

Inter-Organizational Shared Service in E-Government

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ABSTRACT

E-government is among few sectors that widely implements shared service to improve its services and minimize costs and risks. The use of shared service has increased due to the high cost in managing the various services. It needs to be more efficient and effective by using more matured technologies. By using semi structured interview, this study was conducted to understand the implementation stages, challenges, and success factors of Service M based from the perspective of shared service provider. The results showed Service M faced challenges that require the organization to be more proactive in providing service. Those challenges are i) difficult to get partners' trust ii) limitation of manpower iii) different needs of shared service partners iv) high requirement for staff skills v) requirement for service authentication vi) difficult to get cooperation of shared service partners vii) power failures viii) users' problems. This study also identifies several success factors influence sharing of Service M to its stakeholder and partners, which are i) contents of service ii) organization principle iii) solid teamwork iv) top management support v) meet stakeholder and partner's needs vi) provide supportive evidences. The study then develops a preliminary model of shared services implementation that addresses the interdependencies between the challenges and success factors which will provides valuable guidance to practice and future research.

KEYWORDS: Shared Service; Inter-Organizational; E-Government; Case Study.

1. INTRODUCTION

The use of shared service is increasing due to encouragement of high cost in running businesses and services. At the same time, it needs to be more efficient and effective by using more matured technologies. Shared service defined as the practice of sharing a common sets of services by business units, operating companies as well as organizations in order to avoid duplication of staff functions [1]. Meanwhile, Several previous researchers also stated shared services focus on lower the cost with higher service levels to achieve the goals of enhancing corporate value and delighting external customers [2, 3]. It can be done by performing shared services arrangement within an organization or across organization for multiple internal partners [4]. The difference of shared service arrangement is called as shared service typology. It has the differences in the organizational involvement and the process of sharing arrangement. There are eight types of shared service typology [4], which are:

Table 1: Shared Service Typology

Shared Service Typology	Definition
Internal Shared Service Centre	It is a semi-autonomous organizational unit that provides internal services through a sharing arrangement to multiple organizational units within the organization without involvement of third party
Internal Shared Service Center (with 3rd party)	This is the sharing within a single organizational by a semi-autonomous entity and it has substantial involvement of a third party provider.
Shared Service Centre – Alliances/Consortium	This typology of shared service is allowing two or more organizations in alliance relationship to share common services. There exists a single group that coordinates the provisioning of the various services to the individual organizations involved.
Shared Service Centre – Alliances/Consortium (with 3rd party)	This typology has two or more related organizations share common services. There exists a single group that coordinates the provisioning of various services to the individual organization involved in the alliances or consortium. In addition, this type of shared service has substantial involvement of a third party provider.
Intra-organizational shared service	This type has no separate shared services centre or entity that overlooks the sharing

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	arrangements. Individual units within an organizations share common services.
Intra-organizational shared service (with 3rd party)	This type has no separate shared services centre or entity that overlooks the sharing arrangements. Individual units within an organizations share common services. In addition, this type of shared service has substantial involvement of a third party provider.
Inter-organizational shared service	It has two or more related units share common services without a separate shared service centre to manage the sharing arrangements. In this type, there is one organization might share the common services with the others.
Inter-organizational shared service (with 3rd party).	In this type, two or more related units share common services without a separate shared service centre to manage the sharing arrangements. In this type, there is one organization might share the common services with the others. In addition, this type of shared service has substantial involvement of a third party provider.

Adopted from Miskon, S., et al., *Towards a typology of structural arrangements for shared services: evidence from the higher education sector*. Electronic Markets, 2013. 23(2): p. 149-162

Shared service has been applied in practices for a few decades which can influences the change of economic, environment, and technology. Shared service are growing in popularity not only in private sector but also in public sector [5, 6]. Even though there are many organizations have implemented shared service, but there is still a limitation toward the explanation of shared service in e-government. Therefore, this paper will focus on describing a shared service in e-government by focusing on the implementation stages, challenges, and success factors of shared service in e-government.

