Public-Private Partnerships in E-Government: Experiences from Other Countries and Lessons for Vietnam

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ABSTRACT

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Public-private partnerships are seen as a model for e-Government service development and delivery in both developed and developing countries. The PPP model helps to increase opportunities for both the public and private sectors to serve their customers more effectively and efficiently. However, there exist challenges and issues in PPPs manifest in a number of unsuccessful cases. This paper aims to investigate experiences of public-private partnerships in e- Government from other countries such as Singapore, Malaysia, and Korea.

These countries are typical examples of successfully implementing e-Government based on the strong partnerships between the government and the private sector. Each country has developed their e-Government in a specific circumstance, which leads to different success factors. While Singapore focuses on encouraging the private sector to do more, Malaysia emphasizes the need to have a comprehensive PPP model for e-Government implementation, and Korea, the leading country in e-Government applies an effective model whereby the government plays a strategic role and works closely with the private sector to make necessary investments. Based on those practices and experiences, the paper provides appropriate lessons for further development of public-private partnerships in e-Government in Vietnam.

INTRODUCTION

Currently, e-Government initiatives in developing countries are constrained by a lack of financial resources, a low level of skills and capacity within governments, and the absence of incentive structures for rewarding performance. E-Government can contribute significantly to the process of the transformation of a government towards a more cost-effective government. It can facilitate communication and improve the coordination of authorities at different tiers of government, within organizations and even at the departmental level. Furthermore, e-Government can enhance the speed and efficiency of operations by streamlining processes, lowering costs, improving research capabilities and improving documentation and record-keeping. Against this circumstance, Public-private partnerships (PPPs) in e-Government can not only help overcome many of these constraints but also increase opportunities for the private sector.

A public-private partnership is a collaborative effort whereby the government/ public sector influences on the private sector in order to form a partnership to achieve some economic and developmental goals. PPPs are complex in both their execution and in the issues they raise. These issues relate to not only implementation, but also legal frameworks, concordance with procurement rules and anti-corruption efforts, principles of selection, and methods for assessing public costs and benefits in both the short and long term. Meanwhile, e-Government projects raise governance issues themselves. Hence, there is a need for government officials, the civil society and the private sector to address the opportunities and challenges of PPPs in e-Government and to derive experiences and best practices that can be drawn upon to address particular circumstances and needs.

An overview of PPPs in e-Government

Public-Private Partnerships are partnerships between the public sector and the private sector for the purposes of designing, planning, financing, constructing and/or operating projects which would be regarded traditionally as falling within the remit of the public sector.

E-Government is the use of information and communication technology to enhance the range and quality of information and services provided to citizens, businesses, civil society organizations, and other government agencies in an efficient, cost-effective and convenient manner, making

government processes more transparent and accountable and strengthening democracy.

A Public-Private Partnership in e-Government can be defined as a legally enforceable contract between a private sector entity and a government body that requires the private partner to deliver a desired electronic public service, for which the private sector must invest some of its own resources (financial, technological, time, corporate reputation, etc.), and must become responsible for some of the risks of service delivery, and for which payments to the private partner are made only in exchange for actual performance delivered.

The following e-government projects might be offered initially as PPP for implementation:

1) Electrical Power Generation sector to make the ICT and e-Government systems work.
2) Design, development, financing and management of Multi-service bilingual portals for National and Provincial Governments that facilitate seamless integration of applications implemented by various departments and agencies of the government.
3) E-Procurement for all levels of Public sector.
4) Front end services like kiosks and integrated citizen service centers that work as one-stop shop, which will provide ubiquitous and affordable access mechanism for citizens.
5) Establishment of an integrated ICT network for law enforcing agencies, to improve law and order situation in the country.
6) Computerization and integration of employee database for Federal and provincial governments, and online access for employees.
7) Computerization and integration of record of all academic institutions of the country so that in case of verification the citizens and government agencies have to access one point.

Besides, PPPs could also join with public sector in providing basic public services. In the EU model, there are 20 basic services considered for both citizens and business. Public services for citizens contains: Income taxes, Job search services, Social security benefits, Personal documents (passports/driver's license), Car registration, Application for building permission, Declaration to police, Public libraries, Certificates, Enrollment in higher education, announcement of moving, Health-related services (Bugli Innocenti, 2015). Public services for businesses includes: Social contributions for employees, Corporate tax, VAT, Registration of a new company, Submission of data to statistical offices,

Customs declaration, Environment-related permits, Public procurement (Bugli Innocenti, 2015).

