Research Article

A Weight-Analysis Technique of Existing Research on E-Government Implementation Challenges in Developing Countries

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Abstract

The e-government application may enhance government facilities for its shareholders. Nevertheless, implementing such system faces many difficulties and obstacles. The considerable debacle of e-government inspires studies on those obstacles, especially in developing countries around the world. To examine the e-government implementation challenges more accurately, we have collected more than 50researchesreleasedafter 2010from various and multiple database sources such as IEEE Explore, Science Direct, Emerald, and Springer Link. For accomplishing our study, we have adhered to scientifically accepted top practices for researchers. According to the instructions, we have developed study objectives, in the mean time; we have used a method depending on certain criteria to achieve our study objectives. In the process of researching, we have demonstrated that there is lack of familiarity of the term e-government and there are obstacles associated with the application of an electronic system. There is a clear difference regarding the challenges hindering the implementation of an electronic government in underdeveloped nations, and these challenges differ from one country to another according to the location, culture, infrastructure, and organization conditions, in addition to social and political obstacles.the study found that the most important challenges facing the governments in implementing e-government are summarized in the organizational, political, social, and infrastructure challenges. this research aims to accomplish a thorough analysis of findings reported in the published studies regarding the challenges facing the implementation of e-government in developing countries.

Keywords: Government; e-Government challenges; e-Government Implementation; Developing Countries.

1. Introduction

From its first appearance in the 1990s, e-government has experience several modifications and course corrections and waves. Nowadays, approximately all countries and governments in the world have applied e-government in specific sectors and have their special foresight, roadmap, and intentions for the upcoming use of e-government. The implementation of e-government has not been identical, although each government has many shared aims in their structures, functions, and processes. E-government could improve the speed and effectiveness of processes by streamlining them, reducing costs, enhancing researching abilities and developing documentation and record-keeping (Wang and Hou, (2010).

E-government has drawn the attention of several governments throughout the world. Therefore, many governmental institutions in the world have applied e-government projects to improve services, increase effectiveness, reduce costs, and efficiency in the government sector, and save time (Alshehri and Drew, 2010; Al-Dabbagh, 2011). The e-government and the internet have radically transformed the general and social structure, values, culture, and entire business administration through using information and communications technology since it acts as an important tool in performing our daily routines. The main purpose of

e-government is not only to convert conventional data to "bits and bytes" and make information available on internet, but it is intended to automate traditional practices, provide online platforms and establish a computerized government. On the contrary, it is based on rethinking the rescheduling of government operations, working to renew them, and reformulating them to reach better operations and an integrated service for stakeholders (Drew and Alshehri, 2010).However, it is not an easy task to transform from a conventional government to an electronic one because it includes many political, technical, organizational, and cultural aspects for public service providers and government. Governments need to develop systems of work, operations, support, and care to reach a strong performance management system, which contributes to its effective use by stakeholders (Mishrif and Selmanovic, 2010).

Increasingly, throughout the world, governments have given digital government a political priority and is considered as one of the most important goals(Rodić and Wilson, 2017), and recently considerable funds has been devoted to the expansion and endorsement of digital government facilities by public organizations (Scupola and Zanfei, 2016). 60-85% of these projects fail, despite all supportive efforts, and massive investment in conventional government projects (Heeks and

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Stanforth,2015), and recent funding and improvement attempts are mostly unproductive and result in spending a large amount of money. Additionally, the application of digital government has changed speedily, when contrasted to e-business and e-commerce, since digital government systems are less modern and reliable (Lee- Geiller and Lee, 2019).Researching for more than a decade in the field of e-government and the importance of (Jeyaraj et al. 2006) weight analysis in the IT revolution implementation study to utilize suitable methods to carry out important quantitative analyses. It is obvious no such fact-finding initiatives and theoretical restrictions for e-government implement action obstacles have been presented yet. Studying and researching e-government more broadly will give the opportunity to the researchers to discover the theoretical differences in the privy ailing in formation and would recommend additional boundaries.

However, the purpose behind all those articles was not only to use the constructs, but also to gain appropriate statistical details that can be beneficial for presenting weight-analysis of the theories' relationships in assassin collective impact on the convergence or divergence of their relationships. The purpose of performing weight-analysis for the analysts of e-government research depended on the fact that weights are the guides of the predictive power of the independent variables offered that such variables are few times analyzed through particular dependent variables (Jeyaraj et al. 2006).

Information Technology (IT) plays an important part in facilitating organizational change programs where electronic government has been applied in several countries, as the most important structure to transform from a traditional government to an e-government alternative (Ahmed et al. 2013, September). The application of e-government could promote government's facilities to its investors, mainly for underdeveloped nations. The key advantages of e-government for shareholder groups are accessibility, simplicity, inclusivity, security, and privacy (Rowley, 2011).

There are many challenges that e-government implementers face and they influence the failure or success of e-government programs. Several studies have produced a wide range of research on the main obstacles related to applying e-government in developed and emergent nations (Abdelsalam et al. 2012; Nawi et al. 2011).

2. Background Theory

'Developing Countries' refer to the new and post-colonial parts of Asia, Africa, Pacific Regions, and South America. Those territories are usually linked to undesirable conditions such as insecurity, instability, and poverty (Lawrence and Tar, 2010). The overpriced infrastructure deployment of e-government application is another noticeable factor.At the same time, several developing countries don't have the capacity to fully apply e-government policies, primarily due to certain competing social matters that require immediate attention,

specifically education, employment, and health(Sun et al.2015).