1.1. Shared Service in E-Government

Many developed countries have implemented shared service into their government, whether by implementing it at national, local or state government level [7, 8]. It has aim to improve the services and minimize the cost and the risk in delivering the services for its users. Governments sector such as United States and Australia had begun actively implementing shared service approach in e-government since 1990s. Even though there has been little scientific interest in understanding the implementation of shared service for public sector [9], there are a growing desire and willingness to implement shared services in e-government from many countries [10]. Public universities are an example of organization in public sector that challenged by the emerging global higher education market. This requires them to reconsider the shared service approach in order to function effectively and efficiently, and to be responsive to changes in their environment. Several reasons to consider shared service approach are; 1) can avoid high cost in implementing and maintaining complex systems by sharing the cost with other agencies; 2) refocus staff on activities that are more critical to government goals, improvisation of service quality; 3) transfer knowledge and skill; 4) improve decision making; and 5) rely on proven repeatable processes.

1.2. Organization for this study. This study will describe the shared service between public universities under Ministry of Higher Education in a developing country. The shared service is provided by one university and the service can be used by other public universities too. We use the pseudonyms; Service M managed by University T to maintain the confidentiality. University T has a role to develop, maintain, and host shared Service M. Service M began as a platform for self-access interactive language learning in English for students in University T since 2007. It served as a tool to improve the English skills for various types of disciplines such as language, education, management, technical, and science. Every department/faculty of University T used service M as a common service. This type of sharing can be categorized as intra-organizational shared service since it had no separate shared services centre or entity that organize the sharing arrangements [4]. Figure 1 shows intra-organizational shared service typology of Service M.

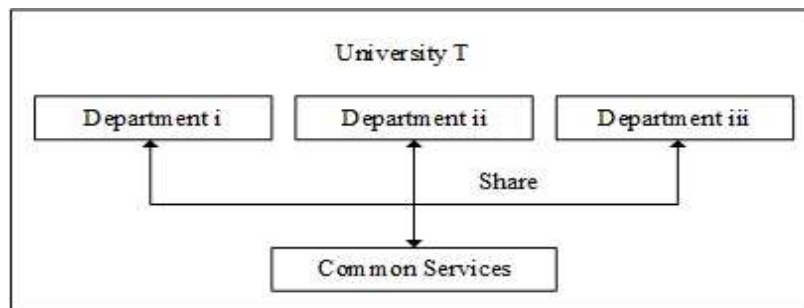


Figure 1: Intra-Organizational Shared Service of Service M in University T Internally

Successful implementation of shared service in University T attracted the Ministry of Higher Education to extend the service to other public universities in the country in 2008. Service M becomes as one example of successful implementation of sharing service in that country. This sharing arrangement is fully sponsored by Ministry of Higher Education and served 20 public universities. Figure 2 presents the Service M organizational structure. The role of chairman of Service M Task Force under Ministry of Higher Education is to manage the shared service between public universities (including the rules and procedure). Meanwhile the role of manager of Service M in University T is to manage and keep the staff on track in providing and maintaining services for other public universities. Other public universities which join sharing of Service M also have their own representatives. Those representatives will help the Service M Task Force in University T to monitor the sharing of service in their respective universities. Representatives for each university consist of IT staff and English language lecturer.

Service M have several components that covers study skills, academic readings, writings, speaking and listening, grammars, quizzes, and forums. It helps many students in public universities become more confidence and be able to do self access learning in English language. It also provides a place for them to make a community to learn from each other and share their ideas. Service M allows a large number of learners distributed over space and time to meet online. It can be accessed freely by student from all public universities in that country.

