



Exploring E-Governance Development in Large Populace Countries in the World

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Abstract— Countries all over the world are going towards digitized society, where most of the services of the government to its citizen are delivered online or digitally. E-governance development is seen as an indicator of a country's development, and so every country is putting much effort in e-governance development. As per the United States E-Government Survey 2012, the steady improvement E-Government Development Index (EDI) score has led to a world average of 0.4877 as compared to EDI score 0.4406 in 2010, which reflects that countries in general have improved their online service delivery to cater to citizen needs. Most of the countries have begun to shift from decentralized single-purpose organization model of e-government to an integrated unified Whole-Of-Government (WOG) model, which supports and strengthens the service delivery with interconnected departments and divisions; and improved efficiency and effectiveness in public service delivery. There are lots of obstacles and challenges for achieving this. Low income and high population, higher illiteracy is some of the commonly found challenges. Countries with largest populace such as India, China, and Indonesia, these challenges are very intensive; even then, these countries are striving hard to excel in e-governance development. United States though not really falls in this category, but this country rank 3rd in the largest populace country list, and so exploratory studies on the e-governance initiatives are done on this country.

Keywords— e-Gov, E-Governance, Large populace Countries, WOG

I. INTRODUCTION

The quicker pace in technology development and the growing need for getting things done with the help of technology has become the order of the day in the world. Technology with its ever expanding nature provides space for anything that could be accomplished with right application. The growing need for the governments to become more efficient and effective, more focus on citizen-centric, forces the governments all over the world in showing keen interest in delivering services to the people by transforming their traditional service delivery to e-service delivery. Majority of the countries are in this transformation period striving towards a Whole-Of-Government approach (WOG) to service delivery [1]. There is a growing body of evidence in the direct and indirect impact on the populace arising from improvements in the delivery of government services through Technology.

In this race of providing efficient services many countries have implemented one-stop portals, online transactions and modes for e-participation, the results are showing that the progress is still in its infancy. The ultimate aim of each government is developing more citizen-centric, inclusive services through connected governance structures is yet to be realized. Countries are under a great pressure each time like economy recession, inflation, natural disasters, unpredictable diseases, budgetary cut offs, uncontrollable population, and ever expanding needs of the populace. Still, they need to strive hard to achieve the common goals of providing an improved environment for the betterment of the common man.

In this category, countries with largest population are undergoing tremendous efforts in creating this over all inclusive and Whole-Of-Government services to its populace. This paper explores the e-government initiatives of the first four largest populace countries, identifying the challenges they face, and the possible solutions for them. A uniform comparison of the developments of a small country with a big country, sometimes never gives the true picture. Because each country depending on its facts and resources, it has to grow and develop. Vis-à-vis, as UN's e-government Survey opinions that countries with population over 100 millions have made special efforts to improve service delivery to majority of their populations in spite of all the exclusive challenges they face. Countries with larger population, with lower per capita income finds it difficult in investing more on their ICT and other infrastructure development, where as for the countries with lesser population and relatively high income, the marginalized cost in investing on development projects and increasing the reach of the projects is minimum and easy. For example, India has about 4000 times the population and about 130 times area of Belize. Also, the Gross National income of India is nearly about one quarter of Belize, here the efforts needed for the Indian government in providing e-government services is far greater than that of Belize (UN's E-government Survey 2012).

With the economic downturn, the cost associated with investment of ICT infrastructure, development cost associated with e-governance initiatives are considerably having less importance than providing basic services to the people such as

safe drinking water, good medical facility, basic education etc., It is understandable, that the e-government brings down these operational costs, and provides effective service delivery and paves ways for the decentralized and sustainable development, still the marginalized cost in availing them is a problem.

In this context, this paper has been focusing on discussion the e-governance initiatives of the top four large populace countries around the world such as China, India, United States and Indonesia. The major thrust of this paper is on the e-readiness, successful e-governance initiatives, and efforts towards Whole-Of-Governance and also bottle necks in achieving them. This is mainly a research on the secondary data, such as online contents and desk research.

