

*Special Contribution*

**Local Governance in an Age  
of Technological Transformation  
and Global Uncertainty**

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# **Local Governance in an Age of Technological Transformation and Global Uncertainty**

### **Abstract**

Local governments are in the frontlines of the long chain of governance. For many citizens, local governments are the government. It is therefore critical that they are connected to the citizens. They play a key role as transmission belts between the national government and the people. They “localize” many of the programs and projects of the national government, appropriately placing such in a “local” context in order to make them responsive to the specific needs of the people who matter most in governance. Local governments operationalize good governance by being the main enablers of people participation and citizen engagement, which are central to any democracy. Information dissemination is central to the good governance discourse. Government has to communicate and disseminate to the people information pertaining to its policies, programs and projects. It is within this context that electronic governance has become very critical in the contemporary discourse on good governance. Apart from engaging the citizens who are the ultimate beneficiaries in good governance, electronic governance has had other usages. These range from simple information dissemination, to enabling dialogue with the people, to service and financial transactions and vertical and horizontal integration of programs and projects (Moon, 2002). Drawing from the experiences of other countries in the region, this paper discusses how local governments have played these roles given the rapid changes brought about by technological transformation in what has been called a VUCA (volatile, uncertain, complex ambiguous) dominated world. It ends by suggesting that e-governance, as a tool can contribute to the 5Es and an A, i.e., economy, efficiency, effectiveness, equity, ethics and accountability, of public administration.

### **Introduction**

We live in an environment of uncertainty. Global warming, international trade and trade wars, international security and the continuing threat of terrorism, the internet revolution and technological transformation have all transformed the world marked by volatility, uncertainty, complexity and ambiguousness, or what some have referred to as a VUCA world. Widespread developments and changes due to globalization have impacted all sectors of society at the global and local levels.

Local governments are the front liners in the long chain of governance. For many citizens, local governments are the government. Local governments play a key role as the transmission belts between the national government and the people. Essentially, they “customize” many of the programs and projects of the national government, appropriately placing such in a local context in order to make them responsive to the specific needs of the people who matter most in governance. Local governments operationalize

good governance by being the main enablers of people participation and citizen engagement, which is central in any democracy. It is therefore critical that they are directly connected to the citizens.

The previous years have witnessed developments in local governance all over the world. Rather than focusing merely implementing bureaucratic controls and processes, local governments have become more oriented on facilitating consultations to ensure representation of citizens' views, professionalization of public service and achieving results (De Vries and Nemec 2013), thereby enhancing citizens' trust in government.

Local governments must not lose touch with reality hence must continuously connect with their constituents. This enhances their legitimacy and acceptance by the people. Legitimacy comes from both the national and local political leaderships' commitment to public good and earn the confidence of its the citizens. Häikiö (2012) noted that governance practices emphasize the fact that legitimacy is constructed by way of a process. Insofar as local governance networks exercise power, authority and influence, the grounds for legitimate authority and activity are negotiated and interpreted through local practices.

There are many reasons why local governments are vital as they are involved in many facets of our societies. In the words of Shay Kelleher (2012, p. 217), "the concentration of finance, innovation, knowledge, economic activity and people in cities provides a dense and nucleated manifestation of human activity in a number of urban sectors." Local governments can create the necessary enabling conditions for better urban planning and management. Local governments have direct control over business licensing, inspection processes and permit authorization. Berggruen and Gardels (2013) stated that the power of cities and their immediate regions has grown to such a degree that mayors can wield as much clout as the leaders of an entire country.

Local governments often serve as intermediaries between policy design and implementation. They share the desire with the national government to quickly implement programs that will create jobs in their communities for they are made responsible for responding to citizens' needs and have the freedom to plan, implement and adapt policy processes and acquire necessary resources for development (Terman and Feiocky, 2014). Local governments serve as platforms for developing future leaders. They also ease the administrative burden of the central government. (Weedchayanon, 2015).

There is growing emphasis on how local economic development can be leveraged to improve access to economic opportunities for residents, particularly in cities where there is growing income inequality and a lack of economic mobility. Hence, inclusive economic development defined as "community-based strategies that aim to improve economic opportunity for all, with a focus on disadvantaged residents" (Robbins and McFarland, 2017, p. 16) has become a responsibility of local governments.

## I . Local Governments and E-Governance

The governments and governance systems of the various countries have not been exempted from uncertainties of the VUCA environment. It is within this context that e-government has emerged not only as a management tool to improve administration and make it more efficient to cope with the demands of a rapidly changing environment, but more importantly, as a governance tool to allow individuals to participate in government, and enhance transparency and accountability in governance. E-government pertains to the utilization of new gadgets, processes, and technologies to facilitate availability and expedite the provision of public goods for the people, commerce sector and professionals in different industries. (Silcook, 2001, pp. 88). How technological revolution has transformed the nature of governance at the local level has been variously referred to as electronic governance, e-government, and digital governance, among other things.

Rising people's expectations, increased technological sophistication, and competition from other local governments provide the impetus for continuous improvement of e-government and website upgrading. Internet utilization at the local level has also become increasingly visible. Similar growth patterns have characterized the development of e-government in among various countries in the world. The early stage is described to have an official government digital footprint by having several online sites. It is followed by an extended presence that offers more dynamic and specifically tailored information via downloadable forms across a wider range of government websites. As local government units enlarge e-government presence, they begin to incorporate related transactional online services and forms linked to higher level systems within and across different levels of government. (Wohlers and Bernier, 2016).

An advanced stage of e-governance can fulfil its role in enhancing the good governance and the democratic process. As Lee-Geiller and Lee (2019) put it, this range from simply making information accessible to the citizens, to providing mechanism for consultations and participation in decision-making processes.