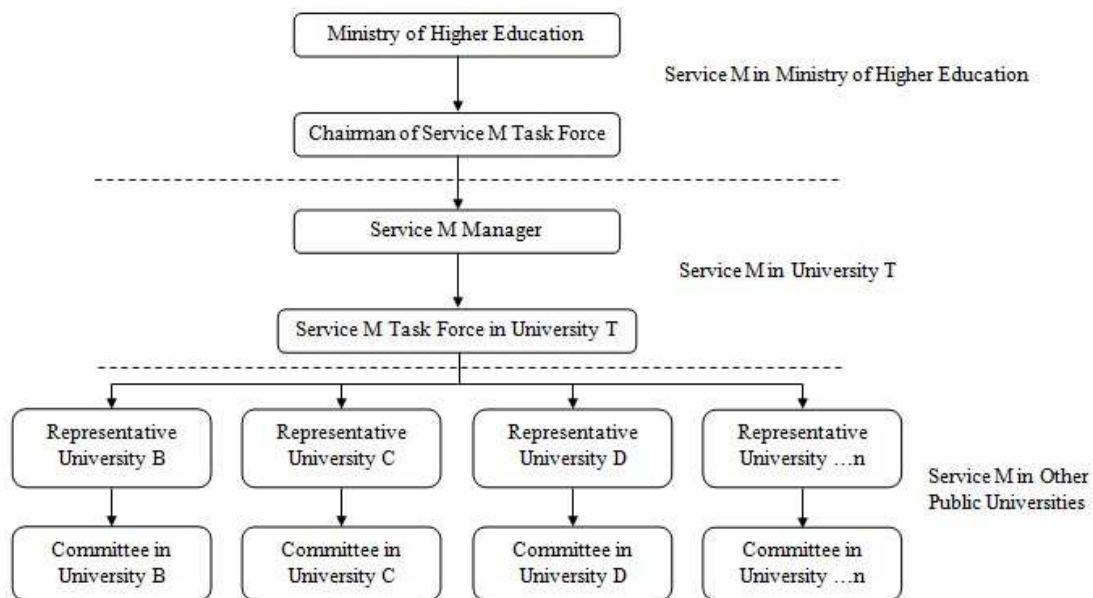


Figure 2: Service M Organizational Structure

Service M shares the common services with other public universities without a separate shared service centre to manage the sharing arrangement. Inter-organizational shared service inherits the benefits of shared services as well as for efficiencies and economies. An organization which has better skills and experiences in one area, might share those services to the other organizations. In inter-organizational shared service, the result comes from collaborative decision making and cooperative competition where organizations cooperate on one level, while remaining competitors on another [11, 12]. Figure 3 shows inter-organizational shared service of Service M.

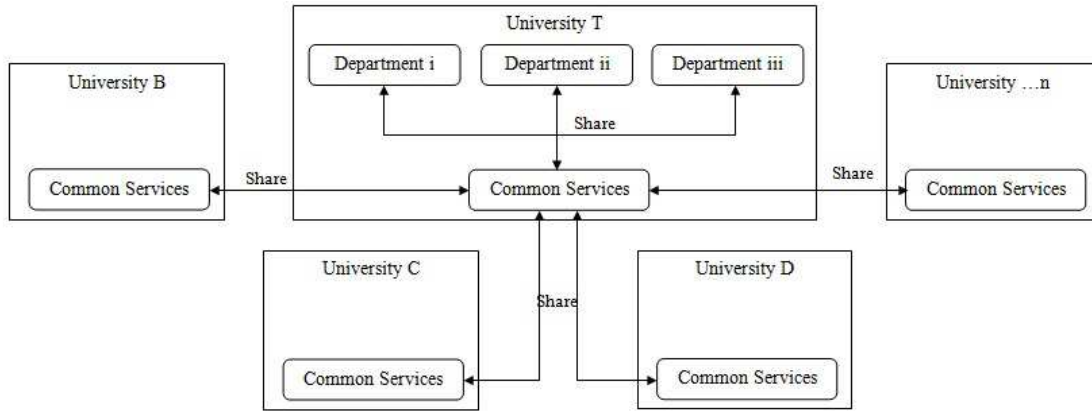


Figure 3: Inter-Organizational Shared Service of Service M

Sharing of Service M is not only about partnership between University T with all public universities, but it also collaborates with many companies. This collaboration is done by creating a portal which houses high quality content from top companies on careers and necessary skills to increase the employability and marketability of young talents in universities. Figure 4 shows structure of shared Service M.

