

E-GOVERNANCE WAY FORWARD: CHALLENGES AND OPPORTUNITIES FOR DEVELOPING COUNTRIES. EVIDENCES FROM SRI LANKA

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ABSTRACT

E-governance evidenced to be delivering greater value in governmental services in developed countries. Developing countries, yet encounter utmost challenges, can reap enormous benefits from e-governance applications to enhance governmental services. These challenges and opportunities of e-governance in the context of developing countries are yet to explore particularly in the South Asian region. Knowledge on the prospects and hardships of achieving the e-governmental status would clear out the way forward and will facilitate the future e-governance initiatives. Hence, the prime aim of this study is to identify the potential challenges of and opportunities for the e-governance in the context of developing countries. The study deployed the quantitative approach in achieving the research objective based on Sri Lanka. A filed survey collected the data from key stakeholders of e-governance namely; the governmental officials (173) and citizens (206). An instrument with greater measurement properties was adopted from previous studies in collecting the data. Descriptive analysis of data resulted in identifying lower computer literacy particularly in rural and estate sectors, legal and regulatory constraints, insufficient network band width, uneven distribution of internet access across country, security, rigid administrative procedures, and undue political influence as top most challenges for e-governance. Among the opportunities were positive attitude of key stakeholders, increasing digital literacy rate, access to technical expertise, cross-country collaborations, increased value addition and policy reforms. Limited by unclassified sample, the study succeeds in uncovering the challenges and opportunities of e-governance those were hardly presented in the existing body of knowledge. Practical implications invite government to call for necessary ICT infrastructure development projects, policy reforms in legal, regulatory and administrative procedures and an improved transparency and democracy in governmental decision-making.

Keywords: E-governance, Sri Lanka, ICT, challenges, opportunities, developing countries.

INTRODUCTION

E-governance recognised to be uplifting quality of the governmental services. It is revolutionizing the entire governmental service which is traditionally criticized for its inefficiency and lower productivity particularly in the context of developing countries (Giordano, Lanau, Tommasino, & Topalova, 2015; Rosen, 1993; Kant, Chandra, Sharma, & Agrawal, 2019). With the mounting digital literacy rate and internet penetration, followed by the arrival of smart handheld devices with vast array of network-friendly applications (Milenkova & Manov, 2019), people eventually choose online services over the time-consuming and costly manual services. Among the merits of the e-governance are quality enhancement, cost efficiency, improved transparency & equality resulting greater democracy, minimization of corruptions, increased economic growth & stability, investment-friendly atmosphere, developed ICT infrastructure and even customer & employee satisfaction (Aftaab, 2019; Wadhwa, 2020; Patnaik, Patnaik & Singh 2020). However, not every country in a state to reap the technology-driven benefits of the e-governance for numerous reasons. Specifically, as compared to developed countries, developing countries generally encountered utmost challenges during inaugural and implemental process of the e-governance (Aftaab, 2019; Milenkova & Manov, 2019; Sahu, Chandra & Dwivedi, 2019). It was reported that achieving the optimum level of efficiency and flexibility in e-governance found to be challenging for developing countries (Basu, 2004; Backus, 2001) due to country-specific concerns (Rahman & Rajon, 2011). For instance, legal and infrastructural issues particular to developing countries towards e-governance have been investigated as a prime road block towards Indian e-governance effectiveness (Basu, 2004; Sahu, Chandra & Dwivedi, 2019). In Bangladesh context they were extreme shortage of resources, limitations in financing, absence of proper development planning, lack of skilled human resources, unavailability of stable and fair democracy (Rahman & Rajon, 2011). Many noted that developing countries' next step towards e-governance should be to formulate national e-strategies based on internationally agreed standards (Basu, 2004; Rahman & Rajon, 2011; Aftaab, 2019; Baroi & Alam, 2020).

The strategic formulation process starts with environmental scanning in terms of merits, demerits, opportunities and challenges (Sharma, 2020). Once the basic objectives were set, environmental scanning enables firms to assess how possible future changes in the external environment and how unlikely that the e-governance can leapfrog the potential opportunities. Thus, assessment of environmental trends seems to be a very important step in the process of strategy formulation. As such, any e-governance strategy formation should be led by preliminary investigations of e-governance setups in terms of the challenges and opportunities. Despite the prevalence of abundant empirical evidences on e-governance services of developed countries, there is a substantial shortage of such evidences with respect to developing countries particularly in the South Asia region where e-governance was identified as utmost beneficial and challenging (South Asia Subregional Economic Corporation -SASEC, 2017). While developed countries readily been benefited by using ICT, most of the developing & under-developed countries of Asia (especially in south Asia) are still grasping to make sense of the applicability & effectiveness of Technological solutions for aged-problems (Al-Masud & Rashid, 2004).

Several studies have examined the Indian e-governmental attempts in terms of merits and demerits (Sahu, Chandra & Dwivedi, 2019; Dwivedi, Pant, Khari, & Pandey, 2019; Misra & Mittal, 2019; Singh, 2020; Soman, 2020; Patnaik, Patnaik, & Singh 2020; Wadhwa, 2020), Pakistan (Aftaab, 2019; Akhtar & Riaz, 2019) . Bangladesh (Baroi & Alam, 2020) and Nepal (Giri, 2019)

too were assessed for their likelihood of becoming successive e-governments. Yet, as per the researcher's best knowledge, in the Sri Lankan context there had been a shortage of such attempts. Provided that the country-specific concerns are unique from country to country (Basu, 2004; Rahman & Rajon, 2011; SASEC, 2017), an empirical gap is detected pertaining to the amicability of e-governance in Sri Lankan context.