Indeed, the use of the internet has made local governments not only a rich mine of relevant and useful information ranging from tourism, to election results and job postings, but also has become an enabler of civic engagement in terms of political discussions and individuals' involvement in local groups. (Wohlers and Bernier, 2016). Kim et al. (2011, p. 9) have asserted that the "internet is helpful for becoming more involved in local issues of interest" and to feel more connected with others. Thus, e-government initiatives can augment people's participation and reinforce connection to local governments, which serves as a foundation of democracy

It is within the current situation depicted above that the following section makes an indicative survey of the experiences of some countries in the region and discusses in a broad manner how local governments have harnessed e-governance to advance the ide-

als of transparency, accountability and participation in an increasingly complex, uncertain world of limited resources, now that the rapid and unpredictable changes brought about by technological transformation are becoming inevitable.

## **II. Experiences of Some Asian Countries in E-government:**

Digital governance became predominant in Asian continent in the early twenty-first century despite the colossal overhaul of various governments and economies in the region in order to keep up and stay competitive in the new era's multifarious developments. The course of development was influenced by the clamor for modernization among these governments. These included changes in management practices, streamlining the agencies, liberalization, privatization of several state-owned enterprises, and the easing regulations to among other things, address chronic problems such as excessive red tape and corruption. (Warf, 2014). It was within this context that various governments pursued e-government programs to respond to demands for greater accountability, transparency, and better results.

### ***China***

The first stage of China's e-government focused on automation of office work. Building upon the first phase, the Golden Project was launched that included three different programs: the Golden Bridge, the Golden Customs, and the Golden Card. These programs electronically connected all of central and provincial governments and established a postal data network and a database to process national and international trade information. It also started a centralized online banking system. (Yang and Xu, 2010). In 1999, to unleash the potential of the Internet, the Chinese government launched the Online Government Project aimed at establishing websites for all government agencies, including local governments for the purposes of coordination and people mobilization (Cooley, 2017)

Government Online was followed by Enterprise Online, which concentrated on e-commerce. In 1998, China's first government-to-business e-commerce website was built in Xiamen, which enabled government purchases to be tracked online. In 2001, the State Council, the Communist Party's agency that undertakes such tasks, issued the China E-Government Application Model Project (Warf, 2017). China made rapid advancements in e-health, including online medical records (Gao et al., 2013). These endeavors were bolstered by a broader stratagem to change the nature of the state from direct supervision to macroeconomic management, gain control over corruption, unify technology standards, enhance responsiveness, increase productivity, and increase trade and industrial competitiveness under the National Information plan. (Warf, 2017).

Local governments were thus left with room for innovation as they adapted content and functions to suit local conditions. (Schlaeger and Stepan, 2017). At the local level, wide variations exist in the degree to which e-government initiatives have been adopted in Chinese cities (Fan and Luo 2013). Local governments are granted considerable autonomy in the degree to which they may implement such measures, with wide varia-

tions in the quality of websites and services (Shi, 2007).

Not surprisingly Beijing, Shanghai, Nanjing, and Shenzhen have taken the lead in on-line company registrations, tax collections, and community information services (Tan, 2013). Shanghai metropolis, a major commercial center, is the best-connected city in the country and it has become China's most successful example of municipal e-government. Many Chinese cities have also turned to social media to disseminate information; for example, many local police departments use Twitter and microblogs (Ma, 2013).

China's highly centralized political system presents challenges to implementation of e-government initiatives, including contradicting goals, poor interagency coordination, and offices with bloated staff numbers. Nevertheless, according to Bell (2015), China, in many respects, is able to deliver the public goods that matter most to its people's hearts – economic growth, good infrastructure, national prestige, and swift responses to their concerns.

China exhibits how e-government can successfully affect a large number of people when it is powered by a strong political leadership such as the multiple Golden projects and Government Online. (Warf, 2017). China's programs are designed to encourage material prosperity. It is also a source of popular support for the ruling Party. A challenge that China should face is the digital divide that is predominant in the more remote regions. (Yang and Xu, 2010).

### ***Japan***

Japan is renowned for its deep pockets and high technology with a sophisticated information and communications technology infrastructure. Its plans for e-government originally lagged behind other OECD (Organization for Economic Cooperation and Development) nations (Koga, 2003). Today, however, it has established an impressive *denshi seifu* (e-government) and *denshi jichitai* (e-local government) system. Internet connection is ubiquitous, at prices likely the lowest in the world and with connection speeds 16 times faster than in the United States. However, as in most nations with conservative cultures, e-government initiatives in Japan have met resistance, largely due to a rigid, overly cautious bureaucracy and lack of political will to change. (Warf, 2017).

First steps toward e-government included a "Master Plan for Promoting Government-Wide Use of Information Technology" in 1994 (Warf, 2017, p. 20). The Basic Law on the Formation of an Advanced Information and Telecommunications Network Society was passed by the National Diet (Legislature) in 2000. In force since 2001, this law presumed the presence of a high-information communication networked society. (Wohlers and Bernier, 2016). The highly successful and the highly praised e-Japan Strategy I in 2001 became the basis for all subsequent e-government programs (Warf, 2017, p. 20).

Its successor, e-Japan Strategy II in 2003, offered ambitious goals that relied on both

public and private efforts. (Yonemaru, 2004). The program eliminated many regulatory obstacles to internet use and accelerated penetration rates considerably. In 2006, this was followed by the u-Japan program (u for ubiquitous, universal, user-oriented, and unique). In 2009, the i-Japan 2015 Strategy promoted digital inclusion and innovation through networked smart devices, emphasizing e-government, health care, and education; it also recommended a national e-post office box or digital locations for the storage of individual public records (e.g., social security). These initiatives are typical of the top-bottom directives that have long characterized Japanese politics. (Warf, 2017).

With the world's most rapidly graying society, and vast numbers of people over age 65, Japan faces a peculiar challenge bringing e-government services to the elderly, many of whom are not comfortable with digital technologies.(Warf, 2017).