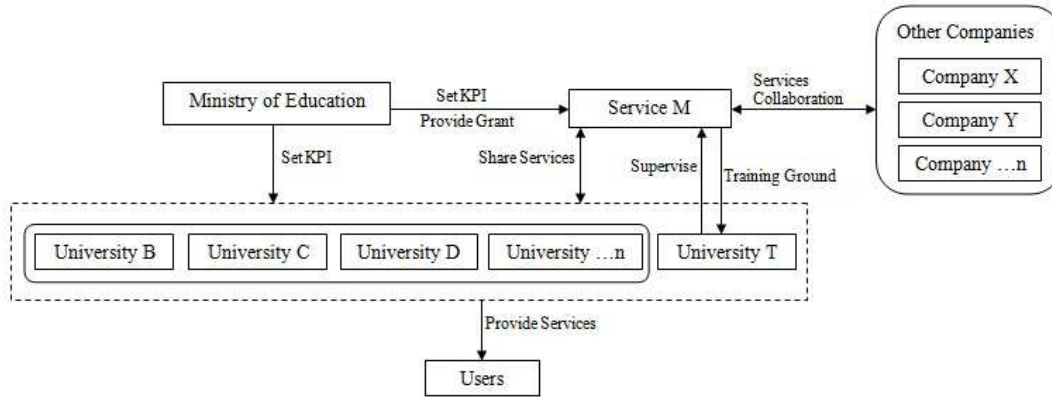


Figure 4: Structure of Service M

Next section presents the research method which is being used for conducting this study. Discussion of data analysis and finding will be presented in the following section. The paper concludes with a summary of finding and recommendation for the future research.

2. Research Method. This paper focuses on exploring the experience of sharing Service M to all public universities in the country. This study might help the other case study from other organizations which use inter-organizational shared service in managing their service to learn from sharing of Service M; because shared service never develops from scratch, it is better to learn from other organization's case. We pose the following research questions for this study:

RQ1: How does Service M being arranged?

RQ2: What are the challenges faced in sharing the Service M?

RQ3: What are the success factors influence the sharing of Service M between University T and other universities?

This paper contributes in managing inter-organizational shared service typology in e-government. It also describes the challenges that University T faced during the implementation and development phase. Furthermore, this paper also discusses the success factors in implementing this service. Single case study is conducted by using a semi-structured interview was held with Manager of Service M and IT Officer of Service M in University T. An investigation requires insights from those who are directly involved in the area

of study. Manager of Service M became the key person in providing the information for this study. In preparation for interview, a detailed of interviewee's organization and role was undertaken.

Case study protocol was also designed and sent to the interviewee before the interview session. This protocol documented all procedures relating to data collection and data analysis of the study. It was used to describe the introduction of study, procedure, guideline, and interviewer's expectation for the results in conducting the interview. It was exploratory in nature. The interview session took 45 minutes and was undertaken at the interviewee's place of work. All interview result were recorded and transcribed for further analysis. Detailed notes were taken and written up and checked with the interviewee for accuracy. Using this semi-structured interview, the researchers attempted to get some important insights and clarify some issues of sharing occurred in this case study.

3. Result and Discussion. The result of interview session with Manager and IT Officer of Service M in University T was divided into three categories, namely; i) shared service implementation stages in shared Service M ii) sharing challenges in implementing inter-organizational shared Service M iii) success factors in implementing inter-organizational shared Service M. The explanation for each category is presented below.

3.1. Implementation Stages in Shared Service M. In implementing inter-organizational sharing of Service M, University T needs to do some approaches to influence other public universities to understand and use the concept of sharing. Since this method is still new for them; University T needs to do some tactical method in managing 20 public universities which have different needs as described below.

