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THE DILEMMAS OF SHARED SERVICE CENTER IN TAIWAN E-GOVERNMENT- A CASE STUDY ON MINISTRY OF FINANCE

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Abstract

As one of the internationally leading country in electronic governing, Taiwanese government is facing difficulties in the application of shared service center (SSC), especially the integration of back-office information systems. Taiwanese government is promoting a government organization reform project, being aimed at improving the efficiency and quality of government services. With the advance of reforming, Taiwanese government plans to reinforce the SSC applications in every Ministry. The purpose of this research is through in-depth interviews with the staff in the Ministry of Finance (MOF)[1] *to address the dilemmas on SSC design and implementation. We organized twenty six interviews with fifty five representatives including the staff from different information technology (IT) departments under the Ministry, and Chief information officers from IT industries. We classified the problems into two aspects, organization and system. Through this case study, we not only discovered the dilemmas of SSC development in Taiwanese electronic government (E-Gov), but also realized that electronization is not the major factor for successful system integration; instead the sophisticated organization structure and system management are the main issues within E-Gov..*

Keywords: Shared Service Center (SSC), Back-office information system, Electronic Government (E-Gov.), Ministry of Finance (MOF).

[1] Ministry of Finance of Taiwan is a cabinet level Executive Yuan agency responsible for government revenue, taxation, treasury, government land properties, customs throughout the Free Area of the Republic of China.

1 INTRODUCTION

New technology brings new needs. In recent years the influence of internet has affected many industries, even to the biggest organization like government. And many countries have developed towards electronic governing, attempting to integrate resources to improve the administration efficiencies on public service. How information is collected, processed, analyzed, packaged and disseminated is in itself a specialized industry(Heeks, 2001). Taiwanese government plans to reform the whole government structure to improve the efficiency and quality of government services. As one of the internationally leading country in information technologies, Taiwanese government also facing difficulties in integration of the work flows and resources between cross divisions. How to address the problems to achieve the share services in cross organizations and simplify the operation procedures is challenging Taiwanese Government, and the challenge comes from the trends of E-Gov. and SSC.

1.1 Electronic Government (E-Gov.)

With the rapid development of internet technology, more and more organizational flows are processing on the internet nowadays. In the other hand, the advanced information technology brings more flexible applications to manage the resources, which lead to Centralized Management System. Although cloud computing is not a new technology but which initiate the competitive era of software oriented service. The trend of cloud computing also brings new opportunity to speed up the E-Gov.. E-Gov is defined as to utilizing the internet and the world-wide-web for delivering government information and services to citizens (Administration, 2002). Meanwhile, governments also need to improve their administrative efficiencies with the application of cloud computing, and developed countries are ambitiously developing their cloud computing technology to enhance E-Gov., like Digital Britain project from United Kingdom, Apps.gov project from United States, Kasumigaseki Cloud project from Japan, and iGov2010 project from Singapore to reinforce their E-Gov.. Their main objective in E-Gov. is to share cross organization service and simplify the operation procedures.

E-Gov. includes four aspects (Saha, 2009), Government to Government (G2G), Government to Business (G2B), Government to Citizen (G2C), and Government to Employee (G2E). Among them, G2E use internet technology to achieve electronic management mode between government and its employee. In order to increase the service performance it is necessary to improve the work efficiency of the employee at first. The main concept of G2E is to imply efficiency by using information technology to build up back-office information systems. Therefore, how to integrate the sharing systems to improve the efficiency of government employees and achieve the strong connection between inter-organizations to form a complete service chain is the major fact of E-Gov.

1.2 Shared Service Centre (SSC)

The characteristic of government is high complexity in operation, a large scale of manpower and resources. From 1980, the Ministry of Justice on Netherlands begin to develop the small data center, and spent twenty years to become a mature shared service centre to provide services for prosecutors and judges of the courts (Janssen & Joha, 2006). From1993, the Italian government brought up the idea of information systems services between central and local authorities should be integrated and shared. Subsequently, with the technology progress, the concept of SSC gradually adopted by government administration (Becker, Niehaves, & Krause, 2009).

