IT Outsourcing in Government Organization

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Abstract

The purpose of this research is to study the needs and to seek appropriate ways to manage IT Outsourcing for public organizations.   Information and data for the study and the analysis derived from 4 sources in 4 aspects as follows:-
1.　Aspect on Service Users (public organizations)
2.　Aspect on Service Providers (private companies who offer IT Outsourcing services)
3.　Aspect on Policy identification for IT Outsourcing in Foreign Countries (Case study on the Government of Australia and Japan)
4.　Aspect on Vision and Recommendation from CIO and the Directors of Computer Centers of Public Organizations
The information shows that IT Outsourcing is very well necessary in public organizations. The main reasons are due to the scarcity in IT personnel in both quantity and quality. The research shows that the key factor for success in applying IT Outsourcing is the appropriate administrative and management system.   It is therefore, necessary that the Government clearly identify policy and guideline for IT Outsourcing for efficiency and effective implementation. The researcher has studied the administrative and management policy on IT Outsourcing of the Government of Australia and the Government of Japan.   The researcher has also collected opinion form CIO and the directors of Computer Software Training Centers in public organizations. The researcher finally offers strategies for managing IT Outsourcing in public organizations, which is suitable for the Thai society.

1. Introduction
1.1 Rationale

At the meeting on June 17th,1997 the Cabinet had approved a Master Planon Public Sector Management Reform that covers the year 1997 until the year 2001. Under the plan, the principles improvement of roles, mission and size of the government organizations   were   identified.   The improvement included the adjustment of the number of the government officials, the reduction of size of the government organizations, the reduction of process and step of work to be shorter and more precise, the reduction of number of staff with higher capability, the reduction of work through decentralization or outsourcing to private sector. The target was to reduce the government officials by 10% under the 8th National Economic and Social Development Plan (1997-2001) and by 20% under the 9th National Economic and Social Development Plan (2002-2006).

Regarding all those matters the Committee for Public Sector Management Reform, Office of the Civil Service Commission has supported the research on "The reduction of public manpower: IT

outsourcing in the government organizations"

1.2 Project Objectives
1. To investigate the possibility of IT outsourcing in the government organizations.
2. To investigate the type of job in relation to IT that could be outsourced.
3. To investigate the readiness of outsourcers who could perform IT job of the government.
4. To investigate the form, mechanism, and method of IT outsourcing.
5. To adjust the size of IT manpower in the government organization to be suitable for the available job as necessary.

1.3 Project Aims
1. To acknowledge problems and difficulties in conducting IT outsourcing in public sector.
2. To gain wider vision on IT outsourcing implementation in the global community.
3. To gain principles and ideas relating to policy and implementation guidelines on IT outsourcing in public sector.

2. Detail Operation
2.1 Research limitation

The project will study Information relating to IT outsourcing in current government organizations ranging from 1996-2000
2.2 Source of Information
(1) Source of Information on IT service usage of the government organizations

The government organizations that will use IT services are 83 Divisions from 13 Ministries.
(2) Source of Information on IT outsourcing services from IT firms IT firms especially the private company who provide IT outsourcing services. Such firms are located in Bangkok and the Metropolitan areas. The project received all information

from 33 firms
(3) Source of Information on IT outsourcing usage of Australia government organizations.
(4) Source of Information on IT outsourcing usage of Japan government organizations.
(5) Source of Information in term of vision, attitude, and policy on future IT outsourcing implementation The information will be collected from CIOs and a director of computer center of each department.

Data collection is mainly through interviews each department using verbal questions and standard questionnaires.

3. Data analysis
3.1 IT outsourcing status in Thai government organization
The survey of IT outsourcing usage of some government organizations and services provided by the outsourcers could be concluded as follows:-

During the year 1996 until 2001 about 71% of the total departments as studied used IT outsourcing method. However for numbers of IT work being used currently in each department about 66% came from IT outsourcing services. Among popular IT outsourcing jobs were Information Technology System Development, which accounted for 85%, Network System Development such as LAN installation and procurement of hardware and system software, accounted for 20.25% and Computer System Maintenance especially on Hardware parts accounted for 10% of all departments.

The reason of why IT outsourcing became popular was mainly due to the scarcity of IT personnel on both quantity and quality. From the survey it was found that there were only 56% of IT personnel in the computer centers and there was as few as 0-2% of IT personnel in some other departments. In addition the existing IT

personnel, many of them did not graduate in IT fields so it was quite difficult to create IT work using internal IT personnel. In addition Information Technology changes very rapidly so it is even more difficult to conduct IT personnel development and create modern and well knowledge organization to response to such change. From the survey it was also found that the external vendors (the outsourcers) were much more ready with high potential personnel especially the knowledge and skills on modern Information Technology.