(i) Setting Up the Sharing Initiative

According to Manager of Service M, the first way to implement shared service is by convincing other public universities to believe in the capability of University T to provide service namely Service M. Since Service M is part of University T, convincing the other universities is difficult task to do. In this stage, Ministry of Higher Education plays important role in instructing other public universities to follow and use what Service M has to offer. KPI is used as the measurement for evaluation of successful an organization in doing particular activity or achieving the organization goals. It will help University T and other public universities to measure their performance toward service which is being shared. Ministry of Higher Education also becomes main source for financial needs for sharing of Service M. So that, the other public universities and University T can use Service M for free. University T introduces concept, process of shared service, and also new services by conducting a training twice a year for the representatives from other public universities. Located in University T, the training is conducted to teach the representatives what service M has and what are the potential benefits of Service M that they can gained.

(ii) Operational of Sharing Initiative

While the other public universities have join sharing of service, Service M Task Force in University T needs to maintain this sharing arrangement for a long term. It is required to fulfill stakeholder's needs and help other public universities in managing Service M as well as customized services which are used only by respected public university. Service M Task Force should provide strong example followed by proper statistic and explanation if new service is created. Service M is promoted to other public universities by having testifying result. Since Service M is under University T, they use University T as their testing ground. The result of it will help in influencing other universities to adopt and accept Service M. Marketing and promotion of Service M to the end users of Service M plays important role in successfully implementing shared service. This can be done by conducting open competitions and quizzes for all students. Service M Task Force should be able to convince the students that Service M will help them in improving their English skills by giving good responsive, clear feedbacks and explanations about their study materials.

3.2. Sharing Challenges in Implementing Service M. Challenges can be defined as a thing that prevent or block a progress of organizations to achieve their goals. It requires organizations to deal with the challenges that they face. According to Manager of Service M, there are some challenges that Service M Task Force faces during the implementation of its sharing service until today. Eight main challenges were identified, namely; i) Difficult to get partners' trust, ii) Limitation of manpower, iii) Different needs of shared service partners, iv) High requirement for staff skills, v) Requirement for service authentication, vi) Difficult to get cooperation of shared service partners, vii) Power failures, vii) Users problems.

(i) C1: Difficult to get partners' trust

Partners of University T in sharing of Service M are all of public universities and private companies in the country. It needs to spend a lot of time particularly in the setting-up phase. Getting partners' trust will be the first step for Service M Task Force to influence other public universities to use its service. It is difficult task to do especially if it is done only by Service M Task Force itself. As Manager of Service M stated that,

"It was very difficult journey for us at first; to get people to believe that we will be able and we have something to share with them, and then at the same time, to make them allow us to have access to the database of the students. That was difficult task." (Service M Manager).

Because of that, since service provided by Service M Task Force is categorized as a service under e-government, the role of Ministry of Higher Education becomes important in here.

"... but eventually we managed to do it, but we did not do it all by ourselves. It was a lot of interference by the Ministry of Higher Education. Because Chief Executive directed the universities to send data to us, and then he set KPI for all the universities with regard to Service M" (Service M Manager).

Support from top management is very important in encouraging other public universities to join the sharing process. KPI will provide value and clarity in service delivery as well as build confidence of Service M Task Force to fulfill partners' requirements.

(ii) C2: Limitation of manpower

Previously Service M only used by University T. Since the service now is extending to be used by many public universities with different needs, the requirement of manpower to handle the maintenance and development process is increasing.

"I think one of the main things is the manpower" ... "because there is only a few of us here, materials developers only five of us and the rest are non-academic staffs for giving the support in term of IT and graphic, so there is no way we can gather the data of all public universities." (Service M Manager).

But it is not easy to have additional manpower to manage shared service because for maintaining and developing sharing service, it will require skill and depth understanding about how sharing occurs. Sometimes in creating the new shared services entity, transferring staff and rethinking the one who responsible for administrative processes will generate conflict and demand though negotiation which can influence the successful creation of shared service.

(iii) C3: Different needs of shared service partners

A functionality of shared service is required to support the variety of stakeholders and users' needs [13]. Manager of Service M also defined that:

"...the challenges of developing materials itself, with very limited number of staffs that we have, there are only five of us developing materials and there are 20 IPTAs with different needs." (Service M Manager).

(iv) C4: High requirement for staff skills

Successful implementation of sharing a service is determined by high skill of the staffs. It forces the staffs to be more experts and some time they need to be out of their common work positions.

