

Local Authorities Challenges in the Implementation of Maintenance and Operation Blueprint

Norhidayah, M. Y.* , Khadijah, H., Maryanti, M. R., Ainur Zaireen, Z., Maslinda A. L., Razali, M. N., Noorsidi Aizuddin, M. N., Abdul Hakim, M., Siti Radiaton Adawiyah, Z.

Department of Real Estate, Faculty of Geoinformation and Real Estate, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

*Corresponding author: norhidayahmy@utm.my

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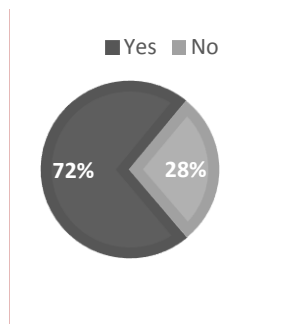
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Graphical abstract



Percentage of respondents who declares there are challenges in the implementation of maintenance and operation blueprint for Iskandar Malaysia.

Abstract

Maintenance and Operation Blueprint for Iskandar Malaysia was established to ensure local authority immovable asset maintenance management is in line with Government Asset Management Policy 2009. This paper deals with investigation on the challenges in the implementation of Maintenance and Operation Blueprint Plan for Iskandar Malaysia among five local authorities in Iskandar Malaysia. A total of 25 respondents have been selected and interviewed. The data have been analyzed qualitatively. Base on the interview, the results show that there are challenges to implement maintenance and operation blueprint in local authority immovable asset maintenance management which are no clear direction from the top management to implement the Maintenance and Operation Blueprint for Iskandar Malaysia, lack of staff to implement the Maintenance and Operation Blueprint for Iskandar Malaysia, did not have enough time to implement the Maintenance and Operation Blueprint for Iskandar Malaysia and the high cost required to implement the Maintenance and Operation Blueprint for Iskandar Malaysia. This article can serve as a foundation for future studies in critical success factors to implement immovable asset maintenance and operation blueprint. A future study investigating critical success factors to implement immovable asset maintenance and operation blueprint would be very interesting to produce a new approach for successful blueprint implementation.

Keywords: Critical success factors; immovable asset; maintenance management; blueprint and local authority

Abstrak

Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia diwujudkan untuk memastikan pengurusan penyelenggaraan aset tak alih pihak berkuasa tempatan di Iskandar Malaysia selaras dengan Dasar Pengurusan Aset Kerajaan 2009. Artikel ini adalah berkaitan kajian tentang cabaran dalam melaksanakan Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia melibatkan lima pihak berkuasa tempatan di Iskandar Malaysia. Seramai 25 orang responden telah dipilih dan di temubual. Data-data dianalisis secara kualitatif. Berdasarkan temubual, hasil kajian menunjukkan terdapat cabaran untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan dalam pengurusan penyelenggaraan aset tak alih pihak berkuasa tempatan iaitu tiada arahan jelas daripada pengurusan tertinggi untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia, kekurangan kakitangan untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia, tidak mempunyai masa yang cukup untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia dan kos yang tinggi diperlukan untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan Iskandar Malaysia. Artikel ini boleh dijadikan sebagai asas kepada kajian lanjutan berkaitan faktor-faktor kejayaan kritikal untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan aset tak alih. Kajian lanjutan berkaitan kajian faktor-faktor kejayaan kritikal untuk melaksanakan Pelan Induk Operasi dan Penyelenggaraan aset tak alih akan menjadi sangat menarik bagi menghasilkan sebuah pendekatan baru untuk kejayaan pelaksanaan Pelan Induk.

Kata kunci: Faktor kejayaan kritikal; aset tak alih; pengurusan penyelenggaraan; pelan induk; pihak berkuasa tempatan

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■1.0 INTRODUCTION

Local authority immovable assets can be divided into three types such as building, civil infrastructure and land. Immovable asset is an asset that the government should be supervised and maintained. Local authority immovable asset is also government asset that should be maintained to give quality public service delivery [1]. Any damage or defects to government assets should be reported immediately. There are policies, instructions and rules that can be used as a guide in the maintenance of government assets. Government assets need to be maintained in order to make government services can be carried out smoothly and function properly. Maintenance of government assets that are not being carried out properly can disrupt public service delivery processes. Maintenance management should be carried out efficiently and effectively [2] not only to maintain the government assets and public safety but also to avoid the occurrence of unwanted incidents.

