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Asset Management in Malaysia: Current Status

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Abstract. Asset management is a rapidly growing practice in response to changes in urban development and becoming one of the important practices in Malaysia. As a result, the Malaysian government has raised awareness of asset management to manage and maintain government assets. Thus, the Malaysian government has established MySPATA, a fixed asset management system used by all government ministries to help agencies standardize, manage, and monitor fixed assets. The four asset management documents used in MySPATA are the Government Asset Management Policy (DPAK), Government Comprehensive Asset Management Manual (MPAM), Government Immovable Asset Management Procedures (TPATA), and Immovable Asset Management System. Asset management is concerned mainly with operating assets in Malaysia, including their management, monitoring, maintenance, and disposal. Government agencies are charged with supervising governments and enabling the delivery of public services. Thus, asset management policies and processes are critical for delivering and assisting in effective asset management. Asset management must be effective and efficient to ensure that the assets provided can be handled and utilized for the intended purpose. This study examines Malaysia's current asset management practices and identifies the advantages and disadvantages of the current approach.

1. Introduction

Asset management has become a significant component in developing and managing government infrastructure in the modern era. [1] asserts that asset management is critical to a country's success. Additionally, without effective asset management, infrastructure will deteriorate, thus impacting government performance. Additionally, the government and local governments are accountable for maintaining government assets and promoting public service. The inefficiency and ineffectiveness of the government's asset poor management have been exposed over the years [2]. Therefore, good asset management is required to ensure that the asset is handled effectively and performs its intended function. As a result, smart and efficient asset management will increase the efficacy and efficiency of managing and monitoring assets in support of the development of smart cities. Thus, the Malaysian government is taking these challenges seriously, particularly in managing and preserving assets, such as building operations, which entails asset maintenance, management, monitoring, and security.

Asset management brings a different meaning to different people as well as countries. Similarly, the relationship exists in terms of managing and monitoring assets. Additionally, some countries say that asset management is a process that aims to get the most bang for the buck out of an asset while meeting the strategic requirements of local governments. The need for better asset management practises is being recognised by more local governments every year [3]. Asset management can also be considered the activity that aligns the asset with the organization's corporate goals. The objectives are to ensure that the assets are in optimal condition. Moreover, asset management connects the



organization's goals and objectives with the assets that enable their achievement [4]. Currently, asset management procedures in Malaysia are based on unplanned maintenance work, where work is performed in response to public complaints or once-a-month scheduled authority visits. However, this approach is inefficient since it is bland and time-consuming. Thus, this paper reviews the current status of the asset management practices in Malaysia; the benefits and limitations of using current asset management practices are also discussed.

2. Related Works and Studies

Asset Management is a large scope of the topic. There are a few research that explores and explaining about this topic. According to [1], Asset management is an integrated process that combines diverse capabilities and specializations to deliver the requirement of administration with available resources. There are comparisons made between the asset management procedures in the United States (the United Kingdom), the United States, Australia, New Zealand, and Malaysia (Malaysia). Furthermore, it also aims to raise worldwide knowledge and understanding of asset management from many perspectives.

2.1. United States

The United States government began researching asset management policy in February 2004. As a result of the federal government's real estate and management underinvestment, the deterioration of federal property, and a lack of reliable data for decision-makers, President Obama issued Executive Order (EO) 13327 [5]. Additionally, in the United States, asset management is the responsibility of the Government Accountability Office. Additionally, the General Services Administration Department published the Asset Management Plan, which details the policies and procedures for managing government assets. The Real Property Policy Division also helps federal agencies follow Executive Order 13327 work with the Federal Real Property Council (FRPC), OMB, and Senior Real Property Officers to assist them. Asset management and improvement of the Federal Real Property Profile Management System are also part of the division's responsibilities (FRPP MS).

More importantly for managing and disposing of federal tangible property assets, the federal government's database assists in gathering and analysing inventory data to support the management plan, track real estate performance, share information, and develop regulations [6]. Asset management in the United States is maintained and monitored by three different systems, including the Federal Real Property Profile Management System (FRPP MS), established under Executive Order 13327[7]. Annual statistics for the FRPP MS must be provided by executive branch departments and agencies under the Chief Financial Officers (CFOs) Act of 1990. Detailed information is reported for each piece of land or building that the government owns, rents, or manages. Geo-Location Number (GLC) is an alphanumeric code federal agencies must use when reporting geographic data to the FRPP MS system, which includes data elements [7]. Additionally, the database includes links to the Geographic Names Information System (GNIS) and GEOnet Name Server (GNS) databases, as well as the United States Board on Geographic Names (US BGN) official collection of standard spellings for all international geographic names [8]. Additionally, GNS provided an Open Geospatial Consortium (OGC) Viewer compatible with Web Map Services (WMS) as the system's high-performance web graphical search interface.

