

E-government in Developing countries

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Abstract: Under no circumstances have impacts of the government's administrative system on a country's development been disregarded. In the recent decades, many politicians and key opinion leaders has employed different strategies to improve their national public-sector management system; of those, it is noteworthy to highlight electronic government as the most effective methods. In fact, the development of electronic government is currently more familiar and becoming global trend in public sector due to its long term benefits. In this regard, this paper is devoted to emphasizing barriers, opportunities, and risks in implementing Information & Communication Technologies in the developing countries at national scale. Additionally, it discusses the possible barriers preventing Viet Nam from effectively employing e-government to optimize the national administrative sector; this information would be considered a foundation to propose a more feasible application model for the country in the near future. All of those issues would be discussed fully to find out new key points and recommend solutions, which could apply in the future.

Keywords: e-government, national public-sector management system, public sector, national administrative sector, global trend.

I. ICT and E-Government Evolution in Developing Countries

According to Garson (2006) [1], the recent advancements in Information & Communication Technologies significantly facilitate modernization of management systems of many countries. In developing countries, ICT is believed to have always been inconsistent in its interaction with the international community due to the level of development of these countries with the following characteristics: delayed modernization, poor communication facilities, high illiteracy level, lack of skilled personnel, large population, lack of capital and appropriate technology, and unequal distribution of wealth.

In a historical perspective, many scholars, in their efforts to explore the applications of E-government in developing countries have traced back to the case of Nigeria in 1999. At that time, Nigeria was one of the first low-income countries to have established their government website. Nonetheless, shortage of technologies, experts and budget resulted in many difficulties for the country to reformulate their law, policies and strategies to convert their paper-based system into online systems. Despite these constraints, Nigeria insisted on their evolution plan to innovate their national management system aiming to increase transparency, efficiency and solidarity of their government management system. The country's leaders believed that ICT might help the country to grow more sustainably and quickly both in economic, cultural, and social areas (White, 2007) [2].

On a global scale, the World Bank (2004) produced a guideline to help the developing countries develop their own e-Government that lists out objectives which need to be achieved in order to successfully establish an E-government system. Those objectives are presented as the followings

1. Enhancing information exchange and interaction between the citizens and the governments.

2. Reducing corruption by increasing the transparency and accountability of the government management system.
3. Granting the public official rights to access government information systems.
4. Benefiting from the communities and giving poor communities opportunities to escape from their generation-to-generation poverty.

By strictly following this guideline, developing countries such as Nigeria and Ghana managed to improve their economic growth, even to considerably increase the living standard in their countries. Noticeably, ICTs turned to be a useful tool for them to broadcast important regulations, policies and poverty alleviation programs nationwide, guided their citizens to develop in consistency with the national development plant. These effective information exchange systems could be considered decisive factors for their fast growth. Then, in the next section, the reason why developing countries should adopt E-government will be discussed.

II. Reasons why developing countries adopt E-government

‘Why should the developing countries adopt E-government’, this question seems to represent the concerns of many politicians about realistic benefits of E-government in terms of a country’s public sector management. In reality, national development strategies and management methods must mainly serve one objective only; it is increasing efficiency, transparency and monetarization of a specific country. Theoretically, a successful E-government implementation demands transparent key performance indicators and proper allocation of management power among government agencies and departments.

From a political point of view, Arnold (2008) highlighted the significant power of e-government in struggling with corruption. With the assistance of ICT advancement, e-government could be able to ‘purify’ and ‘detox’ the ‘dark aspect’ of a government management system, especially in public sector management. Due to transparency of e-government, every transaction between the government officials and citizens would be recorded and observed; therefore, there will be no room for extortion, active and passive bribery; in addition, the phenomenon of ‘abuse of office power’ would be minimized as much as possible.

On considering public management, e-government is even able to facilitate the implementation of strategic policies nationwide. An ICT-based system could easily popularize proposed policies throughout all government departments and agencies regardless of their hierarchical levels across the country along with providing the public accesses to detailed information of policies. In fact, in national management, this move is very important since it allows a government to test proposed regulations and policies nationwide, collect feedback from public and government agencies in the country; and produce necessary adjustments accordingly.