"...and because we create everything in our own, and then we have to sit down and write these materials. And we have to become expert in materials developers and we have to be expert in the language and we have to expert in communication, and expert in uploading materials as well for us to get things going." (Service M Manager).

(v) C5: Requirement for service authentication

There are many out there organizations provide same services. In achieving successfulness in shared service, an organization needs to provide authentication of its service so that there is a point that differentiate it from other services that have almost same goal, same concept, and same process. The organization is required to produce something that can be its own characteristic to attract other organizations to join the service.

“...and not just that, developing materials and we have got to wait because all the materials that we have in Service M are developed by us as in we created everything from square one in terms of description of things, input of things, everything is composed by us” (Service M Manager).

(vi) C6: Difficult to get cooperation of shared service partners

Cooperation of stakeholders and sharing partners will influence continuity of sharing a service. Success of shared service depends on the commitment from all sharing partners whether from users, agencies, and shared service entities [11]. Shared service provider needs to interact with all stakeholders regularly while demonstrates the power of shared service.

“Yes, it is very difficult. In the early days, every six months we had a meeting with the other universities but half of the time some universities did not send their representatives and at the end of the day they are the one who are losing actually. Because they did not come so they did not know what was going on” (Service M Manager).

(vii) C7: Power failures

Power failure is one of challenges that sometimes difficult to be avoided. It is not only the challenges for shared service providers, but it also challenges for the power provider itself. Usually in organization, the team who manages power of ICT will come from different department with the team who provides a service.

“we had never experienced crashes with the other people except in cases whereby is our CICT (Centre of Information and Communication Technology) itself had some power failure, it is not our system crashing but it is more like because there are power failure so it was not able to run our server” (Service M Manager).

(viii) C8: Users’ problems

Users’ problems can happen because of the services have been changed, updated, power failure, or the students who got difficulties in using the services. These problems require shared service provider to have a help desk or help center in assisting users’ problems as well as to improve the system functionally. It also occurs in sharing of Service M where sometimes there is students need assistance for the service problems that happen to them.

“Problem of students who have problems in terms of logging-in.” (Service M Manager).

3.3 Success Factors in Implementing Service M. Success Factors (SFs) are defined as factors that have impact on the level of success experienced. SFs are important for an organization to achieve its mission [14]. Those SFs need careful intention from management because those factors play a role for ensuring successful for organization’s competitive performance [15]. Based on interview session, researchers found that there is SFs influencing the successfulness of Service M Task Force in conducting its sharing process. Five success factors were identified, namely; i) Contents of service, ii) Organization principle, iii) Solid teamwork, iv) Top management support, v) Meet stakeholder and partners’ needs, vi) Provide supportive evidences.

(i) SF1: Contents of service

Contents of service provided will influence stakeholder, sharing partners, and users whether they will use the service or not. There are many services that have same goals, but an organization should think and conduct a sharing of service that has its own characteristics. For shared service provider, it is better to create own concept by learning from best practice rather than fully adopted the same thing from other organizations which conduct the same service. The shared service providers also should know about the service that they want to share [11].

“In the first place, because our focus is one of the futures in Service M, our content is for higher education so as and when we develop materials, it is specific to the needs of students at higher education.” (Service M Manager).

(ii) SF2: Organization principle

There are not many organizations considering their organization’s principle. Organization principle shows the way an organization doing something. Principle of an organization will help an organization to determine the rightfulness or wrongfulness of the action that they take. An organization needs to have its own principle appropriates with its aims and the backgrounds of the team in order to produce successful service.

“one of the criteria behind our success is that we injected a lot of pedagogical principles in learning,

in building of our materials, building of activities, etc.” (Service M Manager).

(iii) SF3: Solid teamwork

A shared service team needs to have a good leader who builds trust and confidence among skeptics. A solid teamwork commits to see the change process through. Some of them will responsible to create entity of shared service, while others will charge for the implementation and maintenance services [16]. Shared service team should focus on jobs and use the challenges and threats occurs in sharing process to be an opportunities to improve the services.

