and coordination issues between government agencies, private contractors, and local communities further complicate the

process [5]. The construction delays significantly affect budget utilization and project efficiency, especially for public sector projects that must strictly comply with legal and regulatory standards [6]. In addition, major challenges in construction procurement include poor material inspection, ambiguous technical requirements, and improper contract administration, which contribute to project delays and legal non-compliance [7]. These challenges highlight the strong linkage between procurement process integrity and legal compliance. Given these challenges, this study aims to examine the factors influencing legal compliance in construction contracts of LAOs by exploring four dimensions: personnel, compliance with other related laws, coordination, and support systems. The results of the study are intended to guide improvements in legal compliance within construction projects managed by LAOs and enhance the overall effectiveness of project implementation.

2. Literature Review

Legal compliance in the construction procurement of LAOs is a critical issue affecting the efficiency, transparency, and accountability in the use of government budgets. Numerous studies, both domestic and international, have explored factors influencing legal compliance, which can be broadly categorized into four main groups: Personnel factors (PFs), factors related to compliance with other laws (FCLs), factors related to coordination (FCs), and factors related to support (FSs). The details of each group are as follows:

The PFs: Personnel in LAOs have an important role in regulating, supervising, and managing procurement and the construction project implementation according to applicable laws. The knowledge, understanding, and skills of personnel are fundamental factors that directly influence the accuracy of procurement processes, inspection and acceptance, contract administration, and strict adherence to engineering and architectural professional standards. The results are consistent with those reported in Jampakhao et al. [3] found that personnel involved in construction operations within LAOs must possess a sound understanding of public procurement laws, such as the Public Procurement and Supplies Administration Act B.E. 2560 (2017), as well as specific legislation such as the Engineers Act, the Building Control Act, and the Town Planning Act, all of which affect project design, control, and execution. Their study concluded that many LAOs, especially in remote areas, still lack technically specialized personnel, such as in-house engineers or architects, resulting in reliance on external staff or contractors, which poses risks of transparency and conflicts of interest. Frequent staff transfers and instability in key positions also lead to discontinuities in operations and delays in budget disbursement [8]. Human resource management has been identified as one of the critical success factors in public project administration [9]. Studies in Hong Kong revealed that government officers with legal and contract management training are more likely to ensure legal compliance than those without such training [10]. Thus, PFs not only concern quantity but also the quality and specialized expertise relevant to construction work. Enhancing personnel capacity through professional training, appointing certified professionals, and setting basic knowledge standards are essential to promoting sustainable legal compliance within LAOs.

The FCLs: In executing construction projects, LAOs must not only comply with the Public Procurement and Supplies Administration Act but must also adhere to other relevant laws that directly govern the design, control, and approval of construction. These include the Engineers Act, the Building Control Act, and the Town Planning Act. These are specialized laws that require the involvement of licensed professionals and prescribe clear procedures for obtaining permits. If LAOs neglect or fail to recognize the importance of these legal requirements, their construction projects may be carried out unlawfully, potentially compromising public safety and exposing the organization to scrutiny from external regulatory agencies. The study found that many LAOs, particularly those in rural areas, tend to proceed with construction projects without undergoing proper engineering review or in violation of the Building Control Act [11]. This often stems from urgency or a lack of understanding of the relevant legal provisions. Moreover, confusion persists regarding whether government agencies are required to obtain building permits under the Building Control Act in the same manner as private entities. In

practice, even government agencies must formally notify or seek approval from local authorities when constructing public buildings, in strict compliance with the law. In addition, the Town Planning Act is another critical factor affecting the design and location of construction projects. If the project site falls within a restricted zone or is inconsistent with the city's comprehensive land-use plan, obtaining a construction permit may not be possible. This could result in project delays or suspension, with significant impacts on both the allocated budget and the well-being of local residents. This highlights the issue of construction law enforcement in developing countries, where there are often loopholes in the permitting and inspection processes. As a result, buildings are frequently constructed without meeting proper standards, posing significant safety risks [12]. It is recommended that local governments in member countries develop an integrated system between building control regulations and urban planning laws, particularly for public construction projects that require legal clarity and traceability [13]. Based on the above issues, it is evident that construction activities undertaken by LAOs must comply with multiple legal frameworks in a comprehensive and integrated manner. A lack of understanding or deliberate avoidance of these specific legal requirements may lead to budgetary losses, reputational damage, and potential legal liability for local government executives.

