

# The Role of Accrual Accounting and Information Systems on Asset Management Practice in the Malaysian Public Sector: A Conceptual Paper

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## Abstract

**Purpose:** The purpose of this study to identify and examine the role of accrual accounting and information systems in asset management practice in the Malaysian public sector. This study is important to enable the government take appropriate measures to enhance asset management practice in view of its increasingly crucial role in optimising government performance.

**Design/Methodology/Approach:** This study identifies and examines in detail the role of accrual accounting and information systems in asset management practices in the Malaysian public sector by reviewing the issues commonly raised in the Auditor-General Reports, particularly on asset management. The conceptual aspect consists of an extensive search and analysis of secondary sources of information through references and a review of academic articles, Auditor-General's Reports, news in print and other media, and publications pertaining to asset management.

**Findings:** Previous studies show that accrual accounting and information systems have affected asset management practice in the public sector. Accrual accounting measures the performance of an organisation by recognising economic events that provide more accurate financial information, particularly on the organisation's assets and liabilities. Information systems provide substantial growth opportunities for asset

management, allowing systematic and timely data collection, processing, distribution, and information sharing, which can assist in managing assets throughout their life cycle.

**Originality/Value:** This concept paper provides valuable addition to the current knowledge base, particularly on the role of accrual accounting and information systems on asset management practice.

**Keywords:** Asset management practice, public sector, accrual accounting, information systems

## 1.0 Introduction

Asset management (AM) is a "joined in" organisation activities to realise value from its controlled resource. It is a strategic and integrated process involving various disciplines such as engineering, operations, management, and maintenance to gain the greatest benefit in an asset's life cycle and its returns (Amadi-Echendu et al., 2010; Laue et al., 2014). AM requires participation from different areas, primarily human activities, to manage individuals who control assets and incorporate asset-related policies in the operational and organisational frameworks, particularly asset maintenance (Nel & Jooste, 2016). The importance of AM has been discussed, developed, and taken into account for several decades. AM is not considered a new discipline, but it is constantly evolving (Amadi-Echendu et al., 2010; Wijnia, 2016).

However, various Auditor-General's Reports (from 2014 to 2019) have revealed the dismal fact that most government agencies are unable to manage their assets efficiently. Wastefulness, extravagance, and mismanagement have been detected, indicating that public money has not been spent wisely. Over the years, their AM performance has ranked the lowest compared to other financial management accountability index elements. The issues concerning their weak AM performance have also been raised repeatedly by the Auditors-General indicating the seriousness of the problem. However, improving AM practice is a complex process influenced by several factors in accounting practice (Leviäkangas et al., 2019; Syed Ali et al., 2019) and information systems (Al Marzooqi et al., 2019).

Given that AM is the process of managing an organisation's physical assets and the recording (El-Akruti & Dwight, 2013) and reporting of information pertaining to the assets, the organisation's accounting type is vital as it influences how it manages the assets (Biswas et al., 2015). Reporting asset information such as historical cost and book value varies depending on the type of accounting used. In Malaysia, the government has adopted an accrual accounting method starting from 2018 which requires that all assets and liabilities of public sector agencies must be accounted for. However, a transitional exemption period of

three years was incorporated for the government to adjust to the accrual reporting stipulation (MPSAS 33), so the government is obliged to present an accrual financial statement at the beginning of the financial year 2021.

The adoption of an accrual accounting foundation in the public sector can increase the efficacy and efficiency of asset management in the public sector (Campbell, 2015; Hladika & Percevic, 2014). However, the internal auditors in the agencies that contribute to the financial statement have raised concerns on the accuracy of the beginning balance of the assets, as the asset value have been capitalised inaccurately. According to Abdullah and Muhammad (2020), the asset opening balance was overstated due to no depreciation charge being commenced by the system as of July 2019.

