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ABSTRACT

Public procurement involves government spending for the well-being of the people. This study was carried out to observe the management of contracts implemented by procurement officers at the Ministry of Defense (Royal Malaysian Navy) for expenses related to asset and equipment maintenance used to maintain national maritime security for the well-being of the people. This study also attempts to examine the level of understanding of the procurement officers on pre-planning of asset maintenance contract procurement planning and financial planning, as well as whether or not the mechanism used is sufficient to monitor the contract compliances and contractors’ obligations to comply with the terms of the contracts. A survey was initiated in April 2022 and lasted for five months. The questionnaires were distributed to the procurement officers handling the asset and equipment maintenance contract of the Ministry of Defense. A total of 206 questionnaires were returned and analyzed. Results revealed that the procurement officers understood that pre-planning process needs to be implemented before a procurement contract is signed; additionally, they believed that pre-planning process is not a requirement and that the mechanism used is a tool to prevent unethical misconduct in contract management. However, some respondents believed the mechanism could not prevent corruption. Therefore, it is suggested that the procurement officers be given disclosure not only on how to manage the procurement contract but also to ensure that the contract is implemented efficiently through pre-planning procurement. In addition, more improvements to the existing mechanism need to be made to increase procurement officers’ trust in the existing system.

Keywords: Public procurement; Contract management; Compliance; Corruption

Received October 5, 2023; Revised October 16, 2023; Accepted October 20, 2023
Doi: https://doi.org/10.59953/cpa.v39i5(b).33

1. INTRODUCTION

Contract management is a subfield of a much larger field known as supply chain management. Contract management is essential to the success of any business as it ensures that contractual documents are correctly drafted, carried out, and monitored, thereby reducing the organization’s exposure to risk and increasing its potential for financial gain. Contract management is a very broad field encompassing not only contract management but also risk management, performance management, and supplier selection management, among others. It is an area that has gained significance over the past few years, particularly owing to its link to issues involving a failure to comply with the implementation of a contract, as well as those related to integrity. This is one of the primary reasons why this area has gained importance. As a result, it is connected to non-compliance, which may be caused by a lack of clarity, which may result in failure to comply with the terms of a contract and a dispute. Contracts establish rights and obligations between parties (Uher & Davenport, 2009). To determine whether the implementation of a contract is successful, it is necessary not only to ensure that the terms of the contract are adhered to but also to take into account other factors, such as the financial allocation necessary to finance the expenses incurred as a result of the contract for guaranteeing its continuation. In many instances, when a government agency purchases an asset or piece of equipment, the cost that is incurred does not end there; rather, it necessitates additional costs such as the cost of maintaining the asset through a maintenance contract executed by the supplier. According to Blanchard & Fabrycky (2006), the highest cost is not only the cost of acquiring an asset but also includes other costs such as training and software costs. However, in addition to these costs, it has been found that maintenance costs are among the second highest costs since organizations need to continue financing these costs throughout the use of an asset. It has become common practice to hold onto assets for a significant number of years, either until the assets are retired or until they reach the age at which their usefulness is exhausted. The management of this kind of maintenance contract frequently presents a challenge in the form of
financial constraints throughout the contract. There is also the problem of financial constraints, which can lead to delays in continuing the contract and the failure of the supplier contractor to perform the obligations as outlined in the contract due to delays or non-payment. As a result, it is necessary for organizations operating the asset to always have financial allocations available for maintenance. However, government agencies sometimes do not have the current financial allocation to continue the maintenance contract. This results in assets not being maintained, causing them to become damaged and eventually being forced to stop operating earlier than the age at which they are expected to reach their end of life.

The planning for an asset’s acquisition needs to be in line with the planning for its maintenance. Organizations that operate capital assets need to be aware that prolonged use of assets can cause them to become obsolete and damaged, which in turn requires more careful care on the part of the organization operating the capital asset. As a result, having a maintenance contract for an asset is necessary to carry out preventative and corrective maintenance. Properly maintaining an asset is necessary to guarantee that it will be available for use 90% of the time. It takes a significant amount of money to carry out maintenance tasks; due to this, financial planning must also be carried out in conjunction with the operation of the asset. As soon as the asset is accepted into the organization, the preparation of a maintenance contract and careful financial planning must be put into action. Additionally, any necessary adjustments must be made before the expiration of the warranty period to ensure that the operation of the asset is not disrupted.

