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Research paper



Understanding Factors that Affect Information Technology Outsourcing of Government Shared Services

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Abstract

One of the Public Sector Information Communication Technology Strategic Directions for 2016 – 2020 is to optimize shared services through a centralized and structured initiative. Due to some identified problems and challenges in managing the IT outsourcing arrangement, this study aims to explore the factors that could influence the success implementation of Information Technology (IT) outsourcing of government shared services (GSS) in the case of Malaysian public sector. The motivation in this study is originated from the clear problem in outsourced GSS implementation. This study was initiated by reviewing the literature on the currents issues and best practices across countries regarding the implementation of outsourcing shared services. The result is presented based on qualitative case study entailing interviews with key informants to gather information and the data analysis was performed based on the content analysis. Subsequently, nine factors that potentially influence the successful arrangement of IT outsourcing of government shared services were identified and organized into 4-domains: Strategy, Organization, Transformation and Operation.

Keywords: *Shared Services; IT Outsourcing; Success Factors; Information Systems, Government Informatics*

1. Introduction

Information and communication technology (ICT) utilization has been in a steady growth and continuously given top priority by the Government of Malaysia. In spite of that, Government of Malaysia has undergone major changes in IT direction by introducing government shared services initiatives in 2011. The implementation of shared services is the activity of sharing and consolidating of IT resources through strategic collaboration between Public Sector agencies. Current design and implementation of the government shared services initiatives are on outsourcing to the external service provider. The motives of outsourcing government shared services are to improve government efficiency and strengthening the collaboration between public and private sector towards achieving cost saving in government capital and infrastructure investments [1].

Information technology (IT) outsourcing has been a common business practice in various organizations. IT outsourcing involves using technological or professional IT resources from third party vendors. Cost reduction is identified as a primary motivation to outsourcing as mentioned by [2][3]. Other than that, the main reasons for the increasing attention of IT outsourcing as identified by [4] are insufficient in-house expertise and time saving for ICT implementation. Due to the increasing complexity and rapid changes in IT environment and business process, organizations have invested heavily in IT outsourcing in order to maintain their service delivery and competitive advantage. However, it has been reported that IT outsourcing activities face a numerous risks and challenges in terms of security and confidentiality, and loss of internal technical expertise [5][6].

In Malaysia, public sector agencies have experienced failures of IT outsourcing projects. Public sector agencies have to struggling on some issues and challenging faced in managing the successful of outsourcing projects [7]. Apparently, based on the IT Audit in 2015 [8], the report has shown significant weaknesses in the project management, implementation and monitoring which affected the performance and quality of the government delivery service to the people. The lack of technical expertise and experiences in public sectors has driven outsourcing implementation in most IT initiatives. Due to poor compliance on contract terms, systems or equipment's specifications and user requirements, outsourcing lead to business risks in public sector. These business risks have created problems in IT outsourcing implementation such as vendor driven, existence of hidden cost, increase cost and knowledge gaps.

While shared services are expected to give benefits to the organization, it also perceived as a challenging process to an organization. The article from [9] stated five (5) key success factors for a successful shared service implementation, which are strong project management skills, senior-level support, effective communication, strong change management and a phased approach to implementation. As mentioned by Ramphal [10], critical success factors are the importance ingredients in ensuring the success of shared services. The author has summarized the following issues and challenges on shared services that extracted from the available literature which are (i) lack of top management attention, (ii) lack of focus of improvement, (iii) over-reliance on technology may lead to expensive capital investment, (iv) lack of costing systems and (v) difficult on measuring the success of shared services.

Rising to the challenges and issues in outsourcing strategy, it clearly indicated that there is the need to understand the implementation issues regarding IT outsourcing for Malaysian Public Sectors that associated with government shared services. Moreover, academic research regarding public sector outsourcing in Malaysia is limited [11], thus provides an opportunity to explore a

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gap on the IT outsourcing and discover how IT outsourcing is managed in public sector [12]. Furthermore, investigating these issues is a continuing concern within Malaysian Public Sector since one of the Public Sector ICT Strategic Direction 2016-2020 is to optimize shared services through a centralized and structured initiative [13]. This opened opportunity for researcher to look at the issues pertaining to the government shared services initiatives that focused on outsourcing arrangement which need to be considered when implementing outsourcing strategy.