E-governance in the Sri Lankan context was first recognised by setting a National Computer Policy in 1983. The "e-Sri Lanka" project of 2002 assigned with developing an ICT road map for diluting the digital divide and dissemination of ICT infrastructure evenly across all the regions of the country. Later, time to time promising e-governance initiatives were drafted and taken place principally in the forms of politically-driven development plans & policy reforms. Yet, there are little evidences prevail (Weerakkody, Dwivedi & Kurunananda, 2009; Dissanayake & Dissanayake, 2013) to decide that those policy documents and road maps are backed by any scientific investigation of the feasibility of such initiatives in terms of the opportunities and challenges for them. As recommend by Sharma (2020) and Rahman & Rajon (2011), e-strategies should be based on formal assessment of the business environment so as to spot the trends towards success or failure. Unfortunately, any of the proposed e-governance initiatives in Sri Lanka so far, exhibits poor evidences to claim that they are supported by scientific investigations of challenges and opportunities (Chandragupta, 2012). Thus, the uncertainty prevails the extent to which these initiatives can make a significant leap in the governmental services. Until present, as to researchers best understanding no attempt was taken to recognize how easy or difficult the transformation process of governmental services to electronic format. Accordingly, the prime motive of this study was to explore the challenges and opportunities faced by Sri Lanka while attempting to move on the way towards the e-governance in Sri Lanka.

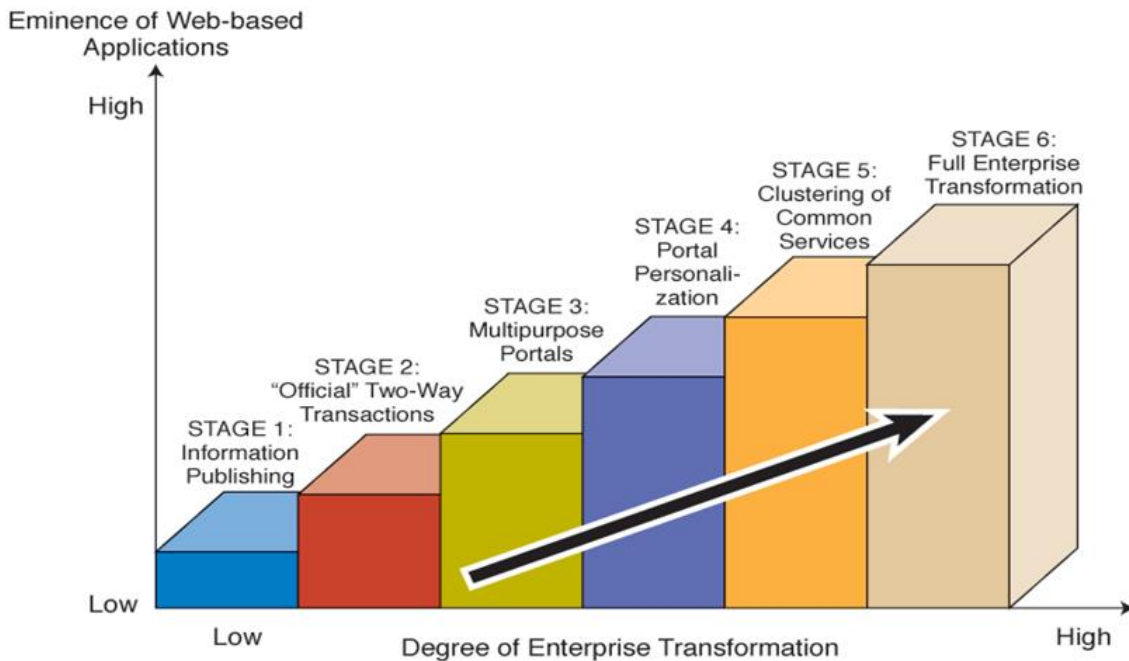
E-GOVERNANCE

E-governance is a term coined with the e-commerce in late 1990s and in the dawn of the millennium followed by the commercialization of the Internet. It has been identified as a form of delivery of governmental services to three societal groups; 1. the citizens (G2C), 2. government agencies (G2G), and 3. Business (G2B) (Palvia & Sharma, 2007; Wadhawa, 2020). Further, to distinguish it from regular governmental services, they pointed the mechanism of doing so as the internet-enabled digital devices. They added that, the e-governance is the use of ICT and internet by officials to accomplish administrative duties. Qaisar & Khan (2010) as cited by Aftaab (2019) defined e-government as use of ICT to accomplish governmental activities in terms of providing basic services and engaging with citizens for their own good. They emphasized the use of information in e-from in place of hard copies. Authors stated the main use of e-governance as serving the citizens using ICT.

Turban, King, McKay, & Marshall (2015) defined e-government as the use of IT and e-commerce to provide access to government information and delivery of public services to citizens and business partners. They recognized it as an efficient and effective method of conducting business transactions and an opportunity to improve the efficiency and effectiveness of the functions of government which makes government more transparent to citizens. They categorized e-government transaction in to three groups similar to Palvia & Sharma (2007) and Wadhawa, (2020) classification of e-government services. They are government-to-citizens (G2C), Government-to-Business (G2B) and Government-to- Government (G2G). In addition, a sub category was identified by them under G2G as G2E, which includes activities and services between government units and their employees.