“It was very difficult task to get them to come on board using Service M but as I said this is where teamwork is very important” (Service M Manager)

(iv) SF4: Top Management Support

Top management support plays important role for successful implementation of sharing the service [17]. In e-government sector case, top management needs to set a rule to make sure the sharing is on track, contributes to provide some resources such as money and technology, and sets authorization for each party which involves in sharing process. Ministry may help in ordering the sharing process between an organization and other parties.

“It goes a long way actually to get other universities to go on board to use service M. It was very difficult journey for us at first”... “but eventually we managed to do it, but we did not do it all by ourselves. It was a lot of interference by the Ministry of Higher Education then” (Service M Manager).

(v) SF5: Meet stakeholder and partners’ needs

A leader of shared service is required to have good communication with all stakeholders and shared service partners to keep convincing them to use the services. Shared service staffs also need to ensure all of stakeholders and partners have effective ways of staying of changes and communicating their own needs [1]. As Service M Manager stated that the stakeholder and partners’ needs become the bottom-line of sharing can be occurred successfully.

“To make Service M successful, the bottom-line is for us to be able to meet the needs of the stakeholders” (Service M Manager).

(vi) SF6: Provide supportive evidences

Supportive evidences help shared service provider to demonstrate to its stakeholders and shared service partners that it has good service to be shared and shows the goals and achievement through this sharing. As stated by Service M manager:

“And out of that, during the training I will be doing the selling of ideas to them. So as and when we develop any new things or we discover, usually what we do is we use University T as training ground. If we come across any ideas we try it out in University T first. If it works then when the time for the training that we conduct twice a year, there will be one slot where I will be selling these ideas to them and showing them the statistic of successful implementation of it and after that it is up to them whether they want to adopt it.” (Service M Manager).

3.4 Summary of Challenges and Success Factors on Sharing of Service M. The researchers found that there are some relation between challenges and success factors in conducting inter-organizational shared service based on case study of Service M between University T with the other public universities. The summary shows as Figure 5.

Difficult to get partners’ trust (C1) is the first challenge that organization will face when it wants to do sharing a service. C1 may arise because the shared service partners feel doubt whether the shared service provider may fulfill their needs (C3) or not since this service will be used by many parties with different needs [5, 18] (see no. 1 in Figure 5). C1 also has relationship with some success factors which may reduce the existence of C1, which are i) get top management support (SF4) (see no. 2 in Figure 5) because support from top management is very important in encouraging other public universities to join the sharing; especially, since the shared of service is conducted between different organizations under same top management [5, 19], ii) shared service partners may trust the shared service provider if it can meet stakeholders and partners’ needs (SF5) (see no. 3 in Figure 5), and iii) shared service provider should provide supportive evidences as

benchmark for them to adopt the services or not (SF6) [5] (see no. 4 in Figure 5).

Limitation of manpower (C2) while there is high requirement for staff skills (C4) will be other challenges that relate each other (see no. 5 in Figure 5). As stated by [20, 21] that there can be unbalanced of power concentration and lack of operational flexibility because of problem of staff arrangement in shared service Those challenges require the shared service providers to prove that they have solid teamwork (SF3) to do their job in providing service for other parties. Even though they have limitation in manpower, they are required to be specialists at times of their role and position [19] and be good to do multi tasking and skilling capabilities [22] (see no. 6 in Figure 5).

Different shared service partners' needs (C3) becomes the next challenge that the shared service team needs to face. Those different needs will require different capabilities and work processes that the shared service provider should do [23]. They need to prove that they may meet the stakeholders and partners' needs (SF5) (see no. 7 in Figure 5); it can be done by highlighting the needs for the arrangement using incremental moves even though each of needs is different [18].