The Malaysian Government has issued Government Asset Management Policy and Total Asset Management Manual in 2009 to increase the quality of public service delivery. Government Asset Management Policy, 2009 has become a focal point Iskandar Malaysia region to government asset management system which is more comprehensive and systematic [3]. Accordingly, Iskandar Regional Development Authority has also issued Maintenance and Operation Blueprint for Iskandar Malaysia in 2011. This blueprint functions as a guide to the local authorities in Iskandar Malaysia to ensure that the operations and maintenance of local authority's immovable assets are in line with the Government Asset Management Policy 2009.

Maintenance management rules are sometimes ignored by the organization because they do not realize the importance of the implementation of the maintenance in the maintenance management activities [4]. Failures and imperfections government asset maintenance management can give negative implications for every community. Therefore, it is very important to emphasize the importance of government asset maintenance management implementation to ensure that the quality of government assets. Requirements to the implementation of the government assets maintenance management will ensure that all regulations made and available facilities can be used by the public. Good government assets management is important to generate economic development because it is one of the important factors that will be evaluated by foreign investors to invest in Malaysia [4]. Therefore, this paper aimed to investigate the challenges in the implementation of Maintenance and Operation Blueprint Plan for Iskandar Malaysia among five local authorities in Iskandar Malaysia.

■2.0 REVIEW OF LITERATURE

Asset management is a process of user acceptance, usage involving maintenance and operations and disposal to make service delivery potential and to manage the costs and risks throughout the lifelong of the asset [5]. According to the National Public Works Council of Australia, asset management means providing a flexible approach to service delivery based on the current and future needs by using both solutions which are assets and not assets [6]. Asset management started in Australia and New Zealand [7]. In early 1990, Australian government used a total asset management in government asset management practices [8]. Canada has used asset management practices in 1997 [7]. Meanwhile, the United States has adopted asset management around early 2000s [7].

The terms immovable assets used by the government refers to physical assets that are non-current assets which consist of building and infrastructure assets including recreational facilities [7]. Physical assets or intangible assets are excluding from intangible assets of intellectual property [7]. Assets must be managed properly to ensure that asset is functioning properly, can provide a good and optimum benefits to the national economy. Immovable assets have to be managed strategically by government [9]. If government immovable assets did not manage properly it can be a liability to the government. Thus, asset management should be practiced in the government immovable asset maintenance management [10] to ensure that government assets are strategically well managed. However, the implementation of immovable asset management framework from other countries is different from Malaysia in terms of culture and governance structure because it is too complex to be applied by the developing countries [7]. The concept of government immovable assets maintenance management used by several countries such as Australia, Canada, United Kingdom and Singapore are preventive maintenance and corrective maintenance [11]. Preventive maintenance performed on a regular basis, periodic and planned to avoid damage. Corrective maintenance damage is a process of remedial actions, correction to restore the original function of assets in the event of damage or failure.

Generally, most of the strategy and asset maintenance operations either internally or externally are carried out in several countries such as Australia, Canada, Singapore, United Kingdom and United States [11]. An internal maintenance is fully implemented by the agency itself, either the energy department, the appointment of a contractor through subcontracting or both. Meanwhile, external maintenance is fully implemented by the contractor or by appointing a service provider.