The Malaysian government has developed the asset information system known as Movable Asset Management Monitoring System (SPA) and Immovable Asset Management system (mySPATA) to manage the data effectively. The available data are then integrated into an accounting information system called the Integrated Government Financial Management Accounting System (iGFMAS) for financial reporting purposes (Abdullah & Muhammad, 2020). The information system has assisted the AM performance of government agencies in registering, monitoring the movement of assets, maintenance, and disposal records (Mahadi & Hussin, 2007; Sanjaya & Utama, 2020; Shah et al., 2017). Throughout an asset's life cycle, the volume of data and information about the asset continues to grow resulting in a large volume of data that need to be stored over an extensive period. However, mySPATA only has the capacity to record information based on asset categories such as buildings, land, and machinery without registering maintenance costs, thereby making it difficult for the government to obtain information on an asset's overall cost and determine whether the cost needs to be capitalised or expenses paid off (Basnan et al., 2013).

The issues encountered in AM practice include insufficient information on the assets stored in the system, and inaccurate information on the assets opening balance, thus affecting the effectiveness, efficiency, and economics of AM performance in government agencies (Buang, 2011).

This study sought to identify and explore the issues concerning the role of accrual accounting and information system on the AM practice in the Malaysian public sector. This study can assist the government to take appropriate measures in enhancing AM practice because it is becoming increasingly crucial in optimising government performance. This study was conducted by reviewing and analysing of secondary sources of information through references and a review of academic articles, Auditor-General's Reports, news in print and other media, and publications pertaining to asset management.

## 2.0 Literature Review

The literature review is divided into three subsections namely asset management (AM), AM practice in the Malaysian public sector, and factors affecting the effectiveness of AM practice.

### 2.1 Asset Management (AM)

The term “asset” can be defined in several ways. The International Accounting Standards Board (IASB) and the Malaysian Public Sector Accounting Standard 1:7 (MPSAS 1) define an asset as a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity. Thus, an asset is a resource that is owned or controlled by an organisation so that it benefits from its use or it generates revenue and supports the organisation's operations.

In accounting, asset is classified into two types that is current assets and non-current assets (IAS 1.66). Current assets are mostly held for trading purposes and are likely to be liquidated within 12 months of the reporting period. Examples of current assets include cash and cash equivalents, short-term investments, accounts receivable, tax recoverable, inventories, and prepaid expenses. While, the non-current assets are those that are kept for more than 12 months following the reporting period, such as long-term investments and property, plant and equipment (MPSAS 17) and these include land, buildings, equipment, furniture, vehicles, and infrastructure.

According to Fernholz and Fernholz (2006), assets are generally divided into tangible and intangible assets. Tangible assets are further classified as movable assets and immovable assets. Movable assets include equipment, furniture, and automobiles that are not permanently attached to real estate and can be relocated and utilised following relocation, whereas immovable assets, such as land and buildings, cannot be transferred or removed (GAMP, 2009). This study focuses on the tangible assets which include movable assets and immovable assets that are highlighted in the Government Asset Management Policy, 2009 because most of issues raised by the General Auditors are related to this kind of assets.

It is a given that assets are indispensable resources in the public sector that enable the government to provide services to the public (Sekera, 2019). Thus, it is important for assets to be managed effectively and efficiently, through an AM system, to ensure that services are delivered efficiently and do not have a negative impact (Backer & Yusoff, 2015).

Asset management can be defined as systematic and coordinated activities and practices through which an organisation optimally and sustainably manages its assets and asset systems, associated performance, risks and expenditures over their life cycles to achieve its organisational strategic plan (PAS 55-1:2008). The United States Department of Transport described AM as a comprehensive process for cost-effective asset maintenance, upgrading and operations (FHWA, 2007). In short, AM can be regarded as a combination of

engineering fundamentals, organisational processes and economic theory.