Local e-government is omnipresent throughout Japan; nearly every prefecture has a council to examine and adopt plans for the phenomenon (Arai, 2007; Kubo and Shimada, 2007). The Local Governments Wide Area Network, which was finished in 2003, links all city and provincial administrations with each other and the central government. Under the oversight of the top leadership, Japanese cities have implemented e-government in a wide range of modes and levels of sophistication (Tanaka et al., 2005), ranging from almost little involvement among some villages to intergovernment local area networks. (Warf, 2017).

Japan is a wealthy and sophisticated society with enormous potential to use e-government to maximum effectiveness. Unfortunately, a persistent digital divide and a very traditional political culture discourages innovation and risk-taking and has hampered progress. There is, however, an extensive variety of e-government projects, with mixed results, at the municipal and prefectural levels. Some of its greatest successes have been in serving the elderly and in terms of disaster preparedness. Overall, progress in the e-government can easily change should the political climate become more open. (Warf, 2017).

### ***South Korea***

With 51 million people, South Korea entered the information-based economy and as a resurgent society. Starting in the 1990s, it developed a world class telecommunications infrastructure. A long series of policy directives paved the way for the country's success. In 1987, the government launched its Project for a Nationwide Communications Network, which planned to construct basic databases of the government's documents. In 1993, steps were taken to forge a nationwide fiber optics network, and in 1995 the government passed the Framework on Informatization Promotion Act. (Warf, 2017). Lim and Tang (2008, p. 110) noted, "the Korean government launched the G4C (Government for Citizens) portal for public service transactions in 2002 and, in 2006, a citizen participation portal that enables the populace to engage in policy discourses and present their ideas to public policy makers online." In 2011, the Smart Egov Plan was adopted aimed at integrating government online services. (Warf, 2017).



As a newly industrialized country, Korea uses its e-government system to cater to its business community. The Korea Online E-procurement System (KONEPS) has drastically reduced corruption in the allocation of public contracts. The Electronic Customs Clearing Service streamlined import and export businesses by providing logistics through a one-stop hub. All tax activities and patent applications are processed online. Korea's e-government is also well-known for the high quality of its services. West (2007), in an analysis of e-government websites the world over, rated South Korea as having the best of such kind. In 2003, the United Nations ranked Seoul's official website as the world's best municipal digital portal (Warf, 2017).

As in any country deploying e-government, the digital divide in Korea has been a concern. Internet access falls into three categories: Seoul, other cities, and rural areas (Hwang, 2004). The capital's residents tend to show the highest rates of usage with e-services such as banking. Developments of the digital government were accompanied by a sustained public awareness campaign to promote Internet use, including subsidized access. Despite these successes, e-government in Korea sometimes has been the recipient of hostile public responses, as in Japan. In part such protests reflect distrust of the state and the lack of formal privacy protection laws. (Jho, 2005)

The massive successes Korea experiences at the state level are replicated at the local scale. As in many nations, political power in Korea has been decentralized to the local level. According to Lim and Tang (2008), the quality of e-government websites differs among municipalities, with the most effective ones being run by a determined local administrative unit. Seoul is at the pinnacle of the world's most interconnected smart cities, with a well-developed, networked infrastructure. (Lee et al., 2014). In 2011, the government announced the "Smart Seoul 2015" program to sustain the Korean capital's status as a paragon of e-government. (Warf, 2017, p. 32).

South Korea has one of the best e-government systems not only in Asia but in the entire world. No better example of citizen-centric e-government can be found, and no other country displays the breadth and depth of Korean e-government programs. Its success stories is a result of determined leadership to harness the Internet to propel its economy and society. With its superb ICT (information and communications technology) infrastructure, high technological expertise and an engaged civil society have made a thriving digital and information society in Korea very possible. (Warf, 2017).

### *Taiwan*

Taiwan's e-government has been considered among the more successful ones in the world today. The national government has staunchly pursued a capitalist path with American support since 1949. With 23.5 million people, its export-oriented economy includes impressive industries in electronics, industrial machinery, and petrochemicals. Taiwan has both the resources and the political framework to implement e-government in a democratic fashion. The Taiwanese success in implementing e-governance stands in sharp contrast to China. (Warf, 2017). Taiwan's Government Service Network offered

Internet access to all government units at all levels. It has attained seamless integration. This project began in 1998, with a backbone structure that was built on fiberoptics and was later enlarged to include three network centers and 17 network nodes, encompassing the entire island. (Chen and Hsieh, 2009).

The progress of the Taiwanese e-government was given its current institutional structure through the Electronic Government Program, from its political leadership in April 2001 (Lee et al., 2005). The structure and organization of Taiwan's e-government reflects a single-service window approach. The smooth service capability is not available at a single ministry or agency website. Instead, they are redirected to the central e-government portal (Lau, et al., 2008).

The best known example of Taiwanese e-government program is its online taxation. (Hung et al., 2006). It uses blogs to keep users up to date about changes in rules and regulations, and users can share tax-filing tips and experiences. (Warf, 2017) Other applications include online vehicle registration, job-matching sites, electronic contracts acquisition, tariff applications, and utility services. The government's Certification Authority is responsible for quality assurance. (Warf, 2017)

Citizen participation is essential to good e-government. Taiwan has made available several digital avenues for the people to state their opinions and complaints. The e-governance of the central government is more focused on the application of certain laws while the digital governance practices of local governments tend to revolve around essential everyday information. (Warf, 2017)

Although it is a relatively small island nation, nonetheless, geographic differences in Internet access and the quality of e-government exist in Taiwan. The government is well aware of the digital divide there and has taken active steps to mitigate it (Yu and Wang, 2004).

### ***Philippines***

The Philippines with a population of more than 100 million people, still has a dominantly agricultural economy. However, it has seen some growth in garments and electronics production, as well as call centers. Literacy rates are high at 93%. Filipino overseas workers' remittances make a significant contribution to the economy as well. Mobile phones are widespread; the country has been called the Short Message Center of the entire planet, with 100 million texts sent everyday, generating a higher number per capita than any nation. (Warf, 2017).