A. E-Governance

World Bank defines E-Governance as “The use of technology to enhance the access to and delivery of government services to benefit citizens, employees and business partners”.

E-Governance involves new styles of leaderships, and innovative means for debating and deciding policy and investments, accessing education, and increasing citizen participation in government’s activities and effective ways of organizing and delivering information and services [2]. The other commonly used definition of e-Governance is SMART Governance. (Simple, Moral, Accountable, Responsive and Transparent governance)[3].

UN E-government Survey 2012 [1] depicts (Table I) that on the world level, the e-government Development Index (EDI) shows a progressive development in going up from the last years’ world average of 0.4406 to 0.4877 measuring in its 0-5 point scale. The emerging top leaders in e-government development are Republic of Korea with 0.9283, Netherlands by 0.9125, United Kingdom by 0.8960, Denmark by 0.8889, followed by United States with 0.8687 and France with 0.8635. Undertaking e-government services targeted on user-centric public service delivery being the key point in raking these countries. The Networked Readiness Index (NRI) score of these toppers being Republic of Korea 5.46, Netherlands 5.81, UK 5.64, and Denmark 5.58 followed by US 5.57 and France with 5.06 [4].

TABLE I
E-GOVERNMENT DEVELOPMENT INDEX OF THE TOP PERFORMERS

Rank	Country	E-Government Development Index (EDI)
1	Republic of Korea	0.9283
2	Netherlands	0.9125
3	United Kingdom	0.8960
4	Denmark	0.8889
5	United States	0.8687
6	France	0.8635
7	Sweden	0.8599
8	Norway	0.8593
9	Finland	0.8505
10	Singapore	0.8474

The ranking on Infrastructure and Digital Content Index (IDI) places Korea in the 20th rank with the score 6.12, Netherlands secures the 11th place with 6.48 points, Denmark is in the 14th place with 6.40, US is in the 7th place with 6.80, in the 10 point scale derived from Global Information Technology Report 2013 by World Economic Forum. The e-government considered to evolving towards maturity through four stages as given in the following diagram by Gartner [5].

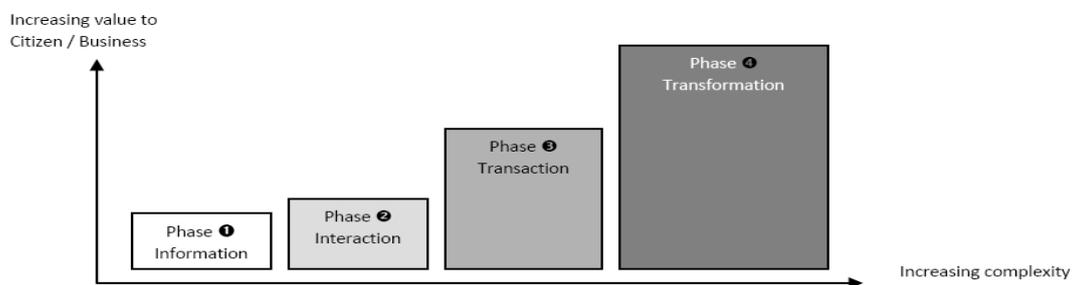


Fig. 1 E-Governance Maturity Model by Gartner [5]

These phases have been categorized based on e-commerce and e-governance experiences in Europe and other western regions. They are state 1: Web Presence – the initial stage where government websites are setup to provide basic information to its citizen. State 2: Interaction – government websites facilitate the tools for interaction such as emails, search engines, document downloads etc. Stage 3: Transaction – online transactions can be made by citizens or stakeholders. Stage 4: Transformation – Where all the government operations are integrated and customized i.e., made Whole-Of-Government [6]. Status of E-Government development in selected countries and the largest populace countries are given in Table II and Table III sourced from [1].