Developing a SSC means the organization centralize resources to a single organization, and which provide share service to the others, by moving none critical service system to the share centre and allow the other organization can concentrate their core profession. The purpose is to reduce duplicated development of such system, and build up a comprehensive system through a unify investment (Schwarz, 2007).

SSC can centralize the usage of IT resources which increase efficiency and reduce the cost effectively. The concept similar to outsourcing service, which is provided by qualified professional supplier. Corradini et. al (2005) research organized this kind of IT structure bring benefits for the organization (Table 1).

Strategic and organizational benefits	The local units focus on their core administrative process
	Clear control and eliminate local and complicated control of IT function
	Gain access to high quality IT services and skills
	Concentration of innovation and exploit new Technology
	Share risks
	One-stop shop
	Standardize functionality and processes among administration
	Disseminate and impose successful practices
	Reduction of complexity
Political benefits	Enhance credibility
	Solve internal conflicts
	Increase controllability
Technical benefits	Concentration and access to technical and project management expertise
	Poor performance of local ICT staff
	Higher services levels
	Consolidate experiences
	Escape from legacy systems
	Standardization of platforms and application Vendors
	Better information security and authorization by centralizing
Economical benefits	Lower control and maintenance costs
	Accountability of control

Table 1. Benefits on using a Share Services environment (Corradini et. al, 2005)

2 RESEARCH METHODOLOGY

The research methodology which be applied is case study approach with in-depth review. Case study is the appropriate method to investigate the situations in which limited knowledge exists concerning a particular phenomenon (Siggelkow, 2007). They provide a systematic way of looking at events, collecting data, analyzing information, and reporting the results. In case study research, the unit of analysis may be an individual, a group, an organization, or it may be an event or some other phenomenon. It is related to the way the major research question is initially defined and is likely to be at the level being addressed by the question (Darke, 1998). The proposed data collection technique for the case study is through semi-structured interviews, like in-depth review. Bryman (1989) suggested that semi-structured interviews were valuable in organizational case studies, particularly to collect the rich data that this research needs. As a result the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research.

3 CASE DESCRIPTION

This research focus on MOF which is one of the eight main Ministries within Taiwanese government. MOF include eight departments, thirteen divisions, and eight sectors. In this research we organized twenty six interviews with fifty five representative. All in-depth interview has been recorded and documented to text for further analysis. The interview list as shown in Table 2.

Interviewed departments		Times	Representative
Finance Data Centre (FDC)[2]	Second Division	2	3
	Fourth Division	6	7
	Fifth Division(Information Security and Control Task Force)	2	3
	E-learning	1	1
Department of Information Management, Directorate General of Customs[3](Senior Auditor, First Section, Second Section, Fourth Section)		2	11
Office of Computing Information, National Property Administration		2	4
Accredit team (MOF headquarter, National Treasury Agency, Taxation Agency)		1	1
Division of Information Management, Taipei National Tax Administration		1	9
Administration of System, Taipei Revenue Service		1	5
Others	The Research, Development and Evaluation Commission(RDEC)[4], Executive Yuan[5]	1	1
	Information Management Center, Ministry of Transportation and Communications[6]	1	1
	Directorate-General of Personnel Administration, Executive Yuan	2	2
	I-S information Co., Ltd	1	2
	Galaxy Software Services Corporation	1	2
	Trade-Van Co., Ltd	1	2
	Digitware System Integration Co., Ltd	1	1

Table 2. Interviewed departments and its representative

4 ANALYSIS

Interview result shown less similarity between each organization, even they wish to share the information in the future, each organization still have their own concern. Herein, by organizing the gathered information, current status and problems observed during the interview, we classified the problem into two aspect: organization and system.