Attempts made to incorporate IT in the government were initiated with the establishment in 1971 of a National Computer Center. In 1994, the Philippine state conceived the National Information Technology Council, which initiated course of action towards the adoption of computers. The passage of the Public Telecommunications Policy Act of the Philippines, was another milestone that liberalized the industry. The origins of Fili-

pino e-government may be said to lie with Republic Act 8792 or the Electronic Commerce Law of 2000, which gave legal acknowledgement to digital documents, signatures and transactions. (Warf, 2017). Siar's (2005) analysis showed that most were lacking substantial information, including relevant contact information, what services they offered, or online forms. Only a few offices attempted online management of property records or business permits and licenses.

Intensely aware of this challenge, the government responded by establishing community e-centers established under e-LGU program. Privately operated, they are much cheaper than Internet cafes. Most, if not all public-funded schools have acquired Internet access via the *Gearing up Internet Literacy and Access for Students (GILAS)* project. (Warf, 2017). Other actions include financing for rural Internet connections, computers with Internet connection in public libraries, the distribution of free (open source) software to schools, and open online courses in some remote areas) (Sanez, no date). The Philippine state has attained modest successes in e-government. The Department of Management and the Budget unleashed the Government Electronic Procurement System as the authorized portal for requesting and accepting proposals on public projects (Lallana et al., 2002), increasing transparency in the process and reducing corruption. Another success story concerns telemedicine. In 1998, the University of the Philippines founded the National Telemedicine Center, which manages referrals from 40 doctors in remote areas around the country (Marcelo, 2009).

In 2002, the Filipino government commenced the Jumpstarting Electronic Governance in Local Government Units (e-LGU), to encourage them to develop web pages and develop a system of 700 community e-centers to provide Internet access. In 2005, virtually all local governments had websites, although many were not updated frequently and few offered interactive services. There are a number of local government units that spearheaded e-government initiatives despite little assistance from the national government. (Warf, 2017).

An example is LGU Naga's Barangay eSkwela-Barangay Literacy Worker (BLW) program, a comprehensive approach to promote education for out-of-school children, youth, and adults (OSCYAs). (Neola, 2018). Another laudable case is Valenzuela City's Simple and Speedy Public Service Program or 3S in Public Service, intended to root out graft and corruption, flatten the organizational structure of the city government, simplify business processes, and encourage the community to provide feedback on how to further enhance public services. The number of transactions were streamlined from 11 to three and it now takes only 20 minutes to obtain a business permit (Galing Pook, 2012).

The Philippines is able to deliver e-government services, although to a lesser degree than its more advanced contemporaries due to insufficient ICT and transportation infrastructure, and a persistent digital divide. It is unique to the extent to which it relies on SMS texting. Hindered by corruption and a frequently sluggish economy, the govern-

ment has nonetheless successfully adopted several e-government programs, although there is still much progress to be made. (Warf, 2017)

### ***Indonesia***

With more than 250 million people, Indonesia is the world's fourth-most populous country and the largest Muslim nation. Private initiatives to create an Internet in Indonesia date back to 1994, when the first ISP, IndoNet, began. (Warf, 2017) Following a long tradition of highly centralized leadership, Indonesia moved decisively to grant provinces greater autonomy, starting in 1999, which made local e-government initiatives all the more significant. To facilitate this process, the Indonesian state in 2003 published a handbook of e-government. (Rose, 2004).

Indonesia's implementation of e-government has been slow and haphazard, and hampered by several obstacles. The telecommunications infrastructure is underdeveloped, and its regulatory framework could be much improved. The necessary initiatives seldom receive appropriate support. The government has not invested much in human capital or technical skills. Many regional and provincial authorities simply have a rather lackluster attitude. Furthermore, corruption renders the budgetary allotments shredded and sluggish. (Wahid, 2004; Rose, 2004).

The government does engage in modest Internet censorship. In 2008, a Law on Information and Electronic Transactions entered into force, which gives authorization to block and/or take down content such as pornography, anti-Islam, gambling, and incitement of hatred. (Warf, 2017). The Takalar (Sulawesi) and east Kutai (Kalimantan) districts moved some services online in 2000, reducing the time needed to obtain permits and identification cards. Kutai Timur had the best of 400 local government websites in the country (Rose, 2004), with a one-stop portal (Warf, 2017). Investment permits can be acquired in half an hour. Similarly, Gorontalo city took commendable action to bolster transparency with its web pages. The brightest spot in local e-government in Indonesia is the Regency of Sragen, in central Java, which has been particularly successful with its one-stop portal approach, Kantor Pelayanan Terpadu (KPT, One-Stop Services). The so-called Sragen CyberRegency developed a wireless network and a website that includes a citizen forum, news service, tourism information, statistical data, search engine, licenses, teleconference features, complaint desk, and civil registry office. It issues 52 types of licenses online. It has conducted Indonesia's first, and only, Internet elections, for a village chief. (Warf, 2017). Indonesia may still be behind its neighbors in implementing e-government due to the lack of ICT infrastructure as well as insufficient finances, lack of qualified personnel, corruption and apathy. Although a few notable local examples exist, there has been little systematic and coherent strategy for using the internet to serve citizens. (Warf, 2017).

### ***Malaysia***

An exceptional model of a Muslim democracy and an economic powerhouse, the Malaysian state has enjoyed rapid growth, increasing incomes, trade surpluses, and a

growing middle class. It has a long track record of successfully pursuing ICT as a national development strategy. It is rare to see e-government initiatives to be so clearly employed in the service of national goals as in Malaysia. (Warf, 2017). Malaysia is regarded to be triumphant in utilizing the Internet to deliver community services; indeed, e-Services was one of the first pilot projects when e-government was introduced (Hussein et al., 2010). The initiative emulated the widely used “one government, many agencies” principle to incorporate public services, including online delivery of drivers’ licenses, court summons, and tax and utility bill payments. (Warf, 2017, p.71) The Rilek services program offers Internet access to the public with touch screens at information desks, where they can pay fees, penalties, and bills with a credit card. (Warf, 2017).