The objective of this study is to identify the factors that could influence the implementation of IT outsourcing of government shared services initiatives in Malaysian Public Sector. In particular, the study was intended to discuss about the implementation issues in outsourcing the government shared services. The study considers qualitative perspectives from project stakeholders who have experienced in implementing, managing, and monitoring the government shared services initiatives. Overall, the findings can be used to enhance the understanding of implementation issues regarding the outsourcing of government shared services.

2. Literature Review

The concept of shared services has been widely accepted in early 1990s and is often been categorized as a trend [14]. Shared services concept is fundamentally about reducing cost, improving service quality, process simplification, sharing best practices, knowledge transfer and greater alignment to business requirements [15]. In defining shared services, each shared services practitioners and researchers would have their own interpretation of what is shared services according to their understanding of the shared services concept. For example, Ramphal [16] defined shared services as a "collection and concentration of duplicated non-core and non-value adding activities from the various business units of an organization into a separate business unit (shared services center)". Whereas Scannell and Bannister [17] described shared services as the "sharing of ICT infrastructure including hardware, software, communications and support between two or more local authorities in a centrally hosted environment whether that host is real or virtual, single or multiple hosted". Hence, in the context of this study, we have defined shared services as a delivery model in standardization and consolidation of ICT infrastructure including software, hardware and communications that involves outsourcing arrangement with external service provider while government owned the services.

Shared services arrangements have been considered as a strategy for increasing organization efficiency and performance improvements by consolidating services. The different arrangements for shared services may be influenced by different kinds of functional areas and services, and also in different types of organizations, industries and countries. A report by Scottish government [18] outlined that there are several shared services operational arrangements. These are listed as below:

- Unitary – a single organization consolidating and centralizing a business service.
- Lead department – an organization consolidating and centralizing a business service that will be shared by other organizations.
- Joint initiatives (internal) – an agreement between two or more organizations to set up and operate shared services.
- Strategic partnership (external) – contractual arrangement with a third party provider for a range of services.
- Joint venture – joint venture legal entity between "Authority" and third party provider.
- Outsourcing – third party provider takes full responsibility for managing and operating the service.

Even though there are variety of approaches in shared services arrangement, it can be concluded into two cases, internal and external which is involvement of third party. One study in [19] examined that outsourcing arrangement of shared services can be operated internally by organization, or externally arrangement by outsourced to third party service provider. The authors also mentioned that due to the lack of necessary internal skills and experiences, organizations are increasingly turning to vendors to implement and manage shared services. In another study, [20] fit these arguments by specifying that shared services might be developed as internal services or to be contracted out to an external provider. Most of the available literature has focused on internal arrangement of shared services [21], thus given limited attention to outsourced shared services [19]. Therefore, this study complements a growing body of literature that suggest to further explore in this area of researches.

Currently, most of the existing literature on shared services has focused on internal arrangement of shared services [21]. As a result, with limited attention given to outsourced arrangement of shared services, we believed that important insights and learning on outsourcing shared services is essential to explore. Furthermore, [22] have call more research to explore what organizations need to consider when dealing with outsourced decision. The article from [19] has addressing the challenges of creating outsources shared services such as lack of internal skills in contracting and service level development and change management issues. They have highlighted the importance of strong governance to drive standardization and performance improvement is a key for successful outsourced shared services.

On the other hand, [19] also stressed out that there are few studies providing detailed insights into the issues involved in planning and implementing outsourced shared services. Therefore, the need for further research in the area of outsourced shared services is greatly important as outsourcing has become an option for organizations that seeking to focus on core competences, reduce operating costs and enhance service deliveries as stated in [23].

This study aims to highlight the success factors in implementing outsourced shared services in Malaysian government. The study considers views from project stakeholders who have experienced in implementing, managing, and monitoring GSS initiatives in Malaysia Public Sector.

3. Shared Services Global Practices

The implementation of shared services varies across countries. The shared services initiatives differences are mainly based on the political and economic environment for the respective countries. In spite of that, this section provides a review on shared services implementation and success factors concerning to its implementation as practiced by most of the Government in developed countries.