TABLE II
STATUS OF E-GOVERNMENT DEVELOPMENT IN SELECT COUNTRIES

Name of the country	Stage I Emerging Presence	Stage II Interactive Presence	Stage III Transactional Presence	Stage IV Networked Presence	Percentage of Utilization
United States	100	90	88	83	67%-100%
India	100	64	33	38	34% - 66%
China	92	55	40	38	34% - 66%
Indonesia					

TABLE III
E-GOVERNMENT DEVELOPMENT IN THE LARGE POPULACE COUNTRIES

Country	E-Gov. Development Index		World e-Gov Development Ranking		Population
	2012	2010	2012	2010	
China	0.5359	0.4700	78	72	1.341
India	0.3829	0.3567	125	119	1.225
United States	0.8687	0.8510	5	2	310
Indonesia	0.4949	0.4026	97	109	240
Brazil	0.6167	0.5006	59	61	195
Pakistan	0.2823	0.2755	156	146	174
Nigeria	0.2676	0.2687	162	150	158
Bangladesh	0.2991	0.3028	150	134	149
Russian Federation	0.7345	0.5136	27	59	143
Japan	0.8019	0.7152	18	17	127
Mexico	0.6240	0.5150	55	56	113

China the world's largest populated country has the population of 1,341 millions, followed by India with the population of 1,225 millions. The next in the list is United States which is a developed country, has the population about 310 millions only followed by Indonesia with the figure as 240 millions. In this four countries India, China and Indonesia falls under the developing economies in Asia, and US falls under the developed country as per the group classification of International Monetary Fund 2012.

II. E-GOVERNANCE IN CHINA

China the worlds' largest populated country has the population of 1,341 million with the land area of 98, 06, 391 sq. ft. has the e-Government Development Index rank of 78, has the Networked Readiness Index score of 4.03, ranks 51 in the ranking of 144 countries. The percentage of internet penetration in the country is 42.0 and has nearly 564,000,000 internet users [7]. The Chinese government invested considerably in the growth of the internet for its commercial benefits. Having a strict political monopoly, Chinese e-governance efforts are having a slow start-up [8]. The noteworthy progresses of Chinese governments' e-development have started in the year of 1990. These series of important projects are started with the aim to promote the economic and commercial development shown in Table IV sourced from [24]. They are Golden Bridge Project, Golden Card Project, and the Golden Gate project.

The Golden Bridge Project aims at providing a public network of economic information, that links up private and government department networks across the country. The Golden Card Project is an initiative to introduce the e-banking idea in China. The Golden Gate Project seeks to connect the foreign trade sectors with banks, and customs service, the inquiries and applications could be made electronically and efficiently. The success of these golden projects paves way for other projects such as Golden Sea Project which builds a data network directly to top administrative and government leaders, the Golden Tax projects modernizes tax collection work in the country [9].

TABLE IV
THE GOLDEN PROJECTS OF CHINA

Name	Purpose of the Project
Golden Bridge (Jun Qiao)	Building a public Network backbone and international network interface that could transmit data, voice, image and other multimedia information/contents.
Golden Card (Jin Ka)	Establishing an electronic-based financial transaction systems and information service. Nearly 200 million credit cards across 400 cities to be in use by 2003.
Golden Customs (Jin Guan)	Establishing networks that can handle foreign-trades, taxes associated, foreign currency settlements, domestic returns, and an interface for data interchange like statistical database
Golden Sea (Jin Hai)	Building a data network that links top government leaders with other organizations, and stakeholders of Communist Party Central Committee.