2.2. United Kingdom

The Local Government and Housing Act 1989 established several procedures for proper and efficient management of the United Kingdom's public property assets. Legislation pertaining to housing and planning has just been passed in the UK, and it covers everything from new construction to abandoned properties to social housing for landlords and property agents. Additionally, the United Kingdom is managed by several asset management organizations, including the Central Civil Government Estate (CCGE), local governments, and Arms-Length-Bodies (ALBs) [5]. The RICS Public Sector Asset Management Guidelines were developed in partnership between the Chartered Institute of Public

Finance and Accountancy (CIPFA) and the Royal Institute of Chartered Surveyors (RICS). For the effective supervision and management of public sector assets, directors, heads of service, asset managers, and practitioners in the UK rely on the British Asset Management Specification (BSI: PAS55) and the Local Authority Asset Management Guideline.[9].

A government standard for the management of government assets and properties will be released by the Cabinet Office's Office of Government Property in 2020. It is through the implementation of this government standard that the proper management of public property is ensured from acquisition to disposition. It also ensures the property's design and construction are sound, efficient, safe, and in line with its intended use and sustainability [10]. Maps of government property, such as those shown in Figure 1, are created using the Electronic Property Information Mapping Service (ePIMS) [11]. Increasingly, organisations outside of the Devolved Administrations are utilising this system for their own purposes. E-PIMS is a database that stores information about the location of a property, such as the landlord's name, the length of the lease, and how much the property is used. Then presently, the ePIMS system is to be enhanced by incorporation into a digital National Asset Register. The Digital National Asset Register (d-NAR) is a new system published in June 2020. By automating data collection from government and third-party sources, the cloud based d-NAR is designed, developed and maintained as a cross-public sector property information solution that produces dashboards, reports and analytics from this data [12]. Moreover, this system is designed for long-term portfolio management rather than day-to-day property administration.

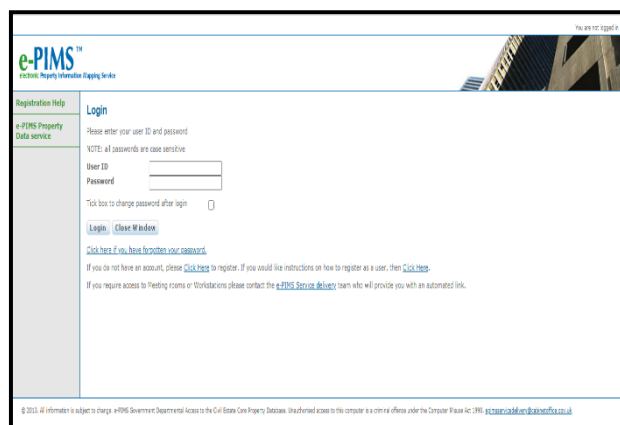


Figure 1. United Kingdom Electronic Property Information Mapping Service (ePIMS) [11].

2.3. Australia

Additionally, state legislation and standards in Australia require departments and statutory bodies to manage assets according to an asset management system[5]. It is regulated by AAS27 (local government), AAS29 (government department), and AA31 in Australia (Government). Asset management is also overseen by the Australian National Audit Office (Federal Government) and the Public Works Committee in the case of large-scale construction projects. Asset management guidelines and regulations are available in the form of an Australian asset management handbook. As part of its ISO 55000 series, the International Organization for Standardization (ISO) released the first set of asset management standards in 2004 [13]. An international standard for asset management has been established through its publications.

Additionally, Standards Australia adopted these standards. The Across Government Facilities Management Arrangement (AGFMA) established asset planning processes and frameworks to aid government agencies in effectively managing their assets. Additionally, AGFMA nominates members to government committees and working groups by providing leadership, executive support, and high-level policy advice and direction through the organization and participation in asset manager forums, seminars, workshops, and other similar training opportunities throughout government [14]. AGFMA has an asset management information system that facilitates the flow of job requests, data, and

information necessary for asset management. The Facilities Asset Management Information System (FAMIS) and the Strategic Asset Management Information System (SAMIS) are two new systems introduced by AGFMA. A breakdown and routine maintenance work order is handled by the FAMIS system, as well as minor repairs. SAMIS, on the other hand, is intended to provide asset registers, asset values, life cycle costs, and performance assessments to agency strategic asset managers [14]. The GIS Navigation Tools in the SAMIS system allow users to locate and analyse assets in a geographic context.