Although the government organizations were highly in favor of IT outsourcing services, in other word they could not avoid the usage of the services. However, one could not say that they all success in using Information Technology through the service of IT outsourcing. It was found under the survey that the government organizations (the users) were satisfied with the service at the level of 3.5 to 3.8 (from the full score of 5). The level of satisfaction could be interpreted as quite good but when interviewed it was found that such score occurred because they could not say that the system was not good at the stage of acceptance. The main problems in term of acceptance were as follows:-

1. Term of references (TOR) as written were not clear, vague and did not cover the type of job that requires completeness and hence create an error.

2. The procurement rules and regulation did not support or facilitate the execution of the work.

3. The budget received was so little that they could not hire qualified outsourcers or not sufficient to create suitable work.

4. The lack of continuation of the administrative level that sometimes the project was abolished and could not finish.

3.2 Policy and status of IT outsourcing usage in Australia and Japan
3.2.1 Australia

In 1991, the Australian government has set the policy to support IT Outsourcing execution for Commonwealth agencies. It is anticipated that the system will provide the highest benefit in term of cost effectiveness and efficiency. The procurement of IT outsourcing in both goods and services has to follow the Commonwealth Guidelines that it has to be transparently competitiveness and support the country's industries. Although there were changes in the Commonwealth Government, they still continuously support public using of IT outsourcing. The support included the following;-

1. To support IT outsourcing in the Commonwealth agencies only for infrastructure development that was similar to computer network system development. The Government will not support information system development to protect country's security and safety.

2. Establishing OASITO (Office of Assets Sales and IT Outsourcing) in 1999 to look after and to support procurement of IT Outsourcing service in the Government agencies. OASITO will look after the project since the initiation of IT Outsourcing until the contract was completely signed. The emphasis was on a project that was the sharing among many agencies to create negotiation power with the outsourcer and to create the usage of the same standardized technology in many agencies.

The Commonwealth Government will set the national policy that each agency could apply for its suitable implementation. The South Australia Government has entered the contract with EDS (Electronic Data System) to provide IT outsourcing service to 73 public agencies in the region. Under this IT outsourcing contract, the Australian government could reduce the cost on the first year for such service by 12

million Australian dollars. In addition about 200 personnel have worked with EDS and hence reduce over staff problem in the government agencies.

3.2.2 Japan

The Government of Japan set IT outsourcing policy in 1997 and it had been very well developed continuously since then. The Government, in particular, plans to move forward to be E-Government in the year 2004 so it is necessary to have information system together with wider consistence and effective use of information technology in every government organizations. IT outsourcing is then an important way to rapidly create quality information to be ready for co-implementation in 2004. The Ministry of Administration and Home Affair played the role of the committees, who set principles, policies, and guidelines for IT Outsourcing. The main contents being used presently could be concluded as follows:-

- Outsourcing Criteria by Function, which is the identification framework of the staff's role of both the purchasers and the outsourcers in every step of information system development ranging from the initiation of the project until the implementation of the system.

- Efficiency of Outsourcing and Effective Application, which is the policy to carry on IT outsourcing for total information system development not in partials or to separate each step.

- Security Considerable, It is necessary to consider the disclosure of information including the plan to prevent stability and safety of secret information.

- Enforcement of in-house Skill, there exists policies to support staff development in both information technology and knowledge about project management.

In addition the Government of Japan emphasized on the usage of international Standard on theories,

techniques and tools on the implementation of the project such as tool or technique for project assessment, technique on quality control of the job system , for example, CMM (Capability Maturity Method), ISC 9000, Standard of Quality Management System etc.

Most of government organizations have used IT Outsourcing at the rate of 60-70% of their own IT work with increasing tendency. Many of such organizations have used IT Outsourcing for information system development. The system in Japan will include Hardware and Software at the same time. In addition IT Outsourcing has also used for maintenance and operation.

In the evaluation of success of the system regarding the capability to work as required it was found that the success was as high as 95%. Various organizations have carried out IT Outsourcing using IT Outsourcing theory as fundamental concept together with international standardized tools. In addition Japanese entrepreneurs are high potential outsourcers so the work outcomes are complete with high quality.

It was noticeable from the statistical survey on public man powers that when IT outsourcing are gradually increasing the ratio on IT/IS staff in work system development (System Engineer, System Analyst and Programmer) are decreasing when compare to the staff on Information Technology Management.