There are a number of PPP modes applying in e-Government, the most common forms are summarized in the table below:

Table 1: The main PPPs in e-Government models

Types of PPP Contracts				
Type of Contract	**Duration (years)**	**What the private contractors receives**	**Nature of Private contractor Performance**	**Examples**
Service Contract (outsourcing)	1-3	Fee from government for performing a non- core services	Definitive, often technical type of service	Website design and management, ICT Capacity Building
Management Contract	3-8	Fee from government for the service and a performance-bases incentive	Manage the operation of a government service	Call center staffing; Seat Management, Parking enforcement, regional water supply management
Lease	8 - 15	All revenues, fees or charges from consumers for the provision of the service; the service provider rents the facility from government	Manage, operate, repair, and maintain (and maybe invest in) a service to specified standards and outputs	Land for ICT Infrastructure Development, Online property registries, Existing airport or port facilities
BOO & BOT	15 - 25	The government mostly pays the service provider on a unit basis	Design, finance (long-term) construct/install and operate, to specified standards, the facilities necessary for service provision	ICT Infrastructure; e- procurement systems; e-business portals; Network of public kiosks

Type of Contract	Duration (years)	What the private contractors receives	Nature of Private contractor Performance	Examples
Concession	15 - 30	All revenues from the end-users of the e-government service; the service provider may pay a concession fee to the government and may assume existing debt	Manage, operate, as well as invest in and expand, maintain and operate an ICT facility/network or e-government services to specified standards	Telecom operations and expansion, New airport or seaport facilities, Toll road or bridge

(*Source:* Bugli Innocenti, 2015)

The following are brief descriptions of each type of PPP model:

Service Contracts or Outsourcing

Service contracts are legally binding agreements between a government authority and a private partner to perform specific, usually non-core tasks. Examples include government agencies such as, utilities, ministries, and municipal offices that contract out for website design and management, capacity building, janitorial services, billing and tariff collection, or security services. These are usually short-term contracts and avail government of private sector expertise. They save time and money spent on non-core services.

Management Contracts

Management contracts transfer responsibility for the operation and maintenance of government-owned entities to the private sector. Asset ownership and commercial risk remains with the government, while management control and authority are transferred to a private partner, which applies its expertise to improve management systems and practices. Compensation may be in the form of a fixed fee, as in the case of a fixed fee management contract, or may be linked to performance indicators.

Lease

There are two primary ways in which lease agreements function. The private sector builds an asset and leases it to the State for operation. Alternatively, the private sector operates an asset owned by the State and pays the State rent, collecting fees from end users. While the latter is common in physical infrastructure PPP projects such as water and sanitation

utility operations, the former is most common and most appropriate for e-government initiatives. In this case, the private sector may retain the rights to the technology developed, and sell or lease that technology to other clients, government or private, or the government may purchase the technology outright and lease the technology to other government agencies. It is preferable for the private partner to maintain rights to the technology, as this keeps the government focused on its core functions, leaving development and commercialization of the ICT technology in the hands of private firms.

BOT and Variants

Build-operate-transfer (BOT), build-own-operate (BOO), build-own-operate-transfer (BOOT), design-building-finance-operate (DBFO) and similar arrangements are contracts specifically designed for new projects or investments in facilities that require extensive rehabilitation. Under such arrangements, the private partner typically designs, constructs and operates facilities for a limited period from 15 to 30 years, after which all rights or title to the assets are relinquished to the government. Under a build-operate-own (BOO) contract, the assets remain indefinitely with the private partner. The government will typically pay the BOT partner at a price calculated over the life of the contract to cover its construction and operating costs, and provide a reasonable return.

Concessions

Under a concession, the private partner, or "Concessionaire", bears the overall responsibility for the services, including operation, maintenance, and management, as well as capital investments. The fixed assets either remain the property of the public authority or revert to public ownership at the end of the concession period. The main advantage of a concession is that it passes full responsibility for operations, maintenance, rehabilitation, renewal, and service expansion to the private partner and creates incentives for efficiency in all activities. Therefore, concessions are an attractive option where large investments are required. The potential benefits of PPPs in e-Government are:

- Increased pace of rolling out e-government services, applications, and infrastructure, due to the financial participation of the private sector through both investment and profit-sharing;
- Use of more advanced technologies in the engineering design and availability of more custom-tailored engineering systems, made available by the private sector;

- Increased focus on outcomes resulting in better quality of service delivery and increased client satisfaction;
- Downstream effects in terms of a more capable domestic private sector.