Meanwhile, the responsible party for the immovable assets management in Singapore is quite different from developed countries because Singapore has no local government or state government due to its small population. The assets management is mainly under the government departments and ministries responsibility. Housing and Development Board is responsible to provide quality and affordable homes, ensure a livable city and focus on the community wellbeing [12]. The Land Transport Authority is responsible for the public transport facilities and maintains public roads in order to make it function properly [11]. The Public Utilities Board is responsible for the collection, production, distribution and reclamation of water in Singapore and also to ensure that efficient water supplied in sustainable way [11]. Town Councils in Singapore are different from other local authorities from developing countries because the municipalities in Singapore provide very limited services for neighborhoods [18]. In 1996, National Public Works of Council of Australia Inc (NPWC) in Australia has published a comprehensive asset management guideline that intended to provide a flexible service delivery approach driven by the needs of the present and future assets [14]. Each state in Australia and in some cases, local authorities have their own laws and regulations relating to the management of state immovable asset maintenance [8], among others, the Asset Management Series [15], Strategic Asset Management Guidelines [16], Total Asset Management [17], Strategic Asset Management Framework [18] and Asset Management Framework and Guidelines [19]. In addition, the Strategic Plan issued by Australian Local Government Association was created as an initiative to help local governments in the management of public assets [20].

Meanwhile, in Canada, there are some guidelines of immovable asset in local government, state and federal level such as the National Master Specifications [21], and the National Guide to Sustainable Municipal Infrastructure: Innovation and

Best Practices [22]. In 2000, Public Works and Government Services have produced guidelines for the maintenance management system that serves as a framework to implement the data collection system in preparation for budget planning and monitoring of asset maintenance [23]. State law and regulations apply to local governments such as Ontario Province Act 1990 which applies in Ontario, Canada. Several other laws used in the immovable asset maintenance management in Ontario, Canada are like the Municipal Act 2001, the Building Code Act, 1992, Bridges Act 1990, Drainage Act 1990, Energy Efficiency Act 1990 and Greenbelt Act, 2005.

Next, there are a number of plans and detailed guidelines for different types of asset maintenance management related to government immovable assets in the United Kingdom which are Suffolk County Council: Highway Maintenance Operational Plan 2008, Framework for Highway Asset Management in 2004, Leicestershire County Council Highway Maintenance Policy and Strategy 2012, Leicestershire County Council: Street Lighting Policy and Strategy, 2006, Street Lighting Strategy For Kent County Council in 2010, A Vital Asset Maintaining 2005, East Sussex County Council: Corporate Sustainable Buildings Policy 2008, Cheshire West & Chester Council: Corporate Asset Management Plan 2011, The Building Act 1984, Town and Country Planning Act 1990, Waste Management Regulations 1996, Highway Act of 1980, Local Government Act 1999 and Road Traffic Act 1991. In addition, Singapore's law related to government or public immovable asset maintenance management including Building Maintenance and Strata Management Act 2004, Town Councils Act 1988, Parks and Trees Act 2005, Vandalism Act of 1966, Planning Act 1998, Street Works Act 1995, Sewerage and Drainage Act 1999 and Parking Places Act 1974.

According to the Government Asset Management Policy 2009, a government asset refers to property belonging, own or built, purchase, rent, store, lease under the control of the government using money received through donations either by gift, legislative process, wild resources, breeding, research or heritage [24]. In Malaysia, government assets are classified into four categories, which are movable assets, immovable assets, life asset and intellectual property. Government assets are properties owned and possessed by government. According to the General Circular No. 1 2009, Government Comprehensive Asset Management Manual, government immovable assets are in the form of land, infrastructure and buildings. According to the Government Asset Management Policy, an immovable asset means assets that remain and cannot be removed namely from land, infrastructure or buildings [24].

Local authorities have spent millions of dollars to provide immovable assets for public convenience. The immovable assets of local authorities should be managed and maintained in order to provide facilities that meet the needs for social, economic and environmental of the community. Immovable assets of local authorities should be dealt through several process namely as planning, establishment, utilization and disposal as stated in Total Asset Management Manual 2009 guidelines. Immovable asset maintenance management of local authorities must be addressed in order to enable the assets to be well-functioned and the service delivery to the public to be going well. Delivery of local authority services may be disrupted and delayed if the immovable asset maintenance management of the local authority is not properly implemented.

