

CONSTRUCTING E-GOVERNMENT IN VIETNAM ON THE BACKGROUND OF THE FOURTH INDUSTRIAL REVOLUTION

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Abstract: Nowadays, “E-government” has become the ubiquitous concept in worldwide because it has been constructed as well as operated in many nations that obtained the positive results. It is started from the perception of governments in manipulating the latest breakthrough of information technology to innovate organizations, management solution and government operation in order to improve the effect on social management. Moreover, the operating of e-government enhances the abilities of government to serve citizens and respond the increasing need of the democratic societies.

Obviously, e-government construction has been being the indispensable trend in the fast development of the Internet, information technology and especially, in the circumstance of the 4.0 industrial revolution. This essay focuses on explaining clearly the concept of E-government and the issues of E-government construction in Vietnam. From that point, the author proposes some measures to build and improve the model of E-government in Vietnam in the 4.0 industrial revolution.

Keywords: The fourth industrial revolution, E-government, E-government in Vietnam.

I. PREAMBLE

The fourth industrial revolution is changing basically the ways that world operates from the organizational model of society and economy to the method of operating and managing nation. The breakthrough in science and technology, especially applying Information and Communication Technology (ICT) in various fields in society, is creating a “smart” world that connects real world to virtual world with the highest level of the technological signal popularity that has been recorded. It is the golden opportunity to all nation in all over the world to fulfill their e-government model. Studying and assessing the development of e-government are necessary to help the activities of government happening effectively, practically and to be suitable for the trend of international development and integration.

II. CONTENTS

1. E-government and the fourth industrial revolution

1.1 E-government

E-government still is the hot topic that attracts much attention to countries and organizations to research. It is the term that is combined by two words: “*electronic*” and “*Government*”. It is started using in the 50s and has become to be popular since the 90s of the 20th century. Nowadays, there are some different definitions of this term.

Starting from the reality of government activities in many nations, the UN defines: “*E-government is the concept of the government agencies using information technology as a large scale network, the Internet, and mobile solutions to communicate with citizens, business and themselves, the government*” [1]. The World Bank publishes their definition:

“constructing e-government is the activities that government agencies manipulate systematically information technology to communicate with citizens, business and social organizations. Thanks to that activity, the activities of government agencies which regard to citizens and organizations can be improved and developed on the side of quality. The benefits will reduce corruption and enhance the transparency, convenience as well as contribute to the development and reduce the expenditure” [1].

Recently, they are the two definitions that are recognized widely and considered through the right direction of the strongly changing process of governments and nations from dominated management to served one with using electronic information system which provides public services to citizens and businesses.

According to Sally Katzen deputy director of the agency manages national budgets in the Bill Clinton presidential term of office: *“E-government involves access to government information and services 24 hours a day, 7 days a week, in a way that is focused on the needs of our citizens and businesses. E-Government relies heavily on agency use of the Internet and other emerging technologies to receive and deliver information and services easily, quickly, efficiently, and inexpensively” [1].* This is not only a brief definition, but also it points the differences among e-government and conventional government. The content of e-government that are shown in the concept, quickly become the goal in the conceiving e-government's strategies of many nations and made it to become the understandable definition and the most popular quote.

So, from the definition that referred above, e-government could be considered as the manipulation of the achievements in information technology of government and the way they contact with other factors in society, like citizens and business, in order to distribute services to the customer in unlimited time. E-government owns two notable characters: applying information and communication technology and improving effectively government activities help people and business completing their democratic rights and participating in government management.

Moreover, e-government comes toward reaching mutual relationship: government to citizens (G2C), government to business (G2B), government to employees (G2E) and government to government (G2G), to become more and more friendly, convenient and transparent. These relationships could be remained constantly by modern and timeless communicated transported devices. In long term, the electronic services could help reducing expenditure in providing government services. People have a trend using more and more electronic services of government because they do not have to travel, write letters or make phone calls to government agencies in order to require performing certain services. In addition, more and more services are supplied online, e-government could become the revolution in the relation amongst governments and citizens.

1.2 The fourth industrial revolution – characteristics and advantages

According to Professor Klaus Schwab, president of World economy forum,

Industry 4.0 or the 4th industrial revolution is the term involve a serial automatically modern technologies that exchange data and product. The fourth industrial revolution is defined as a group term that supports to the technologies and concepts involved in value chains which come together with the physical system in virtual space, Internet of Things (IoT) and the Internet of Services (IoS).