Transformation to e-governance passed through several levels (Turban, et al., 2015) and build on several key pillars (Wadhwa, 2020). At the very first level, the e-services will be limited to dissemination of information. Governmental agencies set up their websites to share the information about them, available services and information about the ways of contacting them. Next, at the stage two, the movement to official two-way transactions will take place, where sensitive information such as personal and financial information are exchanged between governmental body and other party. Privacy and security concerns are highly relevant at this stage to feel parties to the transaction secured. The stage three is characterised by multipurpose portals, those allow customers to use single point- of-entry to all customer-centric service deliveries. Here, the e-governmental service demands may cut across different departments stressing all related governmental bodies to span their systems beyond the departmental boundaries. Next level is personalization of the portal which allows customers to access variety of services at a single web site while accommodating greater level of personalization for individual users. It calls for sophisticated web programming to enable interfaces with both electronic and non-electronic services. The real transformation of government structures into e-forms takes place at the next stage. There common services are clustered so that customers can enjoy unified package of e-services instead of set of disparate services. Hence, the departmental boundaries may become invalidate and merge in to create a network of institutions. At last, during the stage six of transformation full integration of e-governmental services arise. Front and back offices services are joined together via technology to offer seamless service delivery. This process of transformation usually a lengthy and incremental one thus may take differing time periods depending on the e-readiness of each governmental department. Figure 1 demonstrated the progressive path of the e-government transformation as shown in (Turban, et al., 2015).

Figure 1. Stages of e-government



Source: Wong, 2001.

Adopted from E Turban, D. King, J. McKay, P. Marshall, J. Lee, D. Viehland, (2015). *Electronic Commerce; A managerial perspective*, (8th Ed.) Prentice Hall.

E-governance, as a technology-driven service delivery possess countless benefits for any country regardless of its size and the economic status. E-governance enhances the service quality of the governmental services with improved efficiency and lowered cost (Bhuiyan, 2011). The governmental procedures become simple to understand and easy to dealt with once they are transformed into e-format. Likewise, the e-governance carries greater potentialities which can be fruitfully used for service quality enhancement of governmental services.

E-GOVERNANCE OPPORTUNITIES

Technological advancements always if not most of the times hold utmost potentialities those cans deliver significant breakthrough in cost and time. E-governance; the act of exercising assigned authority over the internet by use of ICT to ensure the intended services arrive to the target group of people (Aftaab, 2019, p.80) also grasps numerous benefits / opportunities. Among the opportunities, ability to structuring of government information those scattered among the systems of diverse departments in to a customer-centred manner is ranked top (Bhuiyan, 2011). He further asserted that e-governance offers cost efficiencies, greater transparency, ability to make follow-ups, knowledge on public fund utilization and possibility to avail corruptions as the other opportunities associated with e-governance. Nepalian experience of e-governance highlighted the e-governance role as an arm of good governance (Giri, 2019). Banswal, Shelke, & Pawar (2019) too emphasized the e-governance as a right path towards good-governance. Further, they have counted the ability to minimize corruptions and room for improving the service quality as the opportunities of e-governance.

E-governance is seen as more than the application of ICT infrastructure to handle information as evidenced by the stages of e-governance (Figure 1). At the very end, it transformed government agencies' operations, governing rules and regulations, and administrative procedures (Rossel & Finger, 2007; Patnaik & Pattnaik, 2020). National policies on poverty reduction, especially in developing countries are recognised to be well facilitated by e-governance. Bertot et al. (2010) identified this is as a mechanism that improve individual accountabilities of governmental officials. At the national level, e-governance investigated for possessing the greater potentiality towards enhancing economic stability (Bhuiyan, 2011). Chaursiya (2014) viewed e-governance initiatives such as e-Panchayat and e-Kranti in rural India as a mean of empowering rural community and Gram Sabha. He is optimistic of a positive change in local self-government politics if the e-initiatives become successful. When disregarded the planning, financing, implementing and maintenance of e-governance is overlooked to be challenging, it is evidenced that it possesses greater array of opportunities to satisfy the needs of sole citizen to cross country alliances.

E-GOVERNANCE CHALLENGES

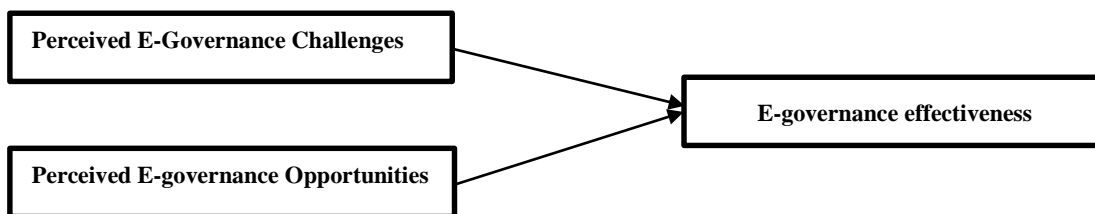
Regardless of the countless number of opportunities associated with the e-governance, in reality, majority realize only a very insignificant portion of potentialities associated with it (Qaisar & Khan, 2010; Patnaik, Pattnaik, & Singh, 2020). For instance, Soman (2020) attributed differences in structures, technological aspects, and infrastructural aspects for these disparities in e-governance implementation. Further, quality of the human capital in terms of their education & skill set, communication & supporting network infrastructure and attitudinal matters too have been found playing a significant role in effective implementation of e-governance. These in diverse settings act as challenges of varied magnitude towards e-governance. A review of Romanian experience of e-governance highlighted the issue of inconsistencies and legal obstacles as the dominant challenges for a promising e-governance system.