2.4. New Zealand

Asset management in New Zealand is regulated by law and centralised. Separation of ownership is also part of the accounting and asset management reforms. Strengthened local government asset management in New Zealand was achieved through the State Owned Enterprises Act 1986 and Amendments to the Local Government Act 1974 [5]. Treasury, the New Zealand Accounting Standards Review Board, the New Zealand Property Institute, the New Zealand Institute of Accountants, the Institute of Professional Engineers, the Building Industry Authority, and local territorial authorities collaborate on government asset management. There is no central government guidance in New Zealand; however, the National Asset Management (NAM) group publishes a manual and standards of best practise.

Additionally, there are three critical asset management documents: the policy, the strategy, and the plan. The asset management policy establishes the asset management concepts, requirements, and responsibilities for the organization [15]. The asset management plan then details its long-term strategy for implementing its asset management policy and principles and managing its assets [15]. Following that, the asset management plan describes the life cycle tasks that must be completed for assets to provide a specified level of service cost-effectively [15]. The Fixed Asset Register and Physical Asset Register are used in New Zealand to collect and manage asset data and information [16]. Financial data on government leased assets must be maintained in the Fixed Asset Register at a level that enables them to be registered, depreciated, and disposed of following financial policy and accounting standards. Asset classification, asset location, asset description, unique asset identifier, capitalization date, acquisition value, accumulated depreciation, book value, and asset life expectancy are all required data elements. While the Physical Asset Register collects data that locates and identifies assets by group, component type, and component, by recording core component attributes such as asset location or address, size, and shape, by identifying suppliers, and by recording asset life and warranty information.

2.5. Malaysia

In Malaysia, effective asset management is based on developing an asset management policy and strategy supported by an asset management plan, according to [2]. Additionally, there is a disconnect between government employees' understanding and awareness of the spirit of the Government Asset Management Policy and their daily work as managers and guardians of government assets [17]. A number of government agencies in Malaysia are in charge of overseeing asset management, including the Ministries of Finance, Work, and Lands and Mines, as well as the Ministries of Energy, Green Technology, and Water, and the Irrigation and Drainage Departments. The Prime Minister's department also establishes asset management policies and procedures. Government Asset Management Circular (AM), Government Asset Management Policy (DPAK), Government Comprehensive Asset Management Manual (MPAM), Government Movable Asset Management Procedure (TPA), and Government Immovable Asset Management Procedure (TPA) are the guidelines and policies used for government asset management (TPATA). Additionally, Malaysians have their asset management systems for movable and immovable assets: the Government Movable Asset Management Monitoring System (SPPA) and the Government Immovable Asset Management System (GIAMS) (MySPATA).

3. Asset Management in Malaysia

3.1. Overview of Asset Management in Malaysia

Asset management is essential to the country's development in the world nowadays. There are two types of assets in asset management: Immovable assets and Movable Assets. Therefore, immovable assets are permanent in place, immovable or difficult to remove, or efforts to dismantle involve the need for relevant technical or legal expertise, including inherited Immovable Assets [18]. Besides, there are additional criteria for determining immovable assets: Building Services, Attached by System, Moulded, and Non-Portable [18]. The requirements for building services are pieces of equipment or components categorized as Immovable Assets when included in the operation and Services of a Building or a building structure. Next, attached by the system means that equipment or component is categorized as an Immovable Asset when it is directly connected to a system installed on a building structure to enable it to function. The equipment or components themselves are also part of the system's network. Then, Moulded is a piece of equipment or component categorized as an Immovable Asset when built or installed in a Mold/ In-Situ/ Built-In on any built structure. Lastly, the Non-portable is a piece of equipment or component categorized as an Immovable Asset when installed with the intention that the component remains functional where it is installed.

In contrast, all physical property, including inventory, plant, machinery, vehicles, equipment, and any spare part for any equipment and furnishings, is movable assets. When an asset or piece of equipment is portable, it is referred to as a "movable asset". It also includes movable assets supplied with buildings or other infrastructure [19]. In addition, in Malaysia, comprehensive asset management practice is according to the assets' life cycle, as shown in Figure 2. The asset management life cycle includes asset planning, asset creation, the use of assets, and asset disposal.

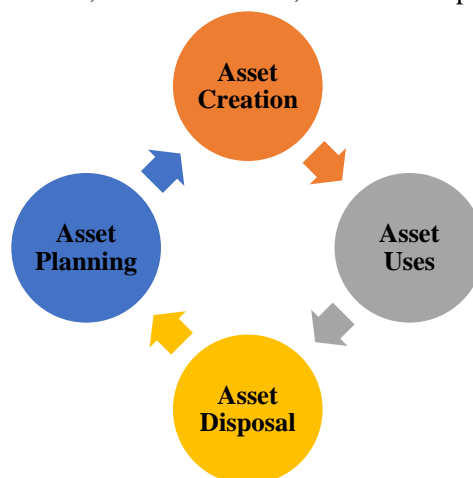


Figure 2. Comprehensive Asset Management according to the Life Cycle of the Assets [20].