AM comprises several processes in maintaining an asset's function to ensure it performs effectively and has cost and risk control to accomplish the objectives and ensure service delivery by agencies (TAMM, 2009). Managing the assets efficiently allows an organisation to create, enhance, and sustain the organisation's business. Thus, the key challenge in achieving effective AM practice is establishing alignment between assets objectives and managing multiple actors with different interests (Schraven et al., 2011). Effective AM allows an organisation to increase economic productivity (Sara et al., 2021) and save money in the long term (Mastroianni et al., 2021). Hence, the government must formulate sufficient AM policies (Hanis et al., 2010) in order to achieving it goals.

The focus of AM is on the efficient management of an asset's life cycle, from acquisition, usage, maintenance, and disposal. The emphasis should not be on the revenue it might create for an organisation, but on the results, risks, and costs to get the best solutions.

## 2.2 Overview of Asset Management Guidelines in the Malaysian Public Sector

The government of Malaysia has issued several guidelines to ensure a systematic approach to incorporate AM and comprehensive asset procedure, as shown in Table 1 to enable government agencies to deliver services efficiently and effectively as part of the New Public Management (NPM) public sector reforms.

**Table 1: List of Procedures and Circulars Issued by Government**

Year	Procedure/Circular
1967	The Factories and Machinery Act (1967) outlined safety and health standards requirements.
1974	Rules were circulated for the maintenance of buildings, public roads, sewage systems, and the role and responsibilities of the Public Works Department.
1992	The Guidelines for Total Quality Management in The Public Service was issued.
1995	General Circular Letter No. 2 on the 'Maintenance Management – Establishment of Planned Maintenance System' was issued to enhance the Public sector's maintenance management system.
2007	Treasury Circular No. 5 provided guidelines for the management of movable assets.
2009	General Circular No. 1 outlined the government's policy and principles on total asset management.

(Source: Buang, 2011)

The government has shown its commitment to improving AM by ensuring it is used to measure the economic performance of government agencies based on the financial management accountability index. It had taken the initiative to issue procedures concerning AM since 2007 through its Treasury Circular No. 5/2007.

Previously there had been no comprehensive set of guidelines or standards on the procedures regarding AM. The guidelines were only available in several separate documents,

including Treasury Instructions (APS), Treasury Guidelines – Store Management Procedures (PP-TPS), Treasury Circulars (PP), Treasury Circulars Letters (SPP) and General Circulars. This situation had resulted in employees being unable to manage assets efficiently and in a timely manner because they had to refer to various documents.

To strengthen AM, the government launched the Government Asset Management Policy (GAMP) and Total Asset Management Manual (TAMM) in 2009. This comprehensive AM policy, the first of its kind, outlined the direction, principles, and strategies for implementing AM that every government agency had to adhere to. GAMP requires a comprehensive and integrated approach to AM at all stages, including the planning, creation, usage, maintenance, inspection, disposal, and write-off procedures to ensure that the assets are in good condition, safe to use, cost-effective, and long-lasting. Unfortunately no other procedures concerning AM in the public sector had been issued after 2009; thus, prompting the Ministry of Works to call for the GAMP to be reviewed to determine whether all government assets were being managed in a systematic, holistic, and sustainable manner (Kannan, 2018).

### 2.3 Asset Management Practice in the Malaysian Public Sector

As mention in previous section, the Malaysian Public sector has used the GAMP as the main set of guidelines for managing assets. Total Asset Management (TAMM), on the other hand, was established through General Circular 1/2009 to support the GAMP emphasis on managing government property assets systematically and holistically to achieve optimal benefits. It identifies the AM implementation strategy, which involves governance, human resource, system and procedure, and technology. Four categories of assets are explained in the TAMM, as shown in Table 2.