PPPs in e-Government in some countries and key lessons for Vietnam

SINGAPORE

Singapore is a remarkable story of strategically applying the ongoing technological revolution to improve and transform a whole economy. Despite limited natural resources and unpromising initial economic conditions, Singapore successful development resulted in moving from third world to first world economy, and positioning itself effectively for a global, knowledge-based, and innovation driven economy. According to Chua's (2012), there were many factors leading to Singapore e-transformation, including: committed political and public service leadership, creating an environment for cumulative institutional learning, public–private collaboration, investment in a competitive information infrastructure, early attention to ICT literacy and user adoption capability, clear cyber policies, and dynamic governance based on results orientation and accountability.

As mentioned earlier, public-private partnership plays a very important role which has strongly contributed to the improvement and transformation of the economy. PPPs can not only provide opportunities for efficient project management, cost reduction, risk sharing, improvement of service quality but also enhanced technological innovation, and combining the strengths of both sectors (Taher et al, 2012). Therefore, Singapore government is actively leveraging on collaboration with private companies and non government organizations, and aligning these partnerships with the objective of introducing innovative and state-of-art e-government services. Taher et al (2012) indicated e-Government action plans implemented by the Singapore government. They are listed below:

- The first e-government action plan named "Civil Service Computerization Program" (1980-1999). It was introduced in the early 1980s with the aim of transforming the government to a world-class user of information technology by improving public administration through the effective use of Infocomm technology, setting up data hubs, consolidating computing resources, providing one-stop services.
- The second e-government action plan was e-Government Action Plan I (2000-2003). This plan was to move services from offline to online.

- The next action plan was e-Government Action Plan II (2003-2006) which focused on delivering accessible, integrated and value-adding public services to customers; and helping to bring citizens closer together.
- Following the e-GAP II, the government introduced the iGov2010 (2006-2010) to delight customers and connect citizens through Infocomm.
- Finally, the eGov2015 (2011-2015) – its vision was to be a Collaborative Government to facilitate more co-creation and interaction between the Government, the people and the private sector to bring about greater value creation for Singapore and its people.

Singapore e-Government PPP cases and success factors

The facts have shown that, the Singapore government has benefited from a number of partnerships with the private sector during each stage of the whole e-Government action plan. The table below identifies and summaries a range of success factors from some significant PPPs projects in e-Government:

Table 2: The success factors of Singapore e-Government PPPs

Projects	Success Factors	Stage	Action Plan
Government Electronic Business (GeBIZ)	• Strong service level agreements • Clear definition of responsibilities for each stakeholder according to their competence	Establishment	**e-Government Action Plan I**
EnterpriseOne (OBLS)	• Formation of steering committee • Adoption of appropriate project funding structure • Securing project buy-in by convincing participants of the project's vision and benefit	Establishment	**e-Government Action Plan II**
	• Key stakeholders' involvement in the reviewing and re-engineering process, participation from all involved agencies • Consolidating and integrating cross-agency requirements	Development	
	• Eco-centric leadership structure	All stages	**iGov2010**
TradeXchange (TradeNet)	• Formation of steering committee Establishment	Establishment	

Projects	Success Factors	Stage	Action Plan
	• Revolutionary business process change	Development	
	• Commitment from all parties to allocate time, effort, and resources • Willingness to change the existing mindset	All stages	
OneMotoring	• Clear definition of customer segments and elements of branding and marketing to sharpen the purpose of the initiative • Secure stakeholders project buy-in by building rapport with partners and fostering a sense of collaboration towards shared goals • Incentivize business partner to remain committed to meeting the goal of the initiative • Public agency to take joint responsibility for overall business development to ensure the initiative stays focused and remains • Establishment of key performance indicators to align progress and discuss issues.	Establishment	**iGov2010**
	• Learning from prior experience • Adopting a phased approach to make vital adjustments and to mitigate possible risks	Development	
	• Willingness to change the existing mind-set • Openness and transparency between public agency and business partner	All stages	
National Service Portal (NS Portal)	• Systematic evaluation of partner, e.g., using the Analytic Hierarchy Process, to form an objective judgment	Establishment	**iGov2010**
	• Supportive management with high fault- tolerance due to the use of state-of-the-art technologies • Commitment of government partner toward continuous IT innovation and service excellence	Development	

(*Source:* Taher et al, 2012)

As can be seen from the table, a number of success factors that are both common and unique to the e-Government context are revealed. While such factors as commitment of time, effort, and resources by involved parties to the PPP and mutual understanding are necessary conditions for success throughout a PPP, other specific factors related to management and implementation IT projects like the government partner's commitment to deploy IT innovations and re-engineer business processes in response to the new IT are emphasized as success factors of e-Government PPPs.