The FCs: Coordination among various agencies involved in construction projects managed by LAOs is a critical mechanism for ensuring comprehensive and effective legal compliance. Public construction projects typically involve multiple entities, both internal divisions within the LAOs, such as the Engineering Division, Finance Division, and Procurement Division, and external agencies, such as the Provincial Office of Public Works and Town & Country Planning, the Provincial Treasury Office, and the Comptroller General's Department. A lack of systematic coordination can lead to misunderstandings in implementation procedures, delays in approval processes, and unintentional violations of the law. According World Bank [12], internal coordination failures within LAOs are a major cause of document redundancies, designs that do not align with budget constraints, and even errors in contract execution. In addition, communication problems between LAOs and supervisory agencies at the provincial or ministerial level are also evident. These include issues such as not receiving timely technical guidance and submitting construction plans through improper channels, which result in project delays and increased exposure to post-audit risks. It has been suggested that coordination with the private sector, particularly with contractors, consulting engineers, and designers, is another key factor influencing project success. The absence of joint meetings, clearly defined frameworks for collaboration, and an efficient reporting system may lead to various operational problems such as delays in work handovers, disbursements that do not correspond to project milestones, or disputes regarding actual quantities of work performed [14]. A study on project management in the United States found that stakeholder coordination is one of the key components influencing the success of public construction projects, particularly in terms of legal compliance and mitigating risks related to contractual disputes [15]. An analysis of public project management in Norway revealed that the establishment of a central coordination unit among government agencies at different levels significantly reduces redundancy and enhances overall project implementation efficiency [16]. In summary, effective coordination relies on several key elements: a clear administrative structure, efficient internal and external communication systems, and a shared understanding among all stakeholders. These factors collectively enable LAOs to carry out construction projects in full legal compliance, with transparency, and with fewer operational errors throughout the implementation process.

The FSSs: Support from both internal systems and external agencies is a critical factor that promotes legal compliance in construction projects undertaken by LAOs. In particular, support in the form of auditing, technical consultation, and effective oversight enables LAOs personnel to perform their duties accurately even when facing limitations in manpower or specialized knowledge. Reports from the State Audit Office of the Kingdom of Thailand and the Office of the National Anti-Corruption Commission have consistently affirmed that LAOs with robust internal control systems, regular risk assessments, and continuous guidance from external auditing bodies are more likely to implement construction projects in full compliance with the law than those without such mechanisms in place. Empirical studies

have shown that external audits not only serve to identify past errors but also function as a preventive mechanism, particularly in cases where LAOs lack specialized personnel in engineering or legal fields [17]. When LAOs receive support from central government agencies, such as the deployment of consulting engineers, hands-on training workshops, and the dissemination of standardized operational manuals, it significantly contributes to improving the quality and systematic execution of construction projects. A study of public sector construction management in Hong Kong revealed that the implementation of a third-party monitoring system, which involves hiring independent external auditors to oversee the planning, design, and execution phases, has significantly reduced corruption and operational errors [18]. Reports indicate that countries with independent and transparent external auditing systems, such as Canada, Finland, and Singapore, tend to exhibit high levels of legal compliance and enjoy strong public trust in government spending processes [19]. Overall, effective support mechanisms should encompass multiple dimensions: personnel (e.g., establishing internal audit units), technical capacity (e.g., training and technical consulting), and management systems (e.g., risk assessment frameworks and progress monitoring systems). These components collectively enable LAOs to manage construction projects with greater rigor, legal compliance, and alignment with genuine local development goals.