Joshi, Deshpande, & Pawar in 2017, investigated the impact of e-governance practices on customer satisfaction in Maharashtra Housing and Area Development Authority, and uncovered the customer lower income as a challenge towards standardization of the e-governance process (Joshi, Deshpande, & Pawar, 2017; Patnaik, Pattnaik, & Singh, 2020). Through a study based on India, where the Indian ICT act was examined for its support towards e-governance, Bhushan (2019) emphasised necessity of regulatory provisions and policy reforms to accommodate e-governance processes wherein failure to do so will make it even challengeable to achieve aims of e-governance. Giri (2019) found the same as a leading barrier towards the success of Nepalian e-governance. He added commitment of leadership, insufficient budgets, laps in digital infrastructure and lower ICT literacy as challenging demands those appear to be inevitable in Nepal context. Cultural maintenance, active participation and involvement of all stakeholders too were seen as possible challenges of e-governmental services (Adalety, Jennifer, & George, 2019). In a study based on Kenyan e-government practices, Masenge & Chewa (2019) identified need for raid investment as a challenging requirement of e-governance by developing countries. Clear identification of implementational plan & process, and enabling accountable, focused & empowered leaders with teams have been cited as the principle determinants of the e-governance effectiveness (Banswal, Shelke, & Pawar, 2019; Patnaik, & Pattnaik, 2020). Yet, permitting those in e-governance systems is utmost challengeable and problematic.

The nature and the intensity of challenges do vary from context to context. For instance, Singh (2020) demarcated on some common challenges and some specific challenges with respect to Haryana state of India. For him illiteracy, unawareness, infrastructure lapses and limited access to technology are specific to Haryana Pradesh as compared to urban areas of India. Panchayat is denoted for the council of traditional Indian villages (Webster, 2020). E-Kranti is the National e-Governance Plan of India towards digital India programme. Chaursiya (2014) assessed the Indian government attempt of transforming Panchayati into e-panchayat towards & Kranti in to E-Panchayat & E-Kranti and noted lack of willpower, digital literacy, content development & lack of infrastructure as the central challenges of these digital revolutions. Soman (2020) asserted constraints associated with systems, overcoming the resistance from people and technological infrastructure as challenging demands of e-governance.

With respect to Sri Lanka, Weerakkody, Dwivedi, & Kurunananda in 2009 have performed a comparative study to compare issues of implementing e-government in UK & Sri Lanka and found numerous common issues for both countries within the broader political, organizational and technical contexts. Further, they have identified some specific challenges faced by Sri Lanka during the e-governance process namely, ICT literacy, inadequate ICT infrastructure, and inability to access e-government services using local languages. The present socioeconomic set of Sri Lanka shows a significant deviation from how it was 10 years back. Hence, we can't assume that these identified challenges so far remain with Sri Lankan context in the same intensity. Regardless of the novelty or magnitude, it is evidenced that the challenges are hampering the harvesting of e-governance benefits a difficult task. Yet, these challenges also pay the role of standards those ensure the quality of the e-services offered to citizens. Based on the principle objective of the study following research framework is derived (Figure 2).

Figure 2. Research framework



METHODS

The deductive reasoning was followed within the quantitative research approach in which the responses are obtained in numerical expressions (McLeod, 2019). Research design can be claimed as explanatory as it investigated the challenges and opportunities in depth and priorities them based on two groups of respondents who are the key counterparts of e-governance service delivery (Given, 2008). A field survey was conducted by participating two groups of respondents namely, government officials and citizens of Sri Lanka. The population of the study included all the citizens and officials of Sri Lanka. Due to practical limitations, conveniently drawn sample of government officials (n = 173), who are in the executive / managerial ranks are surveyed as the sample. Almost the all the existing studied either administrators or citizens in uncovering the challenges and opportunities of e-governance. The present study with the purpose of forming a clear picture of the phenomenon investigated the

research objectives in terms of both officials and citizens. Accordingly, 206 citizens were selected based on convenient basis for collecting data. The respondents were chosen arbitrarily hence, represent diverse regions of the country and various governmental bodies of Sri Lankan government. The instrument was a semi-structured questionnaire. It was composed of items drawn from previous studies and tested for their reliability with Cronbach alpha score. Items 1 – 4 of the questionnaires devoted for sociodemographic data of the respondents. Items 5 – 16 ($\alpha = 0.741$) and items 18 – 29 ($\alpha = 0.803$) assessed the perceived challenges and perceived opportunities of e-governance respectively. Item 17 and item 30 left open for making additional comments on opportunities and challenges of e-governance as perceived by the respondents. Responses were ranked on a 7-point Likert scale where “1” stands for strongly disagree and “7” stands for strongly agree. Google form of the questionnaire was used in collecting data from governmental officials using their institutional e-mail addresses. The questionnaire was hand delivered to the citizens and collected concurrently. Both numeric and graphical techniques were equipped for analysis and presentation of data.

RESULTS AND DISCUSSION

Table 1 shows the sociodemographic attributes of the respondents of respondents.

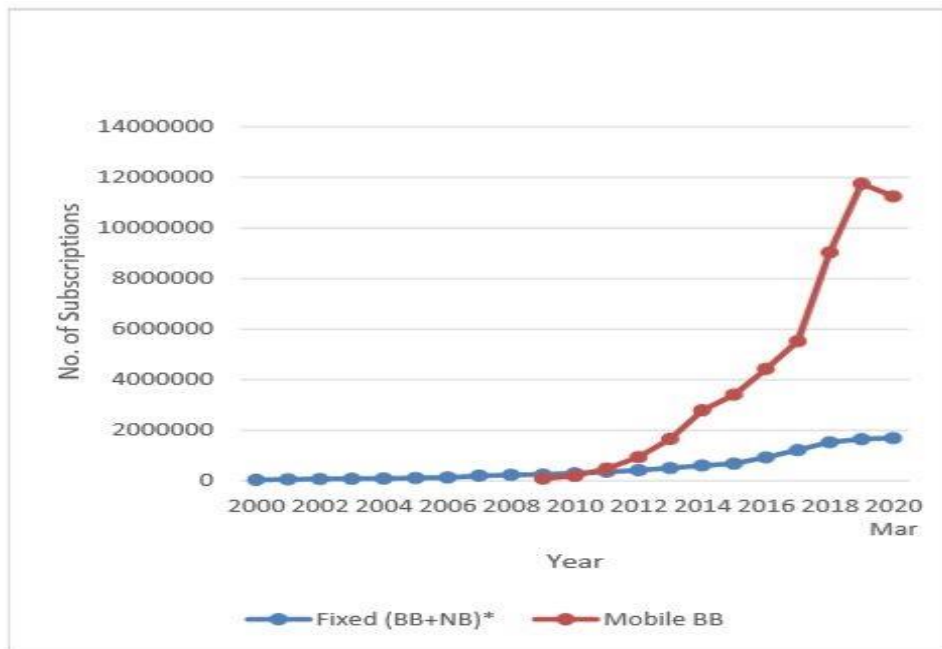
Table 1. Socio-demographic data of respondents