In Malaysia, both Movable and Immovable Asset Management are conducted by their asset management procedures and policies. For Movable Asset Management, the management of assets is being managed by the Malaysian Treasury. The Malaysia Treasury has produced a few asset management guidelines for the movable asset management procedure. Government Asset Management Circular (AM) and Government Movable Asset Management (TPA) are two types of movable asset procedures. The Government Asset Management Circular (AM) contains the Introduction to Government Asset Management, Responsibility of Control officers, Head of Department Responsibility, Government Asset Management Division/ Section/ Units, Appointment of Asset Officers, Asset Management Committee (JKPAK) at the Ministry/ Department/ State/ Level, Asset and Store Management using Computerized Systems, Asset and Store Information Reference Centre, Interpretation and Application of Asset Circulars [19]. Government Movable Asset Management (TPA) Procedure is designed to manage both capital and low-value movable assets, and

it covers the entire lifecycle, from receipt to disposal to inspection and maintenance to loss and write-off [21]. In addition, movable asset management has its system, which is Government Movable Asset Management Monitoring System (SPPA) (Figure 3). The SPPA is developing to manage and monitor government movable assets and stores. Government Movable Asset Management Procedures are the foundation for SPA's movable asset and inventory management system [22].



Figure 3. Malaysian Government Asset Management Monitoring System (SPPA)

Besides, immovable asset management practices are being conducted by four key factors as indicators and guidelines in asset management procedures. These key factors are Government Asset Management Policy (DPAK), Government Comprehensive Asset Management Manual (MPAM), Government Immovable Asset Management Manual (TPATA), and Government Immovable Asset Management System (MySPATA), as shown in Figure 4. Moreover, these manuals and guideline have their own rules and regulation for asset management practices to be conducted in Malaysia. The Government Asset Management Policy (DPAK) is a policy that shows the direction and strategy for government asset management. The Government Comprehensive Asset Management Manual (MPAM) contains asset principles, roles, and practices. In addition, the Government Immovable Asset Management Procedure (TPATA) gives instructions to all ministries and departments on how to manage immovable assets, as well as processes and responsibilities. This includes the governance structure and responsibilities, the Immovable asset management work process, and the reporting of asset information. [20]. As a last step, the Malaysia Administration Modernisation and Management Planning Unit (MAMPU) came up with a system called MySPATA, which is an electronic system for Immovable Asset Management. The MySPATA system's objectives are to monitor the government's assets efficiently and effectively. Users will be able to report on the planning, operation & performance of government immovable assets. MySPATA can be considered the backbone of implementing the government's Total Asset Management [18]. The key to effective management is developing a high-quality asset management policy and strategy backed by an asset management plan [2]. Thus, these asset management manuals and guidelines are essential for asset management practice in Malaysia. In Malaysia, Government Immovable Asset Management Procedure (TPATA) and Government Immovable Asset Management System (MySPATA) are two crucial systems and guidelines used for immovable asset management.

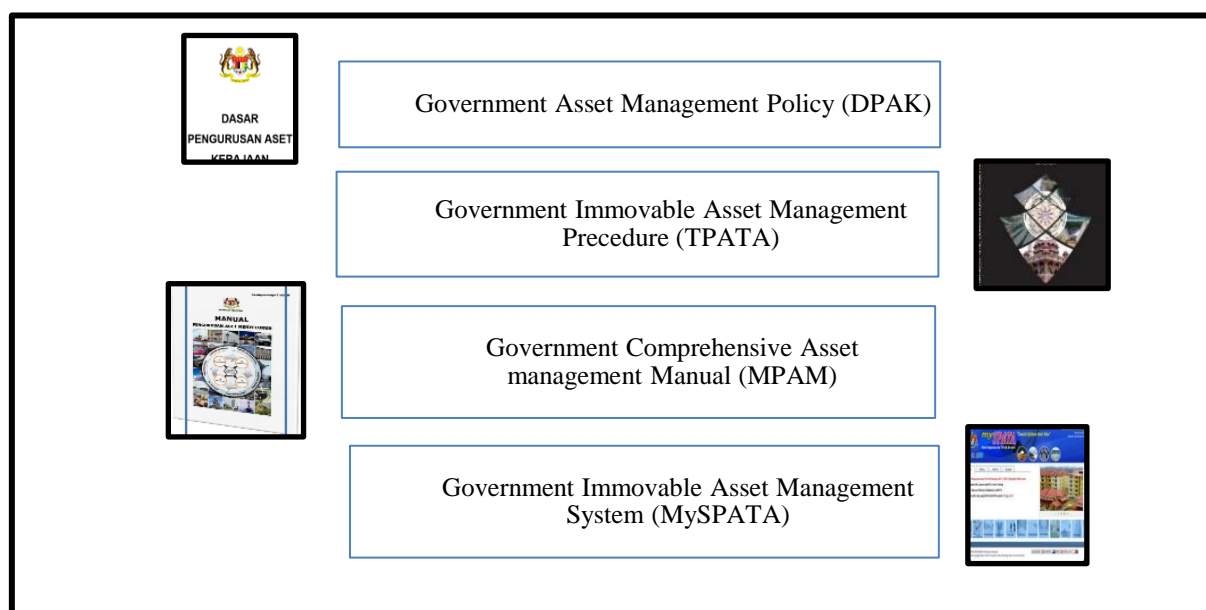


Figure 4. The Government Asset Management Toolkits [20]