Golden Hong)	Macro(Jin)	Developing an interface that supports the state economic and policy, along with databases of industrials, taxations, prices, investments, resources, capital energy, transportation and information exchange etc.,
Golden Tax (Jin Shui)		Computerized tax collection, and fund flow throughout China
Golden Intelligence (Jin Zhi)		A Platform for academics and research professionals for information sharing within the Country and Internationally.
Golden Enterprise (Jin Qi)		Building a country-wide enterprise and product database for an integrated enterprise target and distribution system.
Golden Agriculture (Jin Nong)		Building and monitoring agricultural supervisory committees, also forecasting etc.
Golden Health (Jin Wei)		ICT enabled information providers on health issues
Golden Information(Jin Xin)		Developing real-time information flows
Golden Housing (Jin Jia)		Building a platform for property information exchange and sharing.
Golden Switch (Jin Kai)		Building China's Domestic digital switch manufacturing industry
Golden Cellular (Jin Feng)		Platform for unified/coordinated mobile communication strategy and to develop national roaming standards and systems

Digital Cities are one important part of China's e-Government Scheme, which aims at virtually online cities. Most of the cities are having online presence, some cities have launched integrated service platforms but they are not single-windows services [10]. The country has allocated 4 million dollars in its annual budget exclusively to the development of e-government. Apart from that the amount spent on ICT infrastructure development etc is more than 20 million dollars [11].

As per the E-Government Survey of 2012 given in Table 2 above, the government websites which are in having emerging presence is nearly 92%, the tools for interaction between the citizen and the Chinese government are 55%, and the websites that are providing transactional services are just 40%, and lastly the websites that are integrated to provide a one-stop-service are 38% percentage only. This makes the total percentage of utilization of the e-government development in the country is nearly 34% - 66% only.

A. Problems

The largest constraint on the E-government Development of China is the mindset of Chinese Bureaucrats in adapting to the transformation. New principles of rational administration which embraces information sharing, value of public's right to information should be formulated [8]. The percentage of the internet users is very small in comparing to the total population of country still they make the considerable percentage in the percentage of world's internet users. Even for these users, the insufficient bandwidth of network results in slow speed internet communications. The digital divide between the urban and rural areas still intensifies the need for a considerable investment on ICT infrastructure development that spreads all over the country, and inclusion of all areas of the country. The sheer land size of China is another problem; where the ICT infrastructure distribution is not even, and the IT literacy is lower [12].

III. E-GOVERNANCE IN INDIA

India, the second populace country in the world has the population about 1,189,172,906 with the land size of 3,166,944 sq. km. According to UN's E-Government Survey 2012, the E-government Development Index is 0.3829 and ranks 125 in the ranking of 171. The online Service Index being 0.54, ICT and infrastructure development score is 0.11. By 2011, the internet users in the country are 121,000,000 which make a meager 10.2 percentage of the total population says, World Economic Forum 2013.

E-Governance in India has steadily progressing from the computerization of all government developments to the e-governance initiatives that promotes the decentralization of services, citizen centricity, transparency and efficiency. This progress has been encouraged by the formulation of National e-governance plan (NeGP). The ultimate aim of this NeGP is to bring public services closer to the citizens, the vision statement of NeGP is "make all government services accessible to the common man in his region, through common Service delivery channels, and ensure transparency, efficiency, and reliability of such services at affordable costs to comprehend the basic needs of the common man" [13].

This NeGP governs and controls the e-governance initiatives across the country. Under this NeGP umbrella, the following types of initiatives: Central Initiatives, States Initiatives and integrated initiatives. As on 2011, there are 31 numbers of Mission Mode Projects (MMPs). A Mission Mode Project is an individual project with NeGP, which focuses on the development of one sectors of the electronic governance such as agriculture, income tax, banking etc. These MMPs follows the defined objectives, scopes, measurable outcomes within the stipulated timeline and milestones [14]. The initiating authority of this mission mode projects, are Central government and State governments. Some MMPs are

integrated and are initiated both by the state and the central governments. The following Table V gives this categorization sourced from [14].