Two noteworthy success stories come from two different fields. First, the taxation regime known as the Inland Revenue Board (IRB, or in Malay, Lembaga Hasil Dalam Negeri) (Azmi and Bee, 2010), rearranged the tax filing procedure by employing ICT. (Dorasamy, M., Marimuthu, M., Raman, M., and Kaliannan, 2010). In an attempt to enhance participation, the office added a new highlight to the e-filing system, e-bayaran or e-payment, in which taxes can be paid through banks. (Warf, 2017). Second, e-procurement enabled the government to take into account the interests of the economic elites to a considerable extent. This great achievement, called e-Perolehan, is a website ([www.eperolehan.co.my](http://www.eperolehan.co.my)) which debuted in 1999 at a cost of RM35 million (\$12 million), and allows registered firms to propose bids for government contracts, promote their products online, and receive government compensation digitally. (Warf, 2017).

Local authorities in Malaysia have implemented an e-government system in their public service delivery system. Many public goods such as bill payments, license application and planning submissions are controlled online through local government websites. Additionally, e-government in local authorities aims to provide effective and high-quality administrative services online to residents. These service provisions enhance convenience and accessibility and enable the government to be more attentive to the needs of its citizens. (Mohamed and Xavier, 2016).

Despite the evolution of e-government at the local level, conventional public service apparatus still holds a larger influence. Warf (2017) stated that local authorities face even greater challenges than does the national level. Most have insufficient funding and the IT (information technology) skills are lacking, and some have availed of the service of unreliable software providers. As in many other countries, there is a reluctance to share data and best practices in different agencies and offices. Given the notable differences in standards of living between peninsular Malaysia and the two provinces on Borneo, Sabah, and Sarawak, the country is being hounded by a considerable digital divide (Genus and Nor, 2007)

To summarize, Malaysia has been performing much better in e-government at the national rather than the local level (Warf, 2017). Due to its development stage being much more advanced than most of its neighbors, it has been much better in using the

digital age's advantages.

### ***Singapore***

A highly advanced, multiethnic city-state of slightly more than four million people, Singapore is one of the world's premier e-government success stories. As one of the "new tigers" that followed the Japanese industrialization model, it transitioned steadily into high value-added infield of technological R&D, financial services, steel, chemical, and heavy industries. (Warf, 2017, p. 73) A highly trained and educated populace also paved the way for its e-government programs, among the best in the world. In 2016, Singapore's Internet penetration rate was 81%, third highest in Asia, following South Korea and Japan. (Warf, 2017).

Singapore's e-government initiatives started as early as 1980, with the Civil Service Computerization Program and then, in 1981, with the National Computer Board. (Warf, 2017). Its evolution then advanced in several waves, including the National IT Plan (1986-91), the IT2000 Master Plan (1992-99), and Infocomm 21, which began in 2000 with a series of forums and surveys. It proceeded to accelerate the modernization of government web pages and e-government, with the hope of creating an "intelligent island" (Ke and Wei, 2004, p. 96).

A core emphasis of Singapore's e-government framework is the intense cognizance of interactions that exist between the government and citizens. The e-Citizen portal offers a one-stop hub for information and services. Citizens pay penalties and taxes, apply for licenses, acquire information about public facilities, and download government publications through the Internet. (Baum, Yigitcanlar, Mahizhnan, and Andiappan, 2007).

There are, however, some challenges. The question has been raised, does e-government promote democracy in Singapore? Though a parliamentary democracy, Singapore has a long history of authoritarian tendencies. E-government, however, has amplified transparency in government decision making and bolstered the people's faith in the government. (Warf, 2017).

While Singapore is a world leader in IT and e-government, it is also known for being strict and censoring the Internet regularly (Roldan, 2000; Gomez, 2002). However, this all stems from the belief that economic development, public safety, and a devotion to the long-term public good is a duty of the government. From the beginning, its designs were inclusive and people-oriented (Ha, 2013), a major reason why the city-state excels in digital governance.

### ***Thailand***

In 1986, Thailand created the National Electronics and Computer Technology Center, reorganized in 1991 as the National Science and Technology Development Agency. In 1993, Chulalongkorn University initiated Internet connections. Its e-government projects date back to 1994, when the Sub-Committee of Promotion of Utilization of Informa-

tion Technology in Public Organization implemented the computerization of government offices and the promotion of ICT capacity building for employees. Soon thereafter the state promoted the use of electronic data interchange among public agencies. Furthermore, Thailand's e-government initiatives have earned a modicum of success. For example, the Royal Thai government's primary webpage was designed as a one-stop, citizen-centric portal. Other than links to different agencies, it offers daily news a public forum, and a plethora of services, including digital fees processing and procurements. (Warf, 2017, p. 68).

The country has not shown decisive leadership on the issue of e-governance. City-level programs are virtually nonexistent, and with a few successes (e.g., schools, health care), it has introduced only a few programs out of the possible range of applications. (Warf, 2017). There are a number of significant impediments in spreading e-government at the Thai local administrations such as insufficient skill in software engineering, obsolete equipment, audit and inspection challenges, the administration of content and data, and a digital divide among the well-off and struggling citizens. (Sagarik, Chansukree, Cho, and Berman, 2018).

Despite the advantages of more frequent e-government usage in the fields of local government, the improvement of ICT infrastructure and the increase in internet users, Thai local e-government is still at the initial stages of e-government progress. This implies that the current state of the Thai e-government has concentrated more on broadening the utilization of e-government and has paid less attention to advancing to the next stage of e-government development. Additionally, certain problems in ICT use exist, such as the low competency of officers in software applications, the management of information and structures of monitoring systems. (Jareonsubphayanonta, and Narotb, 2016).