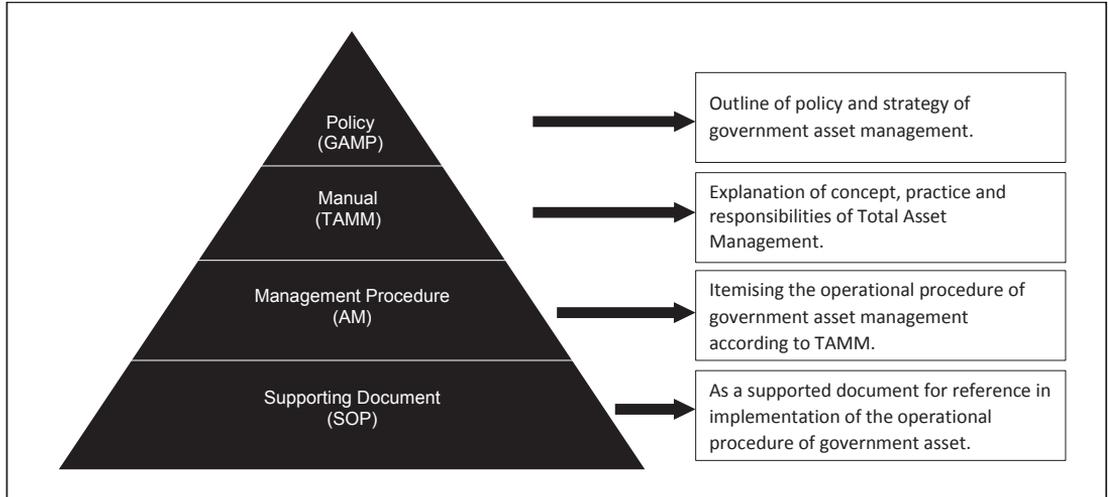
**Table 2: Categories of Assets**

Categories	Definition
Movable Assets	Assets that can be moved from place to place, including assets supplied or attached to the building. Movable assets are divided into two groups, namely capital assets and inventory. Examples of movable assets are computer hardware, machinery, vehicles, portable air conditioners, portable fans, hospital beds, medical equipment, furniture, curtains, rugs, and dishes.
Immovable Assets	Permanent and immovable assets, including land, infrastructure, and buildings. Examples of immovable assets are land gazetted and supervised for development by an agency, roads, bridges, tunnels, airports, jetties, irrigation, drainage, water distribution systems, sewage plants, office building complexes, airport terminals, hospitals, schools, and military camps.
Life Assets	Life assets are animated assets, including vegetation, animals, and fish. Examples of life assets are trees, plants, landscapes, animals in the zoo, and animal research and operational needs.
Intellectual properties	Non-physical assets that are the products of minds, including creations (symbols, names, and images used in trade), shapes (patterns or decorations), geographical references, literary works, and works of art. Examples of intellectual properties include computer software, research findings, books, and cultural artifacts.

(Source: TAMM, 2009)

The public sector structural documentation of AM is divided into four (4) levels: policy, manual, procedure, and supported document for TAMM. It consists of strategic, tactical, and operational aspects to be managed systematically by users and officers. The structure of AM documentation is shown in Figure 1.

**Figure 1: Malaysian Government’s Asset Management Structural Document**



(Source: TAMM. 2009)

The Ministry of Works is given the authority as a governance body to implement the GAMP and TAMM. However, as evident in Table 3 below, different agencies are entrusted with the enforcement of the implementation of TAMM.

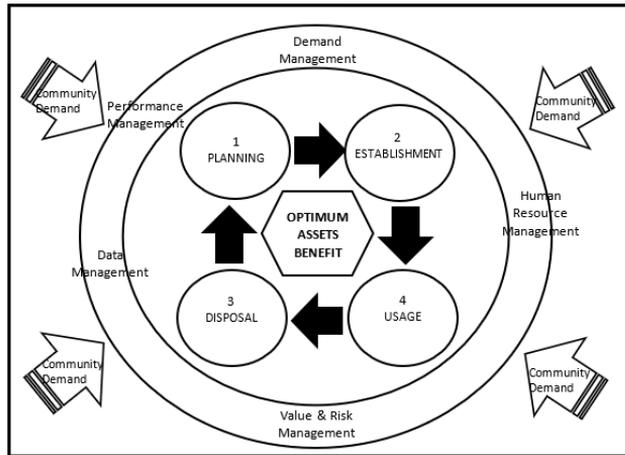
**Table 3: Enforcement Agencies for TAMM Implementation**