At the same time, the party holding the contract is required to possess necessary abilities, competence, and knowledge regarding their rights as a user and the responsibilities of the party supplying the contract to determine how effectively the contract will be implemented. The officer in charge of managing the contract is responsible for comprehending the terms of the agreement signed, as well as the necessary level of expertise, competence, and knowledge in handling the contract. This is very important, especially when it comes to very complicated contracts. By doing this, the rights of those holding contracts and the users are protected, while the rights of those supplying contracts are not violated. In the absence of clear information, the process of entering into a contract might not go as smoothly, which might result in disruptions during the contract’s execution, thus affecting the performance of the contract. Matters involving contract performance can lead to the contract being renewed if the government is pleased with the contractor’s performance, the contract being extended, or the contract being terminated early due to failure to deliver as in the contract clause or/and inability to maintain adequate progress. All three of these outcomes are possible depending on how the government feels about the contractor’s work (Brunjes, 2022). Therefore, the skills, competence, and knowledge of the person in charge of the contract are extremely important in determining whether or not a person will be able to understand the terms of the contract.

In addition, the support of leadership is a significant factor that plays a role in determining the direction that the signed contract will take. The agency's upper management must develop transparent policies concerning the contracts executed. These policies should not only be used to establish the course of the contract but should also be closely related to the utilization of the assets that are kept (Azizi et al., 2019). This statement is also supported by Soltanali et al. (2023), which stated that the commitment of top management plays an important role in the maintenance contract, particularly in the preparation of the budget and the procurement of inventory. Therefore, it is possible to consider leadership or top management as an internal mechanism that also promotes the objectives and strategy of an organization (Soltanali et al., 2023) and, on the other hand, ensures conformance to procurement policy and procedure (Manu et al., 2019). In addition, the top management needs to establish stringent codes of conduct to be implemented throughout the agencies. These codes should ensure that contract clauses and procurement procedures are adhered to for avoiding potential conflicts of interest and problems related to integrity (Kipkemoi, 2017).

There have been many studies in the past that have focused on the performance of public procurement, the performance of suppliers, and other related topics; however, the purpose of this study was to investigate how public procurement in the maritime industry is carried out by making use of contracts as a tool for the implementation of procurement. Whereas, when it comes to carrying out procurement through the use of a contract, there are a lot of things that need to be planned out in minute detail and considered. For instance, when a contract is first established, a lengthy contract period may increase the likelihood that it will not be managed effectively. This may be the case for several reasons, including, but not limited to; the inability of the officers managing the contract; the incompetence of the officers who promulgated and manage the contract; and the understanding from the point of view of the implementation of the contract in which issues of misconduct and integrity are not emphasized, which are much related to the leadership in the organization whether or not they address these issues well. As a result, this study was carried out to investigate the level of understanding of the procurement officers working at the Ministry of Defense, Malaysia specifically in the maritime service i.e. the Royal Malaysian Navy (RMN) regarding the process pre-planning of asset maintenance contract procurement;
for instance, procurement and financial planning, as well as the extent to which procurement officers are aware of the mechanism used to monitor the contract compliances and the contractors' obligations to comply with the terms and conditions of the contracts.

2. METHODOLOGY

This study is exploratory research that aims to explore the logistical support factors' impact on effective contract management. This study only considered the procurement officers who are from the maritime section i.e., the Royal Malaysian Navy (RMN) that are responsible for managing procurement contracts. The first component of the questionnaire asks for basic demographic information such as gender, age, qualification, branch, rank, and years in service. The second section consists of five questions focusing on financial support, while Section 3 focuses on contract compliance comprising five questions. A structured questionnaire was administered, which involved a sample of 206 respondents voluntarily. The survey was initiated in April 2022 and lasted for five months. The respondents were approached through electronic means including e-mail and WhatsApp. The questionnaire design was based on an extensive literature review on contract management (Kant & Dalvi, 2017; Kipkemoi, 2017), procurement planning (Apiyo & Mburu, 2014), leadership support (Apiyo & Mburu, 2014; Manu et al., 2019), and officers’ competency (Olumbe, 2010). A total of 206 questionnaires were answered and returned from respondents. However, two questionnaires were removed from the analysis due to missing values, making 204 questionnaires available for analysis. The survey data were descriptively examined using frequency and single-level statistical analysis. While much research uses a more robust statistical method, such as multivariate analysis, cluster analyses, or stated choice experiments, many of them explored beyond demographics to discover underlying characteristics that explain a portion of the demographic connections while controlling other factors.

