

E-Government Project Implementation: Insight from Interviews in Vietnam

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The government of Vietnam perceives e-Government as a powerful enabler to achieve the target to build a “government of, by and for the people. Thus, from 2001 to 2005 the government implemented Project 112¹, which had 10 times investment fund compared to the previous project. However, in April, 2007 the Prime Minister halted the project. In order to assist the Vietnam Government moving forward with future e-Government projects, this paper applies a new theoretical framework to investigate the failure of Project 112. An incompetence organization handling a multi-dimension project led to the low e-Government application quality. The low quality of e-Government applications resulted in the low level of actual usage, intention to use and user satisfaction. The project organization did not attempt to correct and control the flaws. Thus, the feedback loop continued and further depreciated the user satisfaction. Finally, the end-users together with the media pressured on the State to audit the efficiency of Project 112. Besides, unreformed public administration system and untrained human resources were also found having negative influences on e-Government projects. Findings of this study are bases for the useful lessons in implementing e-Government projects. In addition, a new framework developed by this research can assist other countries in understanding the failure in order to implement the next e-Government projects more successfully.

1. Introduction

ICT⁴ has been being used in the Vietnam public sector for more than 20 years and the advent of the Internet has given this usage more than just a new name-e-Government-and a higher profile. During last 20 years, 4 projects have been implemented: two of which were financially supported by the French Government (in the 1991–1993 and 1994–1996 periods); one invested by the State budget (a part of the national IT program, period 1996–1998); and the other under the Prime Minister’s Decision in 1997. However, the achievements were still very limited. Going along with the new trend of e-Government in the world, in 2001 the Vietnam government decided to start the new project (Project 112) which was considered as the milestone for e-Government in Vietnam. Unfortunately, in April 2007 Project 112 was halted.

Indeed, this phenomenon has not only occurred in Vietnam. The chief information expert of the World Bank indicated that “among the e-Government projects in developing countries, according to estimation, 35% totally failed, and 50% partially failed. Only 15% can be considered completely successful”(cited from Hu et al., 2005). Obviously the benefits of e-Government (*i.e.* transference, efficiency, participant as defined by OECD,

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2003) could not be delivered to its stakeholders if the failure occurred. Further, failures come at a higher price for the world's poorer countries since their resources are limited and the wasteful capital should be invested in the other profitable projects.

The knowledge, experience and insights gained from these failures will help reduce the frequency of e-Government project abandonment and improve the practice of e-Government development. Organizations will benefit if they learn from the past in order not to repeat their mistakes (cited from Pan et al., 2008). Therefore, in this research, the authors attempts to combine the different views of previous research in a framework (taxonomy) of e-Government failure in order to have a comprehensive explanation for the failure of e-Government projects in Vietnam. This attempt is to correlate and to add new dimensions to e-Government project failure analysis which would improve the reader's understanding of this section.

The paper is organized as follows: we first summarize the three theoretical bases for this research: IS failure, evaluation and citizen-centric e-Government approach; and then a conceptual framework is formulated. Next, we explain in detail why qualitative research methodology is selected as the most relevant research methodology for our research. A *constructed-case study methodology* is illustrated within the context of Project 112. The analysis of interviews assists us in finding the main reasons of unsuccessful Project 112. We conclude by highlighting the implications of our findings for both research and practice, with suggestions for future research.

2. Exchange relations model in Information System and e-Government

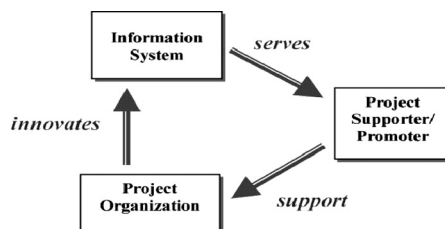
2.1. Information System

Sauer (1993) argued that, a system should be considered as a failure named *termination failure* only if the system cannot attract support in resources to continue. He develops a model of three main components: the information system, the project organization and its supporters. The information system relies on the project organization, the project organization relies on its supporters, and the supporters depend on the information system. If there are problems or 'flaws' in any of the relationships, then it is likely to have a negative impact on the project, leading possibly to failure or termination.

2.2. E-Government

Although there are different concepts of e-Government, the crucial elements of all the definitions are the ICT applications, government structures and public services. The main idea of all e-Government definitions is governments use ICT as the tools to facility

Figure 1. The triangle of dependencies



Source: why information system fail: a case study approach, Sauer, 1993

them in serving citizens effectively and efficiently. Information Systems are considered as the basic foundation on which e-Government applications are deployed. In developed countries, public administration computerization started before the boom of Internet and created a concrete background for developed countries to provide online services. On the other hand, developing countries are slower in the computerization process. Hence, they usually combine three targets: computerization, public administration reform and online services into one e-Government program (three in one). In other words, e-Government and e-Commerce are the applications of information system in the public and private sector and then e-Government and e-Commerce theory should be developed from the information system theory. For example, DeLone & McLeno (2004) developed their e-Commerce Success Model from their previous Information System Success Model. In Vietnam, the executive board of Project 112 also considered establishment of information systems, databases and integrated data centers as the first priorities to move Vietnam into an effective e-Government program. In short, the information system theories are the basic foundation for researchers to develop the new theories for new innovations such as e-Commerce or e-Government.