For nearly two and a half decades, e-government has existed as a field for research and practice. Modern suggestions based on thorough assessments for the intellectual progress of the field have shown that the field is increasingly developing, [7, 8, 9] but it is still devoid of theories [8] and despite all the practical efforts [7]. The implementation of electronic government and its advantages in underdeveloped nations is very difficult and moves through several impediments [10]. There is a need for many endeavors and research to develop knowledge and its accumulations [11]. The available sources of the awareness in e-government generally depend on studies conducted especially in emergent nations.

When presenting e-government and its initiatives, the administrative, institutional, and cultural contexts must be considered, since it is not easy to transform data from advanced countries to under developed nations [10]. Therefore, studies related to e-government in emergent nations should note over-simplified by presuming that knowledge can be obtained through separate and secluded program sex clouding the nearby frame works.

An emergent nation, sometimes described as a less-developed country (LDC), can be defined as a nation with: low standards of living, underdeveloped industrial infrastructure, and inferior Human Development Index (HDI) when compared to other nations (Odat 2012, December). The term e-government can be defined in many ways. For instance, e-government could be described as a tool through which government scan offer abrupt and accurate information and public services to their citizens electronically. However, the process can be easily done on the internet and with low costs (Odat 2012, December).

Weight analysis can be defined as a method through which the predictor's intensity is evaluated. This analysis examines the analytical capacity of any independent variable in any contexts. (Jeyaraj et al. 2006).

Through modern technology e-government increases the chance of reaching government facilities and services so that citizens, employees, businessmen can get benefit from them. E-Government can be described as Web-Based facilities from the government. Through an electronic system, the government utilizes IT and mainly the use of internet to provide government procedures, involve citizens and offer public services (Alshehri and Drew, 2010).

It is apparent that the implementation of e-government has faced many obstacles and barriers, some of which are internal barriers represented in the change of rapid technological, digital divide, privacy and security, citizens' expectations and the seamless of services. While external barriers are legal and regulatory obstacles, and lack of system integration and technical frameworks and infrastructure (Wang and Hou, (2010).

3. Research Objective

The purpose behind conducting this research is to perform a weight of analytical findings in previous researches on the obstacles that face the application of e-government in emergent nations. The successful point regarding this research is attained through demonstrating the joint diagrammatic illustrations for the challenges facing the implementation of e-government. Moreover, finding the number of significant and non-significant associations between the important constructs of these groups, and using them to evaluate the weight-analysis. And finally performing a thorough analyze of the challenges that face e-government to identify the total related construct performance.

3.1. Research Methodology

The research is based on systematic review and weight analysis according to guidelines suggested by Jeyaraj et al. (2006). Leopold no et al. (2017) proposes a technique of "jump-start" whichskips the steps of sequence and contributes to investigation of the research objectives. The necessity for a suitable search method is taken from the number of e-government published papers, such as a searching from multiple database sources such as IEEE

Explore, Science Direct, Emerald, Springer Link, and Google Scholar for the "*e-Government; e-Government challenges; e-Government Implementation; Developing Countries*". To conduct our research, we have followed scientifically accepted best practices for researchers. The lifecycle of literature review is shown in Figure 1. In the process, we have utilized various methods to synthesize data, conducted by (Scott, et al. 2012). The process began by searching from several sources and academic articles, and then choosing appropriate results. This process created a relevant feedback circle which presented us the opportunity to enhance our search plan. We have added all appropriate and related papers to the database for the upcoming analyses.
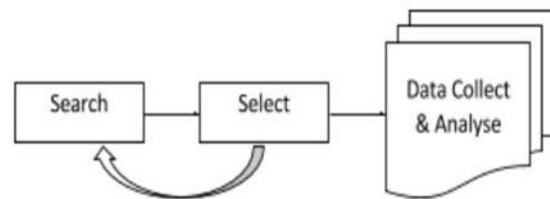

Fig.1. Lifecycle of Literature Reviewadapted (Alsaeed, et al. (2014).

Table 1
Describe studied used in the weight analysis, prepared by authors

Author	Country	Project title	source
Kitsing, (2011).	*Estonia*	Success Without Strategy: E-Government Development in Estonia.	Wiley online library
Alsaeed et al. (2014).	*Syria*	Challenges to the successful implementation of e-government initiatives in Middle-East Arabic Countries and Syria: literature review.	Scholar
Bigdeli and de Cesare, (2011).	*Iran*	Barriers to e-Government service delivery in developing countries: The case of Iran	Springer Link
Li and Abdalla, (2014)	*Sudan*	The E-Government in Sudan: Challenges, barriers and prospects.	Atlantis-press
Sæbø, (2012).	*Tanzania*	E-government in Tanzania: current status and future challenges. In *International Conference on Electronic Government*	Springer Link
Waller and Genius, (2015).	*Jamaica*	*Barriers to transforming government in Jamaica. Transforming Government: People, Process and Policy.*	Emerald
Bwalya, et al. (2014).	*Zambia*	*E-government implementation in Zambia–prospects. Transforming Government: People, Process and Policy.*	Emerald
Tohidi, H. (2011).	Iran	*E-government and its different dimensions: Iran.*	Science Direct
El-sofany et al. (2012).	*Saudi Arabia*	*E-Government in Saudi Arabia: Barriers, challenges and its role of development.*	Scholar
Nkwe, (2012).	Botswana	*E-government: challenges and opportunities in Botswana.*	Scholar
Mutula and Mostert, (2010).	South Africa	*Challenges and opportunities of e-government in South Africa.*	Emerald
Siahhan, (2017)	North Sumatra	*Challenges in developing e-government for good governance in North Sumatra*	IOP science
Giri et al.(2018)	Nepal	E-Governance Implementation: Challenges of Effective Service Delivery in Civil Service of Nepal	Scholar

