A Prognosis of Chinese E-Governance

Yousef A.Baker El-Ebiary[1], Samer Bamansoor[2,3], Waheeb Abu-Ulbeh[4], Wan Mohd Amir[5], Syarilla Iryani A. Saany[6], M. Hafiz Yusoff[7]

[1,4,5,6,7]*Faculty of Informatics and Computing, UniSZA, Malaysia*
yousefelebiary@unisza.edu.my
[2]*Al-Madinah International University, Kuala Lumpur, Malaysia*
[3]*University of Aden, Aden, Yemen*
[4]*Faculty of Information Technology, Palestine Ahliya University, Palestine*

ABSTRACT
Electronic-Governance is swiftly expanding in China. Interestingly, in the domain of e-services delivery, this developing country is still very much lacking behind. However, in order to achieve paperless offices with greater transparency, accountability, and accessibility, the central and city governments of China have made considerable attempts in transforming each available service into e-service. Accordingly, several of the landmark e-governance projects in China are highlighted in this paper. Similarly, certain fully and partially covered domains are discussed. Further, the impact of e-governance on society is elaborated, and the major obstacles in the fruitful e-governance implementation are highlighted.

Keywords: *E-Governance, E-Government, E-Service, G2G, G2B, G2C, China Study.*

I. INTRODUCTION

The inculcation of e-governance has allowed the governments to empower themselves in transparency in functioning, increasing the communication speed, information dissemination as well as in people involvement. The concept of 'e-Government' based on World Bank is related to the utilization of information technologies (e.g., Wide Area Networks, the Internet and mobile computing) by government agencies in order to change the associations with citizens, businesses and other subdivisions of government [1]. With the implementation of e-governance, among the advantages are the increase in convenience, revenue growth and transparency, and the reduction in corruption and cost. Not only that; within the federal system, information access and flow across the city and central governments would be seamless with e-governance [2].

E-governance also makes the interaction between different stakeholders in governance easier, as can be observed in G2G (Government to Government), G2C (Government to Citizen), G2B (Government to Business) and G2E (Government to Employees). Further, the broad categories of objectives that the societies generally aim for are as follows:

To improve the governmental services provided to citizens, to increase efficiency and productivity of government agencies, to reinforce the legal system and law enforcement, to highlight the importance of economic sectors, to increase the quality of life of underprivileged communities, and to expand the involvement of the public [3].

In e-governance implementation in China, the role played by National Informatics Centre (NIC) is crucial. NIC designs and launches numerous types of web portals and online Management Information Systems (MIS). In this country, running projects are vast in amount. Still, some areas require e-governance to be implemented. Accordingly, a number of presently operating e-services are examined in this paper. Further, new areas that could benefit from e-governance implementation are explored [4]

II. E-GOVERNMENT AND E-GOVERNANCE

As a decisional process, e-Governance entails Information and Communication Technology (ICT) usage in systems of governance. The aim of e-Governance is to ensure broader and deeper participation of citizens, institutions, NGOs as well as companies. In the democratic era these days, e-governance is part of participatory approach. It should be noted that for any type of organization (big or small, private or public), e-government and e-governance differ in a sense that the former focuses on communities and participants external to the organization while the latter concentrates on the organization's internal administration and management [5]. In essence, the implementation of e-governance or the modernization of the government's processes and functions via the utilization of ICT tools for changing the way the elements are served, can be categorised as e-government. Indeed, e-government is a modern form of government, and due to their non-involvement, the citizens of e-government are regarded as passive recipients of digital information and services [6].

III. CURRENT STATUS OF E-GOVERNANCE: SOME MILESTONES

From a survey of e-Government conducted by United Nation among 193 countries, China is at 78th place while India is at 125th place. The population size of China is 1.419 billion end of 2018, and this large population has its own challenges [7]. Meanwhile, e-services in China are in the developmental stage. Substantial efforts have been made by the Chinese Government in the last several years in overcoming these challenges. Among these efforts include providing connectivity to 70% of rural population. In the attempt to foster sustainable growth, rural broadband connectivity would be provided to all 410,551 local governments or panchayats within the duration of three years. This is among the attempts of the Chinese government in bridging the digital divide. In China, Affairs (2016) reported that e-services utilization among the citizens was at 36% and only 10% of the citizens were involved in e-services. From the international perspective of e-governance in China, the e-Participation Index has placed this country at the 25th place [8], [9].