3.2. Government Immovable Asset Management Procedure (TPATA)

Government Immovable Asset Management Procedure (TPATA) is a General Circular No. 2 of 2012 as the Instructions to all ministries and departments managing immovable assets [20]. TPATA is the continuity of Government Asset Management Policy (DPAK) and Government Comprehensive Asset Management Manual (MPAM) [23]. TPATA is a guideline to describe the method of immovable asset management throughout the asset life cycle from asset planning until asset disposal. The roles of TPATA show the governance structure and responsibilities, the work process for managing immovable assets, and how to report on the information about the assets [20]. In the TPATA procedure, eight (8) chapters explain the procedure for immovable asset management, as shown in Table 1. These eight-chapter contain Introduction, Asset Management Strategy Planning, Acceptance and Registration of Assets, Asset Operations and Maintenance, Asset Condition / Performance Assessment, Restoration/ Modification/ Upgrading of Assets, Asset Disposal and Loss/Write-Off of Assets.

Table 1. Table of Content in TPATA [20]

Chapter	Title
Chapter A	Introduction
Chapter B	Asset Management Strategy Planning
Chapter C	Acceptance and Registration of Assets
Chapter D	Asset Operations and Maintenance
Chapter E	Asset Condition / Performance Assessment
Chapter F	Restoration/ Modification/ Upgrading of Assets
Chapter G	Asset Disposal
Chapter H	Loss/ Write -Off of Assets

Moreover, every TPATA procedure chapter has its role and responsibility toward immovable asset management. In Chapter A, the introduction explains the immovable asset concept, strategic frameworks for immovable asset management, immovable asset management works, governance structure, and immovable asset management competence. Chapter A explains generally immovable asset management and their work procedure. Besides that, Chapter B of Asset Management Strategy Planning contains information about asset management strategic plan (operations), budget estimates managing immovable assets management, and internal audits. In addition, Chapter C, Acceptance and Registration of Assets, explains the preparation of asset receipt plan & budget, budget application & coordination of activities, establishment of the technical evaluation panel, presentation of asset receipt report to Government Immovable Asset Management Committee (JKPAK) (Facility) and proposed improvements in Malaysia Management Review Meeting (MKSP). Then, Chapter D, Asset Operations and Maintenance, contain the preparation of operation plan, asset and budget maintenance, budget application and coordination of activities by departmental staff/ facility management contractor, complaint management, presentation of asset maintenance and expenditure report to JKPAK (facilities) and proposed improvements in MKSP.

Next, Chapter E of asset condition/performance assessment describes the preparation of asset and budget condition/ performance assessment plan, budget application and coordination of activities, the establishment of a technical assessing panel, asset rating, follow-up action as a result of the assessment, presentation of the inspection report and asset rating to JKPAK and proposed improvements in MKSP. Meanwhile, Chapter F describes Restoration/ Modification/ Upgrading of Assets, describing the rehabilitation/ modification/ upgrading of assets and budget plan. The budget application & coordination of activities, the appointment of the implementation team, presentation of rehabilitation/ modification/ upgrading are also described in Chapter F for the assets report to JKPAK (Facilities). The proposed improvements are then presented at the MKSP annual meeting. Asset Disposal in Chapter G contains the preparation of asset disposal plan and budget, budget application and coordination of activities, appointment of government immovable asset disposal inspection board, approval of demolition recommendation from technical agencies, demolition approval from Department of Director General of Lands and Mines (KPTG) and Treasury, presentation of asset disposal report to JKPAK and suggestions for improvement in MKSP. Finally, in Chapter H of Loss/ Write-Off of Assets, users should be allowed to report any loss immediately. Immovable assets investigating committee will be formed to investigate and present it to the JKPAK.

Besides that, TPATA plays a significant in immovable asset management and procedure. The TPATA procedure is important as they help documentation the best practices in asset management and implement uniform government immovable asset management in Malaysia. This will cause the immovable asset implementation in Malaysia more systematic, improving the quality of government services and, most importantly, the government budget operations and maintenance are more accurate. This helps returns on investment to the government. Then, Figure 5 shows the Immovable Asset Management (PATA) workflows.