Lupilya and Jung, (2015).	Tanzania	E-Government transformation in Tanzania: Status, opportunities, and challenges	Scholar
Otniel, (2015)	Romania	The challenges of e-government 2.0 projects in Romania	Scholar
Joseph, (2017)	Zambia	Determining factors influencing e-government development in the developing world: A case study of Zambia	Scholar
Twum-Darko et al. (2015)	South Africa	Theoretical interpretation of e-government implementation challenges in South Africa	Scholar
Putri and Sensuse, (2018)	Indonesia	Obstacle factor analysis of E-Government implementation at the Ministry of Tourism	IEEE
Liton and Habib, (2015)	Bangladesh	Analyzing Challenges and Opportunities of the Implementation of E-Government in Bangladesh	Scholar
Hassan, (2016).	Iraq	Status of E-Government in Iraq and What the Challenges of Development and Implementation	Scholar
Twizeyimana et al. (2018)	Rwanda	E-government in Rwanda: implementation, challenges and reflections.	Scholar
Abdulkareem, A. K. (2015).	Nigerian	Challenges of e-government implementation in the Nigerian public service	Scholar
Ramli, (2017)	Malysia	e-government implementation challenges in Malaysia and south Korea: a comparative study	Wiley online library
Ahmed et al. (2013)	Libya	E-Government Services Challenges and Opportunities for Developing Countries: The Case of Libya	IEEE
Weerakkody et al. (2011)	Qatar	Exploring the complexities of e-government implementation and diffusion in a developing country Some lessons from the State of Qatar	Emerald
Musau, (2011)	Kenya	Trust and its challenges facing E-Government programs in Kenya	IEEE
Muhammad et al. (2016)	Iraq	E-government and its Challenges in Developing Countries: Case Study Iraqi E-government	Scholar
Oliveira and Eler, (2017)	Brazilian	Strategies and challenges on the accessibility and interoperability of e-government web portals	IEEE
Khan et al. (2010)	Pakistan	E-government challenges in developing countries: a case study of Pakistan	IEEE
Al-Dabbagh, M. (2011)	Iraq	E- Gov in Iraq: Challenges of development and implementation.	Scholar
Zaied et al. (2017)	Egypt	E-government Adoption in Egypt: Analysis, Challenges and Prospects	Research-gate
Qader and Kheder, (2016)	Iraq	Challenges and Factors affecting the implementation of e-Government in Iraq	Scholar
Sarrayrih and Sriram, 2015)	Oman	Major challenges in developing a successful e-government: literature review Oman	Science Direct
Wamoto,(2015)	Kenya	E-government Implementation in Kenya, an evaluation of Factors hindering or promoting e-government successful implementation	Scholar
Susanto (2015)	Indonesia	Measuring e-government implementation in Indonesia	Scholar

4. Literature Review

Beginning from 1990, e-government has attracted a lot of attention, through which governmental establishments use ICTs to develop services by endorsing well-organized and successful services and facilitating accessibility to public governmental services. At the same time, it gives chance to public to gain information and make government more approachable to people.(Palvia and Sharma, 2007)

Zaied et al. (2017) pointed out that Egypt is facing many difficulties in its attempts to successfully implement e-government programs, however, the government in Egypt has come across several challenges. The obstacles are the Lack of E-signature System, Privacy issues, Security and challenges related to E-payment Transactions (Low Access to Credit cards- Shortage of Payment Instruments for Ordinary People), Inconvenience of Delivery System and its impacts on the prestige of E-services Quality ,

Low Rate of internet access, Citizens' lack of Awareness, Inadequate knowledge for using a Computer, Participation and study, Inflexibility to Modify Workflows, Reluctance and Mistrust of Automation, Lack of Information sharing and Integration amongst Government sectors, The Lack of Unified Standards and the Connection between Service Providers.

Qader and Kheder, (2016) mentioned that the outcome of the study reveals that public awareness, infrastructural constraints, trust, access cost, and the absence of supporting lawful frame works is undoubtedly the main obstacle that is facing the application of an e-government in Iraq.

Sarrayrih and Sriram, (2015) mentioned that the pre dominant difficulties facing e-government implementation in Oman are related to organizational themes which lack management planning and staff literacy in use ICT, as well as, there are challenges that are related to political themes such as lack of policies and strategy and social challenges which are lack of awareness and educational literacy. After all, the main challenges that are related to infrastructure themes are: lack of security, information quality and internet service.

Wamoto, (2015) mentioned through his study in Kenya, he noticed three basic issues that impede the application of e-government are the lack of information, communication technology infrastructure, and poor design. Additionally, there is weakness in project management since it is considered as the prominent issue that fail the processor applying e-government in Kenya. However, other factors such as weak financial support and awareness resulting from the weak role of the media in clarifying the importance of the project. Also the apparent lack of training of citizens should not be ignored and Lack of policies and strategy, as they were identified as serious issues in the implementation of e-government project in all countries, especially in emergent nations.

Susanto, (2015) indicated that data used by the e-government system is not fully available, as no regulations and standard procedures have been applied to monitor the use of the system. Since the volume of online services is not the only factor in e-government success, e-government indicators for the supply side in terms of an easy system interface should be balanced alongside demand-side indicators. The lack of IT staff and IT infrastructure are the major issues facing e-government implementation in public sector institutions in Indonesia.

Muhammad et al. (2016) they mentioned through their study, there are five categories of challenges facing the application of the e-government system, which are the organizational, political, technical, human and security capabilities. Moreover, each of these challenges has many factors that affect positively or negatively on the Iraqi e-government. It is also mentioned that the factors that affect this segment are the limited budget, Lack of architecture interoperability, legal framework, and slow process of decision-making, bureaucracy, transparency, and oversight. The rules and regulations that support e-government, its transactions, and transitions are other obstacles that impact the application of e-government.