The first industrial revolution (1784) put an end to the dependence of humankind in the animal forces and human physical force and changed to use fossil energies and steam engines; the technological breakthrough in the second industrial revolution (1870) was electrification, wire and wireless communication, artificial fertilizer and form of electricities; the third industrial revolution (1969) is the breed of digital technological and communicational systems and the developments in computer technologies that programmed, created, processed and shared information. The fourth industrial revolution was born in the foundation of the third one. It emphasizes on the inventions, discoveries and the combination of 3 huge trends: physicalization, digitalization, biomedicalization. In other words, it is the combination of three worlds: the physical world, virtual world (digital world) and biological world. As similar as the third one, this industrial revolution is predicted to influence strongly, deeply to all the nations in the world.

It is obvious that this revolution will be strongly different from the previous ones which changed the production capacity of humankind and in turn, it is forecasted to modify completely our lives. The fourth industrial revolution makes the circumstance be more complicated because while there are many nations does not complete the other revolution (the

second and the third ones, included Viet Nam) and the new technologies have appeared and jumped through old technologies. It makes the disturbance that has never seen before.

It is true because in comparison with previous Industrial revolution, this industrial revolution will develop in geometric progression instead of arithmetic progression as in the other revolution in both in range and system effect. The new technologies of the fourth industrial revolution are improved in extremely high speed and with the theory breakthroughs that have come true, for instance: automatic cars, the application of artificial intelligence in online business, medical care and financial issues. All of them have been bringing the profound changes in social activities generally and the development of administrative state foundation in particular. In this revolution, the speed of invention requires that the administrative state foundation have to change to adapt to new demand.

It is obvious to see that this revolution owns its specific characteristics of previous ones. In addition, it has individual characteristics because it is the revolution that removes the boundary among the physical, digital and biological field, and it changes basically the practical, virtual and biological world of human society. The principle of the fourth revolution depends on the digital technology foundation and integrates all intelligent technology in order to optimize processes, production methods. Furthermore, it emphasizes the technologies that have huge effects for instance: 3D technique, biological technique, new material technique, automatic technique and robotics, etc. obviously, this revolution is changing strongly all sides of life, economy, society, especially in the field regarding to using technology.

Recognized the significant meaning of the fourth industrial revolution, many nations have prepared the suitable solutions to adjust privacies to support and improve the development of fields and areas in this revolution. In Viet Nam, Party and government especially pay their attention on this revolution that presented by speeches of head-leader of Party, State and Government and especially in 5th Central Party conference it was emphasized that one of the most important solutions that improved the development of economy and society, is “fulfilling institution in developing and applying science and technology, in education, humanforce development, particularly high-quality human resources to use achievements of the 4th revolution technology, renews the model of developing tin economy, improve the productivity, quality and competitiveness of economy.

Thus, the 4th revolution has been affecting strongly, deeply in all field, particularly in the productivity of industry, agriculture, services, and public health care. In the field of state management, the 4th industrial revolution plays a crucial role that influences particularly to organization structure, functions, and management methods. With the advantages in connecting, sharing information on the foundation of the Internet, social networks, email, transaction software, information reception, etc, they are the useful tools to help agencies of state and government obtaining chances and conditions to construct model of e-government which is smart, effective and compact especially in the circumstance of integration and development.

2. The issue of constructing the e-government model in Viet Nam at present

Constructing e-government is the indispensable trend in the fast development of the Internet and Information Technology (IT). In 1997, Viet Nam started using the Internet. While at that the period 1997-2003 just about 1.8 million people used the Internet (made up 4% population), in recent year, 2016, Viet Nam had roughly 52 million internet users, made up 54% population and ranked in the fifth position in Asia-Pacific area in the rate of citizens connecting to the Internet just ranked behind China, India, Japan and Indonesia. The figures illustrate the speed of development and the fast improvement of the Internet in communities and society. The need of the exchange, sharing, connection and the perception of people are improving constantly. This is one of the advantages to deploy building and operating e-government successfully.