Categories of Assets	Authority
Movable asset and life asset	Ministry of Finance (MOF)
Immovable asset (Building and Infrastructure)	Ministry of Works
Immovable asset (Land)	Department of Chief Director of Lands and Mines
Immovable asset (Sewage)	Ministry of Energy and Natural Resources
Immovable asset (Irrigation Drainage)	Department of Irrigation and Drainage

(Source: TAMM, 2009)

The AM practice should focus on the optimal use of cost-effective assets and include user-friendly, environmental-friendly, energy efficiency, security, and privacy controls (Jephson, 2018). This is clearly stated in the TAMM. The important element recognised in the TAMM is the life cycle of an asset. Thus, the general model of TAMM is based on the life cycle of an asset and it requires an asset to be managed from the planning stage until it is disposed of. This process is vital to ensure that productivity and services are delivered effectively without any interruption. The general model of TAMM is shown in Figure 2.

**Figure 2: Total Asset Management General Model**



(Source: TAMM, 2009)

Each phase in the life cycle of an asset involves decision-making which is both challenging and has long-term effects. Therefore, the elements in each phase need detailed consideration for better usage and effectiveness. The activities involved in each phase are described in Table 4.

**Table 4: Description of Phases of an Asset’s Life Cycle**

Phase	Description
Asset planning	The activity to plan the detailed needs for new assets is known, identified, designed, and prepared.
Asset establishment	The activity to create and own the asset through the ownership procedures is conducted.
Asset usage	The activity to use, operate, and maintain the asset is carried out.
Asset disposition	The activity to dispose off the asset when its services are no longer required, or lost, or not economically used is carried out.

(Source: TAMM, 2009)

## 2.4 Factors Affecting the Effectiveness of Asset Management (AM) Practice

Over the previous few decades, demand for effective AM practice has steadily increased (Wijnia & Croon, 2015) and AM activities are now treated as are core functions of organisational strategies (Pais et al., 2020). Since effective AM plays a major role in delivering better service, it should focus on performance and outcomes (Federation of Canadian Municipalities, 2018). Therefore, a collaborative and coordinated approach across the organisation’s change processes is required for its successful implementation (Male et al., 2006).

The effectiveness of AM is influenced by several factors such as policy, people and technology to ensure strategies are executed accordingly. The achievement of good AM

depends on the availability of appropriate, qualitative, and timely information on assets and the extensive knowledge of asset managers (Hastings, 2015) and accounting practice (Abdullah & Muhammad, 2020; Syed Ali et al., 2019), particularly accrual accounting. Therefore, accounting practice and information systems play important roles to ensure that organisations have good AM, i.e. one that creates the best possible use of the resource and customer support and efficiency, aligned with the balance of financial goals (Too, 2010). To effectively manage AM, an interdisciplinary approach should be used, particularly by bringing together disciplines such as accounting and information systems to ensure that the assets are managed systematically, thereby reducing error and delivering the intended results in a timely manner.

#### **2.4.1 Accrual Accounting**

Accounting plays an essential role in monitoring the movement of financial resources and the organisation's financial position (Biot-Paquerot et al., 2006) by providing accounting information that is useful for planning, decision making, monitoring, and informing users through its financial statements. Generally, there are two types of accounting methods: cash basis and accrual basis (Zarandi et al., 2013). Both of these methods have been applied in both public and private sector accounting. Initially, cash basis accounting was used by both public and private sectors, but when the GAAP was introduced, accrual basis began to be practiced by the private sector (Andy, 2003).