3. Materials and Methods

This article studied the factors affecting legal compliance in construction procurement of LAOs through a 5-level rating scale questionnaire. The conceptual framework includes four main factors, as follows: PFs – comprising three sub-factors: Insufficient personnel (IP), Discipline and Maintaining Discipline (DMD), and Knowledge of Construction Contracting (KCC). FCLs – comprising three sub-factors: The Engineers Act (EA), The Building Control Act (BCA), and The Town Planning Act (TPA). FCs – comprising three sub-factors: Coordination with government agencies (CGA), Coordination with private sector agencies (CPA), Coordination within Local Communities (CLC). And FSs – Support Factors – comprising three sub-factors: Internal audits within the organization (IAO), External audits by other agencies (EAA), and Support from individuals or private sector entities (SPE). As shown in Figure 1.

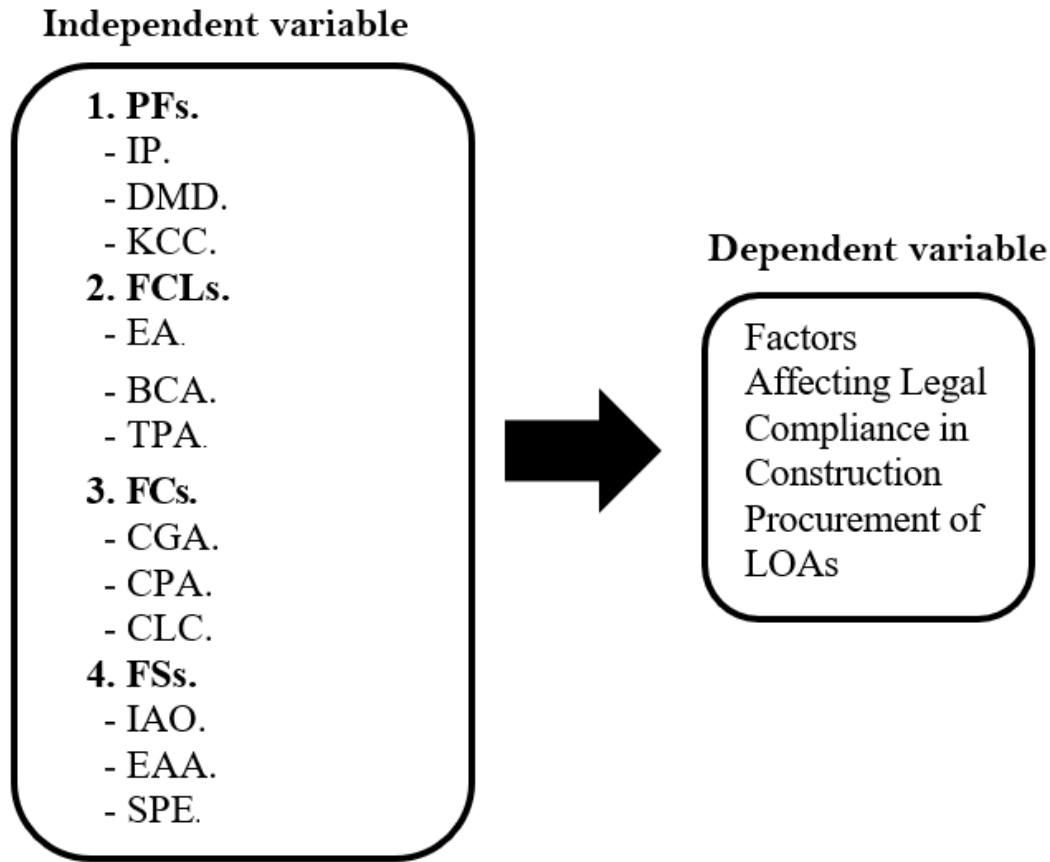


Figure 1.
The Conceptual Framework of Factors Affecting Legal Compliance in Construction Procurement of LAOs.