Oliveira and Eler, (2017, July) pointed out that one of the obstacles facing the Brazilian e-government is that no certain available technique studies the inoperable features from the requirements' elicitation to the maintenance of the e-government resolutions. They cannot completely conform to government requirements. It appears that the major source of difficulties is the unfortunate mixture of high demand, strict deadlines, and an adequate IT staff. Nevertheless, there is no allocation of funds provided to amplify the number of the technicians for those establishments and that leads to the lack of strategy, and lack of system interoperability.

Khan et al. (2010) indicate that most important challenges facing the government of Pakistan are the lack of an appropriate official, regulatory, monetary, and economic strategy to implement e-government on the local and regional levels. It also includes sub-factors, namely weak government information infrastructure (GII), and indicators for low communication infrastructure except for cellular density. In addition to the digital divide in the country between the regions and population sectors in the countryside and urban areas, the low human capital index is in both adult primary, secondary learning level, and tertiary enrollment related parts. In addition, the low educational literacy rate, the lack of information and communication technology facilities in learning foundations including religious schools, the knowledge of using information technology. In the meantime, the absence of local satisfaction and the general language version of government a internet sites limits the spread of the internet which constrains electronic readiness. The shortage of basic services for citizens or commercial services via internet such as renewing the license, requesting birth/ death/ marriage certificates, providing income tax, and other problems that hinder the application of the system.

Weerakkody et al. (2011) they showed that several social issues such as lack of simplifying experiencing-centric public services, digital divide, and awareness impede e-government implementation in Qatar. However, there are also some political aspects that influence the implementation of e-government including political and regulation support, financial support, and commitment of high management. As well, there are other factors related to organizational themes such as lack of organization and management structure, organizational strategy, employee training, roles, and responsibilities. Finally, there are several infrastructure issues like inadequate IS/IT capacities, security, and privacy. On the other hand, the lack of configuration of the e-government organization including an inclusive ICT strategy with one access point to different online facilities impacts the application of e-government.

Musau et al. (2011) they argued that Lack of trust by citizens in Kenya raises many of the concerns that hinder e-government. The lack of information access, weak e-government response to the issues demanded by citizens, and the lack of flexible communication channels. Additionally, the government's failure to update its official sites, the lack of public trust in the system,

security and privacy issue for e-mail, the adoption of the system to traditional means are leading factors that hinders the process. Generally, those challenges lead to a weak system structure, weak internet lines. Finally, corruption in information and communication devices is another significant obstacle in the process of implementing e-government.

Ahmed et al, (2013) argued that less knowledge in using modern technology can be considered as the main obstacle concerning the application of e-government facilities. In Libya, aside from, the low number of those who have computers and inferior internet access because of the low connection speed, also among the major technical problems that e-government experience is the security. However, there are challenges related to the access and telecommunication structure, for instance, the challenge of using internet, lack in the telephone lines number are the principal impediments regarding using internet. At the same time, political, cultural, and demographic impacts must be considered to limit the gap between the design and reality, lack of rule and regulation. On the other hand, shortage of knowledge, dependability, and involvement are other challenges related to social themes. Lastly, the challenges related to social matters include citizens inadequate knowledge and inability in using computers. Furthermore, government employees face the same challenge. As the matter of fact, employee's demands for change challenges the improvement of e-government.

Ramli, (2017). Showed through a study that several issues decide the failure or success of e-government implementation in Malaysia. Generally, those factors are the main pillars of e-government. More importantly, findings emerged from this paper clarifies that lack of skills, insufficient technical structure, insufficient financial resources, lack of ICT policy, poor leadership, lack of government support and lack of integration are behind the downfall of e-government implementation.

Abdulkareem, (2015) pointed out that slight advancement has been attained even though government immensely allocates on the ICT to achieve the goals indicated in the policy document. The limited success could be ascribed to poor infrastructure, digital divide, power malfunction, little knowledge of ICT, stealing and vandalizing ICT equipment, security, and privacy.

Twizeyimana et al. (2018) they argued that the six main challenging aspects affecting the success of implementing e-government in Rwanda has been recognized. Those aspects were insufficient e-government data infrastructure, public un satisfaction, authority, languages, lack of system reliability, and inferior managing.

Liton and Habib, (2015) pointed out that Online Service through E-Government Portal, system and information quality, e-Participation Index, Incompatible Infrastructure, budget funding, demographic change, digital divide, security rule and political, inconsistent legal and regulation, human resources scanty, trust deficiency, poor Component of Telecommunication Infrastructure, lack of awareness and Educational disparity are the significant factors. However, demographic change and digital divide are considered as the major obstacles and challenges facing the implementation of e-Government in Bangladesh.

Hassan, (2016) found that there are issues and challenges facing the application and development of e-government in Iraq. The challenges can be summarized as: records management, information management skills, lacking infrastructure, law and public policy, digital divide, illiteracy, physical disability, privacy, confidence, security, the lack of transparency, corruption, interoperability, staff, lack of human resources. Those factors can hinder the organization and development of E-government, as well as limit objectives and cause ineffective performance due to the absence of professional IT teams.

Putri and Sensuse, (2018) in their study found six issues that could prevent the implementation of e-government in Indonesia which are: lack of implementation strategy and goals, lack of coordination and cooperation within Indonesia. Meanwhile, technology service is not integrated which means incompatible infrastructure, system and information quality, lack of E-Government portal, and failure when using the service leads to lower levels of data storage security and privacy.

Joseph, (2017) indicated that key factor that influences e-government implementation and advancement in Zambia is the weakness of e-government portal. The study showed that 49% of the participants were not familiar with e-government facilities in Zambia and it also revealed that 21% of them showed complete unawareness of e-government that means lack of awareness, users of e-government should be informed about the significance and advantages of e-government. As the result of inconsistent legal and regulation, 84% of the participants in the research revealed that security guidelines are not directed to interact in online atmospheres. For that reason, it is not an easy task to depend on government data regarding online platforms due to organizational barriers such as inappropriate ICT structure, high-priced access to Internet, and deficiency in coordination.