Properly employing e-government services might reduce national corruption; in simple words, the transparency and convenience in accessing government-related information might enhance effectiveness, transparency and flexibility of a national management system. Citizens, enterprises and other stakeholders might be one-step closer to the government, many management procedures, for example registration for a business license, application for a driving license might be processed much more smoothly and easily with the assistance of an online system. Furthermore, civil servants, under control of high technology, might be more accountable for their tasks. E-government, with the help of an online system, allows information to be shared more easily and quickly among government agencies, thereby flattening hierarchy. Dawes, (2010) [3] highlighted several benefits of e-government concerning public sector management, shown below

1. Cost-effectiveness concerning long-term development
2. Improving effectiveness and quality of government service because both citizen and civil servants are aware of their roles and responsibility in the procedure.

3. A transparent process minimizes chances for corruption and deliberate errors in a management system.
4. Increasing productivity of the management system
5. Establishing an information platform to connect the public and the government
6. An analytical support system might facilitate the decision-making system
7. Emphasizing the importance of ICTs and encouraging their application in other sectors (Dawes, 2010) [4]

In brief, the reasons for an e-government application could be summarized using several key points, transparency enhancement, cost reduction, anti-corruption essence, a bridge connecting citizens and the government, etc. As a whole, E-government benefits could be categorized into four areas, including internal, operational, technical, and external.

Internal benefits: e-government requires and helps a country to restructure its management system in order to adapt to changes in infrastructure and electronic monitoring system. The reform might start with a series of adjustments from the inside out at national scale, for instance: optimizing the current national policy, flattening the hierarchical system and minimizing bureaucracy, enhancing the government's accountability, and improving the efficiency and productivity of the management system

Operational benefits: Other pros of implementing e-government are time-effectiveness and policy-effectiveness regarding informational transactions. E-government could be able to innovate all administrative functions and procedures, and as a result it would be able to strictly monitor government performance. In other words, there will be no long-queues and waiting rows of citizens in government' agencies, people could finish legal paper work online and at a distance instead (Moon, 2002).

Technical benefits: The development of e-government seems to go along with development of society and the boom of personal digital devices (e.g. smartphones, laptops, and tablet. Ipad, smartwatches, etc.) Somehow it shifts human behavior to being more online-oriented. People today heavily depend on the support of applications and software, and applying e-government seems to be compulsory for any government to adapt to social developments.

External benefits: Besides improving public sector management from the inside, e-Government implementation has the ability to improve external relationships with agencies and partners. Not only closer relationship with the citizens, the government even strengthens their control and interaction with stakeholders in business sectors as well. Small and medium enterprises (SMEs) appear to be the most sensitive stakeholders concerning adjustment of national law (e.g. labor law, import and export tariffs, monetary policies, etc.). Keeping in touch with the domestic SMEs enables the government to comprehend the market, to gain more understanding on demand & supply practical rules, and to either design a more appropriate macro-economic management models or adjust current fiscal policy accordingly (Carter and France, 2011) [5].

III. Barriers of e-government

1. Theoretical review

Basically, Bakry (2011) [6] pointed out barriers that a government must overcome to turn their system into an electronic & online one. Since e-government could be considered a national-scale project, there are many challenges going along with benefits. Those include:

- Shortage of technicians
- Outdated ICT infrastructure
- National sovereignty security
- Political security matters
- Requiring major adjustment in legislation system

- Internal conflicts due to a shift from hierarchical to a more flattened management system
- Conflict of interest (no room for bribery)
- Threat from opposing forces (political struggle)
- Costing a lot of money, time and effort in set-up stages (Carter & Belanger, 2004) [7]