In order to meet the demand to develop and modernize the state management, Viet Nam has step by step constructed e-government and achieved important positive results. Deploying and applying IT in the field of state agencies are synchronized from central to the local authority with the specific privacies for example: to carry out the one-stop-shop administrative reform, the model of central public administration, defining electronic-file of citizens and business in the transaction. According to E-government Development Index – EGDI- released in July-2016 (the context in 2013 and 2015) of The UN, Viet Nam ranked the 89th in 193 countries in the world, it increased 10 levels comparing with 2014; ranked the 6th in ASEAN just standed behind Singapore, Malaysia, Thailand, Philippines and Brunei. Furthermore, 3 indexes: online state service stood the 74th; communication infrastructure ranked the 110th; labor infrastructure ranked the 127th.

Through deploying the 36a/NQ-CP resolution (released Oct, 14th, 2015) of State Government in E-government, in present there are 29/30 ministries and the equivalent agencies and government agencies; 59/63 provinces, cities belonging Central Government have created plants for constructing e-government activities; 19/30 ministries and the equivalent agencies and government agencies; 63/63 provinces, cities belonging Central Government have published rate of progress processing files in Government Web Portal.

Deploying e-government actively, electronic state, many local authorities have issued the specific plant of activities and experienced in some agencies to apply, deploy and expand the positive sides of e-government. For instance, Hai Phong has approved and directed the people's committee in Ngo Quyen, Hong Bang districts to experiment the e-government model with 3 goals to decrease: time, schedule and expense to improve the result in administrative reform. Quang Ninh also has deployed enthusiastically the project of constructing e-government to improve the result of activities in administrative centers in districts and cities; deploying the digital certificate of organization to 42 agencies, units, and 2187 individual certificate to of 36 agencies and units. Ho Chi Minh city deployed Metropolitan Network (Metro Net) in 683 connection points of sub-units to serve effectively the operation, inter-connection the information system of direction and management at all levels. Da Nang city expanded the model of e-commune and fulfill e-district model... there is the positive signal in constructing e-government model, state creation, making use effectively of the advantages in information technology in management, operating the administrative state foundation, to make the favorable opportunities to people, organizations, and business in connecting, transaction and sharing to administrative agencies, creating the positive result in working.

In the previous years, with the direct carefully of Party (the instruction 58/CT-TW, Oct, 17th, 2000 of Politburo to enhance applying and improving IT to serve the project of industrialization and modernization of the country), the investment of State to infrastructure and IT have created the basic and necessary foundation to conceiving successfully the e-government. According to the insufficient statistics, in present there is 90% officer in the state agencies have been equipped computers in offices, the local network (LAN) has been deployed in all ministries, agencies and local authorities. In fact, 100% state agencies have the local network (LAN, Intranet, Extranet), 84% province offices are connected to the specially made network of Party and State. 100% ministries and equivalent agencies, Government agencies and offices in province center own website portal. About email system, the vast majority of ministries and local authorities have deployed official email system (domain: gov.vn, chinhphu.vn). In particular, 30 ministries, central agencies have deployed official email system; the provinces and cities belonged directly central authority, have deployed official email system to all their agencies and units.

The system to manage working files and documents was deployed strongly in ministries, branches and local authorities (in 2011: almost 1600 units; 2015: roughly 2600 units, increased roughly 62,5%). The using e-documents in the state activities belonging to the instruction numbered 15/CT-TTg, May, 22nd, 2012, of Prime Minister have been enhanced. In present, 80% of the document have been exchanged in electronic type among agencies. The number of administrative agencies in all levels which used LAN for exchanging in 2011 reached to 2900 units, in 2015 climbed to 3500 units, increased roughly 20,67%.

Deploying digital signature was taken care by ministries, branches, and local authorities through the regulations in the Decree numbered 170/NĐ-CP- Nov 13th, 2013, in changing, implement some rules of the Decree numbered 26/2007/NĐ-CP regulating the detail in accomplishing the e-transaction legislation of digital signature and the digital signature certifying service. This creat the convenience of the transaction, saving time, improve quickly working progress and the schedule in the administrative procedure.