4.1 Dilemmas for organization

- Different organizational structure

Observation from the interview shown that similar system under different organization rarely share the information. Each organization is managed by different level of authorities. According to the interviewed department, the OA system seem to be very complicated and distributed through different level of departments and managements. The system under each organization provided by different supplier and supervise by different administration level of managements, so the integration of the system and information between different organization is not very common. The possible reason is

2 The Financial Data Center (FDC) under the Ministry of Finance is expected to serve the goal of offering the public convenient and prompt service by adopting information and communication technology.
3 The Directorate General of Customs is the enforcement agency of customs administration under the MOF, Taiwan. It takes charge of collection of Customs duty, smuggling prevention, bonding and duty drawback, trade statistics, building and management for aids to navigation and entrusted taxes and fees collection, as well as enforcement of government control.
4 The Research, Development, and Evaluation Commission (RDEC) is a branch of the Executive Yuan of Taiwanese Government. The commission is responsible for policy research and development, policy planning, policy supervision and evaluation, government's IT management, circulation of government publications, archives and other tasks assigned by the prime minister.
5 The Executive Yuan is the executive branch of the government of Taiwan.
6 The Ministry of Transportation and Communications is charged with administrating all aspects of transportation and communications within Taiwan.

they do not have centralized contact window which link and communicate each organization so they have very less chance to exchange resource and information.

"*At 70's Finance Department have no IT personal, they were accredited by the Ministry, after 78's we had the budget for our own IT personal, although the policy is not allow for IT department, but many exceptional statute lead to current development(each organization have their own IT personal, current structural distribution.).*"

- The lack of experience in cooperation

We also observed that each organization is willing to cooperate with another, but due to these organization are not familiar with each other's operation and available information, which unable their proper application of resources, therefore even they want to collaborate they don't know how.

"Revenue Service and National Tax Administrations have many information to share, current communication on tax reform does not seem smooth, if we cannot access the National Tax Administration information instantly the quality of service will go low. If we interact and communicate more frequently with each other, may be it could achieve certain level of information sharing."

- Leadership

Ministry of Finance is the head of all finance department, but the communication in information affair have no centralized leading unit for information resources, which could conciliate and harmonize the IT business of all other department under the Ministry. During the interview, all other department assume Financial Data Center as the leading IT department under MOF, but currently Financial Data Center is not authorized for all IT business, which is only granted to examine massive IT budget. And after Executed Yuan announced manpower downsizing policy, caused insufficient manpower on understanding each unit's IT business operation and enthusiasm to develop SSC application. So Financial Data Center can only verify and approve the budget according to each department's need, but they cannot perform long term management on the whole IT system.

"We hope a better interaction with FDC, current condition is likely to match with all requests under the pressure of auditing, theoretically FDC have better manpower resources to exchange knowledge, for example I have no idea on RFP and someone who have this knowledge can teach the whole department."

"FDC won't clearly know what's going on with other departments, we only audit the case which exceed 10 million, Taipei city as an example if they don't have the budget for current year, and with the operational need they have to do it anyway."

- Process flow not standardized

In the past, every organization manage their own IT operation, therefore the design of the IT system is based on their own process flow, this lead to the same administration process from different organization have different procedure and process flow. Which is not standardized. Even the developing projects appear to start without standardization.

However, how to define the process standardizing is an important issue, different organization have their own requirements, bottom to top design consideration will have difficulties due to the unfamiliarity on administration process and different application habits, there will be some deviations while implemented to the system. Therefore, if the leading department develop a mature system with reasonable process flow as a prototype and then communicate with other user organization to optimize and finalize the functionality of the whole system, which should be able to reduce the failure factors in integration.

"Process standardization need to define by managements first and optimized according to user requirement, all the integration has to be done internally before outsourcing the project to the vendors. "

- Enterprise Architecture (EA) not unify

Enterprise Architecture (EA) is a special field of actual developments on information technology (IT), system architecture design and applications, which could establish a common IT architecture for the

large organization like Government. By conducting IT investments with detail descriptions and analysis for the government to carry out an effective IT planning, strengthen the cooperative relationship between different organization in order to enable the government operation more efficient and solid. During the interview, we tried to clarify the IT investment decision making chart between the departments under MOF by referring to John's (1997) EA structure (Figure 1), but discovered that in recent years each organization has adopted the outsourcing policy for their IT system, which lead to a fault in the structure, only piece together the top two level executive (Planner's view), owner (Owner's view) and the bottom two level integrator (Integrator's view) and user (User's view). The IT personal gradually lose the designer (Designer's view) and developer (Builder's view) position within the organization, losing control to the core technology and working as a project managing staff. Although IT project manager is not necessarily to have IT background to be capable of communicating with the vendors or users, but in long term, without these core technologies that organization lose the control of their own IT system.