Traditionally, the public sector has relied mainly on cash-based accounting, which concerns only transactions involving cash movements and primarily designed to increase public money control (Monsen, 2001). Transactions are recorded in the accounts as to when cash is received or payments made. It does not recognise revenue that is earned but not yet received, or expenses that have been incurred but have not yet been paid. Therefore, the revenue and expenditure reported in the financial statement is only the actual cash receipts and payments made (Guthrie, 1998). This leads to an inaccurate view of the financial position of an organisation due to assets and liabilities not being reported.

Accrual accounting, on the other hand, does not only include cash flows, it also recognises any transactions related to revenue and expenditures that occurred in the accounting period regardless of whether cash has been paid or received. Accrual accounting has been widely used in the private sector since accrual leads to transparency and accountability for any transaction. With the demand for more accountability and transparency in the public sector governments have been motivated to adopt accrual accounting for financial reporting and budgeting concerns (Champoux, 2006). It provides comprehensive information on the operating performance and financial position of the organisation while improving the comparability of financial statements for different periods.

Since the 1980s, there has been debate on whether accrual accounting would provide an accurate measure of the full cost of the services delivered in the financial statements and be

a more precise predictor of the success of the government programmes to support the New Public Management (NPM) reform agenda (Hood, 1995). According to Chan (2003), the most critical issues relating to the public sector accounting reform are the financial statements requiring the government to collect information on its assets and liabilities. The accrual-based accounting approach provides more comprehensive financial information in terms of transparency of the costs involved in public services and improved AM, thus providing more accurate information for better fiscal decision-making (Flynn et al., 2016; IFAC, 1996; Saleh, 2008). Accrual accounting can help a government strengthen prudent fiscal management as well as improve the efficiency of financial management and accounting that has an impact on the long-term economy.

### **2.4.2 Information Systems**

Information systems lead to organisational success through intangible, complementary human and business resources such as flexible culture, monitoring, and strategic planning (Powell & Micallef, 1997). They have a widespread influence on almost all facets of our culture; for example, information system has affected how we buy goods, interact with others, access government services, and control our finances. Information system has also profoundly influenced AM, particularly in the recording, registration, maintenance, asset movements, and disposal of assets.

The data and information about an asset are continuously increasing over its life cycle. Organisation need to use technology to assisting them in dealing with those information. According to Roberts et al. (2018) a new technology, such as data modelling, can help asset managers align their strategic and tactical expertise to the data management capabilities required. Technology also allows managers to sketch asset data and update digitally during the planning process to promote AM and future development (Sankaran et al., 2018). Thus, it is obvious that technology can assist an organisation in managing its assets more efficiently by managing asset information more effectively.

Information systems are the most critical components of the modern world has and have provided organisations with significant growth opportunities to obtain, process, distribute, and exchange information systematically and in a timely fashion (Almazán et al., 2017). Besides, they contribute to close geographical differences, making it possible for workers to be more effective, and this is reflected in enhanced procedures, administration, and information processing, that positively affect the organisation's efficiency and competitiveness (Bakos & Treacy, 1986). They enable organisations to access information from different locations, thereby ensuring better decision-making on organisational operations.

Improving business and data reporting processes is critical for using AM information systems (Mathew et al., 2008). The process of asset information has to be properly scrutinised with timely performance evaluations and inspections for management information systems to be acceptable in terms of the accuracy of the data and a satisfactory level of detail

(Comptroller's Handbook, 2012). AM should be aligned with technological change, encompassing precision maintenance, cloud-based data storage and analysis, the Internet of Things (IoT), artificial intelligence (AI), and edge computing, i.e. computing performed close to the data source (Blache, 2019). Implementation of an information system can radically change an organisation's traditional AM practice and enable it to become more efficient.