Thailand may have started early in implementing e-government initiatives. Thailand has had modest achievements in digital governance. However, the government's commitment through the e-government 4.0, shown through the support from the executive department is noteworthy. With the right reforms and the construction of new ICT infrastructure, it can easily hold its own against other countries in e-government. (Sagarik, Chansukree, Cho, and Berman, 2018).

### ***Vietnam***

Mobile phone use in Vietnam is very regular and constitutes one of the primary outlets for accessing the Internet. It is also one of the world's strictest Internet censors. (Warf, 2017). Vietnam got a very late start in implementing e-government, and did so precisely as reformers began the gradual shift to a more market-based society. The first initiative were welcomed by the French authorities (Thao and Trong, 2015). It was not until the 1998 high-profile meeting among ASEAN countries in Hanoi that then-Prime Minister Phan Van Khai professed Vietnam's intention to build an e-government. Two years later, the government signed the e-ASEAN Framework which signalled a

pledge to digitalize the public sector. (Linh, 2018)

At the simplest level of e-government —websites that offer information— Vietnam has made several gains. All provinces have developed their own websites to various degrees of usability. Virtually all public offices are connected to the Vietnam Wide Area Network (CPNet), built in 1997. Vietnam's lack of success in e-government is reflected in, among other things, the country's relatively low rate of Internet saturation; for many people in rural areas, the ICT is simply unaffordable (Warf, 2017). Nguyen and Shauder (2007) note the digital divide challenge in Vietnam. Many segments of the population are not yet ready to use the Internet effectively. (Obi and Hai, 2010).

Vietnam's greatest edge lies in local demand, as in the instances of Indonesia, South Korea, and Thailand. The legal system is Vietnam's Achilles heel. This again demonstrates the Vietnamese government's reluctance to fully welcome the potential of e-government to promote democratic practices in their territory. The e-government process for Vietnamese public services is most similar to the Chinese experience, even though the latter started the whole process much earlier. For both countries, efforts are concentrated on applying ICT to internal government processes to improve management capacity, providing community goods through digital government applications. (Linh, 2018).

In Vietnam, websites have been created in all provinces and cities and content management systems have been employed to maintain them. Although the data of each provincial and municipal website have been modified and changed frequently. (Linh, 2018). Requests for online content are strong only in small numbers of major cities such as Ho-Chi-Minh City, Hanoi City (the capital), and Da-Nang City. The most sought after e-government website content and services include governmental information, online registration and licensing, customs, information and the means by which businesses and citizens can voice their thoughts to influence government policies and the performances of local government departments. (Tsai, Purbokusumo, Cheng, and Tuan, 2009). So far, in these major cities, the provision of current website content and e-government applications have not captured significant interest from local citizens and the business sector (Vu and Jones, 2005). In general, more developed Vietnamese provinces and cities, where IT infrastructure is relatively well designed, deliver better online information, and their e-government performances fare well. (Tsai, Purbokusumo, Cheng, and Tuan, 2009).

Vietnam may have began late but it is gradually making progress in e-government. Although the actual implementation of Vietnam's e-government started in as recent as 2009, it is in its nascent phase. The government utilize e-governance to bolster access and provision of services to its people, but there are challenges, especially the inadequate ICT infrastructure and awareness among its citizens. Without a robust political will and an authentic dedication to enhance transparency in its public affairs, such a costly project like digital government, Vietnam's efforts may become case of a fought



for naught like in most African nations. (Linh, 2018).

### ***Brunei***

Brunei Darussalam is a small country with a population 420,000, but is a very resources rich sultanate in northern Borneo. Its enormous oil resources gives it revenues that are considered to be one of the highest per capita incomes in the world. Brunei has taken action toward implementing e-government initiatives (Kifle and Cheng, 2009). However, the initial stages of e-government in the country have been seen to lack direction, slow and uncertain. It took the ministries three years to start e-government due to the pressure to implement, no clear objectives, inadequate ICT skills, and the lack of a decisive leadership with enough authority. (Kifle and Cheng, 2009).

In 2007, a package of programs were underway to biometrically scan passports to speed up movements through airports and borders. The E-government National Centre was founded, and in 2009, a five-year E-government Strategic Plan started with the goal to further professionalize and equip the civil service with new technologies and make the state more user-friendly. The “Internet for Schools” project attained Internet connections in all of the country’s public schools, including religious ones. (Warf, 2017, p. 82). The Digital Government Strategy 2015 intended to lead digital modernization and make government services more friendly, faster and more accessible to support greater efficiency and collaboration, and to develop all stakeholders’ experiences, government procedures and programs that require transformation and constant enhancement. (UNPAN, 2016). This small country was able to reach most places with IT is due to its size and financial capability (Warf, 2017).

Through the years, the government has learned from its mistakes as it crafts new plans. With its attempts to spread ICT usage, it is their hope that citizens will gradually become acclimated to e-governance and build up their skills in the process, leading to higher acceptance and participation rates. (Kifle and Cheng, 2009).

### ***Cambodia***

A small country of 14 million people devastated by war , including the American invasion in the 1970s and the Khmer Rouge genocide, Cambodia has struggled to find a place in the global economy. Predominantly rural and agricultural, it has nascent industries in garments and back offices (Warf, 2017). The literacy rate is only at 69%. In 2016, its Internet presence was only at 25%, well below the world and Asian average usages. However, 94% of Cambodians say they have mobile phones, 39% have smartphones (Phong and Sola, 2015). It is in the earliest stages of e-government. In 2000, the ICT Development Authority was founded, authorized to create and maintain information networks. The government has since issued a set of programs to encourage ICT use, though with modest success. The country’s most significant initiative into e-government was the Government Administration Information System (GAIS), which began in 2000 and was devised to include an electronic document exchange system as well as registration systems for real estate, tracking jobs, school attendance, and tax payments, ve-

hicle licenses, and safety inspections (Sang et al., 2009, 2010). The New National ICT Policy of 2015 included calls to promote ICT skills, expand women's participation, and alleviate the digital divide. This was followed by the approval of the Cambodia ICT Master Plan 2020, which aimed to advance the ICT industry and human resources management, internet connectivity, cyber security, and government e-services. (Kevreksmey et al. 2015).