According to Total Asset Management Manual 2009, the assets are divided into four main categories [25]. They are immovable assets, movable assets, asset life and intellectual property. Immovable assets consist of building assets, infrastructure assets and land assets [25]. According to the

Maintenance and Operation Blueprint for Iskandar Malaysia, the immovable assets are defined as buildings, public infrastructure and landscape that are owned or under the responsibility of local authorities in Iskandar Malaysia [11].

Based on the Maintenance and Operation Blueprint for Iskandar Malaysia 2011, local authority immovable assets are classified as building, civil infrastructure and landscape [11]. Building is defined as a covered structure that enclose the space and intended for use as a shelter for people, animals or property. In addition, the building is also used for recreational, industrial, commercial and other functions. The examples of building are community hall, public transportation terminals, public market, food premises and toilets. Civil infrastructure consists of parking, sewerage and drainage, walkways for pedestrians, traffic and street lighting decorations. Public infrastructure is also covered under the Street, Drainage and Building Act 1974, Road Transport Act 1987 and Sewerage Services Act 1993. Landscape is classified as a combination of public parks and theme parks which a land designated or reserved as a public park for recreational activities with themed entertainment and leisure-based and designed to focus on culture, entertainment and educational aspects.

Local authority's immovable assets life cycle stated in Maintenance and Operation Blueprint for Iskandar Malaysia as well as the government immovable assets life cycle can be found in the Total Asset Management Manual 2009 [25]. Four major processes life cycles in the local authority's immovable assets are planning, establishment, utilization and disposal [11, 25]. The immovable assets of local authorities should be managed through these processes. Immovable asset management practices of local authorities is began with corrective maintenance to adopt a reactive maintenance repair, maintenance management using a proactive approach, facility maintenance customer-focused approach and the next comprehensive asset management approach to investment returns [25]. According to the Maintenance and Operation Blueprint for Iskandar Malaysia in 2011, the types of local authority's immovable assets are building, civil infrastructure and landscape. Building is divided to community hall, public transport terminal, public market, food premises and toilet. Civil infrastructure divided to parking, road, sewerage, drainage, pedestrian bridge and bus stop, street, traffic and decorative lights and signage. Landscape divided to soft and hard landscape.

The implementation of Maintenance and Operation Blueprint plan for Iskandar Malaysia in local authorities immovable asset maintenance management includes a number of things which are maintenance management objectives, responsibilities, regulation, maintenance types, maintenance methods, standard operating procedure for planned maintenance, standard operating procedure for unplanned maintenance, maintenance management strategy, geographic information system, maintenance and operations implementation model for Iskandar Malaysia and maintenance and operations initiatives for Iskandar Malaysia [11]. Maintenance management objectives in the Maintenance and Operation Blueprint for Iskandar Malaysia are to accomplish departmental service delivery expectations as pre-determined standards which assets are to be maintained, emphasize on the impact of the asset condition on service delivery and risk, minimize whole of life costs of assets, ensure the best use and utilize of maintenance resources and keep up to date asset information and departmental and whole local authorities level [11].

Local authorities in Iskandar Malaysia play an important role in providing services to the public and responsible in implementing the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset

maintenance management. Immovable asset maintenance management of local authorities in Iskandar Malaysia should be carried out in accordance with relevant regulations such as Iskandar Regional Development Authority Act 2007 (Act 664), the Local Government Act 1976 (Act 171), Town and Country Planning Act 1976 (Act 172), Solid Waste Management Act and Public Cleansing Act 2007 (Act 672), the Street, Drainage and Building Act 1974 (Act 133), the Road Transport Act 1987 (Act 333), Act Electricity, 1990 (Act 447), Sewerage Services Act 1993 (Act 508), Comprehensive Development Plan 2006-2025 and the Maintenance and Operation Blueprint plan for Iskandar Malaysia 2011.