Twum-Darko et al. (2015) their study showed that the critical obstacles confronting the application of e-government in South Africa is the deficiency of an electronic portal, and it became clear that there was a weakness of policies, regulations, and strategies. Therefore, the changes caused by e-government projects require developing novel strategies or reviewing current policies, and inadequate knowledge was among the challenges that impede the implementation of the system for this.The motivation behind the increased awareness and approval of the e-government initiative changes the branding of the government service delivery strategy, and citizens believe that bureaucracy has a great impact on e-government as an initiative.

Lupilya and Jung, (2015) emphasized that the unwillingness of accountability and transparency, the fall of technology, and the illusion of technological misfortune and innovation led to the stagnation of e-government.

In the transformation process. These problems greatly affect technology and cyber social transformation as organizations become more resilient. Among the most important challenges to implementing the e-government were the information technology infrastructure policy, data and information privacy, confidentiality, and the cybercrime policy. One of the implicit effects of making the transition to e-government successful is to strategically adopt the development of sustainability, coordination, planning, integration, and improvement of ICT infrastructure projects.

Otniel, (2015) mentioned that reliable electronic services resulting from successful projects of electronic government mean dealing with several hindrances and obstacles such as accessibility, transparency, technological infrastructure interoperability, accreditation of end-user, citizen's privacy and security, system's reliability, up to date policy and regulation, and quality of institutional system and transformation.

Siahhan, (2017) indicated that the most important challenges facing the implementation of e-government in North Sumatra are digital divide, resistance to change, local political interrelated, lack of integrity, cronyism and nepotism, lack of ICT skills, shortage of internet access, policy transparency, government inadequate information, and human resource capacity as the result of demographic change.

Giri et al. (2018) stated that the government of Nepal has come across many difficulties throughout service delivery during the implementation of e-government such as, Infrastructure improvement, development of human resources management, and digital divide, which are recognized as the main obstacles.

Nkwe, (2012) proved that the e-government Botswana faces many obstacles in the implementation stage, which is represented by the lowest internet usage, limited telecommunication facilities, the absence of an organized structure supporting e-government, digital divide, security, and privacy issues. Additionally, inadequate IT training and abilities, citizen's lack of awareness, participation and culture are noticeable issues as well.

Mutula and Mostert, (2010) mentioned that because of a rigid framework and overpriced infrastructure, South Africa has not successfully used the program. Generally, South Africa e-government implementation has experienced several obstacles regarding service delivery due to inequality, poverty, corruption, illiteracy, insecurity, lack of skills, demographic change, digital divide, organizational coordination, insufficient funding, inferior infrastructure, compatible government strategy, shortage of ICT skills, system and information quality, security issues, lack of policy, and high cost of internet access.

Bwalya, et al. (2014) mentioned in their study that inappropriate access to data systems is the main hindrance in improving and developing e-government in Zambia. Also, inappropriate legal and regulatory frameworks, lack of ICT organization, scarcity of awareness, educational/guiding programs, deficiency in e-government website, lack of affordable internet access points impact the process. It is obvious that limited ICT skills among government workers, and short end-user government endorsement which are other issues that influence the implementation of e-government in Zambia.

Tohidi, (2011) pointed out that major challenges in Iran e-government not just covers non-technical framework but such kind of public and national nonproliferation and government full authority on all institutions and their approaches, especially when compared to the computer-generated option. To implement online services, government should limit the lack of internal assistance, present a novel structure, and control challenges altered by technology, lack of awareness, digital divide, and demographic changes.

Sæbø, (2012)mentioned that the government sector in Tanzania confronts a few obstacles in applying e-government services; for instance, the lack of infrastructure, unreliable internet connection, the poor design of network structure, outdated software. On the other hand, citizens unawareness and learning how to use technology, lacking ICT skills, lacking top-management support, inadequate infrastructure coordination, inferior system quality, and scarcity of awareness. Those are the noticeable impediments that affect the execution of e-government.

Waller and Genius, (2015) stated that many obstacles face e-government implementation in Jamaica especially problems related to infrastructure, organizational, social, and funding. For example, insufficient infrastructure, privacy, security, resistance to change, limited top-management support, digital divide, lack of funding, and collaboration among government agencies lead to lack of structure coordination.

Table 2

Description of the challenges that hinder e-government implementation in developing countries, referred to by the 35 researchers, prepared by authors.

Author	Country	Political	social	infrastructure	organizational
Kitsing, (2011).	Estonia	Lack of policy; Lack of government support; Inconstant legal and regulation; Lack of e-government funding.		lack of IT-savvy	Absence of an e-government strategy; Lack of cooperation and coordination among different government agencies.