Lesson learned: Encouraging the Private sector to do more

The private sector not only significantly contributes to Information & Communication Technology (ICT) development at different levels (national, regional, and international) but also continuously reinforces the government in accomplishing the objective of transformation into e-Government. Thus, Singapore government mainly focuses on creating the initial supply push which leads to more opportunities and conductive working partnerships. In terms of role in projects, the government has shifted from its traditional position as the planner, owner or operator of key ICT assets and infrastructure into the master-planner, facilitator. Due to that change, government projects become open for tenders, calls for collaboration (CFC), competitive dialogues and technology trials. For example, in 2007, more than 290 companies were awarded 653 contracts worth a total value of Singapore $820 million (Chua, 2012).

In terms of contract value, while local companies secures 64%, the rest going to Multinational corporations. In one hand, the government collaborates with industry on technology trials. On the other hand, the government regularly issues CFC in order to bring together various players in the industry to innovate in government-funded trials. To specify, as the result of the CFC promulgation for mobile payment, handset manufacturers, banks and service providers came together to develop a first-of-its-kind mobile payment infrastructure in Singapore. Moreover, another noticeable point in PPPs is the collaboration between industry and schools to provide a broadband for an enhanced teaching and learning experience. In this case, the government plays the part of the facilitator in dialogue and experimentation, helping to create and adapt new Infocomm solutions. It is undeniable that the government mostly takes the lead role in making an effort to develop a vibrant ICT sector which is continuously built up by the private sector to deliver innovative government services. After nearly 20 years of implementing strategically policies as well as programmes to

improve and reinforce the Infocomm industry, the industry has changed as an important engine of growth for the country. With more than 1,000 technology companies Singapore has made itself become a key node in their global network and innovative local enterprises that produces ingenious solutions and quality services that have made their marks in both the domestic and international markets (Chua, 2012).

In brief, by co-operation with the private sector, the government is able to get involved this sector with innovation, protect against technology obsolescence and create further employment in the development, implementation and delivery of e-Government projects.

MALAYSIA

As many countries in Asia in facing with the global and digital era, Malaysia has changed into a technologically advanced society and a technologically enabled government through its Vision 2020 whereby a digital government established along the government-to-government (G2G) route, the government-to-citizen (G2C) and also the government-to-business (G2B) paths. On the basis of the Multimedia Super Corridor (MSC) launched in 1996, the government continuously implemented several flagship e-Government projects aiming to transform the government from the paper-based, un-integrated islands of agencies and departments to an integrated and networked government, such as Project Management System, Human Resource Management Information System, E-procurement and General Office Environment. Regarding budgetary challenges in the past several decades, the government has actively collaborated with the private sector as a potential partner in financing, maintaining infrastructure and providing public services (Kaliannan et al, 2010). Recently, PPPs have taken part in e-Government projects and significantly contributed to the success of these projects. In Malaysia, PPPs are widely used for the provision of infrastructure such as roads and bridges but have also been used to provide other infrastructure including schools and differing facilities. PPPs are highly supported as they enable different levels of government to provide infrastructure more quickly and cost effectively than more traditional funding models.

E-Government development in Malaysia

Due to the ongoing development of the information-rich digital age, the government of Malaysia launched e-Government with the aspiration to employ multimedia technologies to reinvent the way the government operates and make it more effective in delivering services (Kaliannan et al,

2010). The Malaysian government considered e-Government as an essential push to improve the convenience, accessibility and quality of interactions with citizens and businesses; simultaneously, improve the speed and quality of government's policy development, coordination and enforcement. The e-Government contains the entire gamut of government operations, and promisingly affecting citizen-to-government (C2G), business-to-government (B2G) and government-to-government (G2G) transactions. Therefore, it stresses ICT development in government agencies as well as transforming the way the government operates internally as well as how it delivers services to Malaysian.