While there has been modest presence of e-government in the national level, it is almost non-existent at the local one. Most national and local political and economic leaders, are not educated enough to employ technology in order to deliver public goods. (Vannarith, 2016). In order to be able to offer decent e-government service, sufficient knowledge and skill, robust equipment and trained manpower are prime requisites. Crafting and realizing e-government services for different local conditions is imperative and the government must, at least considerably, invest in constructing information and communication technology (ICT) infrastructure even in the most remote regions. However, there are some limited gains in the areas of real estate registration, resident registration and vehicle registration. The systems serve as effective tools for local authorities to combat and deter crimes related to properties. Over the years, proper registration of real estate, residents and vehicles have increased government revenue. (Phu, no date).

Cambodia's leaders have realized the digital age's growing importance as in the words of Zimeta (2018), our top leadership is economically liberal and mindful of the nation's image in an ever increasingly-interconnected Southeast Asia. With good ICT infrastructure, better policies, and continuous ICT skill development, it will have moved in the direction of eventually launching e-government services for responsive governance.

### ***Laos***

Laos has a modest populace of 6 million. A state with no maritime territory, that holds "the title of being the most-bombed country in human history." Warf (2017, p. 66). He noted that it is one of the least developed Asian countries and is highly reliant on "subsistence agriculture." Warf (2017, p. 66). It remains a staunch communist nation. The Internet is administered by the National Internet Committee under the Prime Minister's office, yet censorship is insignificant. Most of the telecommunications operators are state-owned, but there are two private ISPs (Internet Service Providers). As with many highly undeveloped states, most people live in rural zones where there is almost no Internet access, and ICT skills are rare. IT equipment is unusual and Internet service is very costly. It does not have a clear IT strategy. Laos, in a similar situation with Cambodians and the Burmese (Myanmar), its imprint on e-government is so miniscule that it is considered nonexistent. (Warf, 2017).

However, Warf (2017, p. 66) states, "The Lao E-government Action Plan in 2006 implemented the Lao National E-Government Project." Fiber optics was installed in Vientiane, its center of power. According to Kim (2018, p. 43), "The shortage of the 2006's na-

tional plan is the weakness on establishment of the controlling agency designation and the cooperation mechanism within the line ministries.” Plus, there is in-fighting among the relevant government offices. Vientiane built a national e-government service center to synchronize digital communications among agencies, and founded 16 provincial e-government service centers throughout the nation. (Warf, 2017). Then, “it launched its own satellite, LaoSat-1, in November 2015.” (Warf, 2017, p. 66).

Warf (2017) further pointed out that the National Bank of Laos is gradually shifting to online banking. The National University of Laos began distance-learning courses for learners in the far-flung areas. The Ministry of Public Security implemented a national electronic citizen ID system. The Lao Decide Info project has a series of databases for census, housing, agriculture, mining and hydropower. It proactively takes action to build and maintain interactive websites, although its capability is still inadequate. In 2013, it accepted online registration of trade and operations licenses and has founded a Computer Emergency Response Team, an agency focused on combatting Internet crimes. It has also entered into cooperative agreements with China, South Korea and Vietnam to bolster its ICT capacity.

In the Lao capital of Vientiane, there is some form of e-government. But in its provinces, lack of human resources and ICT infrastructure within its mountainous terrain and landlocked territory are challenges. There are plenty of operational websites operated by its public agencies, but there are also hidden problems such as broken SSL (Security Socket Layer) certificates, sluggish updates, incorrect translations, redirection malfunctions, databases without content within, etc. which further hamper the progress of digital governance not just at the national level, but especially at the local one. (Kim, 2018, p. 21).

Laos is learning that what makes digital governance initiatives less successful stems from the lack of coordination among agencies and stakeholders, and insufficient ICT infrastructure and skills. The late passage of a related “digital document law,” further hinders its national plans to implement a decent e-government. (Kim, 2018, p. 95). “China suffered the delay of its development due to the same problem.” (Kim, 2018, p. 95). Its decision to enter into collaborative arrangements with its neighbors is wise. Warf (2017) recommends that Lao authorities have had to minimize internal jostling among its agencies, then craft and implement a national e-government framework. A central agency has to be tasked with coordination and given the corresponding authority to make binding decisions.

### ***Myanmar***

Myanmar (formerly Burma) is one Southeast Asia’s poorest and most isolated countries, chiefly ruled by an authoritarian military administration. E-government has taken root in Myanmar in spite of these challenges (Oo and Than, 2008). In 1996, the Myanmar Computer Science Development Law was enacted. With the state under military junta administration, and with little Internet access or ICT experience, programmers devel-

oped a font so that they could communicate in their language. The Ministry of Science and Technology developed and implemented several ICT national strategies. By 2003, some agencies had built their own websites, and over the next decade almost all 32 had done so. The country passed the Electronic Transactions Law in 2004 to lay the political-legal framework for the digitization of government programs, including electronic records and signatures as well as punishment of Internet crimes (Blythe, 2010).

When the military government fell from power in 2011, changes became more prominent. The government set up an e-National Task Force and passed cyberlaws while seeking to augment the number of ICT professionals. It teamed up with the Asian Development Bank in 2013 to draft a systematic plan for e-governance. (Warf, 2017). The state initiated an e-procurement system (Xinhuanet, 2004), and the government now accepts online applications for visas. (Warf, 2017). The government has also uses IT in selected parts of the education sector. (Mar, 2004).