Alsaeed et al. (2014).	Syria	Lack of policy; Poor of computer misuse laws and legal; Bureaucracy crushing.	Resistance to change; Lack of awareness; Obscurity of citizen participation and private stakeholders.	Lack of ICT infrastructure; Poor internet facilities; Obscurity of e-banking; E-Commerce maturity.	All levels inexperience of implementers; Lack of strategic frameworks; Unclear vision; Cost of service; Personal attitude among employees; Power distribution.
Bigdeli and de Cesare, (2011).	Iran	Scanty financial support; Lack of government support; Lack of rules; Lack of policies and legislation; Businesses privacy; Weak security model; Data and information; Privacy and security.	Resistance to change; Lack of trust.	Lack of telecommunication; Lack of ICT infrastructure.	Lack of vision and strategy; cost of service; Lack of training; Lack of interaction reliability of G2G through the Internet; Lack of stricture coordination; Lack of ICT and IT knowledge and skills.
Li and Abdalla, (2014)	Sudan	Lack of government regulations; Ineffective government support.	Lack of citizen participation and awareness; Resistance to change.	Lack of technology literacy among stakeholders; Lack of ICT trust.	lack of structure coordination
Sæbø, (2012).	Tanzania	lack of government support	lack of awareness	Lack of infrastructure; Internet connections are unreliable; Outdated software; Lack of system quality.	lack of understanding and skills on how to utilize technology; lack of ICT skill; lack of structure coordination
Waller and Genius, (2015).	Jamaica	Lack of funding; Lack of government support; Security and privacy	Resistance to change; Digital divide.	Lack of infrastructure	Collaboration between and among government agencies; Lack of structure coordination; Cost of service.
Bwalya, et al. (2014).	Zambia	Lack of legal and regulatory; Lack government support.	Lack of awareness.	Lack information systems; Lack of ICT infrastructure; Lack of internet access points; Lack of e-government website.	Educational/training programs; limited ICT skills; Lack of affordable
Tohidi, H. (2011).	Iran	Lack of government support.	Lack of awareness; Digital divide; Demographic change.	Lack of ICT infrastructure.	Lack of structure coordination; High cost of service.
El-sofany et al. (2012).	Saudi Arabia	Lack of policy and regulation; Financial Barriers; Lack of leaders and Management Support; Privacy and security	Resistance to change; Lack of programs to promote e-government benefits and advantages; Lack of awareness; Culture; Lack Trust in e-services.	lack of ICT Infrastructure	Lack of partnership and collaboration; Lack of strategic planning; Lack of qualified personnel and training,
Nkwe, (2012).	Botswana	Privacy and security concerns; Lack of supporting e-government	Digital divide; Lack of awareness and participation and culture.	Low level of internet penetration; Lack of infrastructure and telecommunication.	Limited IT skills and training,
Mutula and Mostert,(2010).	South Africa	Legal and regulatory framework insecurity; Lack of budget funding security issue; Lack of policy.	Illiteracy; Skills shortage; Demographic change; Digital divide; Poverty, inequality, and corruption.	Lack of infrastructure; System and information quality; Expansive infrastructure	Organizational coordination; Lack of government strategy; Shortage of ICT skills; High cost of internet access.
Siahhan, (2017)	North Sumatra	Transparency and corruption; Local political interrelated; Process and policy transparency; Inconsistent Legal and Regulation.	Digital divide; Resistance to change; Demographic change; Cronyism and nepotism; Trust of internet; Citizen trust government	Information Quality; Lack of computer and internet access.	Structure Coordination; Organizational culture; Lack of integrity; Power distribution; Law skill of knowledge of ICT.
Giri et al.(2018)	Nepal		Digital divide; Demographic change; Citizen trust government	Lack of Infrastructure; System Quality; Information Quality.	Lack of coordination; Power distribution. .
Lupilya and Jung, (2015).	Tanzania	Transparency and corruption in funding; Inconsistent Legal and Regulation.	Demographic change.	Lack of Infrastructure; System Quality; Information Quality.	Structure Coordination; Government plan and strategy; Cost of service
Otniel, (2015)	Romania	Law and public policy; Transparency accessibility;	E-literacy; Digital divide; Education and	Lack of Infrastructure; System Quality;	Structure coordination; Power distribution; Sustainability and cost structures.

		Privacy, Security, and Trust.	marketing issues.	Information Quality.	
Joseph, (2017)	Zambia	Security Rule and Political; Inconsistent Legal and Regulation	lack of awareness	Incompatible Infrastructure; System Quality; Information Quality; Lack of E-Government Portal.	Structure Coordination.
Twum-Darko et al. (2015)	South Africa	Security Rule and Political	Resistance to Change; Lack of awareness.	Lack of E-Government Portal.	Government plan and strategy; Lack of Coordination
Putri and Sensuse, (2018)	Indonesia	Security and privacy		Incompatible Infrastructure; System Quality; Information Quality; Lack of E-Government Portal	Structure Coordination; Lack Government plan and strategy
Liton and Habib, (2015)	Bangladesh	Budget Founding; Security Rule and Political; Inconsistent Legal and Regulation	Lack of awareness; Demographic change; Digital divide,	Incompatible Infrastructure; System Quality; Information Quality; E-Government Portal	Structure Coordination; Cost of service; Power distribution.
Hassan, (2016).	Iraq	Security Rule and Political; Inconsistent Legal and Regulation; Low government support as result of corruption; Lack of transparency; Security and privacy	Digital divide; Lack of computer literacy amongst the citizens and government employees; Lack of citizen trust,	Low ICT literacy level; Incompatible Infrastructure	Structure Coordination; Power Distribution; Government plan and strategy
Twizeyimana et al. (2018)	Rwanda	Laws and policies; Lack of Government support	Lack of awareness; Demographic change; Resistance to change	Lack of computer systems and their maintenance; Availability of electricity and internet; Lack of mobile tools; Lack of interface	Lack of coordination; Lack of organization structure; Government plan and strategy; Lack of IT personnel
Abdulkareem, A. K. (2015).	Nigerian	Privacy concerns and security	Digital divide;	Low ICT literacy level; Theft and vandalization of ICT equipment; Technology incompatibilities; power failure	Lack of coordination
Ramli, (2017)	Malaysia	Out-dated regulations; Restrictive laws and regulations; Privacy concerns; Vague policy; Lack of funding/ Insufficient fund; Government support	Lack of skills and expertise; Lack of motivation; Negatives attitudes; Resistance to change	Incompatibilities infrastructure; Slow speed connection technology; Lack of communication.	Lack of coordination; Poor leadership; Federal-state power issues
Ahmed et al. (2013)	Libya	Security and privacy issue; Lack of policies; Lack of rule and regulation	Lack of awareness; Demographic change; Lack of computer literacy amongst the citizens and government employees; Resistance to change; Lack of citizen trust.	Lack of integration IS/IT capabilities; Lack information quality; Lack of communication technology; Lack of infrastructure; Poor design; Lack of internet service; System quality.	Lack of security; Lack of organization structure; Lack of strategy.
Weerakkody et al. (2011)	Qatar	Lack of policies; Lack of proper financial policy for e-Government implementation; Lack of roles, and responsibilities ;Funding issues; Security and privacy	Digital divide; lack of awareness; Lack of facilitating citizen centric-services; Demographic change	Lack of integration; Lack of IT standard; Lacked the required IS/IT capabilities	Lack of structure coordination; Lack of ICT organizational strategy; Lack of employee training.
Musau, (2011)	Kenya	Security and privacy issue for e-mail	Corruption in the deals of information; Lack of citizen trust in the system,	Lack of information Quality; Lack of flexible communication channel; Weak Internet lines; System quality.	Weak of e-government response to the issues demanded by its citizens; Lack of structure coordination.
Muhammad et al. (2016)	Iraq	Legal framework; Rules and regulations; Government support; Funding issues; Security and privacy; Transparency	Lack of awareness; Digital divide; Demographic change	Lack of architecture interoperability; Lack information and communication technology	Slow process of decision-making, Bureaucracy and Cost of service.