The e-Government is established to improve the convenience, accessibility and quality of interactions with citizens and businesses. To specify, an overview of the e-Government model for development in Malaysia is shown below (Refer to Figure 1). Since the e-Government started in 19997, there are a number of projects applying ICT and multimedia technologies to transform the way the government operates in terms of coordination and enforcement. For example, the Generic Office Environment (GOE), Electronic Procurement (EP), Project Monitoring System (PMS), Human Resource Management Information System (HRMIS), Electronic Services (E-services), Electronic Labour Exchange (ELX), E-syariah, E-land.

Figure 1: The Malaysian model of e-Government development
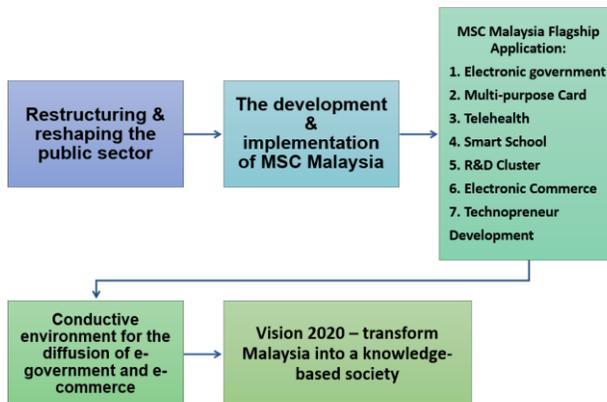
(*Source:* Kaliannan et al, 2010)

Malaysia Incorporated Policy and PPP in e-Government

The Malaysia Incorporated Policy is a strategy for the attainment of a competitive, dynamic, robust and resilient economy. It stresses the need to define, develop andoperationalize a new pattern of behavior, thinking and interaction with regard to the public private sector relationship. The identification of the critical approaches within the public and private sector productive partnership will ensure the sustenance of the nation's comparative advantages in an increasingly competitive global economic environment (Malaysia Incorporated Policy). The policy was propounded by the Honourable Prime Minister in 1983 then became one of the fundamental bases of national development. The concept of the Incorporated Policy was defined as a system of cooperation between the government and the private sector towards the creation of a Malaysian company to achieve progress and where the profits accruing will be shared by all. The Honourable Prime Minister also has on various occasions underlined the relationship between the respective roles of the public and private sectors under this concept.

This is a symbiotic relationship where the public sector is expected to function efficiently to support the efforts of the private sector as the main engine of growth of the national economy. The main object of Malaysia Incorporated is that the private and the government should work closely together in a manner where both of these sectors will gain benefits from this cooperation. Thereby, the public-private partnership in e-government is an extension of what the government introduced back in the 1980s under the Malaysia Incorporated Policy. Given the vast experience working with private organizations, implementation of PPP within the e-government project is seen as possible and feasible cooperation between government and private organizations (Kaliannan et al, 2010).

Lesson learned: Having a comprehensive PPP model for e-Government implementation

Based on the success stories and experience in the Malaysian Incorporated Policy, it is clear that the PPP model in the context of e-government projects is critical and necessary. Hence, the government concentrates on re-defining this model, especially determining the level of participation in those projects so that projects' objectives could be attained effectively. In addition, the main concern of all e-government projects is to enhance the service delivery in parallel with minimizing the operation costs. Thus, the partnership agreements are required to gain the real benefits from the PPP business model. The PPP model has to not only

ensure transparency and accountability in delivering government services, but also, at the same time, enhance the efficiency and effectiveness of the services provided (Kaliannan et al, 2010). In terms of value for money, three variables which commonly considered are: the nature of the project; a government with effective project and contract management skills; clear and effective risk allocation. Since there are various PPP models referred from developed countries or developing countries which might have the same economic context, it is important to choose/re-build a suitable one so that it could strongly support the short and long-term development, and at the same time be viable and cost-effective. Based on Kaliannan and his colleagues' research (2010), having a good PPP model for implementing e-Government does not always ensure to deliver the best e-Government services, it is necessary for the government to have a holistic approach to both opportunities andthreats and to address some significant issues such as:

- Which participation level that the government should take in order to facilitate the private sector to rapidly develop ICT – the regulatory body of the government must ensure that policies and procedures are well defined and properly implemented. Also, there must be clear levels of accountability and transparency to deter misuse and mismanagement of the defined policies and procedures.
- How the private sector initiative and enterprise could be encouraged and channelized for achieving maximum benefits – there could be a good return on investment for private sector companies if they provide the government and people with their cost-effective products and services.
- How private sector companies could collaborate with each other to achieve win-win situations - the possible outcomes resulting from these collaborations could range from better quality products, cheaper prices and continual innovations.