2.1 Respondents Demographic Profile

In this study, procurement officers were questioned about their views and perception of the pre-planning before procurement and contract compliance. A slight majority of respondents included males by 64.7%, while others were females by 35.3%. According to the results of this survey, the vast majority of those who took part in it were 31 to 40 years old, which represented 47.5%. Approximately, 57.4% of the surveyed population held a degree. For the years in Procurement and Contract Management jobs, the results showed that most respondents had experience from 16 years and above, including 117 of the total number of respondents, making up 57.4%. The respondents’ demographic profile is depicted in Table 1.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>132</td>
<td>64.7</td>
</tr>
<tr>
<td>Female</td>
<td>72</td>
<td>35.3</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td>100.0</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21-30 years old</td>
<td>34</td>
<td>16.7</td>
</tr>
<tr>
<td>31-40 years old</td>
<td>97</td>
<td>47.5</td>
</tr>
<tr>
<td>41-50 years old</td>
<td>54</td>
<td>26.5</td>
</tr>
<tr>
<td>51 years and above</td>
<td>19</td>
<td>9.3</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td>100.0</td>
</tr>
<tr>
<td>Qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>13</td>
<td>6.4</td>
</tr>
<tr>
<td>Degree</td>
<td>117</td>
<td>57.4</td>
</tr>
<tr>
<td>Master</td>
<td>72</td>
<td>35.3</td>
</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100.0</td>
</tr>
<tr>
<td>Years in Procurement and Contract Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>19</td>
<td>9.3</td>
</tr>
<tr>
<td>6 years to 10 years</td>
<td>35</td>
<td>17.2</td>
</tr>
<tr>
<td>11 years to 15 years</td>
<td>33</td>
<td>16.2</td>
</tr>
<tr>
<td>16 years and above</td>
<td>117</td>
<td>57.4</td>
</tr>
<tr>
<td>Total</td>
<td>204</td>
<td>100.0</td>
</tr>
</tbody>
</table>
3. FINDINGS

3.1 Procurement Planning and Impact on Contract Performance

Planning for the implementation of the procurement contract should be carried out at an early stage of the requirement. The planning that needs to be carried out includes identifying contractors who can supply the necessary goods, carry out market surveys and price comparisons, as well as have a sufficient financial position to finance the contract to be signed later. To ensure that the allocation is always sufficient, the calculation estimate needs to be carried out, which considers the number as well as the overall costing of financial needs required by looking at the duration of the contract implementation. This is very crucial to avoid the supply or service from the contractor being cut off during the contract tenure.

Table 2 shows the procurement officer’s understanding before a procurement is implemented, which requires clear planning before a contract is signed and started. This section explores the degree of procurement officers’ understanding of factors for effective contract management. Factors such as procurement planning, funds availability, and contract needs assessment were asked to the respondents to observe whether or not they have an impact on effective contract management. In the table, no significant difference between respondents’ years of experience in procurement and contract management (p >0.005) was observed. A higher percentage can be seen in the agreement of respondents that pre-planning must be done before procurement can begin and before a procurement contract is signed. However, some respondents believed that pre-planning processes such as contract requirement analysis (9.4%), market analysis (12.3%), having a sufficient budget (10.3%), and procurement planning to help in achieving value for money (1%), as well as compliance to procedure (4%) are not important. This result raised a lot of concerns because, if these procurement officers continue to believe that there is no need to carry out all of these processes, it will have an impact and consequences where there will be an insufficient allocation to cover the expenses of the contract if the procurement contract continues. This also shows that there might be inaccurate requirements and specifications for the procurement of supplies or services provided by the contractor, which can also hugely increase the acquisition price.

3.2 Mechanism Used for Contract Compliance

To determine how the mechanism that exists in the organization can help contract compliance, respondents were asked using questions related to principles of procurement and the mechanism to succeed in managing contracts, which are presented in this section. Table 3 indicates that the respondents agreed and disagreed with statements about the mechanisms in place. Since a procurement contract takes a very long time, it is possible that the supplier has been in the comfort zone and may cause instability to the terms of the contract. Therefore, the need to create appropriate mechanisms needs to be created to prevent corruption and misconduct.