This article employed a quantitative research approach to examine the factors affecting legal compliance in construction procurement undertaken by LAOs. A structured questionnaire was developed using a 5-point Likert scale, ranging from 1 = Strongly Disagree to 5 = Strongly Agree [20]. The sample group consisted of 52 experts from LAOs across Thailand. The sample size was determined based on the Krejcie and Morgan [21] sampling table, and participants were selected using a simple random sampling method [21]. To ensure representativeness, data were collected through face-to-face interviews [22]. For data analysis, the Statistical Package for the Social Sciences (SPSS) was utilized. Descriptive statistics, including mean ($\bar{x}$) and standard deviation (SD), were used to summarize the data [23]. The mean was used to indicate the overall level of agreement for each factor, while the SD was employed to assess the variability or dispersion of responses from the mean. These measures provided insights into the central tendency and consistency of expert opinions. In addition, inferential statistics were applied, specifically Pearson's product-moment correlation coefficient, to examine the relationships among the mean variables [24]. The reliability of the questionnaire was tested using Cronbach's Alpha coefficient, which is a widely accepted method for evaluating the internal consistency of instruments [25]. The content validity of the questionnaire was assessed using the Index of Item-Objective Congruence (IOC), evaluated by three experts in construction procurement from LAOs. Only items with an IOC value of 0.80 or higher were retained to ensure that the items accurately reflected the intended variables [26]. The interpretation of $\bar{x}$ follows the criteria: 4.51–5.00 = highest level (HHL), 3.51–4.50 = high level (HL), 2.51–3.50 = moderate level (ML), 1.51–2.50 = low level (LL),

1.00–1.50 = lowest level (LWL). The Level of Correlation (LC) of Pearson correlation coefficients is as follows: 0.81–1.00 = very high correlation (VHC), 0.61–0.80 = high correlation (HC), 0.41–0.60 = moderate correlation (MC), 0.21–0.40 = low correlation (LC), 0.01–0.20 = very low correlation (VLC), 0 = no correlation (NC). Negative values indicate inverse correlation [27].

Step 1: Analyze the overall main factors affecting legal compliance in the construction procurement of LAOs: PFs, FCLs, FCs, and FSs. Descriptive statistics such as mean ($\bar{x}$) and standard deviation (SD) were used. For data analysis, the study employed SPSS statistical software, utilizing both descriptive statistics ($\bar{x}$, SD).

Step 2: Analyze each sub-factor affecting legal compliance in construction procurement of LAOs, including: sub-factors under PFs, such as IP, DMD, and KCC; sub-factors under FCLs, such as compliance with the EA, BCA, and TPA; sub-factors under FCs, such as CGA, CPA, and CLC; and sub-factors under FSs, such as IAO, EAA, and SPE.

Step 3: Analyze the relationships among factors affecting legal compliance in the construction procurement of LAOs using Pearson's product-moment correlation coefficient. The analysis focused on examining the following relationships: the relationship between PFs and FCLs, PFs and FCs, PFs and FSs, FCLs and FCs, FCLs and FSs, and FCs and FSs.

4. Result and Discussion

4.1. Result

Overall analysis of the main factors affecting legal compliance in the construction procurement of LAOs. The study found that the overall level of legal compliance in procurement construction within LAOs had a mean score of 3.53 (SD = 0.86), which is considered high. When analyzed by individual factor: PFs (highest) had a mean score of 3.65 (SD = 0.92), high. FCLs had a mean score of 3.63 (SD = 0.84), high. FCs had a mean score of 3.46 (SD = 0.80), moderate. FSs had a mean score of 3.40 (SD = 0.91), moderate. As shown in Table 1.

Table 1.

The $\bar{x}$, SD, and LF for the main factors.