Put it simply, PPP model is clearly an innovative way to effectively collaborate with private sector in providing both citizens and the business community with quality service delivery.

KOREA

Korea is well-known as one of the global e-Government leaders with the highest scores in e- Government Development Index, which was improved from 15th in 2001 to the top in 2010 out of 192 countries worldwide and e-participation Index which was also ranked 1st in 2010,

2012 & 2014. In addition, many of Korea's E-government practices until now have been introduced to the world as the best cases and received worldwide acknowledgement. This success has been resulted from major strides in Information and Communication Technology (ICT) as well as continuous efforts in e-Government and national informatization over the last five decades (Chung, 2015). In 1960, Korea had a telephone penetration of 0.36 per 100 inhabitants, which was one tenth of the world average. By 1981, Korea caught up with the world average. Now, this country leads the world in broadband internet access penetration, and becomes the leading example of a country rising from a low level of ICT access to one of the highest in the world. Moreover, Korea's e-Government services are also selected as the best practices and acknowledged by the rest of the world (Chung, 2015).

E-Government initiatives in Korea

Korea's informatization began in the late 1970s, when major administrative processes were computerized in the areas including resident registration, real-estate and vehicles. In the 1990s, the focus of informatization shifted to function-based processes such as passport patent and procurement administration. In the period of 1992-1994, due to a transition of the government from totalitarian government to congressional government, the interest in IT development was diminished. However, the government also established the Ministry of Communication (MIC) and launched High Speed Broadband Network Project. During 1998-2000, with the focus on restructuring of four major sectors to recover the Korean economy, the president's interest in e- Government project once again has lowered.

However, from 2001, e-Government was considered a strategic enabler with the highest importance for government innovation (Chung, 2015). This period witnessed a variety of initiatives and projects to build a government-wide infrastructure for e-Government. The e-Government promotion led to enhanced efficiency of public administration by stabilizing electronic processing of government work, and improved economic feasibility, expertise and security of government resource management by constructing government-wide data centers and integrating government information systems. Moreover, it also provided portal services for civil application or enabling interaction with public offices without having to visit these offices in person. The history of Korean e-Government promotion is outlined in table 3 (Refer to Table 3).

Table 3: History of Korea e-Government implementation

Stage	Main Implementation contents
ICT Initial Stage (1960s - 1970s)	• Introduction of computers to the statistics business of Economic Planning Board (1967) • Administration ICT 5-year basic plan establishment (1978)
e-Government incubation period (1980s - 1990s)	• Administration ICT business (NBIS) • National period of computing network business (1987)
e-Government base preparation period (mid 1990s - 2000)	• Establishment of ultra-high-speed information communication base • Framework enactment on ICT Implementation law
e-Government starting period (2001 - 2002)	• Implement e-Government 11 tasks • Enact laws on e-Government (2001)
e-Government growth period (2003 - 2007)	• Implementation of e-Government-31 tasks • Prepared the base for linking and integrating government institutions and departments
e-Government maturity period (2008 - 2012)	• National ICT master plan establishment (2008) • Implement e-Government 12 tasks based on opening, sharing and cooperation of businesses.
GOV3.0 with e-Government period (2013 - Present)	• National ICT master plan establishment (2008) • Data Disclosure Act (2013)

(*Source:* Chung, 2015)

E-Government in Korea: critical success factors

The critical success factors in Korean e-Government are political, social, economic and industrial environment, political determination and leadership, vision and policy objective, project's strategic priority, implementation system, human and financial resource distribution, cooperation among institutions, common framework, feedback, and learning. From a system perspective, these factors are grouped into three categories containing environment input, transformation, output, and feedback factors. (Refer to Table 4).