3.1. Australia

Australia has been recognized as an early adopter of the shared services in the public sector. The motives of introducing shared services are driven by politically, financially and service requirement. The successful factors of shared services initiatives in Australian public sector are described in [24] as follows:

1. Task - the main focus in shared services initiatives should be operated in repeatable way, and in high volume with little requirement for employee decision-making.
2. Strategy - principal objective of shared services will drive to cost reduction through economies of scale.
3. Structure - the shared services initiatives should be compulsory to all parts of the business in ensuring high performance implementation.
4. Management process - strong leadership and commitment to deliver are most important in shared services direction.
5. Individual skills - develop flexibility and highly skilled specialist among employees.
6. IT - technology as a business solution in order to facilitate process improvements

3.2. Canada

Shared services initiatives in Canada was created in year 2011 with motives to transform the Government of Canada in managing its IT infrastructure. The implementations of shared services are expected in generating economies of scale to deliver more efficient, reliable and secure IT infrastructure services. Current approach is through partnership. The five key factors that have been top concern by Government of Canada in implementing shared services [25] are as follows:

1. Financial management and sustainability - continuous financial resources, systems and funding mechanisms are important to maintain and sustain the initiatives.
2. Cyber and IT security - ineffective respond to cyber and IT security threats and compromised on disaster recovery activities.
3. Availability and quality of information - lack of availability and integrity of information will prevent from effective planning and decision making which then impact on the achievement of the strategic objectives.
4. Human resources - unable to invest in, recruit, mobilize and retain a workforce with the right skills and capacity to support current, transitional and future business needs.
5. Service delivery and partnership collaboration - inadequate communication and collaboration, and lack of defined roles and responsibilities among stakeholders will compromise service delivery and implementation of shared services.

3.3. United States

Shared services initiatives in Canada was created in year 2011 with motives to transform the Government of Canada in managing its IT infrastructure. The implementations of shared services are expected in generating economies of scale to deliver more efficient, reliable and secure IT infrastructure services. Current approach is through partnership. Below are list on five key factors that concern by Government of Canada in implementing shared services [25]:

1. Executive support - agency leadership must have strong support behind IT shared service plan.
2. Cultural change - the need for agencies to aware with the change of paradigm to IT shared services.
3. Business Process Reengineering - optimizing business process is essential to move from internal process to the processes that work across agency.
4. Technology enablement - robust connectivity and the use of agile computing clouds are the primary technical elements that are key success of IT shared services.
5. Resource realignment - realign the agency personal financial and resources to avoid from any duplicated programs, systems, and workflows.
6. Adoption strategy - there are needs to clearly state the accountability, target performance and transition approach.
7. Continuous improvement – constantly search for improvement opportunities to provide better services and meet the needs of customers and suppliers.

3.4. United Kingdom

The Government of United Kingdom has set up two shared services centres by outsourced to the private sector. The shared services centres were expected develop a single operating platform and provide benefits such as reducing costs through standardizing back-office functions. One study has proved that this initiative has not achieved value for money [26]. They have listed out some factors that may affect to the successful shared services initiatives as follows:

1. Clear leadership - to encourage collaboration and understand roles and responsibilities to all parties. This includes clear governance and management arrangements.
2. Risk management - there are need to take a proactive approach in managing risk by monitoring and
3. Change management - lack of clear understanding on the costing and nature of changes from existing process among customers of shared services centers.

3.5. Malaysia

Government of Malaysia through Ministry of Higher Education (MOHE) has initiated the shared services implementation within Higher Education (HE) sector. A recent study has identified ten success factors in HE sector as discussed below by [27]:

1. Understanding of shared services and the notion of sharing – the need to understand on availability of the resources, sharing requirements and relevant aspects to be included within a shared services arrangement.
2. Organizational environment – important element that perceive from the organizational context in term of collaboration.
3. Top management support – the involvement and participation of senior management with their ongoing commitment and willingness in shared services initiatives.
4. IT environment – centralization, standardization and integration of IT platform, clearly define IT requirements and strong IT capabilities are essential element of successful shared services.
5. Governance procedures – the structural and standard process on how shared services are directed and controlled.
6. Process centric view – the need to have a clear understanding of the process, standard process and measuring performance of the process.
7. Implementation strategy – having clear and smooth transition of shared services operation, roles and responsibilities and expectations from all partners.
8. Project management – effective and efficient management of activities and resources from the inception to implementation of shared services initiatives.
9. Change management – important to have structured approach in order to transform the people involved in shared services from a current state to a sharing model.
10. Effective communication – the need to have effective exchange of information amongst the stakeholders involved which includes the need to have a communication strategy, common language, awareness, rapport with those involved, readiness and involvement of users and stakeholders.