3.3 Attitudes and Ideas from CIOs of Public Organization

The ideas getting from CIOs and the directors of the Computer Centers in Public Organizations could be concluded as follows:- " It is necessary to make available the effective Information Technology so the Government has to seriously support such initiative. Under the Policies the procedures and standard guidelines for implementation has to be set concretely. In addition there have to be the adoption and development of public staff to gain

knowledge and skill in undertaking IT Outsourcing work. Moreover the position of staff has to be clearly identified and to be suitable for IT work."

4. Recommendations

Information Technology is considered as one of the key factors for country development. It is an essential mechanism to move forward the management and implementation of various work of the government to be comparably effective as in any other countries in this Digital E-Commerce period. Every government organization has to have effective information technology and to use up to date technology with standardized system that information could be smoothly transfer and work could be favorably cooperate among each other's.

The Government, therefore, has to seriously and concretely support IT Outsourcing in the government organizations with the following recommendations:-

4.1 Organization Management and Roles

The Government should establish an organization that responsible for supporting public organizations that wish to carry out IT Outsourcing. Such organization should have the following obligations:-

4.1.1 To Set policies and principles for IT Outsourcing

From the information collected Thai Public Sector should set the principle and policy as follows

- The Principle and Policy on Information Technology Development

If it is the Back Office type of job such organization has to be responsible for Central Software Development and let any other organizations use the software developed. The development as well should use IT Outsourcing method and the system as developed has to be flexible enough to be applicable for used in any government organizations. The organizations should includes

Office of the Civil Service Commission develops Information Administration system on Civil Services.

Office of the Prime Minister develops Information Administration System on Procurement and General Administration.

The Bureau of the Budget develops Information Administration System on the country budget.

The Comptroller General's Department develops Information Administration system on Accounting and Finance.

This recommendation aims to reduce the cost on procurement for such developments that various organizations have to do as well as to promote the share of use among organizations. In addition they could send any documents or report to the central authorizations at the same standard.

For Front Office type of job, which will be specific following the mission of any particular organization, the government should let such organization run their own and whether to use IT Outsourcing or to develop by themselves should depend upon potential and capability of each organization.

- The Principle and Policy on Network Development or IT Outsourcing on Infrastructure

Such work should adopt Outsourcing process and should include Maintenance system to guarantee clears Usability. The reasons are that technical personnel on Network are very least and if let internal organization to run the process there might be some difficulties on personnel, quality and quantity. However, there should be some personnel capable of fundamental maintenance. It is always found that some organizations at the departmental level in the same Ministry or different Ministry require the same infrastructure. The example is that The

Comptroller General's Department has finance offices located in every province and those finance offices has to coordinate directly with the Department in Bangkok. As well as the treasury units in the provinces have to coordinate with the Treasury Department in Bangkok. It is then necessary that Infrastructure on Computer Networking be established so provincial organizations could coordinate and link with the central government effectively. It is also obvious that the requirements on computer networking for these two departments are the same so the development project should be just one for procurement in order to reduce the cost and they could share the expenditure and resources as well as the applications. Moreover the share of application will lead to the same standard that could also support E-Government.

- The Principle and Policy on Maintenance of Hardware and Software

In principle of requirement that IT work system has to be ready for immediate use, it is necessary to carry out maintenance and improvement and modification of the system to be response to form of work and information technology that could be change rapidly. The government organizations that want to maintain the system by their own, the factors of success will be the potential capability, the size, and the extent to which the work that has to be done. If the systems are quite small they could do it. At the departmental level they might as well undertake a maintenance project for every division because information technology has to coordinated and to be linked together for the standard of work and readiness in every part. To prevent any problems in the future those who responsible has to considered the possibility.

- The Principle and Policy on Work Operation

Even though there is quite small number on IT Outsourcing for this purpose, but when considering the appropriateness (to get more effective work than to do by its own), providing that such system selected will not have any effect on Security and Privacy, IT Outsourcing will help reduce the work which is not the main function of the department. In addition using IT outsourcing will also response to the policy on Public Sector Management Reform to get the public organizations to be at appropriate size with flexibility and more effective.

4.1.2 To Identify Implementation Steps Including Technique and Tools

- Implementation steps including technique and tools on bidding documentation

In the past most of the problems encountered were unclear Term of Reference (TOR) for the required system. The contract was also vague and did not cover any unexpected cases that could affect the result of IT outsourcing. The recommendations are as follows:-

In writing TOR, which is the detail specifications of the required system, one should identify clearly the requirements in term of required Output/and or Outcomes rather than technique or technology because the real need is the output of the work system. The internal staff or the job owner or those who use the services will know exactly the required output. When output requirement was clearly stated then consulted with technical consultant to write on technical ground. However the technical consultant shall not be the outsourcer who will come for bid.