The workflows in Figure 5 shows three components: Asset Planning, Implementation and Reporting, and Asset Monitoring. Primarily based on PATA workflows, the immovable asset management is planned and arranged based on Asset Management Strategy Plan (PSPA), Asset Acceptance Plan Preparation and Monitoring Procedures (PTRA), Asset Operation and Maintenance Plan (POPA), Asset Condition/ Performance Assessment Plan (PNPA), Asset Recovery/Modification/Upgrade Plan (PPUN), Asset Disposal Plan (PLA), and Operating Budget Estimate (ABM). Secondly, the immovable asset implementation and reporting phase contain work instructions, acceptance, maintenance, assessment, recovery, disposal, and reporting. Finally, in the Monitoring phase, the government immovable asset involves Governance Report, Government Immovable Asset Management Committee (JKPAK) (Facility), Internal Audit, and Malaysia Management Review Meeting (MKSP).

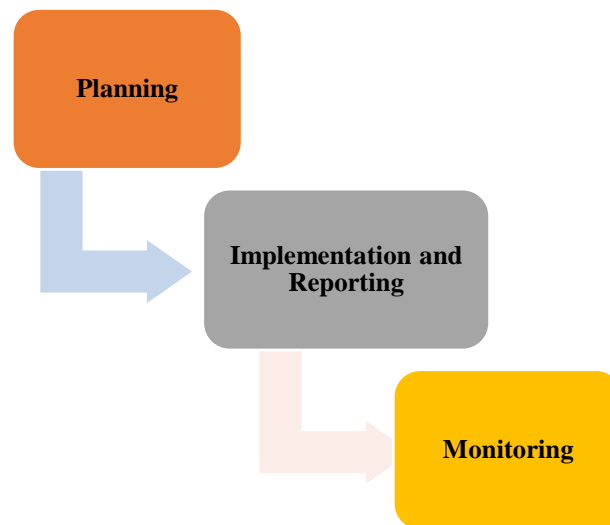


Figure 5. Immovable Asset Management (PATA) workflows [20]

Besides that, Immovable Asset Management (PATA) also have their management structure. Figure 6 presents the PATA governance management structure, including the Asset Owner, Asset Manager, and Asset Operator. The Asset owner plays a role in determining the policy, direction, and asset planning. Meanwhile, Asset Manager is a role under Facility Management Units to represent the Asset Owners. The asset manager's responsibility is to register assets, use, maintenance, and disposal the asset. Lastly, Asset Operator plays a role in performing maintenance operations, evaluating assets, upgrading assets, and updating asset information. Asset Operator is usually a facility management unit staff or facility management contractor.

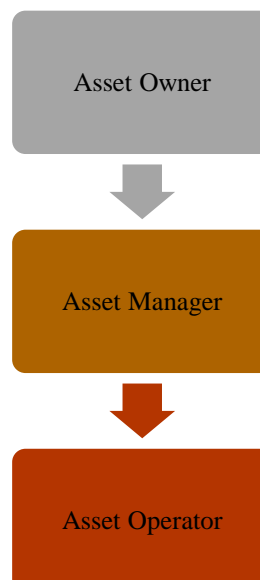


Figure 6. PATA Governance Management Government Immovable Asset Management System (MySPATA) Structure [20]

3.3. Government Immovable Asset Management System (MySPATA)

Property owned by the government or under its authority, whether it was built or leased, mortgaged with public funds or received as donations or gifts through the legal process or wild resources, breeding, research, and heritage are all examples of what is referred to as a "government asset." [24]. Nowadays, the government emphasizes asset management because of the large investment in urban development and asset provision. Therefore, an immovable asset management system is being created in Malaysia known as MySPATA.

The Malaysia Immovable Asset Management System is visualized in Figure 7. MySPATA is a government immovable asset management system that serves as a registration system for immovable assets. Malaysia Administration Modernisation and Management Planning Unit (MAMPU) designed this system [18]. The first phase of MySPATA began on 1 April 2009 by MAMPU, and the Registration Module was completed in November 2011. Additionally, MySPATA serves as an immovable asset registration system, an immovable asset management system, and a government system for monitoring immovable assets, so it's important for people to use this system [18].



Figure 7. MySPATA System [25]

Besides that, in the MySPATA system, there are three modules and guidelines for immovable asset management, as shown in Figure 8. The modules are the Registration Module, Operational and Maintenance Module, and the Implementation and Monitoring Module. In the Registration Module, the Government Immovable Assets is registered into the MySPATA system for Record and Asset Management Operations. Besides, the assets registration can identify the premises registration numbers. A unique asset registration identification number is required for blocks, levels, spaces, and components. While in the Operational and Maintenance Module, the module determines the method of implementation (Internal or External), perform operations and maintenance of assets following prescribed procedures, and make complaints to management. Then, in the final module of MySPATA, in the Implementation and Monitoring Module, there are three phases in the asset: Asset Condition/Performance Assessment Phase, Restoration/Modification/Upgrade Phase, and Asset Disposal Phase. The first phase of MySPATA is the Asset Condition/Performance Assessment. This phase is also meant for asset disposal activities. The following method can be applied to dispose of the asset, such as collapse or destruction of building structures or transfer to the construction waste.