3. Evaluation Model in Information System and e-Government

3.1. Evaluation Model in Information System

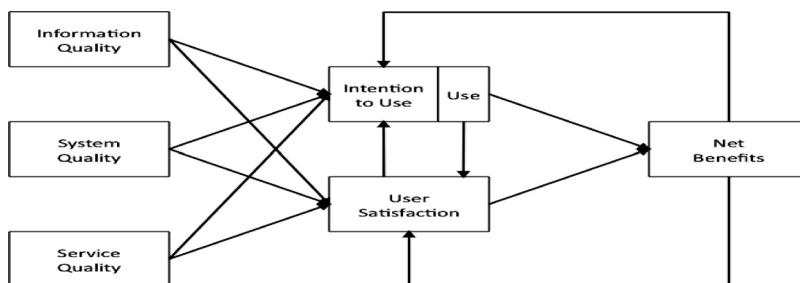
In 1992, DeLone & McLean attempted to measure the effectiveness of IS by proposing the taxonomy. The original theory of their model is that ‘information’, as the output of an IS, can be measured at different levels, including the technical level, the semantic level and the effectiveness level. Hence, the model is structured by six major variables: “System Quality” measures technical aspect, “Information Quality” measures semantic area, “Information System Use, User satisfaction, Individual Impact, and Organizational Impact” measure effectiveness.

In 2002, DeLone and McLean updated their model in order to measure challenges presented by the new e-Commerce world. They added service quality and also combined all different impact measures in a category “Net Benefit”. Besides, to resolve the concerns of Seddon (1999), they added “Intention to Use” into “Use” variable.

3.2. Model Evaluation in E-Government

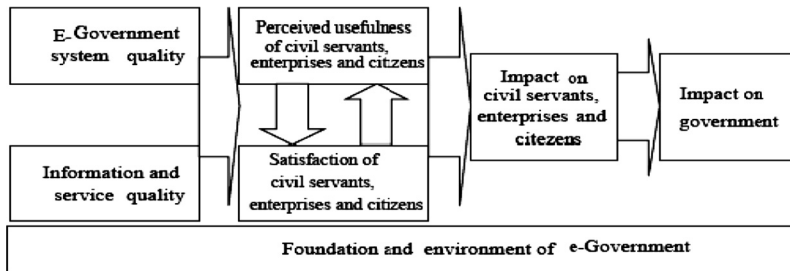
Some scholars (e.g. Csetenyi, 2000), Hai & Obi, (2009) explained that e-Commerce

Figure 2. DeLone & McLean IS Success Model: 10 year update (2002)



Source: The DeLone & McLean Model of information system success: A Ten-Year Update, DeLone & McLean (2003).

Figure 3. E-Government project success appraisal model



Source: A Research on the Appraisal Framework of e-Government Project Success, Hu et al., 2005.

technologies could be applied in e-Government to increase the efficiency of providing services to citizens and business. Therefore, Hu et al. (2005) attempted to establish a systematic appraisal framework of e-Government project based on the IS success Model presented by DeLone & McLean in 2002 as in the figure below.

In their model, Hu et al. (2005) believed that e-Government cannot develop properly without a suitable environment including laws, management, information resources, standards, network facilities, personnel, securities, and techniques.

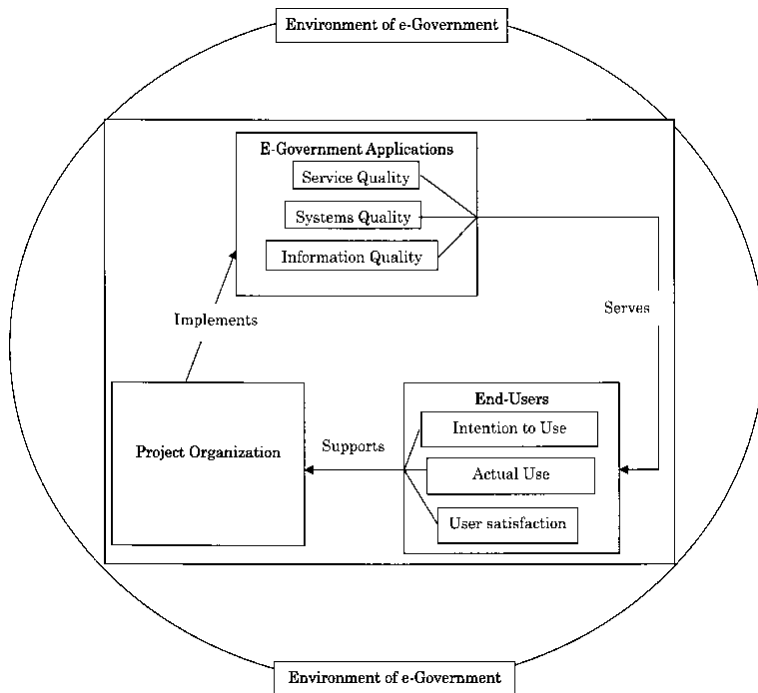
4. E-Government Citizen-Centric Approach

“End users” is a vital component in any information system projects as they usually shape the layout and design of projects. The private sector with the customer-centric strategy has reaped success as proved by the growth and global expansion of eBay and Amazon. Therefore, the role of the citizen-centric e-Government approach in making the targets of e-Government feasible is currently taking attention of not only researchers but also policy-makers. A citizen-centric approach is usually expressed by how governments are toward citizens. The philosophy of transforming public service delivery to center around the needs of citizens with the assistance of ICTs rather than the structure of “government” rejuvenated the idea of “one-stop service center” in the past (Kubicek & Hagen, 2004; Stauffacher, 2002). From this one-stop shop, the request will be delivered to the related departments which have responsibility to process. For instance, in USA, *FirstGov.gov* provides access to 186 million web pages from federal and state governments (Center for Technology in Government, 2003). Besides, the citizen-centric approach can be expressed by adopting customer-oriented principles in Web design.