### **3.0 The Role of Accrual Accounting and Information Systems in Asset Management Practice**

Previous literature revealed that accrual accounting and information systems have affected AM practice. The relationship between accrual accounting, information systems, and AM practice will be reviewed and discussed in this section and proposed as a factor that has a direct impact on AM practice in government agencies.

#### **3.1 Relationship between Accrual Accounting and Asset Management Performance**

Asset management is significantly impacted by accounting reforms in the public sector with the transition from cash basis to accrual basis accounting (Flynn et al., 2016; Kraus, 2004). The accrual accounting requirements and accounting principles generally determine the approach to accounting assets, measuring asset values and recognising assets across their life cycle which are stated in the financial statement. This information in government financial statements is important because it enables the public to evaluate the level and the type of assets invested using public money (Ehalaiye et al., 2020) and increases the credibility of the financial statements and public confidence in the government's financial management.

Jallad and Darras (2015) found that accrual accounting strengthens the stewardship of assets and liabilities: it allows efficient control of government resources to enhance productivity and cost-effectiveness since all the transactions are registered. Thus, it helps government agencies resolve the lack of information on asset movement without reporting the financial implications in stakeholders' financial statements.

Agburuga (2018) also argues that accrual accounting allows government agencies to enhance the financial planning of their assets and liabilities as enables better decisions to be made in planning for the acquisition of future assets for development or disposal of existing assets and working capital requirements. Since accountants are implicitly involved in the process or management of assets, their participation is strongly encouraged to ensure that the data reported are consistent with the asset's physical state, particularly in the process of recognising assets and disposal of assets (Abdullah & Muhammad, 2020).

Christiaens (2004), on the other hand, has revealed that accrual accounting does not typically account for the unique governmental features of a government's capital assets; hence it does not reflect the AM performance. Besides, accounting practice, according to Vaughan-morris (2014), does not also materially influence the organisation in managing its

assets efficiently since generally most organisations make decisions by focusing on cash flows. Accrual accounting does not affect when cash inflows or outflows occur since revenue and expenses are reported when they are earned rather than when the income is received or payments made.

Huweish and Alshujairi (2014), however, have argued that the trend towards accrual accounting in the public sector is important to ensure transparency, efficiency, and performance management, and this has an impact on the government's performance and the nation's development. Moreover, the implementation of accrual accounting encourages a general improvement in AM and an increased understanding of the cost of maintaining and managing assets (Syed Ali et al., 2019) and aid policymakers and the public by placing a greater emphasis on the proper acquisition, disposition, and management of government assets (Abdullah & Muhammad, 2020; Campbell, 2015; Hladika & Percevic, 2014). Therefore, it is clear that accrual accounting can result in better AM practice because it is more transparent and requires every asset-related transaction to be completely recorded, as well as facilitating asset-related decision-making.

### **3.2 Relationship between Information Systems and Asset Management Practice**

Asset management information systems have aided in the improvement of organisational and data reporting procedures (Mathew et al., 2008), and the introduction of an information system has led to better AM practice because it reduces error and promotes efficiency (Sanjaya & Utama (2020). AM processes are interdependent with other processes, including business planning and product development, which require prompt and greater information sharing and collaboration with other business community functions. As such, more effective measurement frameworks are required to enable organisations to maximise their information system benefits in performance, effective control, and management of their assets (Haider et al., 2006).

The public sector requires a dynamic and integrated asset management system that is accessible to government agencies and has integration or direct interfaces with the accounting information system's general ledger (Flynn et al., 2016; Isa, 2001). The information on assets in the general ledger is important in accrual financial statements as it provides the details of the establishment of the assets in terms of financial resources and the acquisition period. An efficient information system can then facilitate the process of integration (Abidin & Zulkefli Mansor, 2019) and review of asset information in the general ledger as well as the asset registration records in the government agencies.

Previous literature has provided empirical evidence that information systems positively affect the organisation's performance, particularly AM activities (Maletič et al., 2018, 2016; Arlini et al., 2014; Ekayanti et al., 2018; Khresat 2015).