Attribute	Officials		Citizens	
	Frequency	Percentage (%)	Frequency	Percentage (%)
<i>Gender</i>				
Female	46	27	91	44
Male	127	73	115	56
<i>Age</i>				
18 – 23	08	05	28	14
24-29	11	6	16	08
30-35	47	27	56	27
36-41	45	26	68	33
42 – 47	33	19	21	10
48 +	29	17	17	08
<i>Employment status</i>				
Employed in public sector	173	100	-	-
Employed in private sector	-	-	142	69
Employed in estate sector	-	-	23	11
Self-employed	-	-	15	07
Unemployed	-	-	26	13
<i>Residential Area</i>				
Urban	129	74	108	53
Rural	41	24	71	34
Estate	03	02	27	13
Total	173	100	206	100

In both groups, male respondents are dominating. They represent 73% of officials and 56% of citizens. Frequent age range of both groups is 30 – 41 years. It implies that the majority of respondents are having fair amount of experience with respect to delivery and experience of governmental services. Nearly 69% of citizen in the sample are working for private sector. There were self-employed and un employed people too. Additionally, 11% of surveyed citizens represent estate sector where in many studies that community is not well represented. Sample mainly consisted of urban people from both categories; officials and citizens (74% & 53%). Rural and estate community are also included. It is evidenced the representation of all the community groups in the target context.

Internet access is mounting in Sri Lanka complying with the world trend of the same. Resultantly, the demand for broadband internet subscriptions also increasing. Figure 2 shows this upward movement of demand for internet connections which aids in forming a conducive environment for e-governance.

Figure 2. Fixed and Mobile broadband subscriptions 2000-2020 March

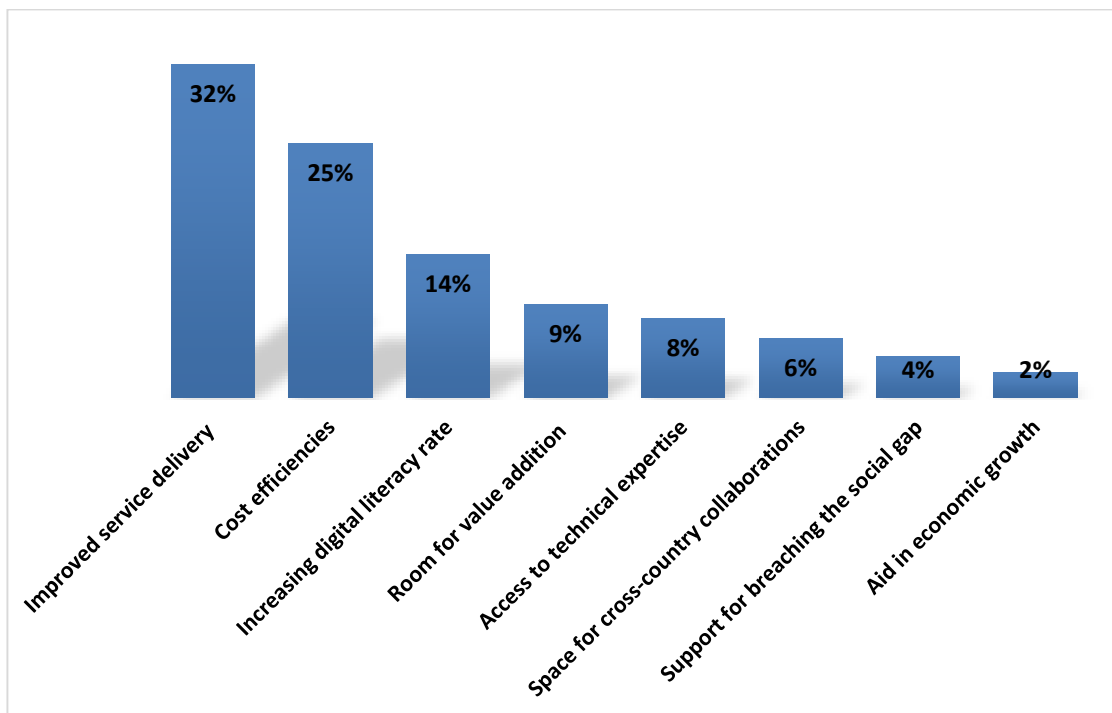


Note: BB – Broadband, NB – Narrow Band

Source: Quarterly Report, Telecommunication regulatory commission of Sri Lanka, in ww.trc.gov.lk/2014-05-13-03-59-39/statistical-overview.html accessed on 18.05.2020

With the increased awareness of ICT driven services, many see the e-governance to bring them vast array of opportunities. Both groups; the officials - service providers and the citizens – users/beneficiaries are in the stand with respect to several of opportunities. Figure 3 and figure 4 demonstrated the e-governance opportunities identified by the officials and citizens of the sample respectively.