In general, the types of maintenance management are divided into four types which are preventive maintenance, predictive maintenance, repair and maintenance of deferred maintenance. However, the usual types of maintenance management commonly used by local authorities are preventive maintenance and repair maintenance. According to the Maintenance and Operation Blueprint for Iskandar Malaysia in 2011, local authorities should carry out maintenance and operation works either through in-house, semi-outsource or outsource method. Maintenance management strategy in Iskandar Malaysia consist four processes which are planning, implementation, evaluation and reporting. Maintenance and standard operating procedures for local authority's immovable assets maintenance management divided into two which are planned and unplanned maintenance as well as standard operation procedure. There are thirteen standard operating procedures for three type of assets namely building, civil and infrastructure and landscape. General information for all standard operating procedures comprise of the objective of standard operating procedures, which is for planned and unplanned maintenance and operation of public assets in Iskandar Malaysia [11]. The standard operation procedure described the relevant types of maintenance activities. The maintenance activities will emphasize on proper practices and procedures for public assets. The maintenance management strategies, maintenance policy, maintenance and operation implementation model and maintenance and operation initiative in Iskandar Malaysia should be implemented by referring to the Maintenance and Operation Blueprint 2011.

Geographic information systems in the Maintenance and Operation Blueprint for Iskandar Malaysia is related to the asset database and was developed based on the existing structure and output of geographic information system in Iskandar Malaysia [11]. Thirteen implementation models of maintenance and operations assets in Iskandar Malaysia comprise implementation model for building services, halls, food premises, public market, toilet, crossing bridge and bus stop, signage, parking lot, road, lighting, drainage, sewerage and landscape. The implementation models of maintenance and operations assets in Iskandar Malaysia is based on internal sourcing strategy, outsourcing, contract outsourcing, shared sourcing and hybrid sourcing. Strategic planning initiatives for immovable asset maintenance management of the local authority in Iskandar Malaysia aimed to achieve nine objectives which are register all infrastructure in Iskandar Malaysia as required, develop maintenance management strategies, capacity and management capability, public awareness campaigns, awareness of the population, a smart partnership, maintaining aesthetic values, maintenance information management strategy and provides the business model and sustainable monitoring mechanisms.

Iskandar Regional Development Authority produced Maintenance and Operation Blueprint for Iskandar Malaysia in 2011 as a strategy and comprehensive management plan to improve public assets delivery to the public in Iskandar Malaysia.

The key outcomes to achieve from undertaking maintenance are realization of the functional and operational requirements, achievement of physical condition standard of asset to a standard appropriate for their service function and value to the community and meeting all technical and legal requirements to ensure health, safety, security and reliability [11].

■3.0 METHODS

This study was used case study method. Case study method is more on technical description, understanding and explanation [27]. While, Robert described that this method is based on the desire to understand things in depth [28]. The main advantage of case studies, it gives in-depth information about a case and used to develop or prove a point [27, 28]. Some researcher used case study for an intensive research on a small social unit such as family, community, village, association, school or individual [27]. In addition, this method also focuses on the elaboration of a comprehensive and provides an in-depth explanation to an event [28]. Thus, the case study method is suitable for carrying out a research study on the use of case studies as a source of test.

This research was descriptive in design. Therefore, data have been collected through face to face interview using open-ended set of questions in order to obtain respondent's knowledge, insight, understanding, information and experiences. The interview questions focused on general questions about the challenges to local authorities in the implementation of maintenance and operation blueprint. The interview took place on site at local authority offices and last between 30 minute and 1 hour. The analysis involved grouping the responses into qualitative themes. Not all interview themes relevant to this study, so some tangential themes have been removed.

The whole empirical works took place in the southern part of Peninsular of Malaysia namely Iskandar Malaysia, an economic development region established around 2006. Iskandar Malaysia has been introduced in the Ninth Malaysia Plan 9 (2006-2010) as a corridor development concept. Hence, the implementation of Maintenance and Operation Blueprint was chosen as a case study. The blueprint functioned as a guideline in the asset maintenance and operation in line with the aims of Iskandar Malaysia as an international metropolis. There are five local authorities included in Iskandar Malaysia which are Johor Bahru City Council, Johor Bahru Tengah Municipal Council, Kulai Municipal Council, Pasir Gudang Municipal Council and Pontian District Council.