While most studies have reported a significant connection between the information system and AM activities, Ismail et al. (2019) and Lucky et al. (2014) argue that the correlation between AM and information systems is insignificant due to the lack of computer skills among the staff especially in government agencies: most elderly employees prefer the traditional approach and show little interest in acquiring computer skills, resulting in a negative effect on the organisation's administration (Ismail et al., 2019). The government should address this issue in order to maximize the efficiency with which information systems are used in managing government assets.

The information system for government assets is crucial because it involves various assets in different ministries and for different purposes (Buang, 2011) and therefore, the quality of the data generated in the system is crucial for the organisation to depend on (Herder & Wijnia, 2011). Fernandez et al. (2017) have noted that information systems assist in rapid and reliable decision-making and minimise documentation costs, and allows users to access information at any time they need it. The AM information system improves the visibility, usability, and confidence of asset knowledge holdings across the organisation and facilitates asset life-cycle management (Haider et al., 2006; Hailu, 2014) by ensuring that accurate information on assets is collected, stored, and is readily available to support evidence-based AM decision-making.

During each phase of the asset life cycle, various types of information are required to facilitate the AM process including workflows, planning, and monitoring. The information could be represented as a vital part of an asset-intensive organisation (Haider et al., 2006). How information is planned, captured, processed, preserved, used, and disposed of by users can affect the organisation's AM performance (Lin et al., 2007). Thus, an information system has the ability to impact the effectiveness of the AM, which is to assist the organisation in managing its asset information throughout the asset life cycle.

#### **4.0 Conclusion**

This study analysed the relevant literature to understand better the AM landscape and the role of information systems and accounting practice in AM. The literature review discussed the significance of AM and provided an overview of AM practice in Malaysia. It revealed that the government is committed to reviewing and enhancing the quality of AM to ensure it is managed in a systematic, holistic, and sustainable manner; hence, the issuing of policies and procedures regarding AM since 1967. As mentioned in previous studies, effective AM allows an organisation to sustain its business by increasing economic productivity and enabling the organisation to save money in the long term. In the public sector, the money saved can be used for other purposes that benefit the public.

The importance of AM was discussed in the literature review to explain why the government needs to manage its assets effectively. This study is expected to help researchers and practitioners improve AM practice by identifying and understanding the

role of accrual accounting and information systems in AM practice, and eventually resolving the repeated issues, i.e. the shortcomings, raised by auditors and enhancing public money management credibility. Furthermore, by understanding the role of accrual accounting and information systems, the government can highlight it in its current policies i.e., Government Asset Management Policy and Total Asset Management Manual.

Accrual accounting has contributed to a positive impact on AM, particularly on the financial data and reporting of asset values accurately and transparently. Accrual accounting allows for better information on the performance and financial position of an organisation that is closely related to assets and liabilities because such information is essential in resource management. Accrual accounting provided for the cost of an asset to be allocated for the provision of services or goods, the total costs associated with delivering such services, and the cost of using the asset over its useful life cycle. With its matching concept, accrual accounting ensures that actual costs are recognised in the year in which they occur. Moreover, since it is expected that an asset contributes to the generation of benefits throughout its useful life, the cost of the asset is distributed throughout the accounting periods in which the resource is utilised.

While the information system is a tool that enables the delivery of improved government services to its stakeholders by boosting the public sector's efficiency and accountability, implementing an asset information system fundamentally changes the way things are done, in this case, the asset management (AM) process. This is because information systems are capable of enhancing operational and data reporting procedures by delivering accurate and timely data on assets. Having that information can assist organisations in making decisions.

The study is based on the Auditor-General Reports and the literature review to fit the proposed concept. In the future, it is suggested that quantitative research be conducted to evaluate the proposed conceptualisation relationship between accounting practice and information system to AM Practice.

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