5. A new analytical framework

Overall, the exchange relations model sees IT failure as a result of a complex of socio-technical relationship (*i.e.*, Beynon-Davies, 1995; Fitzgerald & Russo, 2005). Thus, it is useful to adopt the Exchange Relations framework (Sauer, 1993) as an analytical lens for studying the IS implementation process. However, with the recent user-centric trend, end-users become a very important stakeholder. Moreover, no particular evaluation model was discussed in his study. Thus, we justify the model in order to have a new conceptual framework.

Figure 4. Conceptual Framework



E-Government Applications and End-users: End-users can acknowledge the quality of application via their using experience. So far, it becomes evident that system quality, information quality, and service quality affect “intention to use”, “actual use” and “user satisfaction” (DeLone & McLean, 1992; 2003; Seddon & Kiew, 1994).

End-users and Project Organization: End-users are citizens, business and employees. Other stakeholders (such as policy-makers, individual experts, funders, fixer and power-broker) are also the end-users when they use the public services providing by governments. If end-users are satisfied with the quality of e-Government applications, they will support the project to continue.

Project organization and e-Government applications: the project organization, which the main duty is e-Government implementation, has significant impact on the results of the project. The management method and the ability to negotiate and persuade other stakeholders to support the projects are all critical in relation to the possibility whether a project can gain its objectives.

Environment of e-Government: A host organization can influence on a project since the project is typically one part of the host organization. In e-Government project, the host organization is a government agency which is characterized mainly by bureaucracy. This environment might have impact on the projects both negatively and positively.

6. Research Methodology: Qualitative versus Quantitative Methodology in IS Management Studies

6.1. Qualitative Research Methodology

The objective of quantitative research is to determine the relationship between independent variable and dependent variable through measuring data. While qualitative research is naturally *the exploration to understand the phenomena*.

Furthermore, Benbasat et al., 1987 stated that recently, *there has been a growing interest in the use of case study research as one of qualitative techniques to address success and failure of IS projects*. These recent approaches to IS failure seem particularly important because of the way in which they relate IS failure to social and organizational context.

Lastly, in IS failure research, “quantitative methods will less likely be used since not much reliable, objective measurable information is available *while qualitative approaches for understanding failures are better suited since they enable the researcher to take account of context, perspective and intention*” (Dalcher, 2003).

From the perspective of practitioners as well as an academic point of view, e-Government has gained considerable momentum in the past years. However, in order to create a sound e-Government body of knowledge much research work still has to be done. The structured-case was devised to assist IS researchers in building theory about *poorly understood phenomena*. Hence, adopting a qualitative research (*i.e. an interpretive structure-case study research strategy, which is developed by Carrol & Swatman in 2000*) is ideal for this study to investigate the critical failure factors for e-Government initiatives and extend the existing theory in this area.

An appropriate conceptual model is derived from the integration of Sauer’s IS failure model and DeLone & McLean’s IS evaluation Model and e-Government citizen-centric strategy and applied to a particular research theme which is the critical failure factors of Project 112. A field investigation of a Project 112 in Vietnam is conducted.

6.2. Data Collection Strategy: Interview

To serve the purpose of this research, the interview (open-question) was selected as the method of collecting data. In addition, other interviews conducted by Vietnamese journalist and published on newspapers were gathered to analyze. As a result, the number of interviews (both by the first author and the Vietnamese journalists) were 80 people. In addition, other sources of secondary data such as reports, memos and meeting minutes were gathered to supplement the information collect through interviews. *These documents played a crucial role in establishing triangulation and maintaining the chain of evidence*.

The sampling technique used for selecting the interviewees was *purposive sampling*, a non-probability sampling approach used when the investigator is interested only in obtaining a sufficient number of elements to satisfy research objectives. In other words, participants were chosen randomly according to pre-defined criteria.

Around 70% of the Vietnam population are farmers living in rural areas and have least condition to purchase computers and to have Internet access while most of ICT application activities and telecom services are concentrated in big cities. In addition, Project 112 was implemented at all ministerial and local government levels. Thus, Hanoi, the capital of Vietnam, was selected as the place to conduct interviews.

Second, one obvious restriction to the widespread use of the internet in Vietnam is the high internet access cost compared to the income. Accordingly, educated people with reasonable income are the primary users of Internet and most probably the potential e-Government service users in Vietnam. Hence, people who had a fair level of education with reasonable income were chosen citizen, business, employee and IT directors to participate in the case study. We found participants via friend's introduction and at the workshops on e-Governments.

Pre-interview preparation involved sending out an explanatory statement and a letter of consent which let the respondents know the purpose and the method of the interview. The length of each interview was approximately 0.5–1.0 hours. An interview agenda was present, but the subjects were allowed to describe problems freely, seeking answers and suggesting solutions. Some respondents requested to be anonymous so in this paper their names are coded. For example, I06V indicates the serial number of a subject and the fact that the interview was conducted in Vietnam.