In this study, operating unit level managers was selected by highest executive manager of the local authority. Respondents proposed by the executive manager is the manager of the operations unit that are directly involved with the implementation of the maintenance and Operation Blueprint for Iskandar Malaysia which are Valuation Officer, Assistant Valuation Officer, Engineer, Assistant Engineer, Technician, Architect, Assistant Architect, Town And Country Planning Officer and Administrative Officer. Qualitative analysis method was chosen in this study to analyze the primary data collection. Collected data, views, suggestions or answers given by each respondent for each of the interview questions asked will be combined and referred to the Maintenance and Operation Blueprint for Iskandar Malaysia. The analyzed data are presented in the form of pie charts using Microsoft Office Excel. The accurate analysis can ensure that the objectives of the study can be achieved.

4.0 RESULTS AND DISCUSSION

The Maintenance and Operation Blueprint for Iskandar Malaysia has not been fully implemented by the local authorities in immovable assets maintenance management [30]. Local authorities are still using the existing procedure in the immovable asset maintenance management of the local authority [31]. Local authority does not implement the Maintenance and Operation Blueprint in the immovable asset maintenance management of local authorities in the Pontian District Council [32]. Johor Bahru City Council has not yet implements the Maintenance and Operation Blueprint as part of the organization work programmed [33].

Base on the interviews, 72 percent of respondents which are 18 respondents from 25 respondents said that there are challenges to implement Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. Some of respondent statement about the challenges to implement Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management are there are not enough budget, lack of time and budget, no disclosure from organization, local authority need budget from Iskandar Regional Development Authority, not enough staff and require high budget.

Another 28 percent of respondents (seven) said that there are no challenges in the implementation of the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. The percentage of respondents who declares there are challenges in the implementation of Maintenance and Operation Blueprint for Iskandar Malaysia seen in Figure 1.

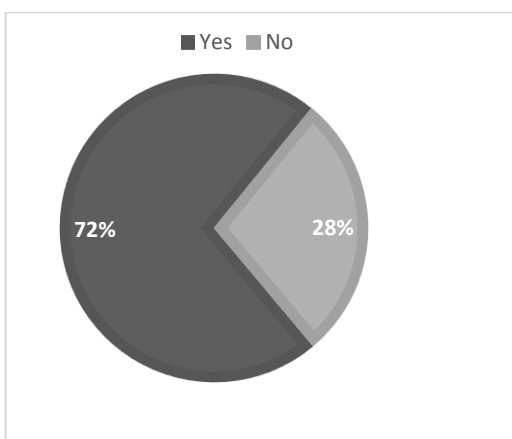


Figure 1 Percentage of respondents who declares there are challenges in the implementation of the maintenance and operation blueprint for Iskandar Malaysia

Most respondents have a negative perception against Maintenance and Operation Blueprint for Iskandar Malaysia because according to them Iskandar Regional Development Authority produced the Maintenance and Operation Blueprint for Iskandar Malaysia is only to qualify as a region development in order to attract foreign investors to invest in Iskandar Malaysia development. Four challenges were raised by local authorities in Iskandar Malaysia which are no clear direction, lack of staff, not enough time and high cost required.

4.1 No Clear Direction

Iskandar Regional Development Authority has sent the Maintenance and Operation Blueprint for Iskandar Malaysia to the Approval and Implementation Committee. However, no clear direction from the State Government about the direction of Iskandar Regional Development Authority for Local Authorities to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority maintenance management. Hence, there are no clear and specific direction from highest executive manager of the local authority to operating managers of the local authority to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. Some respondent commented:

No clear direction from executive manager to operating manager.

Throughout the interviews it was clear that local authorities require a detailed explanation and clear direction from Iskandar Regional Development Authority to all local authority staff that involved in maintenance and operation such as the Valuation Department, Engineering Department and Landscape Department. Explanations of the Maintenance and Operation Blueprint for Iskandar Malaysia also needs to involve all levels in local authority organization such as executive level, heads of departments, heads of divisions and support staff. Results of the interviews showed respondents stated as follows:

Clarification is needed at all levels so that the blueprint can be as a guide. It is better if easily referenced and understood by all levels of staff.