Many municipalities have developed their own web pages. Myanmar.net, a Burmese-based website company, created and maintains most government websites. Like other developing states, they also have considerable mobile phone usage. (Warf, 2017). Thant (2015, p. 9) stated, that the Tamu township in Myanmar, a small locality at the Myanmar-India border, has been prospering due to a trade agreement with India in 1994. Thant (2015, p. 71) added that the area is a remote region in the Burmese state so there is a severe lack of electricity, slow Internet connection, little to no awareness of ICT, and scarce IT skills, which present barriers to e-government adoption in Myanmar.

The case of Myanmar is very similar to the other less developed states in Southeast Asia where there is a lack of good ICT infrastructure, a dearth of IT skills, and little to no awareness of the peoples toward technologies. Its traditional culture favors conformity and discourages risk-taking and disruption. However, the state is playing catch-up with its contemporaries, learning best practices and sharing knowledge with its neighbors. Harmonizing the programs of its native language's writing system with the international community will enable it to interact with other nationals and to improve the ease of doing business (Warf, 2017), thereby improving its image to investors. Building the citizenry's ICT knowledge and acceptance of it is the right step towards modernization.

## **Summary**

The emergence of electronic governance among local governments in Southeast Asia has largely been a result of many factors and imperatives.

From a broad perspective, e-governance can contribute to the overall democratization of a country. It provides the enabling framework for citizen participation in governance, which is at the heart of democracy. It enables the citizens to articulate their demands. It is can be a mechanism for citizens to monitor the implementation of

government programs and projects and provide much needed feedback to improve the delivery of basic services. As our various country experiences have shown, governments are able to provide information to the citizens through the websites to enable access within the context of transparency and openness. Seen from a framework of good governance, it is all about transparency, accountability and participation.

From an administrative and management standpoint, e-governance is a mechanism that, simply put, improves administration to improve the management functions of the local governments including records and files storage and payroll administration among other things; to enable citizen participation in the process of governance by improving access to information through publication of critical information about basic services of the government available to them. In addition, still within the context access, and again as the country reports have shown, e-governance enables the people to obtain basic services from the government such as filing applications for business licenses, permits, etc. E-governance also facilitates communication and dialogue with the people. It enables the government to obtain feedback ranging from evaluating the general performance of government to as micro as reporting broken streetlamps and street potholes, such as simply sending a pictures of such through their smart phones to the relevant authorities for them to act upon. Seen from a management framework, it is about efficiency and effectiveness.

The cases in Southeast Asia have shown that a number of factors should be considered in assessing and determining the directions and strategies for a successful e-governance program or project at the local level. These also have to be appreciated within the proper context. These include the following:

- There has to be a broad policy and enabling framework—a law—that would provide the basis for e-governance. This should be accompanied by an implementing framework, which is some kind of a road map, for implementation. In the case of Japan, it was called a master plan that would detail the implementation activities. Brunei had a five-year E-government master plan. The Philippines had its E-government master plan as well as Public Telecommunications Policy.
- Leadership and political will matters. E-governance policies are only good if implemented properly. This is where a determined leadership, characterized by political will as demonstrated by the case of China, is very critical.
- Continuous capacity building is important. Capacity building here includes recruitment and training of appropriate qualified staff to work in the local governments. They may come straight from the universities or technical schools or may be transferred from other agencies, including the national government with the intent of building local capacities.
- E-government programs at the local level should be accompanied by appropriate funding support. The rapid development in the field of information technology accompanied by the imperatives to continuously upgrade equipment, hardware and software must be provided budgetary support by the local governments. This

could be incorporated as regular items in the local governments budget and should remain for priority funding.

The adoption of e-governance by governments in general and local governments in particular has not been without challenges. As the country studies have shown these include the following:

- **Capacities.** In relation to the imperatives for successful e-governance, many local government, especially those in resource challenged countries simply lack not only the appropriate and technically qualified staff, but also lack adequate budgetary support for e-governance. This is where continuous capacity building programs are important. But this has to be aligned with the national policy and strategy on e-governance, a sine quo non for successful e-governance.
- **Censorship.** Within the context of open government necessary for a democracy, there have been fears of censorship. This is true mostly for authoritarian, or authoritarian-prone, countries where data that reveal the weaknesses of the government, say statistics that reveal government's inability to address poverty in spite of the much touted anti-poverty programs, are not made available, and hence seen as censorship.
- **Digital divide.** The so-called "digital-divide" has also been seen as a challenge among many countries including their local governments. The divide has been seen at the international, national and individual levels, between the rich and the poor countries, between the national and local governments, between the richer and the poorer people and also between the digital literate and digital non-literate. It is therefore important to bridge the divide. But paradoxically, as efforts are being made to bridge the divide, the danger of actually widening the gap has happened.

At the level of theory and ideology, E-governance has been seen as a powerful tool for citizens to, among other things, participate in the process of governance, to articulate their needs and concerns, to access information, to provide feedback to the government. These all could be seen as instruments enabled by a democratic framework. The ultimate goal - and perhaps test - for good e-governance should be its contribution to the process of democratization and strengthening of democracy.

In the name of improving the administration of processes embedded in government, e-governance essentially makes doing business with government easier and simpler. As the country studies have shown, these range from the application for permits to open a business, licenses, birth certificates, passports, etc., to the payment of taxes, land registration, building and construction permits, etc.

In sum, e-governance may be located within the framework of what may be called 5Es and an A. Classic public administration and management have always embedded the principles of Economy, Efficiency and Effectiveness. As we have seen, e-governance

as an administrative tool can contribute to the classic 3 E's of management. However, public administration should not be limited to these 3Es. Being "public," it should also address the 2Es which as Equity and Ethics and Accountability. E-governance can therefore contribute to equity by promoting democratization targeting the disadvantaged in the digital divide, and also ethics and accountability by promoting transparent and accountable governance.

#### Note

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