7. Case Background

In 2001, the government decided to implement Project 112 which was envisioned that the ICT (Internet) shall be used to streamline administrative procedures and to provide information about all state agencies to the public. The scope of Project 112 was large since it covered both two levels (centre and local) of Vietnam public administration structure.

The project objectives included building up the State administrative management computerization systems, particularly national databases and integrated database centers, training the State public servants, providing online-services and lastly boosting the reform of administrative procedures.

In order to gain its objectives, six sub-activities (*i.e.* computerizing Ministries & People Committees, linking the intranets by a backbone government network, building necessary information systems of the state administrative management for internal use and public services, training all public employees to use the systems, and protecting user privacy of the government information systems) were planned.

The Management Organization of Project 112 included the central managing unit (resided in the Office of the Government and had responsibility to coordinate all organization in different ministries and provinces) and the local units (located at ministries and the People's Committees of provinces and cities and had responsibility for the implementation of e-Government initiatives at their organization scope)

8. Was Project 112 a termination failure?

A system will be evaluated as a termination failure if all work on a system to have been terminated through lack of support and the system's supporters were dissatisfied with what the system has done for them (Sauer, 1993). In the case of Project 112, the first condition was substantially satisfied by the decision of Prime Minister to terminate the system in April 2007. However, in most cases, it is not easy to determine whether the second condition obtains. The qualitative evaluation methodology can assist to measure the level of supporters' dissatisfied. Consequently, in the rest of this research, we focus on analyzing evidences (the level of usages and the form of criticisms from

end-users) which show the dissatisfaction of supporters (or end-users) based on the conceptual framework described in part 5.

9. Interview and Analysis

9.1. E-Government Applications and End-Users

The e-Government applications, which are analyzed in the context of this thesis, are integrated software applications, Intranet (network infrastructure), data centers and online public services.

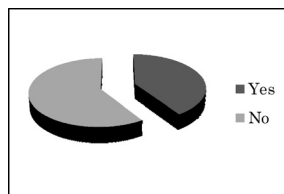
9.1.1. System Quality

The electronic information system of the Government including data integrating centers and local area networks (LAN) has been used for exchanging information among administrative agencies. However, the report of State Audit (Appendix 1) concluded that the infrastructure built by Project 112 did not have good enough quality to serve the operation of the public sector. Some other observers supported the conclusion of the Audit Office by commenting that “Project 112 concentrated mainly on buying hardware and printing training documents; thereby, it could not the initial targets of serving the public administration reform” (Nguyen Minh Thuyet, interview, 2007).

The idea of installing shared software packages³ was good since it aimed to customize management and save expenditure in the public sector. However, the survey of the Communication and Telecommunications Department in Ho Chi Minh City showed that three installed common software programs had many bugs which prevent users from applying effective. Particularly, *Documents and File Management System* could not follow all stages of the process of settling, rotating and checking the document. Logic mistakes and non-standard interfaces make data-input difficult. The functions of *Internal Websites for Executive Management* were too simple that it could not meet the management demand. Lastly, *Socio-Economic Information Management System* could not support the calculation for monthly statistics or allow the leaders to make plan and statistic reports.

In term of online services system for citizen and business, Tuan (2007) conducted the survey to evaluate the “user-friendliness” of Vietnam local government websites. He found that in general more than 60% of local websites were in the good condition (*i.e.* the home page and font are not too long and small) for Internet users. However, less than 41% website delivery Personalization features like change interface website, enlarge or reduce font size, personal email features, etc . . . as in the above figure.

Figure 5. Personalization Feature Percent



Source: Tuan, (2007). *E-Government in Vietnam: an assessment of province websites*, Master of Science in Public Administration, the school of post graduate studies, Gadjah Mada University, Indonesia.

9.1.2. Information Quality

After inspection, the Committee on Science, Technology and Environment of the National Assembly stated that some ministries and provinces invested to build the hardware (infrastructure) of integrated data centers; however, they did not know clearly what kind of information could be integrated. The situation of ‘no information to integrate’ in these centers was popular.

Information exchange through emailing has not been popularized and effectively utilized in different government offices. In addition, most of provinces and ministries did not have sufficient finance to invest in regularly updating data stores, apart from banking and finance sector. Two databases on statistics and finance have initially provided data within industry-level but they cannot be shared or used by different agencies (Nguyen Minh Tien, 2007).

On the citizens and business’s side, people, whom I interviewed, commented that thanks to the Internet and websites, nowadays it is more convenient for them to find the information related to the public services. A variety of information is provided on the local government website. Nevertheless, some of them were not satisfied because the information was sometimes unreliable. Tuan’s study (2007) reveals that the budget information item was rarely delivered (only 22.2% of websites) and the ratio on the information update is not high (only 36.76% of websites).

9.1.3. Service Quality

Regarding internal management services, information systems of ministries and provinces did not support effectively to the management of work in offices (Nguyen Minh Tien, 2007). For example, Ministry of Fishery could deploy only basic services (*i. e.* email and web) from its integrated data center. Besides, the functions for G2G⁴ like delivery information for the decision-making process and the information for emergency and disaster response capabilities were not found on the local government websites (Tuan, 2007).