Figure 3. Perceived opportunities of e-governance by the officials

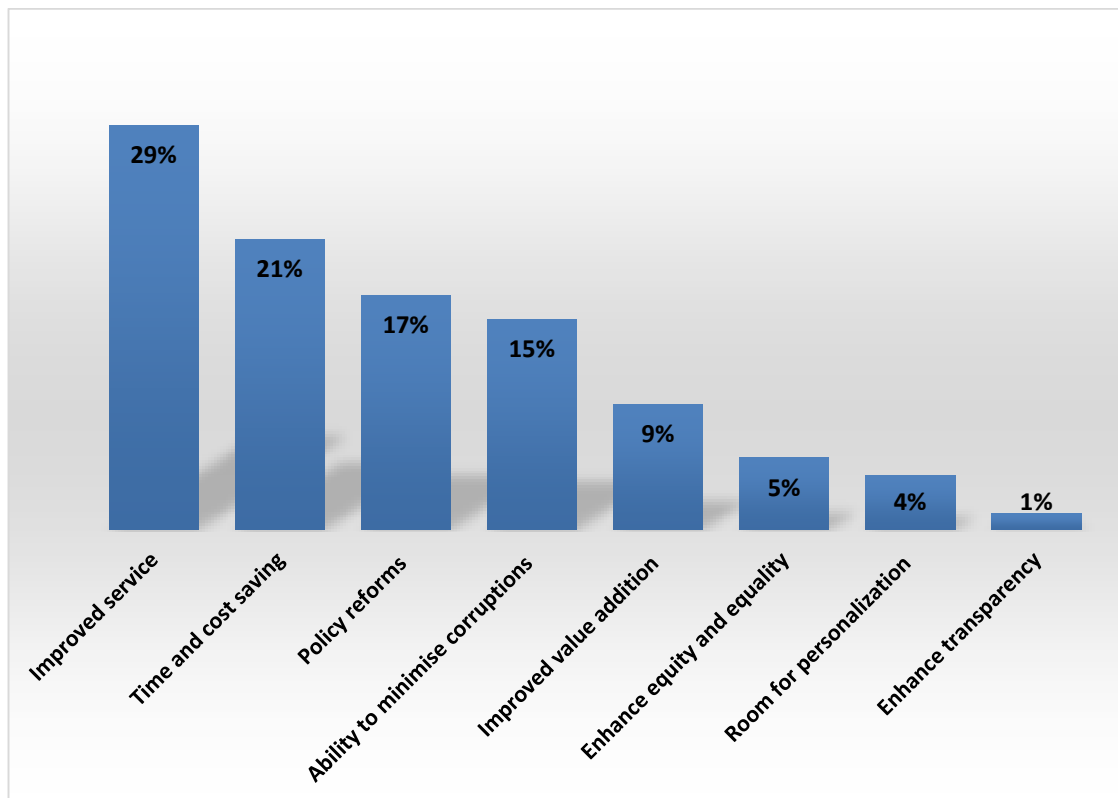


Source: Survey Data

Figure 3, in descending order exhibits the opportunities as perceived by the officials of the government. The top most opportunity identified by them was the room for service quality movement. With the proven cost and time efficiencies associated with the ICT, service quality can be improved to a greater extent. This was the first and foremost motivator for many governments to choose e-governance (Ingrams, Manoharan, Schmidhuber, & Holzer, 2018; Wadhawa, 2020). Similarly, it has been recorded as the most important benefit associated with e-governance by several other authors as well (Banswal, Shelke, & Pawar, 2019; Chaurasiya, 2014; Giri, 2019; Patnaik, Pattnaik, & Singh, 2020). Next cost efficiencies, increasing digital literacy rate, room for value addition, access to technical expertise, space for cross-country collaboration, support for breaching the social gap and finally support for economic growth have been pointed as opportunities of e-governance (Bhuiyan, 2011; Rossel & Finger, 2007; Bertot et al., 2010; Aftaab, 2019; Patnaik, & Pattnaik, 2020). However, the opportunities those deliver immediate operational level benefits have been highly recognised by the respondents while only few percentages of respondents have insights about the international and national level long term economic, political and social benefits associated with e-governance. For instance, aid in economic growth, support for breaching the social gap and cross -country collaboration options have received lower percentages as 2%, 4% and 6% respectively. It implies that the key proponents of e-governance, the officials needed to make well aware of the strategic gains of the e-governance enabling them to link those opportunities with the other key measures of economic, political, technical and social set up of the country.

Figure 4 elaborates the opportunities perceived by citizens. Nevertheless, these opportunities resemble the opportunities and benefits reported by other scholars, their priorities seem to be deviant from that of from officials' rankings.