Main Factors	$\bar{x}$	SD.	LF.
PFs.	3.65	0.92	HL
FCLs.	3.63	0.84	HL
FCs.	3.46	0.80	ML
FSs.	3.40	0.91	ML
Total	3.53	0.86	HL

Analysis of sub-factors affecting legal compliance reveals varying impacts across four main categories PFs, FCLs, FCs, and SFs, in the context of construction procurement by LAOs. For PFs, the sub-factor "IP" had a mean score ($\bar{x}$) of 3.57 (SD = 0.97), interpreted as a high level (HL). The sub-factor "DMD" had a mean score of 3.28 (SD = 0.97), indicating a medium level (ML). Similarly, "KCC" had a mean score of 3.38 (SD = 0.91), also indicating ML. In the FCLs category, "EA" scored a mean of 3.55 (SD = 0.84), interpreted as HL. "BCA" had a mean score of 3.50 (SD = 0.82), indicating ML, while "TPA" scored 3.55 (SD = 0.82), also indicating HL. For FCs, the sub-factor "CGA" had a mean of 3.25 (SD = 0.90), interpreted as ML. "CPA" scored 3.26 (SD = 0.74), indicating ML, and "CLC" had a mean of 3.30 (SD = 0.94), also indicating ML. In the SFs category, "IAO" had a mean score of 3.63 (SD = 0.97), indicating HL. "EAA" scored 3.53 (SD = 0.93), also interpreted as HL. The highest score in this group was for "SPE" with a mean of 3.84 (SD = 0.88), considered HL. As shown in Table 2.

Table 2.The $\bar{x}$, SD, and LF for the sub-factors.

Main Factors	Sub-Factors	$\bar{x}$	SD.	LF.
PFs.	IP.	3.57	0.97	HL
	DMD.	3.28	0.97	ML
	KCC.	3.38	0.91	ML
FCLs.	EA.	3.55	0.84	HL
	BCA.	3.50	0.82	ML
	TPA.	3.55	0.82	HL
FCs	CGA.	3.25	0.90	ML
	CPA.	3.26	0.74	ML
	CLC.	3.30	0.94	ML
FSs.	IAO.	3.63	0.97	HL
	EAA.	3.53	0.93	HL
	SPE.	3.84	0.88	HL

Correlation Analysis among main factors. The analysis of relationships between main factors affecting legal compliance in construction procurement revealed the following: The PFs exhibited a high positive correlation with FCLs, as evidenced by a correlation coefficient (r) of 0.71 and a statistically significant p -value (p) < 0.05 . This reflects a strong relationship, indicating that when personnel possess sufficient knowledge of construction laws and related regulations, such as the Engineers Act, Building Control Act, and Town Planning Act, legal compliance is more likely to be carried out accurately and effectively. The PFs also showed a moderate positive correlation with FCs ($r = 0.50$, $p < 0.05$). This suggests that an adequate number of personnel with relevant construction knowledge may contribute to improved coordination with government agencies, private contractors, and local communities. However, the strength of this relationship remains moderate. The PFs exhibited a moderate positive correlation with SFs ($r = 0.47$, $p < 0.05$). This indicates that qualified personnel may also enhance internal audits, external evaluations, and support from external organizations, though the effect is not as strong as with legal compliance. The FCLs demonstrated a moderate positive correlation with FCs ($r = 0.57$, $p < 0.05$), indicating that when legal compliance is effectively implemented, coordination with relevant stakeholders tends to improve correspondingly. The FCLs also showed a low positive correlation with SFs ($r = 0.40$, $p < 0.05$), suggesting that improved legal compliance may slightly enhance support mechanisms, but the association is relatively weak. The FCs exhibited a moderate positive correlation with SFs ($r = 0.54$, $p < 0.05$). This suggests that effective coordination with government entities, private agencies, and communities can enhance support mechanisms such as audits and organizational assistance, contributing to stronger legal compliance practices. As shown in Table 3.

Table 3.The r , p , and LC for the main factors.

Main Factors	r	p	LC.
PFs. ↔ FCLs.	0.71	0.000	HC
PFs. ↔ FCs.	0.50	0.000	MC
PFs. ↔ FSs.	0.47	0.000	MC
FCLs. ↔ FCs.	0.57	0.000	MC
FCLs. ↔ FSs.	0.40	0.000	LC
FCs. ↔ FSs.	0.54	0.000	MC