Moreover, Carter & Belanger (2004) [8] also revealed other hindrances related to e-Government implementation that is political empowerment. In reality, e-government implementation forces the government to empower agencies at provincial and even lower management level to handle and control their own issues. Even though an electronic monitoring system allows high-profile officials to observe and control from a distance, there is the fact that decision-making authorities would become more decentralized. In the political sector, the national leaders prefer this phenomenon less since it means that they become less authoritative. Consequently, there would be opposing opinions towards the application of e-governance nationwide. When discussing it from a management standpoint, Anderson (2006) argued that the ICT infrastructure needed for setting up and applying e-government might cost the State a lot of time and money, while return on investment would certainly take time. In reality, most developing countries could not afford e-government implementation without financial aids (under various forms – foreign direct investment, official development assistant, etc.) and technical supports from developed countries; and the countries, if they do not want to incur an enormous sum of public debt, they might even have to exchange their national sovereignty for the funding. For examples: granting multinational companies (those are actually government-link enterprise of the developed countries) land-use right to build up industrial factories that is certainly harmful for the national environment and the citizens' health as revealed in the 'Formosa case study' in Viet Nam (Tuoi tre, 2017).

Furthermore, from an IT management point of view, socio-economic and political factors present to be most challenging barrier against E-government implementation. In fact, adoption of high technology requires large investment in IT infrastructure, security and privacy, IT Literacy skills, etc. Whereas, the developing countries with low-income economy, serious corruption matter, and high bureaucracy in the management system, could not prepare that many things at the same time.

In fact, insufficient financial resources and outdated Technological and IT infrastructure are seemingly expectable barriers of a developing country. In particular, these are: an outdated telecommunication network, low-technical support, resource standards and communication architecture policies and definitions; explicit references to ICT access; tele-density; collaborating systems, maintenance of government websites. Other challenges include a danger of existing systems being either complex or non-compatible with new systems; integration issues in respect of communication government departments.

Moreover, transparency also emerges as a major challenge in establishing an e-government service system. In reality, transparency often conflicts with private groups and individuals, which might result in a war among parties. Several barriers should be listed here, such as confidentiality, low bandwidth transmission, IT illiteracy, lack of a communication policy and a law related to confidentiality and security matters, etc.

Concerning IT Literacy and Skills areas, it is obvious that an e-government system seems useless if the officials – users do not know how to utilize it. In fact, many developing countries are facing problems of insufficient well-trained IT staff to operate and maintain the system. Even in many developing countries, there is the fact that a lot of senior government staff are unable to use a computer or high-technological devices to work. As a result, to effectively employ e-government, a developing country also needs to find a way to improve the government staff's IT Literacy and skills, which is certainly not an easy matter.

Regarding organizational barriers, those might be the result of either improper internal cooperation among related parties and stakeholders (e.g. government staff, national leaders, technical experts, the public, etc.) or unpredictable macro-environmental issues (e.g. political and cultural issues, economic crises, complexity and bureaucracy of public management systems, etc.).

Shortage of financial resource always appears as a national issue for the developing countries regardless of sectors. Shortage of money supply might postpone an e-government project, lengthen implementation timeline and ruin economic development plans. Lack of money might result from a weak funding plan, inaccurate cost estimation, and unexpected increase in facility-investment, and national economic crises (Carter & Belanger, 2004) [9].

2. Practical barriers to implement E-government in Viet Nam

As one of the developing countries of the region and the world, recently, Vietnam has been engaging in many changes to implement an e-government management system nationally. However, difficulties are obvious and serious to overcome.

Poverty is the main reason: For a developing agricultural-based country, the number of farmers and workers is still a burden to the national economic improvement, because of their low-education level and low level of adaptation to modernization.

Are farmers and workers the only class that is responsible for the resistance to e-government application?

2.1. Resistance to implementation from high level management

Vietnam government leaders have the heritage to prepare and follow the pattern of a generation-to-generation system, which causes resistance to any enhancing in governing activities. There are many reasons behind this resistance on part of government leaders.

Characteristics of father-to-son system: The long-term pattern is consistent and repeated without any possible interference or solution to stop. Unfortunately, this leads to political corruption in the country and even politicians are afraid to find a way out, but comply with it.