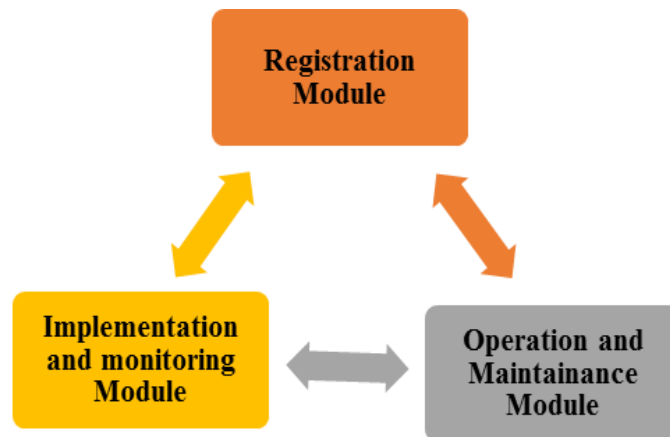


Figure 8. MySPATA Module

For immovable asset management, a few types and categories of assets need to be determined for MySPATA asset registration. Figure 9 shows the asset classification process in guidelines for determining immovable assets. The process workflows describe guidance to government agencies to identify and determine the category of an asset, whether the user is registered as a movable asset or an immovable asset that includes the same characteristics and functions different from its use [26]. Determination of the correct and accurate asset category is essential for asset registration activities either in the Asset Management System (SPA) application or the Immoveable Asset Management System (MySPATA) application [26]. There are four (4) criteria of asset classification and categories for immovable assets: Criterion 1: Building services; Criterion 2: Attached by the system; Criterion 3: Moulded; criterion 4: Non-portable. The asset classification process begins with asset registration until the asset registration is accepted based on the four criteria. In detail, any new asset available will receive asset registration instructions. During registration, the asset owner must determine the asset category to be registered based on the definition and addition criteria and reference to determine the asset category, then check whether it meets criterion 1 or not. Then, if the asset meets the standard one specifications, the asset will proceed to be registered as an immovable asset in MySPATA. But, if the asset does not meet criterion 1, then check the asset category to see whether it meets criterion 2 or not. Next, repeat the same procedure for the asset until criterion 4. If any asset criteria cannot be fulfilled, the asset will be categorized as a Movable asset and registered in Government Asset Management (SPA) system.

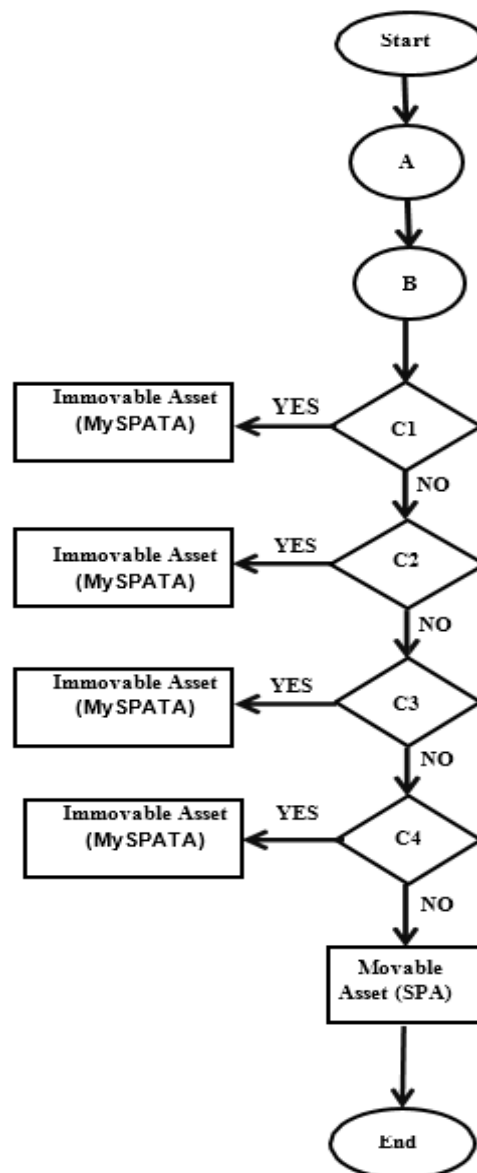


Figure 9. Asset Classification Process [26]