Furthermore, Project 112 could not fill its mission as an e-Government initiative with the main tasks of providing online services to citizens and businesses (Nguyen Minh Tien, 2007). According to the State Audit’s report, only a few services of tax, custom and airline in the big cities were computerized to delivery via Internet. Regard-

Table 1. Citizen Participation Frequency

	No		Yes		Update	
	Count	%	Count	%	Count	%
Comment-feedback	21	38.9%	21	38.9%	12	22.2%
Newsletter	36	66.7%	14	25.9%	4	7.4%
Frequently Q&A	33	61.1%	9	16.7%	12	22.2%
Online discussion	39	72.2%	10	18.5%	5	9.3%
Scheduled meetings	40	74.1%	8	14.8%	6	11.1%
Online poll	49	90.7%	2	3.7%	3	5.6%
Performance measure	52	96.3%	2	3.7%		
Satisfaction survey	54	100.0%				

Source: Tuan, (2007). *E-Government in Vietnam: an assessment of province websites*, Master of Science in Public Administration, the school of post graduate studies, Gadjah Mada University, Indonesia.

ing opportunities for engaging governmental processes through the local government websites, only 33 websites (61.1%) had function which allows users to provide comments or feedback to individual departments/agencies through online forms. Meanwhile 90.7% website did not have the online poll item where citizens participate in discussion and vote for specific topics (Tuan, 2007).

The interview with citizens and businesses revealed that many people did not know about government websites and online services even though they used to access Internet for email, reading news and searching for information. Only a few interviewees, particularly who work or do business in IT sector, knew about online services.

9.1.4. *Quality of e-Government applications and usage of end-users*

The analysis above showed that e-Government applications of Project 112 were low in system, information and service quality. Adding to the fact that, using e-Government applications was voluntary, it was predictable that the number of end-users could not be high.

a. *Intension to use*

After termination, Project 112 was transferred to Ministry of Telecommunication and Communication for management. One leader of this ministry said that they were considering the solution of giving common software application free to all government departments. However, some IT directors at the province or ministry level said that they were not sure whether they want to have these applications even though they were free of charge. If they were not useful or applicable to their operational system, they did not want to receive (Nguyen Manh Ha, interview, 2006,2007).

b. *Actual use*

Every year from 2003, Vietnam Computer Association and National Steering Committee for ICT Development conduct Vietnam ICT Index which ranks ministries and provinces according to their ICT development and applications. The tables below summarized the ICT application of ministries and provinces from 2006 to 2008. The average rates of ICT applications at both ministries and provinces are very low (less than 50%).

Some departments used the new 'shared software' from Project 112 while concurrently using their legacy 'software' since the functions to migrate the data from the old to the new did not exist. Some other departments even developed new software rather than integrated and adopted the national standards set by Project 112. This overlapping caused the waste of capital.

Regarding the usage of citizens and business, although interviewees in this sample had a higher high education and longer internet use experience (6.73 compared to only 5.7 years in Tuyen et al., 's survey in 2006), we met very few of them who knew and used the online-services. The result of this survey supports the fieldwork conducted by

Table 2. The average ICT applications in government agencies

Year	2008	2007	2006
Ministries	34.08	41.77	43.15
Provinces	35.81	16.48	19.98

Source: the author adopted from Vietnam ICT Index 2006, 2007, 2008

Table 3. Internet Experience of the 30 Interviewees Sample

	Number of Interviewees: 30	Number of years using Internet										Average
		8	7	9	8	7	7	7	6	5	5	
Employees	10	8	7	9	8	7	7	7	6	5	5	6.9
Business	10	10	7	10	5	7	5	8	7	6	4	6.9
Citizen	10	5	7	7	6	7	8	5	5	7	7	6.4
Average												6.73

Table 4. Summarize the reasons of not using e-Government applications

Reasons	Employee	Business	Citizen	Total
Do not know <ul style="list-style-type: none"> • Internal Management Services • Online public services 	0	3	6	9
Know about the services but not use because of				
1. Quality of products (<i>i.e.</i> not easy and useful or only information for online services)	7	7	4	18
2. Others (senior managers did not use, use was not compulsory, cultural factors, no respond from authorities . . .)	4	1	1	6
Total of interviewees	10	10	10	30

Tuyen et al., (2006) which showed a striking feature that “none-of the interviewees-even though with well-developed ICT skills and ready access to the Internet-had undertaken an online transaction with a government website” (Tuyen et al., 2006).

c. *Dissatisfaction*

When we interviewed them the reason why they did not use the e-Government applications, 60% of citizens said that they did not know about e-Government or even government websites. 70% of business said that knew that some public services were provided on Internet. However, they said that they did not use the online services because there were not the services they wanted (I35V, R. S. Corporation, 2008). Particularly, one subject emphasized that there was no much difference between online and offline service. He accessed the online business registration service and sent the data to the local government server. However, he still needed to send the hard copy of other documents such as the ID card copied, the owner’s photo via post office, or go direct to staff office counter to submit these documents. All of employees said that heard about Project 112. Nevertheless, for persons who had tried to use that they said that the new software was not easier than the old software, for persons who did not use the IT applications because the senior managers did not use it. In short, the quality of services provided by e-Government programs should be improved to be more useful and convenient for end-users as summarized in Table 4.