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Oliveira and Eler, 2017, July)	Brazilian	Lack of policies; Funding issues; Security and privacy	Lack of awareness; Resistance to change	Lack of architecture interoperability	Power distribution; Lack of organization structure; Lack of strategy
Khan et al. (2010)	Pakistan	Lack of policies; Lack of government support; Funding issues	Lack of skilled personnel; Digital divide; Lack of awareness; Low educational literacy rate	Lack of information technology literacy; Lack of websites; Lack of Internet service quality; Low communication infrastructure except for cellular density; Lack of online service; Weak government information quality	Lack of organization structure; Low human capital index; Lack of proper regulatory institutional; Lack of strategy
Al-Dabbagh, M. (2011).	Iraq	Lack of a political process; Lack of Funding; Lack of security.	Lack of awareness; Resistance to change; Lack of citizen trust.	Lack of infrastructure; Disruption in the electricity and internet services	Lack of skilled personnel; Power distribution.
Zaied et al. (2017)	Egypt	Concerns over citizen privacy; E-Government policy evolution; Funding issues; Security models.	Absence of an e-Government champion to enhance awareness.	Lack of architecture coordination; System quality; Information quality.	Lack of structure coordination; Government reform strategy; Legacy government processes; Power distribution; Lack of relevant in-house management and technical expertise.
Qader and Kheder, (2016)	Iraq	Lack of an enabling lawful framework	Lack of awareness; Lack of Citizen trust	Lack of infrastructural.	Cost of service
Sarrayrih and Sriram, 2015)	Oman	Lack of policies; Lack of security	Lack of awareness; Educational literacy.	Information quality; Internet service quality	Lack of management planning and strategy; Lack of staff training to use ICT
Wamoto (2015)	Kenya	Lack of policies; Lack of government support; Lack of funding.	Lack of awareness.	Lack ICT infrastructure; Poor design.	Weakness in project management planning and strategy; Cost of service.
Susanto (2015)	Indonesia	Inconstant legal and regulation		Lack of IT infrastructure	Lack of IT staff; Lack of strategy.

Bigdeli and de Cesare, (2011) pointed out that barriers facing e-government service delivery in Iran are related to strategy, policy, technology, and organizational. They include scanty financial support, lack of vision and strategy objectives, lack of rules, lack of policies and legislation to keep the privacy of individuals/commerce, less reliability and technology acceptance among the stakeholders. The lack of telecommunication and ICT infrastructure, weak security model, lack of ICT and IT awareness and skills, lack of guiding and inadequate support are some other factors. The shortage of interaction dependability on G2G through internet, opposition to e-services, and insufficient managing assistance impose serious impact on the application of e-government.

Li and Abdalla, (2014) mentioned that e-government implementation in Sudan faces numerous challenges such as data privacy and security, literacy regarding technology, lack of citizen participation and awareness, lack of ICT trust, resistance to change, lack of structure coordination, high cost of technology, inefficient government regulations, and ineffective government support.

Kitsing, (2011) declared that Estonia faced several challenges during the implementation of e-government including the absence of an e-government strategy, lack of e-government funding, lack of support, lack of IT-savvy. In addition, it is demonstrated that e-government specialized regulation was not applied considerably previously in Estonia, and there is lack of cooperation and coordination among government agencies.

Alsaeed et al. (2014) asserted that the general factors that impact the progress and development of e-government programs in Syria include: lack of ICT structure, inferior internet services, inexperienced operators, lack of policy, lack of strategic frameworks, vague sight, employees personal view point, resistance to change, lack of awareness. The obscurity of online banking, poor application of computer laws and policies, the obscurity of citizen participation and private stakeholders, E-Commerce maturity, and bureaucracy crushing are among the factors as well.

Constructs' relationships and weight analysis

The 2nd table provides a detailed explanation of the relationships between the independent variables, which represent the obstacles that hinder e-government in emergent nations, and the dependent variable, which is the application of e-government and the problems related to its execution in developing countries. Relationships are defined based on important or effective relationships. They include the number of repeated times of the impact of independent variable on dependent variable; for instance, several studies have showed the influence of this independent variable on the dependent variable. That

includes the number of important relationships (using the SIG abbreviation).