Table 4: Critical success factors in Korean e-Government

Factor	Main contents
Strong Government Leadership	• Leadership from the President • Strategic and sustainable plans for 20 years • Nationwide change management program • Aligned e-Government projects with performance evaluation
Customer Oriented e-Government Services	• Continuous administrative reform: removal of overlapping function and process of informatization, streamlining of inconvenient Civil services and reduction of corruption • E-Government initiatives with the most potential to impact everyday lives of citizens such as resident registration, vehicle, customs clearance, employment, statistics management, etc... were given first priority, which became the foundation for e-Government
Sustained Investment in e-Government Budget	• 1% of the national budget was invested into e-Government construction every year • Created and utilized the Information and telecommunication promotion fund to build early e-Government
IT Governance	• Established supervisory committees to drive e-Government directly under the President or Prime Minister • Made use of expert technical organizations: NIA, KISA, NIPA • Actively engaged the private sector including major Korean companies enacted appropriate laws during each phase ensuring a positive enabling environment for e-Government
Performance-based Program Management	• Clear goals, objectives, short and long-term plans, with expected expenditure, income streams and deadlines • Qualitative, Quantitative Performance Index (KPI) for nationwide level and each project level • Designation of an officer or organizing body in charge of project performance

Lesson learned: The government plays a strategic role and works closely with the private sector to make necessary investments Korea is a typical example in partnership with the private sector to accomplish national priorities, support national economic growth, and meet development targets. Initially, the government decided to concentrate on ICT sector as a national priority, then collaborate with the private sector to deliver on its development targets. In terms of partnership, while the government plays a strategic role, supporting the development of foundational technologies for e-Government, the private sector is considered potential investors, making investments in technology, people and projects. Moreover, public-private collaboration also aims to create new private sector jobs in the ICT sector and attain business growth through the development and implementation of

IT projects for the government. Along with that, staff in both private and public sectors are retrained and equipped skills in IT which as a sector growing quite quickly during this period. Training programs are offered by private sector organizations and provided to over 30,000 public sector staff every year. In addition, public-private partnerships are also considered a popular contracting model for development and maintenance of e-Government projects. To specify, PPPs involved both private and public sector partners working together to design, plan, construct and operate ICT projects. The private sector plays an important role in helping the government to develop a common standard for government, called eGovFrame, for an Open source software development environment. Reflecting on Korea's approach, PPPs significantly contributes to the success of Korea's e-Government programs by cooperating with the government to develop high technology components at a lower cost, attract investments in critical broadband infrastructure which eventually enabled service delivery to citizens, and to help create jobs in the midst of a financial crisis. On the other hand, the private sector also takes part in implementing those projects as direct contractors to deliver services in areas where it had a skills shortage, and create common software development standards for a whole-of-government approach to building and managing IT infrastructure.

One of the specific examples approving the effective partnerships between the government and the private sector is the development of the NBIS which was launched in the late 1980s. The government worked closely with some leader private companies like Samsung Electronics, LG Electronics, Hyundai Electronics and Trigem Computer in parallel with constituting a government-funded research institute named ETRI to design and develop a domestic mid-size computer, which was then purchased by the government and deployed to central government agencies and local governments. As a result of this strong partnership, Korea achieved two outcomes: (1) personal computer penetration across government laid the foundation for e- Governance in Korea; (2) the purchase of domestic computers from the Korean private sector boosted the high-technology market. Furthermore, in order to establish a high-speed broadband network in the 1990s, a public–private working commission was founded by the government. It included MIC, NIA and ETRI which are public agencies and private agencies as Korea Telecom and Dacom. Whilst the government invested one billion USD in KII-Government to connect government agencies, raising funds from telecom operator revenues, the private sector was free to invest in KII-Public, which was intended for households and

individual consumers. The rollout was carried out by Korea Telecom and Dacom (Karippacheril et al, 2016).

In concluding, it is undeniable that PPPs play a crucial part of the Korean success story. In partnership, the government played a strategic role, working closely with domestic private sector market leaders to make critical investments in network infrastructure. Based on this lesson, developing countries should build strong links between the public and private sector to enable the success of their e-Government.

PPPs in e-Government in the context of Vietnam

Generally, investment in ICT projects is a core factor to develop e-Government, especially to guarantee ICT infrastructure and ICT applications in providing e-public services. In Vietnam, ICT projects are invested by three forms: (1) investment in ICT projects from the state budget; (2) use of ICT services from IT enterprises; (3) investment through PPPs.