Leaders are resistant to adaptation: Not the farmers or the workers who are not educated to adapt, but the leaders, who excuse themselves by saying they are too old to learn and the young leaders, who are following their fathers; many of the current officials and high-level leaders of the Vietnam government are educated with an old and outdated management system. Many of them only have basic computer skills which prevents them from utilizing the effectiveness of ITCs. Moreover, although training is provided, there are certain problems regarding the quality of the training, trainers' and trainees' preparation.

Corruption and the promise to well-implement: The costly implementation of an e-government system is proved to occur. Instead of studying the way to eliminate the risk and cost, the existence of bribe, corruption prevents officers from taking the responsibility and producing the best work. Projects are proposed, budgets are planned and raised, but the results are disappointing.

2.2. National sovereignty and security

This is the international concept that many nations seem to misinterpret and mis-implement. They are the two-side characteristic that policy-makers have to consider.

Sovereignty: By definition, a government is bound to self-protect, so Vietnam's system seems to "over-target", however it is somehow ineffective. High-level leaders hold all the power and control over the provincial governments.

Security: The rules, chain of rules and regulations to protect the nation from any attack from the outside, concern any aspects: economic, geographic, human rights, etc.

Following Amer and Nguyen (2005) [10], the disputed borders have been a very intensive and long-lasting problem of Vietnam and its neighbours, especially China. It was the insufficient management plan in responding and the limitations in the military protection force of Vietnam (Amer and Nguyen, 2005) [11]. It was understandable that Vietnam lacks investment into high-critical or long-term managerial and strategical plans that can affect conflict solutions. As Dawes (2010) [12] points out, a strong internal system related to strict e-government may well facilitate the decision-making process in view of management and accumulating resources. For another situation, in the incident of Formosa, many people protested against the government as the assertion that the government involved in the incident directly or indirectly (Birsal, 2016) [13]. The condition was that the government activated society-related limitations, including Facebook, social networking, news, etc., in order to prevent any fraud information spread and damage the national security. A restriction sometimes occurs, i.e. during “peaceful” periods when people cannot access certain resources as they bear the label of “dangerous”. These are political decisions, which have been reasoned as a security plan, but they may sometimes have counter-effects on the development of a nation.

2.3. Central plan economic model

That is defined as the “political control of the economy (Tufte, 1978)” [14] has been one of the reasons for the inflationary economy in developing. According to Quang and Kammeier (2002) [15], at present, the government still prefers to practice the old management system, where top-down rules and regulations will be decided and targets are set by the upper State leader. The characteristics can also be noticed on the basis of “socioeconomic planning” – public government control over the planning and strategy as well as representing the majority portion in any public constructions (Quang and Kammeier, 2002) [16].

The downside causation has been pointed out as the government desires rapid development, however, it insists on staying with the old and poor planning and management system (Quang and Kammeier, 2002) [17]. In fact there are no specific units or institutions that have the full capacity or supportive tools to supervise, record and mandate the process. There would be no practical strategic idea, transparent numbers, feedback or measurement of finished work; as e-government is believed to provide the solution for the old system limitations.

In reality, the most important part is that the Vietnamese government influences enormously everything connected to the economic system, because other developed countries have the market (participating companies in the market) and have taken the flow of readjustment. Private investment is supposed to be plenty and fair as well as listed and informatively transparent. By deepening the restricted governmental system; Vietnam economy has been affected by the big “monopoly”.

2.4. Threat from opposing forces (political struggle)

In recent years, Vietnam has impressed the rest of the world with its growth rate (Kolinjivadi and Sunderland, 2012) [18] which shows the development in economics and in people’s living condition. .

However, research has been done and it has been established that these changes are only centralized, and it cannot be not generalized about the rest of the national population (Quang and Kammeier, 2002) [19]. So who is responsible for the answer of such complicated policy-related issues?

According to conspiracy theory, the struggles or problems can be blamed on certain individuals or groups, especially powerful or politically engaged.

Here, in the particular circumstances, conspiracy theory is used to explain why even though there are proofs of the benefits of applying e-government, the speed of adapting the system is considerably slow, somehow ineffective.