Figure 4. Perceived opportunities of e-governance by the citizens

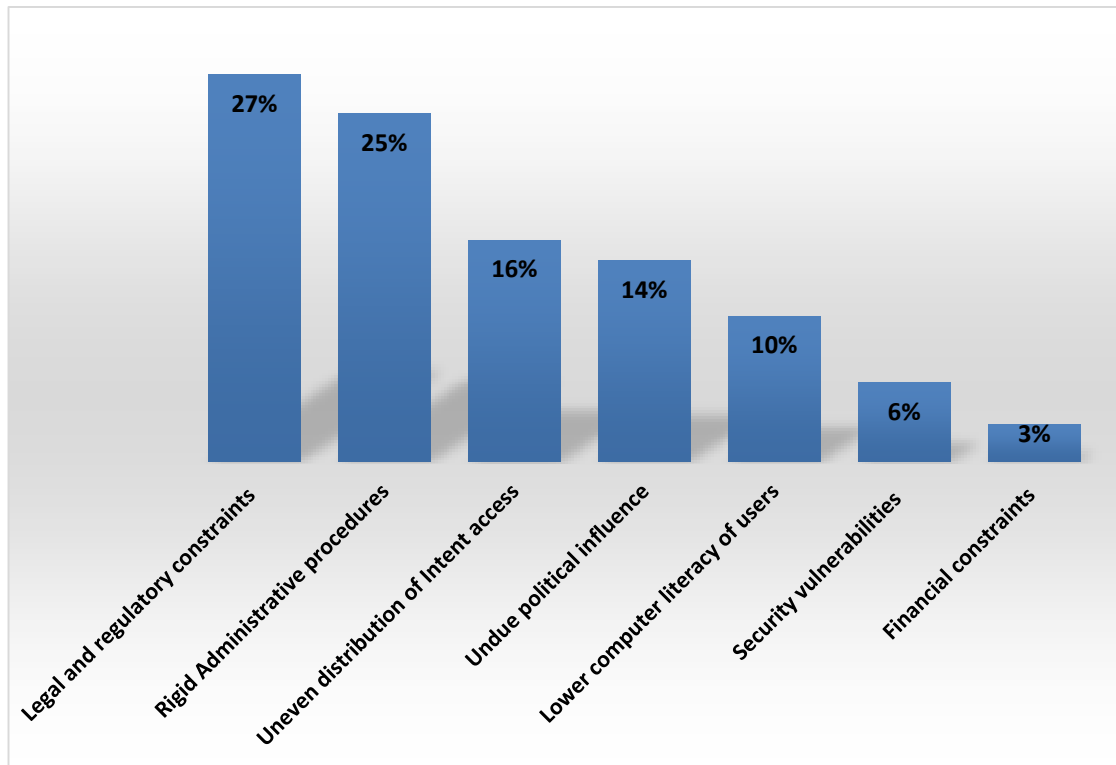


Source: Survey Data

The improved service and time & cost saving identically ranked as the most important opportunities of e-governance by both officials and citizens. The prevailing evidenced too confirm these two as the key benefits associated with e-governance (Banswal, Shelke, & Pawar, 2019; Chaurasiya, 2014; Giri, 2019; Patnaik, & Pattnaik, 2020). Yet, for the rest, the citizen's perspective of e-governance opportunities shows a significant deviation that of from officials perceived opportunities. Accordingly, policy reforms, opportunity to minimize corruption, enhancement of equity & equality, room for personalization and enhanced transparency were identified by the citizen as opportunities of e-governance. However, relatively only very few personals have realized the high order gains associated with e-governance (i.e. enhance transparency - 1%, room for personalization – 4%, and enhance equity & equality – 5%). With respect to controlling the corruptions, personalization and enhanced transparency were supported by the previous studies too (Bhuiyan, 2011; Banswal, Shelke, & Pawar, 2019). The results evidenced that the citizens should be provided with proper and comprehensive awareness of e-governance as an initial step of e-governance road map so as to best reap the full potentiality of it.

Next the e-governance challenges are discussed with respect to two respondent groups.