TABLE V
E-GOVERNANCE INITIATIVES UNDER NEGP

Central MMPs	State MMPs	Integrated MMPs
<ul style="list-style-type: none"> • Banking • Central Excise & Customs • Income Tax (IT) • Insurance • MCA21 • Passport • Immigration, Visa and Foreigners Registration & Tracking • Pension • e-Office • Posts • UID 	<ul style="list-style-type: none"> • Agriculture • Commercial Taxes • e-District • Employment Exchange • Land Records(NLRMP) • Municipalities • e-Panchayats • Police(CCTNS) • Road Transport • Treasuries Computerization • PDS • Education • Health 	<ul style="list-style-type: none"> • CSC • e-Biz • e-Courts • e-Procurement • EDI For eTrade • National e-governance Service Delivery Gateway • India Portal

The core components of the country's e-governance infrastructure are State Wide Network (SWAN), State Data Centres, Service Delivery Gateways, Common Services Centres, and GI Cloud (MeghRaj). The SWAN is the converged backbone network for voice, data and video communications throughout a state and or union territory. Steps have been initiated to integrate all SWANs using National Knowledge Network (NKN). Already Gujarat, Tamil Nadu, Karnataka and Andhra Pradesh SWANs are integrated using NKN. Currently SWANs in 28 states of the country including Pondicherry, Meghalaya and Mizoram have been operational. In the remaining states and Union Territories, the implementation is in the final stage.

State Data Centres are another element of the NeGP infrastructure, which facilitates the seamless service delivery either by SWAN or CSCs. Common Service Centres (CSC) are the service points at village level which provides high quality and cost effective voice, video and data content services in all areas such as education, health, telemedicine, entertainment etc., currently there are more than 97,439 CSCs all over India connecting all Gram Panchayats with Broadband and Optical Fiber Network [15]. State E-Governance Service Delivery Gateway (SSDG), National e-Governance Service Delivery Gateway (NSDG), and Mobile E-Governance Service Delivery Gateway are the middle wares which supports the core infrastructures. GI Cloud (MeghRaj) provides the platform for the cloud based computing for e-governance projects.

Several State Governments of the country have taken various innovative measures to promote e-Governance and have their own road map for IT implementation and delivery of services to the citizens online. These applications are targeted towards affording G2C, G2B, and B2C services with emphasis on use of local languages [16]. Each state government is having its own website which provides the important information such as the state administrations, Who-is-who, information on welfare schemes, links to important departments in the state, and a communication mean to communicate with the state administration. Department's under the state are having their own websites, which provides the e-services ranging from agriculture information to information of crop management, land records services to obtaining licenses, obtaining birth certificate to Aathar Identity cards.

As per the E-Government Survey of 2012 given in Table 2 above, the government websites of India which are in having emerging presence is 100%, websites with the tools for interaction between the citizen and the government are 64%, and the websites that are providing transactional services are just 33%, and lastly the websites that are integrated to provide a one-stop-service are 38% percentage only. This makes the total percentage of utilization of the e-government development in the country is nearly 34% - 66% only.

A. *Challenges of E-governance in India*

1. **Social Context:** According to the 2011 census, 70 per cent of the Indian population is a rural population, that too with nearly 30% of the population as illiterate population, which makes a significant challenge to the utilization of digitized services. The language being another important factor, majority of the population is not familiar with English language, which keeps them away from internet where 80% of the web site contents are in English. Digital divide, and economic divides the poor and rural population, from availing and using digitized services. The bureaucrats, policy makers and administrators are not paying significant interest on this also.

2. **Infrastructural and Technical:** According to ITU, the internet diffusion in India is still in the low level, only 10% of the population uses the internet, in comparable to the 27% of the Asia region. Also the teledensity in rural area is just 33% whereas in the urban it is 80%. ITU 2012 shows that there are nearly 15 million fixed broadband subscriptions availed in India which makes only 1.23% of the country's total population. The Economist (2010) shows that in the 70 countries surveyed, India is in the 58th place on the Digital Economy Rankings (E-readiness ranking). Though mobile penetration is picking up, the telecommunication infrastructures are still inaccessible to all parts of India.