4.2. Discussion

The findings of this study indicate that PFs exert the greatest influence on legal compliance in construction contracts within LAOs, followed closely by compliance with other relevant legal frameworks. These results are consistent with previous research by Jampakhao et al. [3], which identified that the level of legal knowledge and ethical awareness among procurement officials significantly affected contract implementation. Similarly, Onnuam and Ruangthamsing [4] highlighted the lack of legal expertise and training as major obstacles to compliance in local government procurement. The high mean scores observed in PFs ($\bar{x} = 3.65$) suggest that the capacity and legal literacy of staff are essential for upholding the integrity of public construction projects. This aligns with the study by Office of the National Anti-Corruption Commission [8], which emphasizes the importance of regular legal training and personnel evaluation systems to prevent procurement misconduct. Additionally, the significant correlation between personnel and legal compliance ($r = 0.71$) confirms the role of human capital as a determinant of organizational accountability. Although coordination and support factors received moderate scores ($\bar{x} = 3.46$ and 3.40 , respectively), these aspects should not be overlooked. The findings echo those of Apichit [14], who argued that fragmented inter-agency coordination and limited institutional support often lead to delays and legal ambiguities in public construction. Enhancing collaboration among internal units and between LAOs and regulatory bodies such as the State Audit Office of the Kingdom of Thailand and the Council of Engineers can strengthen compliance mechanisms and mitigate risks [15]. In contrast with studies conducted in more centralized systems, where compliance structures are top-down, the decentralized nature of Thai LAOs necessitates a bottom-up approach that empowers local staff. This reinforces the need for tailored training, practical legal tools, and localized audit systems. Overall, this study adds to the body of knowledge by empirically confirming the importance of personnel competencies in achieving legal compliance. It also highlights the interplay between structural, legal, and human factors in the effective management of public construction contracts. Future research could explore how digital tools, such as e-procurement systems and real-time monitoring platforms, can support compliance across different LAOs.

5. Conclusion and Suggestion

5.1. Conclusion

This study examined the factors influencing legal compliance in construction procurement managed by local administrative organizations (LAOs) in Thailand. Based on expert responses collected through a structured questionnaire, the results indicated that the overall level of legal compliance was high ($\bar{x} = 3.53$). Among the four main factors, PFs ($\bar{x} = 3.65$) and FCLs ($\bar{x} = 3.63$) were rated at a high level, while FCs ($\bar{x} = 3.46$) and FSs ($\bar{x} = 3.40$) were rated at a moderate level. The analysis further revealed a strong positive correlation between PFs and FCLs ($r = 0.71$, $p < 0.05$), emphasizing the critical role of personnel with adequate legal knowledge, skills, and professional ethics in ensuring the lawful execution of construction contracts. These findings suggest that, although FCs and FSs provide structural and institutional support, legal compliance within LAOs is primarily driven by the capacity and competence of personnel (PFs).

5.2. Suggestion

Enhance Personnel Competency: LAOs should provide continuous training on laws and regulations related to public procurement, including the Ministry of Finance (Thailand) [1] Engineers Act, the Town Planning Act, and the Building Control Act. This will help strengthen officials' legal knowledge and practical skills necessary for effective contract administration. In addition, a mentoring system between senior and junior officers should be established to support the sustainable implementation of legal compliance in practice.

Strengthen Legal Framework Support: Internal guidelines should be regularly reviewed and aligned with national legal standards to reduce legal ambiguities. It is recommended that standardized contract templates be adopted to minimize disputes and improve consistency in contract enforcement.

Promote inter-agency coordination: Establishing dedicated liaison units or legal advisory cells within LAOs can improve communication with regulatory agencies and ensure timely clarification of legal matters. Partnerships with external institutions such as the State Audit Office of the Kingdom of Thailand and professional engineering councils can further enhance legal and technical support.

Develop accountability mechanisms: Internal audit procedures and risk assessment systems should be implemented to monitor the procurement process. The adoption of digital procurement platforms and real-time monitoring tools can help enhance transparency and ensure compliance with relevant laws and standards.

Remark:

This article is a part of the dissertation for the Ph.D Program in Engineering Law and Inspection, Faculty of Engineering, Ramkhamhaeng University, Bangkok, Thailand [28].

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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