"IT personal spend too much time dealing with project management problem, instead of developing the ability of core technology. Although they have IT background, with the lack of development, they will lose the control ability on system's core technology, without centralized management on the system."

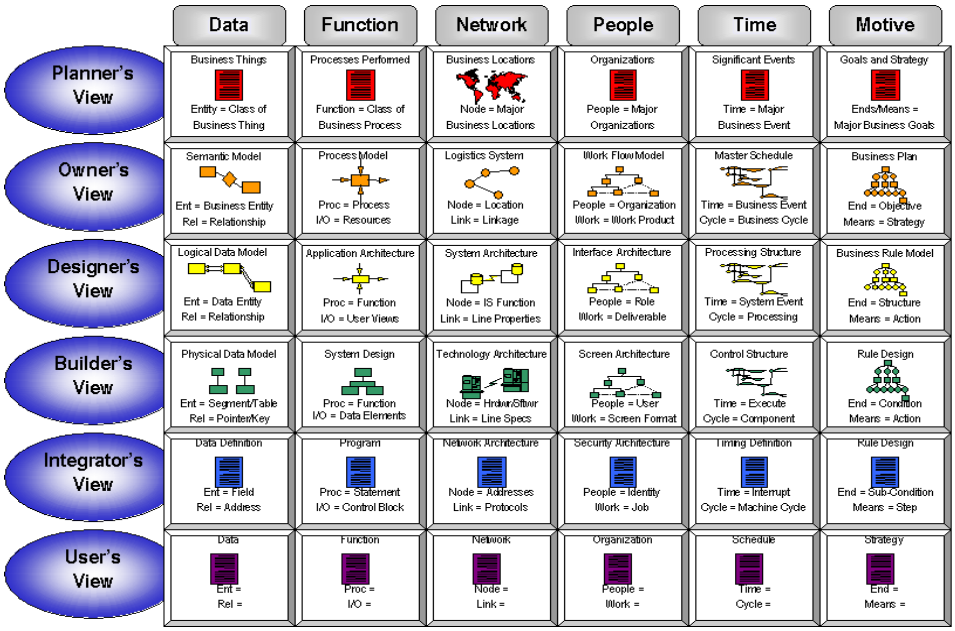

Figure 1 Zachman Framework (John,1997)

Furthermore, even each department's IT investment decision is managed by executive and owner, but there is no centralized department to judge each department on massive policy planning as well as centralized budget auditing, only large scale investment plan go centralized to upper management and a third party (such as Institute for Information Industry, IBM, etc.) to assist the evaluation, the rest of the small projects are decided by project group or by the organization itself. This resulted in overall IT system structure separated and duplicated over time.

"Without centralized audition mechanism, it is difficult to prevent the duplication on hardware purchasing or software developments."

4.2 Dilemmas for System

Classified according to each organization's current condition, we observed that all interviewed department belong to the Ministry of Finance, but the system structure of each department is managed by their own, there is no share service applications between them, which resulting in repeated resources, manpower and budgets for the same system development.

- Duplicated system development

Document system, for example, due to the new policy of RDEC there are two online document sign-off system and management system at FDC, and another three document system operating within MOF.

"Sometimes, it is not a technical problem but the schedule planning problem."

- Different system complexity

Human resource, payroll, treasure, travel and attendance system have highly dependency to each other, therefore we classify them in the same category. The observation from the interview found most of the departments have direct or indirect connection with the granting system, such as Pemis2K, GBA, etc.. An overview on such systems seems to have no problem on sharing information, but due to the particularity of different organizations, which make two of the six interviewed organizations cannot share their information with others. One is the Directorate General of Customs, due to the profession requirement, Customs officers have to work by shifts, so their system need additional function to handle the shifts, this system cannot be shared and no economical benefit at all. The other organization is the Taipei Revenue Service, which is a local tax unit, although the tax operation is closely connected to Financial Data Center, but according to the principle of local autonomy, manpower management belong to local authorities. Due to being part of the local authority the system can link and share service with all related departments, this statement lowered the development and maintenance cost. But without sharing means that the information cannot be integrated, therefore how to share the system between operational connection and manpower resource management had to be considered to meet the balance point of system service sharing.