It is clear that with the effort and determination of political system, the constructing the e-government model in our country recent years have achieved the positively important results, helped the administrative machine and agencies working positively and effectively to create the inter-connect among branches from central to local authorities, contributed in the changing of the approach method to regime of citizens. It reduces the burden in paper legal procedures; controls the performing legislation, avoids the corruption in certain administrative agencies.

Nowadays, in the background of the 4th industrial revolution, the constructing and fulfilling synchronously the model of e-government is the indispensable need in the international integration road-map and exchange relation; constructing and conceiving intelligent e-government, improving quickly the process of industrialization and modernization, take our nation to become the industrial nation in the modern tendency. In order to do that we have to make use of the advantages

of IT and the achievement of the 4th industrial revolution in state management, operation, creating the convenience and friendliness in the connection among authority and citizens.

However, because of the historical, cultural and social conditions as well as the perception level of citizens that are still insufficient, the operating e-government meet any difficulty. The deploying e-government just stood in the experiment in some provinces and cities where have the high economic level, synchronously developed infrastructure, strong labor force to use and apply effectively IT. In the other provinces, cities and mountainous areas, high position areas, distant areas, island areas, frontier, the e-government's constructing meets a lot of difficulty and challenges. In one hand, it is caused by the lack of infrastructure, investment capital for IT infrastructure; the lack of high-quality officer in IT, the behaviour of communication and conventional working of citizens (through broadcast radio speakers, paper documents, unwritten documents, respective people, etc) that creates the barriers which lead to the operation of e-government are asynchronous, and have not inter-connected yet. On the other hand, in the background of the breaking out of the Internet the remaining the security of national data, information ; data and account in bank system if often threatened and attacked by hackers with dangerous viruses in order to make profits, disturb and propagate the bad news, it makes the serious consequences in information security and the stability to the national political foundation and social lives.

Although we have advantages in speed and number of internet users and social networks, they only focus on teenagers. The limitation of using the Internet still appears in middle ages and elders. The administrative reform policy to integrate into one gate still shows the unappreciated side and unresponsive the diverse needs of citizens. The network and the connection usually break down. The working enrolment through the network to resolve administrative procedure is still limited, etc creating the negative respond of citizens about e-government model.

The achievement and limitation that mentioned above have stated the need of having the suitable solution that deals with either the developing trend of the world or the fact in Viet Nam in order to construct the e-government in Viet Nam in the present.

3. Some petitions to construct and develop the model of e-government in Viet Nam in the background of the 4th industrial revolution

Firstly, it needs the plants, specific and long-term strategies in the advance steps and waiting in front the achievement of the 4th industrial revolution. Learning the model and experience in creating e-government in developed countries (for instance: Sweden, Danmark, England, French, Germany, etc) in managing and operating countries. Improving co-operation and contracting treaties and memorandum in the investigation and exchange technology and telecommunication infrastructure with nations in the local area and in global to support and donate IT software, human force management; control information, avoid risks and threat in network information security.

Secondly, enhancing the development in education, technology and the adequate investment to IT infrastructure, synchronous telecommunication network, especially the low-level province, mountainous areas, islands in order to create the connection and interconnection between agencies from central to local authorities. Having the specific policies in educating and improving human force and administrative officers. Beside the professional skills, they have to acquire the necessary knowledge, experience to operate the e-government model to serve people. It need Expand experimented e-government model in the certain province (such ass Da Nang, Quang Ninh) to other ones as well as perform drastically reform the administrative procedures through applying IT and achievement on the administrative foundation transparently, scientifically, and modernly.

Thirdly, improving perception and ability of citizens in approach to the regime through Wed portal gate to present their aspiration, proposals, and petition and with government together work friendly, humanly and belong to constitution and legislation.

III. CONCLUSION

Obviously, the 4th industrial revolution has been influencing deeply to all the fields of life, economy, politic, and society of humankind, creating the profound changes to serve better human life. In order to take our country to become an industrial country modernly, the improving and applying effectively the achievements is the indispensable need, moreover, deploying successfully the e-government model that have to process synchronously in all areas of nations because e-government plays a role of a main interaction channel of State in domestic and foreign policies, resolve the inadequate responses, present the competitive abilities and attract foreign investment.

In order to do that, it is necessary to invest synchronously in technical infrastructure, IT especially improve the abilities and skills of officers to meet the demand of people in constructing a creative State and a start-up nation in the modern era.

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