9.2. End-Users and Project Organization

Most of IT experts and directors stated that although Project 112 had some results such as installing computer equipments and changing the awareness of people, it hardly archived its objectives. In other words, they disappointed and dissatisfied with results

Table 5. Opinions of Interviewees on the decision of Prime Minister

Number of Interviewees	Approve	Disapprove	Others
By the author			
Users: 9	9		
Non-users: 23			23
By the journalist			
24	16		8

of Project 112. The group of interviewees, who used e-Government applications: 5 employees, 3 businesses and 1 citizen), also expressed their dissatisfaction. For employees, they did not think that using applications of Project 112 was the right decision because the old software was better and some of them had to use both old and new software as analyzed above. This was inconvenient for them. For the businesses and citizen, the online and offline services were not much different while the purposes of providing online services was to create more convenience for people.

The press had been involved from early in Project 112's life with some newspapers published the articles expressed the worries of express on the success possibility. However, Project 112, with strong support from government, still continued. The article reflected the opinions of Le Manh Ha further directed attention to the project's shortcomings. The press became more influence by following articles, which reflected the opinions of many people: citizens, business, employees and experts. Almost all were either explicitly or implicitly critical. Most of articles stress the low quality of Project 112, the incompetence of Project 112 executive board and its waste of public money. Finally, the government listened voices from experts, citizens and IT staff, halted the project and appointed the State Audit to audit the finance situation of Project 112.

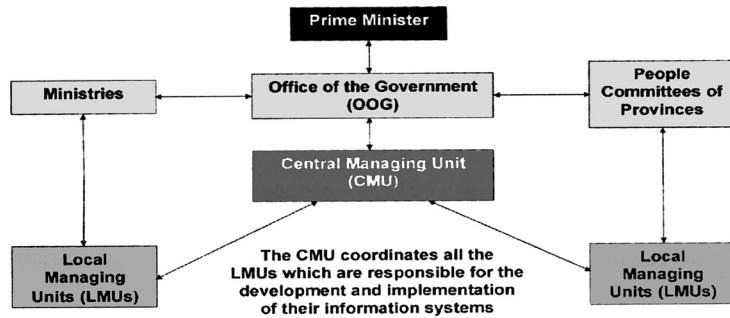
The other obvious evidence for the dissatisfaction of end-users to Project 112 was the agreement with the Prime Minister on terminating Project 112. All interviewees, who had experience after actually using e-Government, supported the PM's decision. Non-users did not state their opinions because they did not know about Project 112 or they never had used e-Government services. 66.67% of people who sent their opinion to newspaper expressed clearly that the decision of Prime Minister was a brave and clever decision. The other readers did not express clearly their opinions but they discussed on the cause of failure.

The experience from actual usage of low quality products lead to low satisfaction of end-users. Thus, Project 112 could not have the support from end-users to continue its second-phase.

9.3. Project Organization and E-Government Applications

The State administrative management computerization was a complicated job since it was based on high technology and relates to functions, tasks, organizational structure and competence of the State administrative bodies as well as process of administrative reform. As a result, it required high unanimity in the entire State administrative system. However, the general provisions on the position, functions and tasks of the units which assumed the prime responsibility for projects on the State administrative

Figure 6. Project Organization



Source: Decision 112, 2001.

management computerization in the system of State administrative bodies had not yet been elaborated in the previous projects. Organizational issues had caused a limited achievement of the previous projects. Learning from this experience, a specialized informatics section to take charge of the unified control of the computerization work was established. The system consisting of the local and centre levels was operated under a unified regulation.

The central managing unit resided in the Office of the Government and had responsibility to coordinate all organization in different ministries and provinces. Local managing units operated in the ministries and at the General Office of the People's Committees in provinces and cities. They were responsible for the implementation of e-Government initiatives at their organization scope. *The question here is whether this organizational change is enough for an effective e-Government project implementation which can provide the good quality of e-Government applications?*

10. Discussion

10.1. E-Government Project Organization

10.1.1. Vietnam ICT Management Structure

Similar to some other countries in the worlds, Vietnam also has the National Steering Committee for ICT development, which coordinates different organizations in the government structure to carry out the National ICT Development Programs. A National Steering Committee on Information and Communication Technologies (NCICT) or Bureau 58 expected to assist the Prime Minister in overseeing ICT development and to play a key role in cross-cutting and inter-ministerial coordination of ICT issues. In a further effort to speed up the country's IT development, the Ministry of Post and Telematics (now is Ministry of Information and Communication) was established in November 2002. The National Steering Committee on ICT has an office of aides located at this ministry.

On the other hand, from 1990s, the State Administration Management Computerization Projects had been assigned to the Government Office. However, the Government Office is a consultant organization for the government operation so it should not manage or implement the specialized projects which should be given to the functional organizations. Agreeing with many other experts, on November 19, Deputy Prime

Minister admitted at a lawmaking National Assembly session that the Government had made a mistake in assigning Project 112 to an unskilled management board.

The overlapping function between NCICT, MIC and the Government Office which does not specialize in management and implementation of ICT project caused challenges in implementing e-Government program effectively in Vietnam. The Deputy Prime Minister also accepted that the management of project should be transferred immediately to Ministry of Telecommunication and Communication as the functional organization in ICT after this ministry was established.