3. **Economical:** World Bank pinpoints that nearly 68.8% of the Indian population lives merely \$2 a day. The rural population mostly a poor population, non-availability or in-adequate availability of the infrastructure in the rural areas is again another important reason for the digital divide. The ownership of the ICT infrastructure, availing of internet connection is still a burden on the economic side of the rural population. Mostly, the city centered internet service providers makes it difficult for the rural populace to access the internet. Having majority of the population living in rural, where the ICT infrastructure development is much to be developed, makes a bigger challenge to the e-readiness and e-government which is to be addressed quickly and thoroughly.

4. **Security:** Lack of Safe internet usages and the growing number of cyber crimes, panicking citizen reluctant in sharing their personal information on net or using internet for their sharing their vital information like financial and personal. This makes poor utilization of the transactional services electronically. Fool-proof secured ways for information sharing over net should be devised.

IV. E-GOVERNANCE IN UNITED STATES

United States, the third in the list of largest populace country in the world has the population about 313,847,465 with the land size of 9,629,047 sq. km. The E-government Development Index is 0.8687 and ranks 5 in the ranking of 171 countries. The Networked Readiness Index is 5.64 and ranks 8 out of 144 countries. This is an advanced economy country where the internet users are over 245,203,319 which makes 78.3% of the total population shows, World Economic Forum in it's the Global IT Report 2013. Country's Online Service Index is 1.000 which places the country in the top ranker in the rank list of online service providers by United Nations E-Government Survey 2012. The USA E-government Task Force 2002, the E-government Strategy is given as "targeted at improving the quality of services to the citizens, businesses, governments and government employees, as well as the effectiveness and efficiency of the federal government". The recent news of technology-led campaign of President Obama, in his presidential election shows the greater improvements in the U.S. e-government system [17].

Comparatively U.S. has lesser population and more land area, also it is an advance economy that India, China. Comparing the e-governance scenario of these countries would not justify the e-governance efforts of the population intensive countries like India and China, but as an exploratory study, this country has been included in the study. The U.S. as the largest developed country owns the most advanced National E-government Infrastructures (NEIs) in the world. As a democratic government structure and capitalist economic system, it has adopted the three strategic principles in e-government such as the services are citizen-centric not bureaucracy-centered, the services are result-oriented and are market-based which promotes innovation actively [18]. A complete set of laws relating to development of e-governance is there such as the Electronic Freedom of Information Amendments, The Computer Security Act, the Critical Infrastructure Protection Act, The Government Paperwork Elimination Act, and most importantly the Electronic Government Act [19]. This pro-active environment boosts the e-government processes further to the successful path.

West argues that, though U.S. e-government initiatives have been successful, still there are lots to improve. Nearly 89% of U.S. e-government websites are online, and 40% of services that are available as some type of foreign language translation. The initiatives are not fully utilized as only 3% of U.S. Government websites are available from PDA/mobile [20], considering the telecom boom and increased utilization of handheld devices; this should be taken into consideration.

According to UN E-Government Survey 2012, the country has more than 80% of its e-governance initiatives operational with the following categorization; almost 100% of the service delivery has the emerging web presence, 88% of interactive web presence, and 88% of transactional presence and 83% of networked presence. Total the percentage of utilization comes nearly 67% - 100% which places the country in the top performer in the E-government developments. A Report by U.S. General Accounting Office Report lists that the challenges for implementing e-government are sustaining commitment to the executive leadership; building effective e-government business cases, maintaining a citizen centric approach, securing personal privacy by implementing appropriate security controls, maintaining electrical records and a advanced technical infrastructure and ensuring uniform service to the public [21].

V. E-GOVERNANCE IN INDONESIA

Indonesia, the fourth in the list of largest populace country in the world has the population about 245,613,043 with the land size of 1,904,443 sq. km. The E-government Development Index is 0.4949 and ranks 97 in the ranking of 171 countries. The Networked Readiness Index is 3.84 and ranks 80 out of 144 countries. This is a Developing Asian economy where the internet users are over 55,000,000 which make the internet penetration as 22.4% shows World Economic Forum in it's the Global IT Report 2013.