The adoption of shared services offers various benefits to an organization. However, organizations which embarked on shared services initiatives must understand the success factors and lesson learned in order to achieve successful shared services implementation. The summary of shared services implementation for each country is shown in Appendix 1.

4. Methodology

This study aims to identify the factors that could influence the implementation of outsourcing government shared services initiatives in Malaysian public sector. The study consists of four stages activities as depicted in Fig.1 starting from Stage 1: Literature Review, Stage 2: Expert Review, Stage 3: Content Analysis, and finally Stage 4: Report Finding.

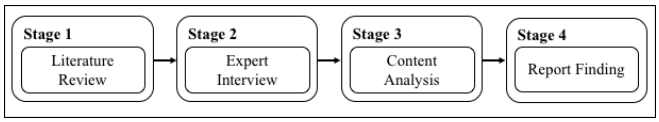

Fig. 1: Stages in the study

The objective of Stage 1 is to investigate the key issues and identified the current definition and best practices of shared services outsourcing arrangement including IT outsourcing implementation issues related to public sector organization. An extensive literature review through massive readings on various academic publications are conducted in order to gather information and understand the scenario of current research trends in outsourcing shared services.

The next stage on this study is the process of interview with the experts which also known as a key informant interview, which taps the knowledge of those familiar with the subject matter in order to gather information with their particular knowledge and understanding. The interview sessions were purposely done in order to seek the views of participants on the mains issues surrounding in outsourcing shared services arrangement and discover factors influencing in successful arrangement of shared services initiatives.

The qualitative research investigation in this study was facilitated by a semi-structured interview script with experienced government officers who involved directly to the shared services projects. The reason is to ensure the interviewees have a deeper understanding of the studied phenomena for the researcher to get better insight on the factors that may influence the implementation of outsourcing government shared services and collect in-depth data required for this study. All questions were open-ended and were formulated based on the previous literature.

By using purposive sampling, four respondents were interviewed. Out of three respondents were the senior officers from public sector who managed and monitored ICT projects including GSS initiatives. Another respondent was under the category of users of the GSS initiatives. Table 2 shows detail information of the participants. Based on the interview session, we then analyze the transcript by using content-analysis step as proposed in [28]. According to the author, most of the cases in analyzing interview responses, it involves on creating categories or themes and then sorting the answers into these categories. Fig. 2 illustrates the flowchart that shows the process of conducting content analysis. The main idea in this stage is to create the common categories in analyzing the data collected related to the factors that influencing the successful arrangement of shared services.

Table 1: Details of Participants for This Study

Participants ID	Criteria	Designation	Years of Working Experience in Public Sector	Years in Domain
P-1	Project Manager	Deputy Director	28	10
P-2	User of Shared Services	Principal Assistant Director,	16	8
P-3	Project Team Leader	Senior Assistant Director	20	5
P-4	Project Team Member	Assistant Director	6	4

The result of the content analysis will then analyze according to theme by using the Four-Phase model developed in [29]. This model provides a logical, systematic and structured approach towards the implementation of shared services. The Four-Phase model as illustrated below in Figure 3 consists of four dimensions as describes below:

1. Strategic dimension: this dimension is concerned with the strategic dimension of an organization towards the decision for shared services implementation. In this phase, the situation of the organization is analyzed, the objectives need to be set out and strategic direction is defined and decided.
2. Organization dimension: this dimension is dealing with the management, planning, operating and control processes. In this phase, there is a need to decide on the governance structure, business process and technological platform for running the shared services initiatives.
3. Transformation dimension: this dimension concerns with the implementation of new procedures and structures and the broad area of change management. It involves the transfer of people, process and resources to the shared organization.
4. Operation dimension: this dimension is concern with shared services operation and relationship with its customers. It includes in managing and controlling for the continuous improvement of shared services.