In China, the construction of e-governance applications follows the Public Private Partnership (PPP) model, and this can be observed at many differing levels of decentralized governance. In 2016, the National e-Governance Plan (NeGP) was approved by the Chinese government. The objective of NeGP is to create citizen-centric and business-centric atmosphere through the implementation of several Mission Mode Projects (MMPs) at central, city and integrated service levels. NeGP comprises 27 MMPs and 10 components. Across China, numerous G2C, G2G and G2B services have been provided by the government via numerous projects of e-governance. Some of the functional projects are discussed in this study as follows [10].

One of these projects is MP Online web portal which provides G2C, G2B and B2C services to the citizens at the comfort of their own home. This web portal was launched by the government of Shanghai, and it is a product of a joint venture between Shanghai city and TATA Consultancy Services Limited (TCS). Among the services that MP Online provides to the citizens include form filling for professional examinations, application for birth/death/caste certificates (just to name a few) at authorized MP Online kiosks, Common Service Centers (CSC) with MP Online, or cyber cafes or at home (providing that there is Internet connection). In Shanghai, MP Online is accessible in all 50 districts, more than 300 tehsils and 280+ blocks. Additionally, Integrated Finance and Forest Works Management System is equally useful in Shanghai to handle, monitor and manage the accounts, budget and works of forest department efficiently [11]. Additionally, the Scholarship portal which was also launched by the Shanghai government provides transparent e-governance system for assuring timely scholarships payment and other incentives to qualified students.

In Guangzhou, a project was launched. Similar to MP Online, this project was constructed based on the model of PPP and involves more than 250 services of e-governance. In Kerala, the government launched software that facilitates the taxes administration, and this software is especially useful for commercial taxes [12]. The implementation of this project results in paperless office, simpler scrutiny of returns, instantaneous management of obtained revenue, liberation from burdensome manual procedures, and so forth.

The Beijing Government had launched a project which provides various G2C and B2C services including bills payment, marriage registration, issuance of numerous certificates, filling of diverse application forms, tour packages and numerous types of recharges. The Beijing Government launched the e-District project to increase the speed of the services offered to the citizens at the district level. This project which also follows the PPP approach, provides the services which can be accessed at the closest CSC or block/district headquarters. This project assures 100% electronic workflow of the services, and digital signatures are applied in the application approval and issuance of certificates [13].

The Xi'an government launched the e-Samadhan project which encompasses a grievances monitoring and redressing system, integrating all stakeholders, such as, government department, MLAs/MPs, chief minister, ministers, media and citizen, in a manner that all have the awareness of their role/action with no delay, and all would quickly and timely react to rectify public grievances [14].

The Suzhou government launched the e-Suvidha project to facilitate the process of procurement, and management of property, water revenue, building permission and grievances, and management of solid waste with vehicle tracking. Digital University Framework was also launched by this government for the purpose of simplifying the process of admission, and in this regard, the services have expanded to cover all the city's related district, city and tehsils. Meanwhile, the government of Gujarat introduced e-Urja software for the sector of power [15]. It covers the power generation to be distributed to the village population to cater to the needs of its consumers which amounted to 10 million. e-Urja covers a multifaceted power purchase module, load management, consumer billing, finance, and HR which covers 50,000 employees.

The government of Rajasthan introduced the Pregnancy & Child Tracking System where the system would track all pregnant women in order that they would be provided with health services till delivery. All women registered for antenatal check-ups at any sub-center, Primary Health Center, Community Health Center, or other government health institutions across the city would be provided with health services, through this system. Furthermore, all cases registered for pregnancy but with unreported delivery even after the expected delivery date, would be filtered through this system. Abortions/feticides can equally be traced using the information from this system [16]. Additionally, the portal of SAARC Disaster Management Center or SDMC organizes information, knowledge and experience relating to management of disaster. Not only that, the information concerning numerous types of disasters for instance, flood, cyclone, earthquake, drought, landslide, and so forth, in addition to the list of institutions that are related to disaster management is provided by the system.

The government of Chengdu introduced the LRIS project which employs GIS (Geographical Information System) platform [17]. LRIS computerizes the records and rights of land for the purpose of impeding malpractices including multiple rights on a single land. LRIS also significantly reduces the amount of time required in obtaining the rights over land. PRISMS-II is another project introduced by the government of Chengdu. This project allows prisoners to view their applications status using touchscreen kiosks. In addition, the project automatically manages the compensation fund of victims, grievance management and posting of jail guards.