The development of ICT infrastructure for the government in Vietnam has been implemented through a number of projects such as: the Government Video Conference Project implemented by the Vietnam Post and Telecommunications Group (VNPT); the Electronic information network specialized (TSLCD) for the government project implemented by VNPT; some ICT systems for the government implemented by Viettel; the eDoc project for the Office of the government implemented by Viettel. However, those projects are cooperation between the government and enterprises which are mainly state-owned enterprises instead of cooperation between the government and the private sector.

The PPP projects relating to e-Government in Vietnam include: the partnership between Microsoft and the Ministry of Education and Training on the redistribution of online service delivery to high schools and universities (currently, there are 53 schools that benefit from this project and 100000 email accounts have been granted to universities and colleges, mostly in Ho Chi Minh city) (Binh Minh, 2010); the partnership between Vietsoftware company with some state organizations to implement Electronic information gate in Hanoi, Quangninh, Ministry of Industry and Trade, Ministry of Public Security, and Ministry of Justice, ect.

Toward the goal of developing e-Government in Vietnam, a number of ICT application programs in the periods of 2011-2015 and 2016-2020 have been formulated and implemented. There are four out of 63 key projects under these programs conducted by PPPs, containing: (1) National email system project; (2) National integrated document management information system project for government agencies; (3) Electronic information network

specialized; (4) Project of improving the quality of human resources, supporting Vietnamese software enterprises and e-Government development. Some other projects are in the process of preparation such as Electronic procurement (e-GP) systems in government procurement. This project is managed, owned and operated by a third party and will normally be transferred to the government in the future. However, these projects are based on specific policies due to the lack of a comprehensive program for e-Government development as well as the legal framework for PPP investment in the field of ICT and e-Government.

Decree No. 15/2015/ND-CP on investment in the form of PPP recognizes several investment fields related to e-Government development in Vietnam such as the construction of infrastructure at the working office of Government agencies and IT applications. The forms of PPP contracts stipulated in the Decree include: Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO), Build-Transfer (BT), Build-Owner-Operation (BOO); Build-Transfer-Lease (BTL); Build-Lease-Transfer (BLT), Operation-Management Contract (O & M) (Government, 2015). This decree provides the legal basis for PPPs in the development of ICT infrastructure, equipment, human resources, and ICT applications in the provision of e-public services in Vietnam. Moreover, the Ministry of Information and Communication issued Circular No. 21/2016/TT-BTTTT detailing some of the contents of PPP investment. It also indicated fields which attract PPP investment such as: (1) information technology parks, including investment in both inside and outside technical infrastructure; (2) applications of information technology, including national database system; specialized databases and online information systems under the e-Government platform; ICT infrastructure, technology solutions to ensure information security; ICT applications for citizens and enterprises; ICT applications within government agencies (Ministry of Information and Communication, 2016).

Although there are early regulations, policies of encouraging PPP investment does not clarify the scope of investment in information infrastructure and IT applications in public service delivery, which are suitable for PPPs. Existing policies are not specific to PPPs, and lack of regulations related to types of PPP contract, risk allocation, investment incentives, types of guarantees, investment guarantees. Some specific types of public-private partnerships like BLT in IT has not had a specific regulatory corridor yet. Therefore, it is not widely implemented (NgocMai, 2013).

In the forthcoming time period, there will be a lack of investment for IT infrastructure and IT application in the provision of e-public services as the

government meets only 10% of the demand for investment in ICT infrastructure. Concerning with the objective of e-Government development, Vietnam should promulgate policies to create a legal environment and encourage public-private partnerships to develop e-Government. Based on practices as well as experiences of Singapore, Malaysia and Korea and the reality of PPPs in e-Government development in Vietnam, some recommendations are proposed as follows:

Firstly, Vietnam needs to develop a comprehensive program for e-Government development, which clarifies the collaboration with the private sector in: identifying a framework and standards for e-Government; researching & developing software technology for e- Government; and designing, planning, establishing & operating ICT projects.

Secondly, the government should identify PPPs projects in which the private sector could participate as well as promulgate regulations related to contracting models in establishing and operating e-Government to ensure risk allocation between the government and the public private sector.

Thirdly, besides common policies encouraging PPPs in e-Government development, the government should formulate specific policies aligning with each PPP project.

Finally, PPP contract management in e-Government development should concern about: the agreement of authority and responsibility of the public and private sectors in service delivery; evaluation of the projects' funding structure; formulation of monitoring indicators and responsibilities of each sector in monitoring the implementation of the project; the transparency and publicity between public and private partners in project implementation.

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