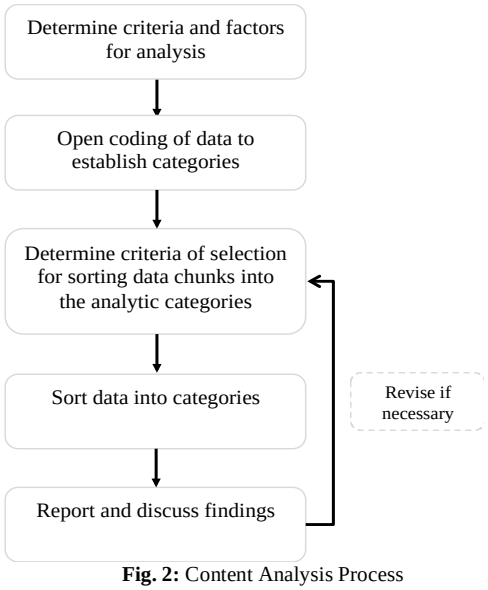

Fig. 2: Content Analysis Process

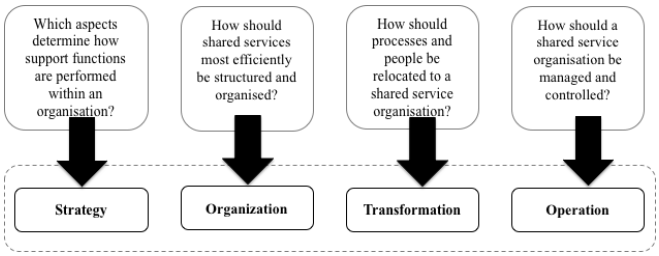

Figure 3: Four-Phase Model Overview (adapted from [29])

5. Result and Discussion

As the result of qualitative content analysis, nine factors were identified to be significant in relation with the successful arrangement of outsourced government shared services. In addition, the result indicated that there was no significance difference in responses among the key-informant groups. The discussion of the respective factors are as follows:

5.1. Vendor Management

Vendor or third party supplies services to an organization. Vendor plays a vital role in organization's daily operation and has critical impact on the success of the shared services initiatives. Most of the participants expressed that ineffectively engagement and managing vendor is one of the factors that affect the delivery of the initiatives. They believed, effective vendor management could improve productivity, enhance performance and deliver the project well. For example, one participant mentioned that: "*We do having a project management issues such as poor governance and planning in delivering this initiative. I am sure, an effective implemen-*

tation and enforcement of vendor management processes will increase the performance of the initiatives."

5.2. Change Management

Most of the participants demonstrate that insufficient change management is the biggest mistakes in implementing shared services. They believed that change management efforts to the service lifecycle should be begins from early planning and the whole implementation process. This was one response received: *"It is necessary for all the parties in shared services arrangement understand the requirement of change management in early stage of the implementation, which can support good impact to the overall shared services initiatives. Change management is important to prevent from burst budget, delivery according to customer needs and ensure stakeholders satisfaction."*

5.3. Value Management

Most of the participants concern with the business value that are created from the consolidation and collaboration of IT shared services. As mentioned before, cost reduction is the main goal of introducing shared services initiatives. The participants emphasized that IT investment in these initiatives must provide incentives and adding value for all stakeholders. For example one participant mentioned that: *"Shared services initiatives required a long-term commitment. The outsourcing arrangements of shared services must generate value to the stakeholders in order to have positive outcome in term of the cost reduction, quality of the services and capability improvement."*

5.4. Transfer of Knowledge

The training process is essential in outsourcing shared services initiatives. Most of the participants agreed that the improvement in delivering services is through learning and knowledge sharing among all parties. For example: *"The process of transferring knowledge and skills to end users, and internal expertise is found helpful and significant. It must be done in effective and efficient way in order to maintain the service operations and less dependence to third party."*

5.5. Top Management Support and Commitment

Successful implementation of shared services initiatives must have strong leadership and top management support. For example: *"Lack of top management drive and involvement make it difficult to drive the project as effective as need be. Most shared services projects are buried before it can be born because top management is not convinced with its importance."*