As proved above, e-government is capable to support the government to produce the productivity in saving long-term cost, transparent information systems, to facilitate decision-making, etc. (Dawes, 2010) [20]. In the reality of the benefit in developed countries, Vietnam still shows limitation in implementing the systems. What could the reason be?

Every change or political implementation happens on the initiative and with the acknowledgement of a country's government, in order to impose and make political decisions about national changes. In the rapid global trend of countries all over the world, Vietnam has tried to apply an e-government system as well as use it. The fact was that Vietnam has created its government website, in order to record and post up available data on the country's activities. Vietnamese government leaders started to publicise the usage of email and a hotline for people to send feedback directly to the leaders' business addresses. These could be the direct and physical changes that a citizen can experience so far, since many other hi-tech plans are still in a proposing and projecting period.

On the other hand, there were many changes in the regional economy that affect the decision of Vietnamese politicians such as the imposing of TPP, US's Presidential election, Formosa incident, disputed border of land and sea with China, etc. There are the direct effects that seem to force Vietnam to push its strategies for economic backup and security protection. Right after the US Presidential elections in the early 2017, President Donald Trump announced that he would abandon most of the alliances with many countries and groups of countries. This might lead to disadvantages for Vietnam in the further trading allowance and security support that were promised by President Obama. Even though the TPP can still be signed with many other developed countries, losing the opportunity of getting support from such big countries like US leaves Vietnam in an unsecured position.

Moreover, in the 2016, there were many attacks proposed by China through means of ownership of land, sea region, etc. These threats somehow are believed to create the incentives for Vietnam to push its national development and growth in order to increase as part of the strategy for sovereignty and security. The global application of e-government could be one of the solutions.

Even though, the reasoning was rational, the further implementation process of Vietnamese e-government is observed to be slow and ineffective. As interpreted above for restriction of low-educated farmers and low motivated leaders, other reasons for the problem can be pointed out as the hidden political threat from the outside. Besides the extreme threatening from China and the economic market, there is some proof such as that China has built upstream dams that affect water resources, water current, biodiversity, rice-rising conditions of southern city of Can Tho – the biggest city in the delta region (Borton, 2016) [21]. As the characteristics of an agriculture-based country, any effect on this essential city affect the productivity of the whole country (Borton, 2016) [22].

Besides these insignificant direct proof of outside threats, it is more important to understand the hidden impact that is based on the Vietnamese government's insufficient grasp of such developing tools. However, such possibility of interference from the outside raises the concerns of how they occur and if the problem is even more complicated when it comes to the Vietnamese government management system.

IV. Conclusion

In conclusion, this study provides a quick glance at e-government implementation in the developing countries. In alignment with technological advancements, paper-based management systems seem to be outdated and no longer able to help the government to effectively manage and develop the country. Moreover, low-transparency, high corruption, and large time-consumption seem to be the current challenges of traditional government systems in most developing countries. Hence, e-government, applying ICTs in government

management systems emerges as a solution for the developing countries such as Viet Nam to enhance their administrative and public sector management system. Nonetheless, despite the benefits and opportunities of e-government, there are too many barriers for effective adoption of e-government at national scale. Viet Nam's initial success in implementing e-government in trading areas with the application of cloud computing and modern infrastructure facilities is discussed as a positive case study. In any case, it also provides full understanding of the current situation of E-government application in developing countries such as barriers and restrictions based on theory review and examples of E-Government application in a Vietnamese context, which were discussed above. In addition, many points were discovered such as Characteristic of the father-to-son system, Leaders are resistant to adapt, Corruption and the promise to well-implement. Based on that, this study outlines some changes which impact strongly on Vietnam (as an example of a developing country) E-government application such as imposing TPP, US's Presidential election, Formosa incident, disputed border of land and sea with China, etc, are the direct effects that seem to force Vietnam to push its strategies for economic backup and security protection.

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Сп. „Реторика и комуникации“, брой 31, ноември 2017 г., <http://rhetoric.bg/>

Rhetoric and Communications E-journal, Issue 31, November 2017,
<http://journal.rhetoric.bg/>