In writing TOR or the Contract one has to consider any changes that may happen during the implementation of IT outsourcing due to the rapid changes of technology as well as the changes on steps of implementations or the changes on policy. TOR and Contract has to have room available for improvement or

modification that response suitably and correctly to those changes on both size.

In writing TOR and contract there should be some standard criteria to be used as a guideline and every government organization should have the same standard criteria. In addition it should state clearly that TOR should comprises any topics, details of each topic with clear examples. TOR might be in many forms depending upon the type of work using IT outsourcing. Contract writing should be in the same way as in TOR.

- Implementation Steps Including Technique and Tools on Pricing of Work

The Government should pay more attention on pricing because each year the Government has spent much more budget on IT. If it is not cost- effectiveness the budget is lost considerably especially under the budget crisis at present. In order to guarantee the suitable price for procurement as well as to prevent any outsourcers to take advantages by over pricing, the Government has to set the policy on pricing by urging the usage of standard techniques or tools in pricing such as COCOMO (Constructive Cost Model) or Function Point Analysis. All these standards required because IT system especially on the part of Application Software budget price could not be pre-set as any other equipment.

- Implementation Steps Including Technique and Tools on Evaluation and Quality Assurance

In order to get quality and efficiency Information Administrative System, the Government should set the guidelines on quality assurance. Quality assurance on IT Outsourcing is not taken into consideration only at the acceptance or evaluation of the completion of the system but it has to include implementation methodology, manual, output attribution. Example of international standard tool for quality assurance includes CMM (Capability Maturity Method), ISO 9000,

ISO/IEC/15408

4.1.3 To Undertake Project Management Services

IT Outsourcing project shared by many organizations such as IT Outsourcing on Infrastructure work among finance offices in the provinces that have to link with the Comptroller General's Department, and provincial treasury has to link with the Department of the Treasury in Bangkok, coordination system is very essential. The coordination has to take into consideration what suitable for the system such as the share of the usage, the share of expense, and the share of management in order to reduce the repetition of work and to reduce the cost, furthermore it will lead to the existence of more standard of work in terms of techniques and management.

4.1.4 To Provide Information and to be a Reference Source

The Government should have its own WEB Site to provide information on IT Outsourcing in various public organizations. Such information includes name of outsourcer who has been contracted, project name, types of problems and difficulties, how to solve such problems and difficulties, any problem regarding the contract and how to solve such problems, the solution regarding such solving whether it is success or not.

4.2 Personnel Management

From the study it is obvious that carrying out IT Outsourcing could not reduce the number of IT/IS personnel in public organizations but there will be some impact that there is an effective information administration work system to help management operation of the organization. It might possibly reduce personnel in the other department that IT help facilitate the work to be easier and quicker such as the work on tax receiving, in stead of being done by the staff of the Revenue Department it will be outsourced in the

form of work operation for the service provider on Hardware/Software/Personnel and place. The Revenue Department just receive all information and amount of money received so the staff in this organization could be reduced

There is small number of IT/IS personnel in the government organization, even IT Outsourcing was introduced the problem on IT/IS personnel still occurred. When one questions about problems and difficulties as well as factors of success and fail in carrying out IT Outsourcing, personnel is usually one of the key factors. It could be implied that the personnel have to be suitably allocated and ready to do IT Outsourcing. Information from Japan shows that when IT Outsourcing was increasingly introduced the ratio between personnel on IT/IS was really change. The proportion of personnel on IT Development (System Engineering and Programmers) is reducing compare to personnel on Information Technology Management (Planning and Management) So the preparation on personnel especially personnel on IT/IS in public organization should be considered seriously in both the line of work and position occupied. The form of training to be response to IT Outsourcing because using of IT is gradually increasing so the development of the country to be internationalization or to be E-Government personnel is the most important factor.

5. Conclusions

For Thailand, regarding the point that there should be new organization for IT Outsourcing or to consider improving mission of the existing organization to be response to IT Outsourcing management is the Government decision. The Government should study the appropriateness and to undertake feasibility study considerably. However this organization has clear mission to identify IT Outsourcing usage policy in public

organization. This organization will be the gear to move forward and support concretely various aspects as already mentioned. It is also important that this organization has the role of support not to control or to examine.

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