While, it is important for executive manager to get clear instructions from the Iskandar Regional Development Authority about the Maintenance and Operation Blueprint for Iskandar Malaysia to give a clear direction to the operating managers so that the implementation of Maintenance and Operation Blueprint for Iskandar Malaysia can be done well. Implementation of Maintenance and Operation Blueprint for Iskandar Malaysia should be the main agenda for the local authority in order to implement the Maintenance and Operation Blueprint for Iskandar Malaysia successfully in the immovable asset maintenance management.

4.2 Lack of Staff

A sufficient staff resource to local authorities is important in the implementation of Maintenance and Operation Blueprint for Iskandar Malaysia. The Maintenance and Operation Blueprint for Iskandar Malaysia could not be implemented if a staff resource is insufficient. The implementation of the Maintenance and Operation Blueprint for Iskandar Malaysia requires involving local authority staff included highest executive manager and operating unit managers. In addition, the implementation of the Maintenance and Operation Blueprint for Iskandar Malaysia requires Local Authorities staff that has skilled and ability to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. Respondents identified a lack of skills staff to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority maintenance management. From the interviews, respondents stated that local authorities face the challenges which are lack of ability and skilled staff. This challenge is captured in the following quote:

We practice multi task work environment. But, to implement this blueprint we need adequate staff and staff with skills and abilities.

In response to this challenge, local authority staff should receive adequate training in order to have the skills and abilities to further facilitate local authority to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. It is important for local authorities to provide sufficient staff resource to implement Maintenance and Operation Blueprint for Iskandar Malaysia.

4.3 Not Enough Time

Most respondents comment that they did not have enough time to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset maintenance management. It was evident from the interviews that respondent need to take more time to understand and implement the blueprint. Some of respondent commented:

We face a challenge due to our lack of time. We don't have many staff. So, we don't have much time to implement the blueprint.

For this reason, local authorities in Iskandar Malaysia needs to cooperate with Iskandar Regional Development Authority by attending the workshops and meetings conducted by the Iskandar Regional Development Authority in order to get a better understanding about the implementation of Maintenance and Operation Blueprint for Iskandar Malaysia.

4.4 High Cost Required

Based on the interviews, financial resources of local authorities are limited to implement the Maintenance and Operation Blueprint for Iskandar Malaysia. Respondent identified that local authorities need high cost to implement Maintenance and Operation Blueprint for Iskandar Malaysia. For example, comment from respondent:

We need allocation from Iskandar Regional Development Authority. For example, to design and develop geographic information system, we need a high cost. If Iskandar Regional Development Authority give us sufficient financial resources, we are willing to work together to implement the blueprint.

Most respondents gave ground that lack of sufficient resources as the reason Maintenance and Operation Blueprint for Iskandar Malaysia cannot be implemented in the local authority immovable asset maintenance management. Local authorities in Iskandar Malaysia need to provide adequate financial resources to implement the Maintenance and Operation Blueprint for Iskandar Malaysia.

5.0 CONCLUSION

This paper set out to investigate the challenges in the implementation of Maintenance and Operation Blueprint for Iskandar Malaysia among five local authorities in Iskandar Malaysia. In conclusion, this study has proven that there are four challenges to implement the Maintenance and Operation Blueprint for Iskandar Malaysia in local authority immovable asset

maintenance management which are no clear direction from the top management to implement the Maintenance and Operation Blueprint for Iskandar Malaysia, a lack of staff to implement the Maintenance and Operation Blueprint for Iskandar Malaysia, did not have enough time to implement the Maintenance and Operation Blueprint for Iskandar Malaysia and the high cost required to implement the Maintenance and Operation Blueprint for Iskandar Malaysia. This implication of this study will serve as foundation for future studies in critical success factors to implement immovable asset maintenance and operation blueprint. A future study investigating critical success factors to implement immovable asset maintenance and operation blueprint would be very interesting to produce a new approach for successful blueprint implementation.

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