10.1.2. *The central managing unit*

It is claimed that the executive board of Project 112 ignored what amounted to an overambitious project. The project aimed to computerize the whole administration system of Vietnam whereas there is a digital gap among ministries and between city and rural areas. Moreover, project planners did not count to the fact that with the present public administration system, the reform of operational process of organizations is more difficult than buying and installing computers and other IT equipments.

From the beginning, the public and IT experts raised concerns about the project's feasibility. Before Project 112 started, Professor Phan Dinh Dieu sent to the ex-Prime Minister a letter in which based on his experience, expressed his concerns on the reliability of Project 112. However, government and the executive board did not consider the opinions of other stakeholders seriously. The management appeared to have assumed that the problem could be easily overcome by the project manager and his team. Thus, they did not enhance the co-ordination with other functional organization in seeking solutions for the technical and managerial issue. They also might be influenced by the frenzied rush to adopt e-Government trend in the world.

10.1.3. *Lessons learned from "Project Organization"*

Firstly, *the previous lessons and early warning should be studied carefully* before starting new projects. Dr. Nguyen Trong, former General Chairman of National Steering Committee on ICT stated that 'from the beginning, when we were about carrying out Project 112, I had said that I did not see the success possibility of this project since backward and infantile thinking in solving the issues of big information systems was not analyzed seriously to avoid. Very early warnings of prominent experts should be taken seriously by the central managing unit.

Secondly, *the careful preparation is important*. The Labor Newspaper warned the hurry in implementing Project 112 while the project managers had not prepared conditions such as human and finance resources well enough for this strategic project. We had a big dream but not understand clearly its difficulties. Project 112 was over the current ability of Vietnam public sector circumstance and management ability of implementors. When implementing a big work, if we did not prepare carefully, failure was unavoidable (Nguyen Trong, interviewee, 2007).

Thirdly, *a wide scope project is difficult to success*. In Sri Lanka and India, these two countries have similar project but smaller and at local level, not at the government level like in Vietnam. Even some provinces or cities such as Hochiminh City, Dong Nai, Vinh Phuc was successful in testbedding their system models but these models was hardly applied to other provinces because of different contexts. While Project 112 had not build a successful testbed model but leaders already implemented the project in the

whole countries. It would be better if they scaled down the scope of the project and having some best practices before widening to the whole country.

10.2. Environment of e-Government

10.2.1. Complexity of Public Administrative Procedures

The impact of prevailing state management methods on the organization and management of state sector ICT projects was significantly. It is often hoped that ICT can act as a driver, or at least an enabler, of such reform. But as the projects to deploy state sector ICT systems were managed by the pre-reformed management mechanisms prevalent in the state sector, this hope could be elusive (I15V, December 17th, 06).

For instance, the impact of prevailing state management methods on procurement in the state sector ICT projects was a corollary of this issue. The central agency with overall responsibility nationwide planed the project and gave contracts to the local agencies for the conduct of feasibility studies. The local agencies in turn gave subcontracts to vendors (subject to approval from the central agency). The vendors conducted feasibility studies with the involvement of the users, and presented the results to the local agency for approval. The central agency then collected all of the studies from the many local agencies, compared the results, and selected the most feasible projects for analysis and design. Then, the same procedures were applied for design, testing and implementation process. The ingenuity of the above process balanced out the interests of the various central and local stakeholders. Unfortunately the above process presented ICT projects with many drawbacks in efficiently and effectively achieving their intended results. Perhaps the most obvious drawback was the mismatch such as between software and hardware since during the time period that the above activity was taking place, which may be more than one year the hardware procurement procedures were also progressing. In addition, signing contracts of design and implementation, etc... with different vendors has many disadvantages, e.g. inensure traceability of requirements, obscuring responsibility for errors, etc. (I17V, December 15th, 06).

As the inclusive meaning, the common software means that this software can be used anywhere in the public sector of Vietnam. In general, the structure and operational mechanism of all organizations require being similar in order to apply the common software applications. If the differences among organizations still exit, they can be solved by customization designed in common software. Consequently, the differences should be recognized beforehand and deployed as functions of common software. With what Vietnam was having (in term of human resource, finance and other resources), it is difficult to conduct the analysis and design of such software application. Another issue is the common software application requires that all organizations should have the same conditions in term of informatics equipment and infrastructure. While in the reality there are digital gap between government agencies.

Regarding online services, several elements are stopping government sites moving to last stage of transaction. Firstly, levels of trust in the banking and financing system have not yet existed to support the use of online payments. Secondly, and most crucially, back-end public sector services are still under developed and do not align well with online transactions. Overall, the difference between online services of e-Government and real-government service has not been clear as analyzed in the service

quality part.

10.2.2. Human Resource and ICT Training

The low level of public servants' IT knowledge was recognized as one of the reasons for the failure of previous projects. The system, though it may be well formulated, cannot well operate if the public servants and people working in the administrative system are still unable to operate computers and fail to comply with computer operation discipline (Decision 112, 2001). Therefore, computer training for the contingent of public servants in the State administrative bodies in the whole country was given as one of the first priorities and evaluated as the most success sub-project in Project 112.