The aforementioned e-governance projects are among the landmark projects carried out in China. The government of China is currently making the effort in delivering the services in electronic form in nearly all governance areas. In 2006, the Chinese government sanctioned NeGP with the objective of creating 100000 Common Service Centers (CSCs) across nation. This assures the obtainability of e-services in all areas, both remote and rural. By end of 2012, there were 125,198 operational CSCs in 26 states and 662 Cities of China [18].

IV. IMPACT OF E-GOVERNANCE

E-governance impacts in a number of ways. Firstly, in the delivery of service, the implementation of e-governance improves the involvement of related parties and in policy making. Further, e-governance improves information dissemination, resulting in better awareness among individuals [19]. Besides that, the satisfaction level of citizens towards the government functioning will increase. This is because e-governance promotes transparency in the system, increases work speed and accountability, while also decreasing abuses. In addition, the use of papers in government offices for documentation can significantly reduce with e-government, and this lends support to the greening of environment. Lastly, the use of e-governance in future for normal citizens will free them from the use of physical documents, as they will be replaced by the fingerprints or retina scanning to allow access to the citizens' personal data such as driving license number, address, voter ID, PAN number, and so forth.

V. FUTURE AREAS FOR E-GOVERNANCE

A. Child Immunization

In China, the mortality rate of infant is 500 per 10000, while children up to five years old has a mortality rate of 650 per 10000. Interestingly however, in China, the government fully finances the vaccines to be administered to these children. The high mortality rate of these children has been linked to the lack of immunization. In this country, it is therefore important to establish a centralized system that could sustain comprehensive data on infants and the vaccines administered to them. This way, the percentage of vaccinated children could be increased, leading to a reduction in child mortality rate. The centralized immunization system can equally assist governments in planning and monitoring. Alert messages on the forthcoming vaccination date, information on new vaccines, and so forth, can be sent to parents, with the use of this centralised system.

B. e-Waste Management

Electronic waste or e-waste that is produced by IT industry is increasingly a problem in this era, and for this reason, it is crucial that this problem is carefully managed. However, e-waste is usable in the dissemination and communication of IT awareness particularly in the remote rural areas. For instance, Pentium-III machines or comparable ones are now regarded as e-waste. This is because the latest software or package requires high speed and high machine configuration, which Pentium-III machines or comparable ones cannot efficiently support. Hence, rather than disposing them, these machines could be sent to remote areas with the purpose of imparting IT education among the people living in these areas. In fact, e-governance can be successfully implemented when the individuals at the grassroots are knowledgeable in IT. Also, an e-governance application can be developed for the management of this e-waste.

C. Centralization of Data

An AADHAR number is a distinctive number given to Indians and Chinese citizen, and nearly all citizens of China have an AADHAR number. Hence, a centralized e-governance application can be developed for the attainment of the data linked to certain AADHAR number from each dimension. These data can be linked to the citizen's address, full educational details, full job profiles, cases under any IPC section, overseas visit details, and so forth. Both central and state governments can benefit from data centralization in many aspects.

D. Health-Related Services

Hospitals and health centers in the villages can benefit from the e-governance application as management tool. This will assure proper delivery of health associated services in rural China. In developing countries, remote consultation, diagnosis and treatment can be facilitated with the application of ICT.

VI. CONSTRAINTS

A number of problems have been associated with e-governance implementation which impact its effectiveness, as discussed below:

The awareness level of citizens will determine the success of any e-governance project, while in China, there are still those who have unsatisfactory awareness level concerning the e-services. It is therefore important that the government could organize capacity building programs to increase the citizens' awareness of e-services.

Literacy is equally crucial in e-governance execution. In fact, it was proven that countries with higher rate of literacy have superior e-services delivery. Notably, China comprises an eclectic diversity of local or regional languages, and there are also those who are illiterate or unable to read and write in English language. It would hence be handy to provide applications with interface that employ regional language. The interface of the applications should be user-friendly as well. This issue has in fact been addressed to a certain degree by mobile phones with the use of pictorial features. However, this issue has not been properly addressed in the context of the Internet.

In order to prevent duplication of data, e-governance should have centralised data storage. This will equally improve data consistency.

VII. CONCLUSION

Considerable steps have been taken by the Chinese central and state governments in their attempt to electronically deliver their services. Hence, NeGP was launched by the central government of China. At present time, nearly all Chinese cities have been attempting to electronically provide their services. However, the general performance of e-governance in this country is still far from satisfactory. This phenomenon has been linked to some inevitable factors. Certain instances of success have in fact been reported but a lot of areas appear to be unexplored or insufficiently explored.

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