- Low application on system function

In all organizations, knowledge management system is still at under developing stage, after tax reform, National tax administration and Revenue Service will build up their own knowledge management system, the Directorate General of Customs will also complete their package implementation. But National Property Bureau and the Ministry of Finance have no plan for this system.

"We don't have it, our website have some discussion forum without scoring, and not so many people sharing their knowledge, documents are placed in the local area network."

- Waste of system hardware resources

All finance department have their website, mainly provides information for public. The system is relatively simple and common, since the website is for public access which have less limitation so this can be considered as common sharing service. One is the integration and sharing of system hardware, which save the operating and maintenance cost, but risky. Another by sharing the platform and managed by a centralized organization which provide a website template or design for all others. This can save the development and maintenance cost for each organization to build up their own and keep the system design with less deviation. In addition, by sharing website platform the whole organization can establish a unify public window to provide better quality and convenient service. This kind of sharing service must also retain certain flexibility for user organization, so that they can perform maintenance and modification.

"Website integration is a good idea, balance loading, several website can operate on the same server, this is the share service of hardware and software architecture can be expended ."

5 CONCLUSION

The purpose of this research is by in-depth interview with the staffs in the field of Ministry of Finance (MOF) to address the dilemmas on SSC design and implementation. Therefore, by interviewing the staffs from different information technology (IT) departments under the Ministry, meeting with the Chief information officer (CIO) from IT industries, to realize the status, characteristics, and operation within the organization, we organized twenty six interviews with fifty five representatives. We classified the problems into two aspects, organization and system. Through this case study, not only by understanding the dilemmas of SSC development in Taiwanese electronic government (E-Gov.), but also discovered that electronization is not the major factor for successful system integration,

instead the sophisticated organization structure and system management are the main issues within E-Gov..

It is obvious that the establishment of SSC can save repeated consumption of resources, which enhance the administrative control of authorities, and it improve the administrative efficiency of government employees according to the experiences of other organization or aforementioned domestic and international trends. Ministry of Finance, one of the most important and biggest department having massive resources in budget or manpower, which have the potential to develop the first share service centre to lead other organization and build up a leadership role model for the fourth generation of e-government in Taiwan or Asia.

References

Administration, D. f. P. E. a. P. (2002). *Benchmarking E-Government: A Global Perspective*, Assessing the Progress of the UN Member States: United Nations.

Becker, J., Niehaves, B., and Krause, A. (2009). Shared Service Center vs. Shared Service Network: A Multiple Case Study Analysis of Factors Impacting on Shared Service Configurations. *In Proceedings of EGOV'09 Electronic Government 8th International Conference* (Maria A. W., Hans J. S., Marijn J., and Roland T. Ed.), p.115-126, Linz, Austria.

Bryman, A. (1989). *Research methods and organization studies*. Boston: Unwin Hyman.

Corradini, F., Forastieri, L., Polzonetti A., Riganelli, O., and Sergiacomi A. (2005). Shared Services Center for E-Government Policy. *In Proceedings of eGOV INTEROP'05 1st International Conference on Interoperability of eGovernment Services* (Benamou N. Ed.), p.140-152, Switzerland, Geneve.

Darke, P., Shanks, G. and Broadbent, M. (1998). Successfully Completing Case Study Research: Combining Rigour, Relevance and Pragmatism. *Information Systems Journal*, 8, 273-289.

Heeks, R. (2001). *Reinventing Government in the Information Age: International Practice in IT-Enabled Public Sector Reform.* New York: Routledge.

Janssen, M. and Joha, A. (2006). Motives for Establishing Shared Service Centers in Public Administrations. *International Journal of Information Management*, 26(2), 102-115.

John, A. Z. (1997). *Concepts of the Framework for Enterprise Architecture: Background, Description and Utility*. Zachman International.

Saha, P. (2009). *Advances in Government Enterprise Architecture*. PA: Information Science Reference.

Schwarz, G. (2007). Shared Service Center. RAR-103 Prof. Jerry Mechling Paper, *Harvard University Kennedy School of Government.*

Siggelkow, N. (2007). Persuasion with Case Studies. *The Academy of Management Journal ARCHIVE*, 50(1), 20-24.

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