4. Limitations and Weaknesses of the Current Implementation

The Malaysian government has been actively considering asset management issues during the last decade. Asset management in Malaysia has been found to have a number of problems. Furthermore, the auditor general has repeatedly raised the issue of asset management in his reports. Government assets that are not properly registered or broken are the most frequently reported issues. In addition, obsolete assets are not properly disposed of because of incomplete maintenance. Consequently, assets are underutilised, undermaintained, unrecorded, and misused [2, 27]. There are many ways that money is being squandered, including not performing routine maintenance, vandalism, theft, and postponing projects [28]. Another way of putting it is that the research shows that local governments that do not use property management as a valuable revenue source end up losing money [28]. There were still several instances of waste, excess, and mismanagement of public funds that were found in the audit report [29]. In addition, the current method of asset management is paper-based and involves manual inspection, which is time-consuming, labour-intensive, and prone to human error [29].

Moreover, because there are so many records and documents on assets, it has produced confusion among government personnel, particularly those directly responsible for managing movable government assets [30]. In addition, MySPATA is an electronic-based asset management solution built by the government for asset registration and monitoring. But there are a few issues with this system for managing immovable assets. The current system for managing immovable assets lacks spatial features. Only the asset's attribute data is stored and provided by the MySPATA system. Location and inventory movement records for an immobile asset have been omitted. Thus, it is impossible to locate the assets, and this could result in the loss of assets. The location of assets, access to assets, and inventory of assets, whether in good condition or not, are critical in asset management for government agencies or related personnel involved in identifying and maintaining assets, as well as improving asset capacity and other applications. Incorporating 3D visualisation and information into the current system would be a significant improvement. An asset's actual physical location is difficult to locate because MySPATA does not integrate 3D models, necessitating human examination, which is time-consuming and laborious [29]. As a result, inefficient asset management could result from this restriction. The asset can be depicted in its actual location and position using 3D information.

5. Recommendations

There are many limitations and weaknesses of the current asset management in Malaysia. Mostly, the issues happened because of incomplete asset registration or poor asset management and monitoring. Thus, these issues may lead to many rising problems involving asset owners, asset managers, or local authorities. In addition, the issues and weaknesses in the management of Government movable assets are often raised in Auditor General's Report. Therefore, an efficient asset management system must deal with the problem and consider current developments. Following the fourth industrial revolution, asset management nowadays needed to shift to modern digital management. To support the idea, managing assets in 3D is one of the approaches to solving the problems faced in asset management this past few years. The purpose of 3D is for visualization and to facilitate understanding in a complex environment [31].

Moreover, 3D allows information and design to be more clearly understood [32]. 3D asset management is the managing of assets that are integrated with the current technologies. The advantages of 3D asset management are the asset management system can be more manageable, reduce financial cost, save time and resources. It should also help in making informed decisions about an asset's operations, maintenance, servicing and repair and replacement by saving labour-intensive asset inventory, time and money and minimising the waste of unnecessary tools [29]. Meanwhile, Malaysia asset management's practice and performance, specifically the local authorities' asset management, needs to be examined. This is because the Government agencies, including local authorities, oversee managing the government's physical assets and facilities to provide high-quality service to the people. Since the assets and facilities provided must be properly managed and capable of serving their intended purpose, competent asset management is necessary.

6. Conclusions

In conclusion, asset management is a method for managing, monitoring, and maintaining assets. Moreover, asset management involves the management of infrastructure, environmental data, topological data, and asset plans. In Malaysia, there are four asset management manual practices such as Government Asset Management Policy (DPAK), Government Comprehensive Asset Management Manual (MPAM), Government Immoveable Asset Management Manual (TPATA), and Government Immoveable Asset Management System (MySPATA). This manual and policy are guidelines that must be used in managing and monitoring asset management. Moreover, Asset Management Procedure and Guidelines play an important role in delivering and assisting good asset management. The government organization involved, asset managers, and asset officers play the role and are responsible for following this guideline during managing assets.

Presently, it is found that asset management practices in Malaysia primarily focus on assets operations such as management, monitoring, maintenance, and disposal. In addition, there are many issues regarding asset management in Malaysia, such as asset registration and records, asset monitoring and maintenance. Furthermore, asset management is mostly paper-based or ledger file-based. In addition, asset monitoring and maintenance are being conducted by agencies or asset managers by monthly schedule operation or when asset users report it. This practice is very inefficient toward current technology development and demand nowadays. Thus, 3D asset management can be introduced to improve Malaysia's quality of asset management. This can help government agencies, building owners, or asset managers monitor and maintain assets in regular commission. Therefore, good, and efficient asset management is required to ensure that the assets provided can be managed and used for the purpose for which they were intended.

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