Around 60% of Indonesian population lives in rural area, with the typical characteristics of low productivity, high poverty and low standards of living. Indonesia has the comparatively lowest internet penetration rate in Southeast Asia, but mobile internet use is high here, which makes Indonesia a frontier in mobile based internet access. 48% of regular internet users in Indonesia access the internet on their mobile phones argue, Nielsen's 2011 Southeast Asia Digital Consumer Report. So e-government platforms on Mobile phones are gaining momentum at this time [22].

Out of the 497 districts in Indonesia, there are only 214 local governments having their own websites. Out of these 214 sites, only 186 are accessible, and the remaining 28 were either under construction or not found. This shows the implementation and operational problems of the initiatives.

A. Challenges

Some of the challenges to the e-governance initiatives in Indonesia are lack of skilled human capital, inadequate infrastructure, low computer and internet penetration, insufficient and inefficient e-leadership, and mostly mismanagement of public funds [23].

VI. DISCUSSION

It is evident from the literature review and Reports published by United Nations, World Economic Forum and other government statistics, there are considerable efforts in e-governance development. According to UN's E-government Survey, out of the 180 countries that are surveyed, it is shown that nearly 135 number of countries are offering a one-stop-shop which is not fully a integrated portal or a Whole -Of -Government, more than 80% of the countries are providing online user services in the sectors like education, health, finance, social welfare, labour and environment. But when speaking about transactional services online, such as income tax filing, utility bills, fines payment, birth certificates, ID cards, driving licenses, car registration etc., the percentage goes down to less than 33%, because of data security threats, unwillingness of the consumers to share vital data online, the poor usage of the services and unaware of the services etc., The same is true for the four countries studied in this research paper. The extent of e-service delivery on the whole is not encouraging. Because only 22 countries are delivering e-services in the range of 67% to 100% and the majority of the countries (74 number of countries) delivering only 34%-66% of e-services online. Whereas 94 countries are delivering only 0%-33% e-services to its citizen, as the UN Survey Report on E-Government 2012 says.

India, china, and Indonesia which are Developing Asian economies, have already started their e-government initiatives and are proceeding towards the next stages, but due to the direct and indirect challenges, in societal, economical, and technical, their pace is slow, but sure to improve in the coming years. Already, India and China have been emerging as toppers in ICT and ITES infrastructure and application providers, which puts them in the right path, that will definitely enable them to evolve towards a Whole-Of-the Government soon, which is the ultimate dream of all countries. Whereas, United States, an already a developed economy, has its challenges as rigidity and unwillingness of the people in embracing them. But in the case of Indonesia, the boom of telecom, and increased mobile utilization, paves a ways for multi-channel delivery of e-services and e-governance initiatives. There is a greater space for the development and delivery of mobile based services to its people.

VII. CONCLUSIONS

According to the literature review done and UN, WEF, and other government statistics available, E-government initiatives all over the world are picking up speed, and going towards the digital society, where the interactions, transactions between the government and its clients i.e., citizens, business persons and all the stakeholders are done electronically and efficiently, and the benefits and welfare schemes the governments amend in the view of the betterment of its citizens, is decentralized, and uniformly availed. Though there are lots of bottlenecks and hurdles like insufficient infrastructure, IT illiteracy, downturn economical situations, ever growing population and the cost associated in fulfilling the needs of the population are dragging back the pace of development back, still the governments put their efforts in overcoming this and providing good e-governance services. On the technology side, the growth is very fast, and the economy of the countries is not in a position own them or updates their infrastructure state-of-art. This results in either infrastructure obsolesce or more overdraft of the ICT expenditures. It is understandable that each country or province has its own needs and specifications to be fulfilled which may not be necessarily the same of other countries, and so inter-operability of the applications or infrastructure is not possible all times. But roll out of best practices, integrating the essential services /applications in a common platform and providing them in a single-window, and when time evolves proceeding towards the Whole-of-Government is the aim of each government. And will be realized in the coming years, with the strategic policy formation, flexible and standard frameworks both technically, and sharing of best practices and infrastructure such as Cloud computing.

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