According to the Project 112 Management Committee, training programs and syllabi were designed based on ICDL (International Computer Driving License) which was the 'standard training program' for the public staffs of many countries. Then, a substantial amount of money was spent on training 68,000 state employees in an 8-module IT program. Although the impressive number of staff was trained, the quality of training was not high because of training organization method. Some officers who did not need to train still had to go to the class. In addition, the competence and management skills of IT directors were not good enough to meet the comprehensive requirements of Project 112 as analyzed above while no special managerial training courses for IT directors had been designed in the Project 112.

10.2.3. Lessons learned from Environmental Factors

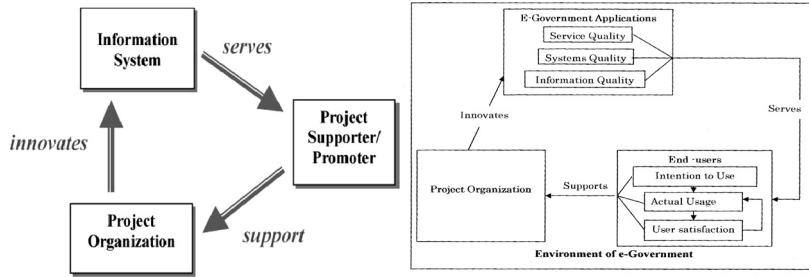
Public Administration Reform: the relationship between public administration and technology is viewed as a "chicken and egg" problem. We acknowledge the role of technology as a driver for public administration reform. However, e-Government is only the small part of larger system (M. Blunt, interview, January, 5th 2006) and it is ineluctable to be effected by the prevalent state-sector management mechanisms in which state sector ICT projects operate. However, few attempts have been made to reorganize the other elements of administration system before implementing Project 112. Therefore, information systems cannot work effectively or gain to the desired targets.

Human Resource: In most cases, projects will fall short if we cannot overcome "human resource problems". Even the human resource issues are recognized, the training method and organization should be studied carefully to improve the IT knowledge for learners effectively. Project 112 concentrated on training IT for many offices while it neglected to diffuse the management skills for IT directors who basically need to be trained in cross-boundary leadership and managerial skills.

11. Contribution and Conclusion

'The topic of IS failure has been a fervent area of debate academics in the information systems, software engineering and computer science areas for a number of years' (Davies, 1999). The Sauer's archetype coupling with DeLone & McLean IS Evaluation Model and e-Government citizen-centric approach was selected as the theoretical base for this research in order to identify the major obstacles to the implementation and development of e-Government projects. The following comparison can show us how the new framework is developed compared to the original model of Sauer.

Compared with the original model (Sauer's model), two components have been

Figure 7. The comparison between Sauer's IS Failure Model and the e-Government Failure Model

dissected into sub-components which is more useful to analyze their impact on the failure of e-Government projects. A new component 'environment of e-Government' has been added to reflect the interactions between e-Government projects and the host organizations.

The framework defined critical issues for e-Government implementation, and their causes and impacts in a casual-loop diagram. Compared with the original model, two of three components have been dissected into sub-components. A new component (*i.e.* 'environment of e-Government') is added in the conceptual framework to reflect the interaction between e-Government projects and the host organization. Especially, this research firstly confirms the critical role of end-users on the failure or success of e-Government projects. This comprehensive framework can replace the IS Failure Model of Sauer to use as the analytic tools for failure of e-Government projects in Internet revolution era.

A case study that involved interviews was carried out to test the relevance of the framework to the Vietnam situation and dig for more country-specific factors. The author found that the main failure factors of the e-Government project in Vietnam are the management of project organization, unreformed public administration and human resource. Project 112 had received the strong support from top leaders of Vietnamese government. However, it is difficult for the unprofessional project organization to produce the e-Government applications with high quality. The low quality of e-Government applications resulted in the low level of usage and user dissatisfaction which in turn created the pressure on the Government to audit the efficiency of Project 112 after 5 years of implementation. As a result, the failure of Project 112 should be considered as the termination failure rather than the correspondence failure. Apart from project organization issues, the public administration system (*i.e.* complex administrative procedures) and human resource had prevented managers from implementing Project 112 successfully.

With its purposed as stated in the introduction, this thesis can be viewed as *an attempt at exploratory (i.e. building theory) and causal research* since it tries to build the new conceptual framework and apply it to explain the failure of Project 112 in Vietnam. While the case-study approach adopted here may have several strengths for an exploratory research, a main limitation in this study concerns the generalizability of a single analysis in context. A multiple case-study design can obtain more compelling and robust data over a single case-study design. However, in our view, project failure is a

sensitive subject and it may be difficult to obtain the opportunity of a multiple case-study design. Therefore, we posit, “one must follow a more opportunistic approach even if that means settling for a single case study” (cited from Pan et al., 2008).

We proposed a framework for identifying e-Government critical failure factors and demonstrated its usefulness in practice by applying the framework to the evaluation of Vietnam situation. However, we also realize that much of our discussion especially on the literature review is more aspiration from foreign literature than withdrawn from Vietnamese scholar research. The unavailability of the local research of the theme limits us to present in more details concrete cases at different levels in Vietnam. Future researches on those cases as well as the effort that the government is undertaking at the back-office to reform the administration structure will be necessary to complete the picture of e-Government in Vietnam, whose success and failure will play important role to make the country smoothly and advantageously integrate into the world business.

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Footnotes:

1. State Public Administration Management Computerization Project.
2. Information Communication Technology.
3. Common software applications are the applications which can be used by any organizations in the public administration system.
4. Government to Government online services.