Figure 5. Perceived challenges of e-governance by the officials



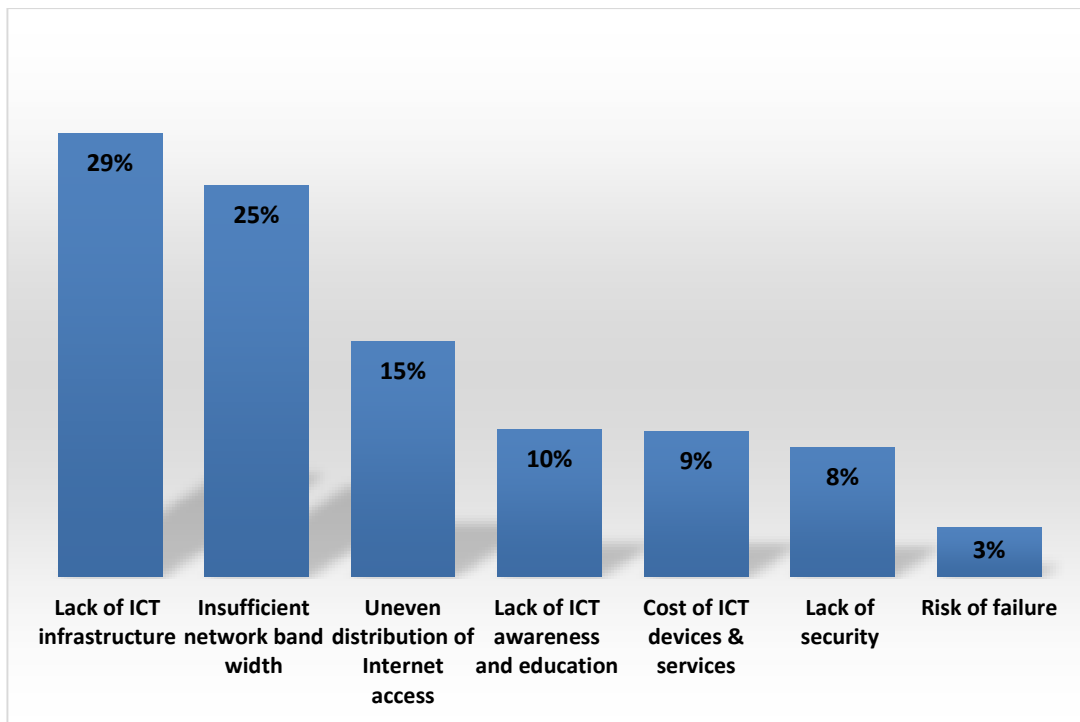
Source: Survey Data

The officials of the government find existing legal and regulatory constraints as the principle challenge (27%) ahead them in becoming an e-government. Equally, rigid administrative procedures (25%) too has been ranked the next most challenging attribute of the transformation process. The other common challenges staged by the officials are uneven distribution of internet access, lower computer literacy of users, security vulnerabilities and financial constraints. These all are in line with previous findings (Soman, 2020; Joshi, Deshpande, & Pawar, 2017; Bhushan, 2019; Wadhawa, 2020), except the undue political influence which has gained 14% of responses as a dominant challenge towards e-concept. As the reviewed contents are considered, political influence has been hardly ever reported as a challenge of e-governance. In connection with role of rulers, Banswal, Shelke, & Pawar (2019) cited need for focused and empowered leaders with teams to lead the e-governance effort to succession. Governmental services often criticised for its inability to bypass the political influence (Giri, 2019). Many officials who face dilemmas in fulfilling the genuine requests for services by citizens, beside the requests for services backed by political arms hopefully expect the support of unbiased technological-arm to manipulate the service delivery process. As such this implies the need for strategically-driven e-governance policy rather a politically-driven one.

Surprisingly, the financial constraints were the least recognized challenge towards e-governance in Sri Lanka as perceived by the officials whereas in many other countries it was given top priority (Giri, 2019). It may be due the fact that the initial e-infrastructure is already in existence within the governmental departments. Thus, no major start-up capital is required in launching the e-services.

The perceived challenges of the citizens mostly reflect the deficiencies in digital infrastructure (figure 6).

Figure 6. Perceived challenges of e-governance by the citizens



Source: Survey Data

Among the perceived challenges are lack of ICT infrastructure (29%), insufficient network band width (25%), and uneven distribution of internet access (15%). Results are consistent with the previous finding where Weerakkody, Dwivedi, & Kurunananda (2009) found are lack of ICT infrastructure as a lead challenge. They have added inability to access e-government services using local languages as a challenge while it was not highlighted neither by officials nor citizens. Nowadays, almost all apps are inbuilt to support multi-languages. Again, many popular apps are available in local platforms in local language. Hence, it is not more recognized as barrier towards e-governance services. Whistle they have pointed the lack of ICT awareness and education as a challenge, no attitudinal issues were detected either by officials or citizens. Attitude precedes the acceptance, which is otherwise the cause of resistance to change. Hence, this is a positive aspect over which future e-governance initiatives can capitalise on. The cost of devices and related services for individuals appear to be unmanageable. Further, lack of security and risk of failure also need attention by the government as socio-psychological drivers of the intended behaviour. Besides, the other resulted challenges confirm what is known so far despite their magnitude and intense depending on the context to which they belong.

CONCLUSION

E-governance initiatives of many developing countries often guided by policy-makers'/ political leaders' insights rather the identified opportunities for service quality improvement in the government sector (Basu, 2004; Chandragupta, 2012). Resultantly, such interventions rarely produce expected results due to mismatch of what is expected and what is delivered. Hence, identification of potential challenges and opportunities of e-governance in the e-strategy planning stage is considered utmost critical. In addressing the scant empirical evidences on the perceived challenges and opportunities for e-governance in developing countries, particularly in Sri Lankan context, the present study aimed at identifying the perceived challenges and opportunities of e-governance.

The contribution by the study included successfully confirming several common challenges and opportunities in par with the existing knowledge. Namely, opportunities for improving service delivery, enhance time & cost efficiencies, increasing digital literacy rate & economic growth, enable policy reforms, ability to minimise corruptions, enhance equity & equality, and improve transparency were among the opportunities as perceived by officials and citizens. The existing empirical evidences in relation to developing countries specifically to South Asia region also support these opportunities, hence are generalized to any developing country in the South Asia region in particular and to any other developing country in general. Next, the study unearthed few special opportunities those were not presented in the existing literature as perceived opportunities of e-governance. They are, potentiality for improve the value addition of government services, access to technical expertise as a result of utilizing cutting edge technology, facilitation of cross-country collaboration by means of interactivity & joint ventures, potentiality for breaching the social gap resulted by digital divide, and opportunity for personalizing the governmental services. These opportunities were found unique to Sri Lankan context as no available study at present claim them as opportunities of e-governance in other contexts.

Correspondingly, the identified perceived challenges of e-governance composed of many common and few unique challenges. The commonly staged challenges those were confirmed by the results of the study included rigid administrative procedures, uneven distribution of internet access, lower computer literacy of users, financial constraints, lack of infrastructure, insufficient bandwidth, lack of ICT awareness & education, and cost of ICT devices & Services. The unique challenges as dictated by the stakeholders of e-governance are lack of security, risk of failure, and undue political influence. Both challenges hinder the effectiveness of e-governance. Thus, policy-makers are informed of addressing these common and specific challenges during the early e-strategy planning process to minimise the possible negative consequences. Other developing countries too can revisit their e-strategy planning process in light of these novel opportunities. Similarly, future researchers can lead cross-country evaluations in terms of opportunities and challenges of e-governance to decide on the compliance with these specific opportunities and challenges. Importantly, these specific challenges and opportunities were perceived by the producers and the users of the e-governance. They are the key stakeholders of the e-governance service deliver. Therefore, neither common nor specific challenges and opportunities can't be taken too lightly. Ensuring the effective delivery of e-governance services calls policy-makers to frame their action plans in light of these perceived challenges and opportunities. Concludingly, the study contributes by generating empirical evidences on potential challenges and opportunities towards e-governance in Sri Lankan context those imply the prevalence of countless opportunities associated with e-governance which can be exploit for the upliftment of governmental service delivery. Additionally, findings highlighted the existence of challenges those infer that the journey towards effective e-governance system is not a hassle-free one but a hard walk that demand equal efforts of all the stakeholders concerned. Future studies are invited to examine the progress of such e-initiatives on longitudinal basis against the general socio-economic development targets.

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