Table 2: Procurement Planning and Impact on Contract Performance

<table>
<thead>
<tr>
<th>Items</th>
<th>DISAGREED</th>
<th>AGREED</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to procurement, a contract requirements analysis must be conducted.</td>
<td>&lt;5: 3 (1.5%) 6-10: 2 (1.0%) 11-15: 3 (1.5%) &gt;16: 11 (5.4%)</td>
<td>&lt;5: 33 (16.2%) 6-10: 30 (14.7%) 11-15: 16 (8.3%) &gt;16: 106 (52.0%)</td>
<td>0.686</td>
</tr>
<tr>
<td>Market analysis is important and must be carried out before a contract is signed.</td>
<td>&lt;5: 2 (1.0%) 6-10: 2 (1.0%) 11-15: 3 (1.5%) &gt;16: 18 (8.8%)</td>
<td>&lt;5: 33 (16.2%) 6-10: 30 (14.7%) 11-15: 17 (8.3%) &gt;16: 99 (48.5%)</td>
<td>0.421</td>
</tr>
<tr>
<td>To have sufficient budget before procurement begin.</td>
<td>&lt;5: 0 (0%) 6-10: 3 (1.5%) 11-15: 3 (1.5%) &gt;16: 15 (7.3%)</td>
<td>&lt;5: 32 (16.7%) 6-10: 30 (14.7%) 11-15: 19 (9.3%) &gt;16: 102 (50.0%)</td>
<td>0.369</td>
</tr>
<tr>
<td>Procurement planning helps to achieve value for money.</td>
<td>&lt;5: 0 (0%) 6-10: 0 (0%) 11-15: 2 (1.0%) &gt;16: 19 (9.3%)</td>
<td>&lt;5: 35 (17.2%) 6-10: 33 (16.7%) 11-15: 3 (1.5%) &gt;16: 115 (56.3%)</td>
<td>0.682</td>
</tr>
<tr>
<td>Procurement planning results into compliance to set procedures.</td>
<td>&lt;5: 1 (0.5%) 6-10: 1 (0.5%) 11-15: 3 (1.5%) &gt;16: 18 (8.8%)</td>
<td>&lt;5: 34 (17.2%) 6-10: 30 (14.7%) 11-15: 18 (9.3%) &gt;16: 114 (55.8%)</td>
<td>0.375</td>
</tr>
</tbody>
</table>
and outs of contract management. This can be seen 
experienced officers who are very knowledgeable of the ins 
procurement contracts under their supervision are ve 
that the procurement officers in the RMN who also manage 
Looking at the findings from this study, it can be observed 
4. DISCUSSION

Results showed that there was no significant difference 
between respondents' years of experience in procurement 
and their perception of mechanisms used for contract 
compliance (p >0.005). A higher percentage can be seen in 
the respondents' agreement that the mechanisms in place 
were not smooth because, without careful procurement 
planning. This situation may cause the contract journey to 
be not smooth because, without careful procurement 
planning, the supply and services provided by the 
contractor may be interrupted and cause the operation of 
a task to be disrupted.

In addition, it was also noted that the respondents agreed 
that there are mechanisms used to regulate and ensure 
contract compliance. Through the results of this study, it 
was found that there are also respondents who felt that the 
mechanisms used do not help in achieving contract 
compliance. This matter needs to be refined more deeply 
as such results may exist. After all, the respondents either 
believed that all these mechanisms could not prevent non 
was found that there are also respondents who felt that the 
mechanisms in place may exist. A�er all, the respondents either 
agreed that procurement planning, funds 
availability, and contract needs assessment should be 
implemented and that it has an impact on effective 
contract management. Even so, there are still some 
respondents who do not agree to hold procurement 
planning. This situation may cause the contract journey to 
be not smooth because, without careful procurement 
planning, the supply and services provided by the 
contractor may be interrupted and cause the operation of 
a task to be disrupted.