5.6. Project Team Capability and Expertise

Shared services initiatives required strong project team. For the implementation of the shared services to run smoothly, an appropriate individual skill such as project management skills is necessary. Besides that, the rapid growth of technology nowadays can underestimate internal expertise as mentioned below: *"Lack of internal expertise in the technology of the outsourced shared services. High dependencies on the vendor become vulnerable impact to the government."*

5.7. People Acceptance on Technology Changes

Most participants indicated that their greatest challenges were people oriented. These issues usually are addressed by the agency, which are resistance to change from old system to new system. For example: "*The greatest challenges were people oriented and the result of resistance to change or fear of change."*

5.8. Compliance Standard and Procedures

Since the implementation of shared services involves many parties, there is a need to define an appropriate standard and procedures such as communication plan. The governance structure in assigning responsibilities for each individual that accountable for the projects is also importance to the success of shared services implementation. One participant mentioned that: *"The complexity of the shared services that involve many stakeholders with different law of practice may affect the project development and implementation".*

5.9. Continuous Funding

Most of the participants indicated that critical to the success of shared services implementation is continuous funding. This factor relate to the top management support since having top management support consistently will ensure appropriate funding for this initiatives. One participant stated that: *"Usually IT shared services is on the high side in terms of size and scalability. Constant finance commitment is required."*

From the identified factors above, these factors were then analysed and classified according to success factor dimension as introduced in previous section. In doing so, Strategy, Organization, Transformation and Operation dimensions were believed have an influence on the respective management decision during the implementation of shared services and factors that affect the success of the project were also acknowledged. Table 3 shows the list of identified factors that have been categorized according to four-phase model for the successful implementation of shared services.

Table 2: Factors that Affect Successful Arrangement of Outsourcing Shared Services

Identified Factors	Dimension			
	Strategy	**Organization**	**Transformation**	**Operation**
Vendor Management		X		
Change Management			X	
Value Management		X		
Transfer of Knowledge			X	
Top Management Support and Commitment	X			
Project Team Capability and Expertise				X
People Acceptance on Technology Changes			X	
Compliance Standard and Procedures		X		
Continuous Funding	X			

6. Conclusion

This study initially embarked on issues with establishing shared services initiatives via outsourcing to the third party as well as opportunities for improvement. Since the development of shared services is still on going, performance improvement on current practices such as understanding on what to change and why, is a vital first step in enabling improvement to occur.

This study therefore was conducted to determine and understand the factors that may affect the outsourcing implementation of gov-

ernment shared services. It helped to identify and understand the different factors behind the implementation process of outsourcing government shared services. Hence, these factors may become critical issues in ensuring the successful implementation of government shared services. As figured out from this study, nine factors have been identified under four-dimensional success factor. The findings of this study may help researcher to understand the scenario and main issues regarding the IT outsourcing of government shared services in the context of Malaysian government.

These identified factors and dimensions would be used in our next investigation in developing maturity model of IT outsourcing of government shared services. Finally, the findings from our exploratory qualitative study may serve as a guideline for IT practitioners, the industry and public sectors for those planning to outsource their shared services initiatives and also construct shared services model. We acknowledge some limitations in our study. First, the study on government shared services are on IT services. Second, we conducted the interview session with experts who were generally managing the shared services initiatives. In future, we should take into account the interviews with more users of shared services and service providers that might have different perspective of view.

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Appendix

Country	Australia	Canada	United States	United Kingdom	Malaysia
Sector	Public Sector	Public Sector	Public Sector	Public Sector	Higher Education
Scope	Traffic & Road	ICT	ICT	ICT	ICT
Arrangement	Not mentioned	Partnership	Strategic Sourcing	Outsource	Joint Initiatives
Success Factor	Task Strategy Structure Management Process Individual Skills Technology	Financial Management and sustainability Cyber and IT Security Information Availability and Quality Human Resources Service Delivery and Partnership Collaboration	Executive Support Cultural Change Business Process Reengineering Technology Enablement Resource Realignment Adoption Strategy Continuous Improvement	Clear Leadership Risk Management Change Management	Understanding Organisational Environment Top Management Support IT Environment Governance Procedures Process Implementation Strategy Project Management Change Management Communication

The summary of shared services implementation