One of the success factors influencing sharing partners to use shared service is when those sharing partners know the contents of service (SF1). The willingness to use shared service might increase since most of shared service partners require an authentic service which helps improve their service efficiency and effectiveness rather than service which are most other shared service providers have (C5). The team should create a service from nothing to something and have its own characteristic. Organization principle (SF2) also plays important role in here, because the authentication of a service can be achieved when an organization is provided with strong fundamental truth as the foundation for a system of organization's belief and behavior. Principle of an organization will help an organization to determine the rightfulness or wrongfulness of the action that they take. As stated by [5, 19] that it is very important to understand and know what can be shared and what cannot because not all of services can be shared and not every shared service provider has ability to sharing (see no. 8 in Figure 5).

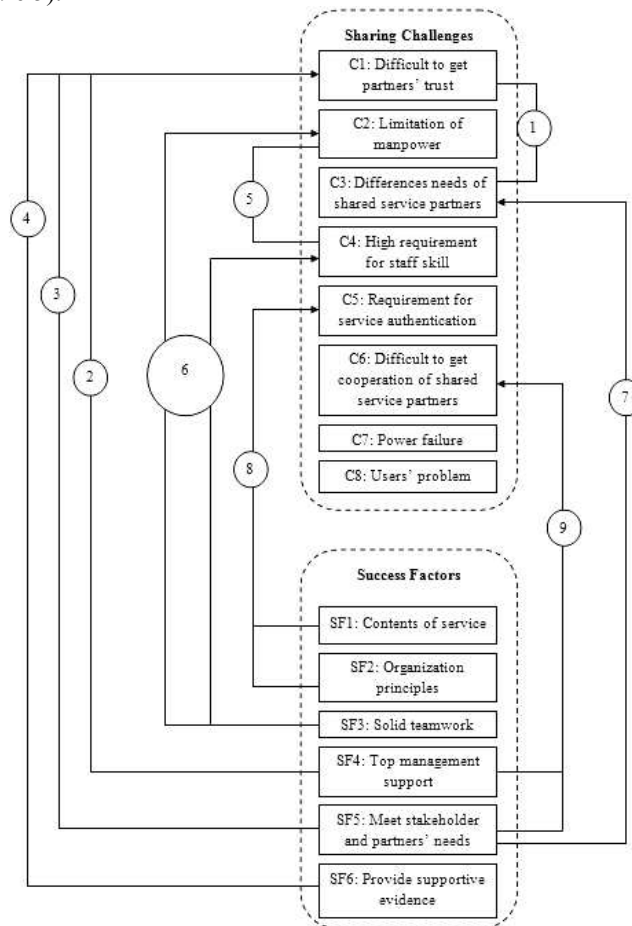


Figure 5: Relation of Challenges and Success Factors of Shared Service M

Difficult to get cooperation of shared service partners (C6) is a difficult thing in maintaining the process of sharing a service on track. It relates with the role of top management support (SF4) to help the sharing process between inter-organization on track [19, 24]. If it is only rely on Service M Task Force itself to keep them on track, it will be difficult task to do. The cooperation in sharing process would also be achieved if the stakeholders and partners' needs can be fulfilled by shared service provider (SF5) (see no. 9 in Figure 5).

4. Conclusion. This paper explained inter-organizational shared service typology concept in e-government. It described the implementation stages, challenges that Service M Task Force faced during the implementation and development of shared service, and success factors in implementing this service. The several challenges are: i) difficult to get partners' trust, ii) limitation of manpower, iii) different needs of shared service partners, iv) high requirement for staff skills, v) requirement for service authentication, vi) difficult to get cooperation of shared service partners, vii) power failures, and viii) users' problems. The researchers also found six success factors that influenced the successful of sharing Service M across the public universities which are: i) contents of service, ii) organization principle, iii) solid teamwork, iv) top management support, v) meet stakeholders and partners' needs, and vi) provide supportive evidences. There might be a limitation toward some information and chance to another issue appear due to this paper used only one case study of implementing inter-organizational shared service in e-government sector based on shared service provider's perspective only. For the future research, multiple case studies can be conducted which enable the researchers to examine and do cross-checking of findings based on sharing partners' perspective. This might provide more sufficient insight into the arrangement and condition of shared service in e-government especially for inter-organizational shared service cases since it requires many organizations to join.

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