4. DISCUSSION

Looking at the findings from this study, it can be observed 
that the procurement officers in the RMN who also manage 
procurement contracts under their supervision are very 
experienced officers who are very knowledgeable of the ins 
and outs of contract management. This can be seen 
through their tenure in the Procurement Department. 
Since contract procurement is a matter that takes a long 
time, Procurement Officers need to have careful planning 
in managing the contract, which needs to start in the early 
period before the contract is signed and as early as when 
the procurement is planned to be implemented. This is to 
ensure that this contract can be implemented properly and 
have sufficient funds throughout the contract period. From 
the analysis carried out, it was observed that the majority 
of respondents agreed that procurement planning, funds 
availability, and contract needs assessment should be 
implemented and that it has an impact on effective 
contract management. Even so, there are still some 
respondents who do not agree to hold procurement 
planning. This situation may cause the contract journey to 
be not smooth because, without careful procurement 
planning, the supply and services provided by the 
contractor may be interrupted and cause the operation of 
a task to be disrupted.

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was found that there are also respondents who felt that the 
mechanisms used do not help in achieving contract 
compliance. This matter needs to be refined more deeply 
as such results may exist. After all, the respondents either 
believed that the existing mechanism cannot prevent the 
ocurrence of issues of misconduct and corruption, or it is

Table 3: Mechanism used for Contract Compliance

<table>
<thead>
<tr>
<th>Items</th>
<th>DISAGREED</th>
<th>AGREED</th>
<th>Chi-square p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal anti-corruption mechanism in place to prevent corruption.</td>
<td>8 (4.0%)</td>
<td>26 (13.0%)</td>
<td>0.444</td>
</tr>
<tr>
<td>Effective procurement auditing procedure is followed to prevent misconduct.</td>
<td>3 (1.5%)</td>
<td>31 (15.5%)</td>
<td>0.452</td>
</tr>
<tr>
<td>Application of sustainability principles in procurement being obey (eg. Contract Specifications, Tender Selection Criteria).</td>
<td>3 (1.5%)</td>
<td>31 (15.5%)</td>
<td>0.434</td>
</tr>
<tr>
<td>Penalty for non-compliance implemented as in contract document.</td>
<td>4 (2.0%)</td>
<td>30 (15.0%)</td>
<td>0.918</td>
</tr>
<tr>
<td>I believe a long-term strategic partnership as well as a positive relationship with the contractor are essential for successful contract compliance.</td>
<td>3 (1.5%)</td>
<td>31 (15.5%)</td>
<td>0.767</td>
</tr>
</tbody>
</table>
also possible that they do not believe in the system created in the organization.

Having said those, let us be more specific when it concerned the issues of procurement planning and the mechanism used to regulate and ensuring contract compliance. Both elements are actually playing a very crucial and critical role in ensuring the effectiveness of contract management in the RMN as well as the government. Obviously, the study has shown that the majority of the respondents are well aware and agree that pre-planning must be done before procurement can begin and before a procurement contract is signed. It is also observed that majority respondents embrace the mechanisms in place are able to cope up with the corruption and misconduct.

To improve the situation, it is about time to recommend such element like Contract Management Review (CMR) along the contract tenure. This practice is capable of ensuring the smooth going of every single contract being promulgated among contracted parties. It provided a way and mean between the contracting parties to review, recheck and revise the existing contract management that ties them. CMR will enable both parties, especially the RMN (government) to ensure all interest are well preserve and implemented as what has been agreed upon. In short, all procurement officers will have the opportunity and advantage to do some alignments and improvement on some contract clauses which may give both parties some difficulties in implementing as well as compliance to the contract. If it is strictly adhered, the possibility of corrupted situation and misconduct can easily be eliminated.

5. CONCLUSION

Managing the procurement contract carries its challenges as it involves various management elements and requires the commitment of the organization starting from before the procurement contract is established until the implementation of the procurement contract. This study found that procurement officers need to understand the tasks and supervision of the procurement contract, especially the preparation before the work of creating the procurement contract is implemented. In addition, the organization needs to improve the governance of existing mechanisms used as tools in managing the contract process. The contracting parties are advised to have in mind that when it comes to contract management, it has to be dynamic, must comply and able to adapt with the current situation. It cannot be a stiff and stagnant situation as it may result to the contract failure. By having this way of doing things, perhaps it can increase procurement officers’ trust in their own organization and the implementation of procurement as well as the compliance to contract management.

ACKNOWLEDGEMENT

This research was supported by the Universiti Utara Malaysia (UUM) through Insentif Pascasiswazah Grant Scheme with S/O Code 15949.

REFERENCES