Unimportant relationships or the number of researches that did not mention the impact of independent variable son the dependent variables (using the NS abbreviation), all available interactions between individual variables, and the weight calculated for each variable. Weight analysis is a procedure through which the intensity of a predictor (i.e. the independent variable) can be studied. That analysis calculates the predictive intensity of independent variables in each relationship (Jeyaraj et al. 2006).

Weight-analysis is implemented to research the application of e-government since it in fact depends on weights as indicators for analyzing the intensity of the provided independent variables and those variables are tested on specific dependent variables more than several times (Jeyaraj et al. 2006). The weight-analysis for all relationships was implemented depending on the amount of major relationships and the complete number of relationships evaluated among the collection of dependent and independent variables. Meanwhile, corresponding

with the connection between pairs of constructs from different researches, then we appraised the accumulative values between each construct to find the prospective trend of divergence or convergence (Jeyaraj et al. 2006).

For the purpose of identifying the most useful predictors, the independent formulations were classified into three types: "well- use", which was checked more than five times and the relation is represented with symbol "**" in fig (2), and "experimental" that was checked less than five times and the relation was represented with the symbol "*" in fig (2). Hence, the "best predictor" criterion was assigned to the weight of the independent variable so that it could be greater or at least equal to (0.80) and it could be noticed more than five times, and the relation was represented with the symbol "***" in fig(2).Two factors are considered to reveal the strength of the relationship between a group of independent and dependent structures. First, the specific relationship between the combinations is often analyzed, and then, identifying the number of important relationships. After that dividing the number of repetitions of the independent variable by the number of undergoing studies.
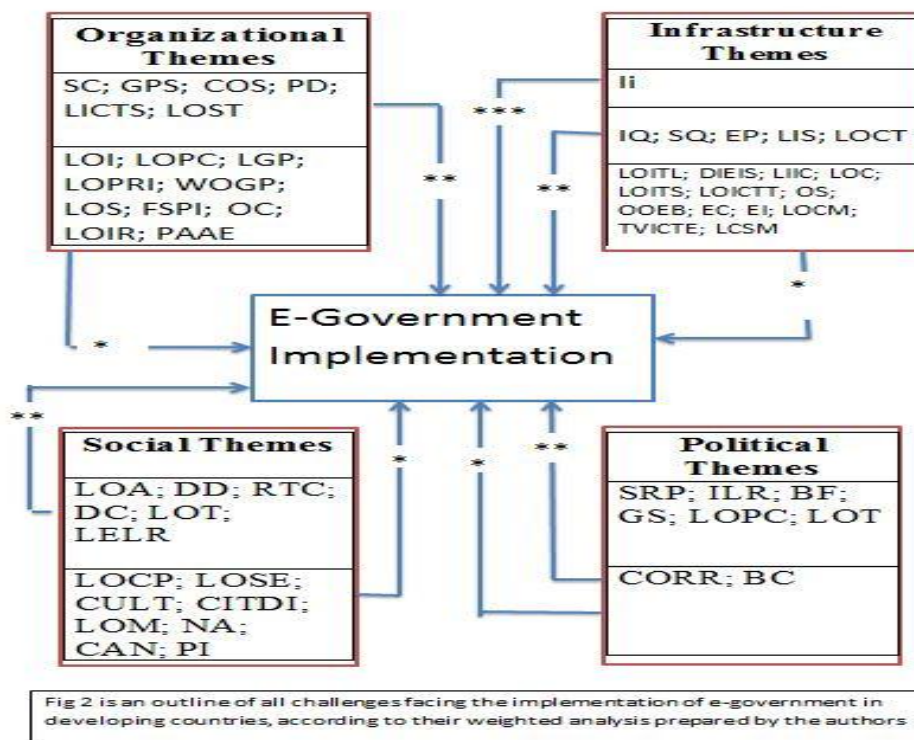

Fig. 1 Cumulative Construct Diagram for challenges facing e-government implementation in developing countries. SC: Structure coordination; GPS

Government plan and strategy; COS: Cost of service; PD: Power distribution; LICTS: Lack of ICT skill; LOST: Lack of staff training; LOI: Lack of integrity; LOPC: Lack of partnership and collaboration; LGP: Legacy government processes; LOPRI: Lack of proper regulatory institutional; WOGP: weak e-government response to the issues demanded by its citizens; LOS: lack of organizational security; FSPI: Federal-state power issues;

OC; Organizational culture; LOIR: Lack of interaction reliability of G2G through the Internet; PAAE: Personal attitude among employees; Ii: Incompatible infrastructure; IQ: Information Quality; SQ; System Quality; EP: E-government portal; LIS: Lack of internet service; LOCT: Lack of communication technology; LOITL: Lack of information technology literacy; DIEIS: Disruption in the electricity and internet services; LIIC: Lack of IS/IT

capabilities; LOC: Lack of computer; LOITS: Lack of IT-savvy; LOICTT: Lack of ICT trust; OS: Outdated software; OOEB: Obscurity of e-banking; ECM: E-Commerce maturity; EI: expansive infrastructure; LOCM: Lack of computer maintenance; TVICTE: Theft and canalization of ICT equipment; LCSM: Lack of computer systems maintenance; LOA: Lack of awareness; DD: Digital divide; RTC: Resistance to change; DC: Demographic change; LOT: lack of trust; LELR: Low educational literacy rate; LOCP: Lack of citizen participation; LOSE: Lack of skills and expertise; CULT: Culture; CITDI: Corruption in the deals of information;

LOM: Lack of motivation; NA: Negatives attitudes; CAN: Cronyism and nepotism; PI: Poverty, inequality; SRP: Security Rule and Politics; ILR: Inconstant Legal and Regulations; BF: Budget Funding; GS: Government support; LOPC :Lack of privacy concern; LOT: Lack of Transparency; CORR: Corruption; BC: Bureaucracy crushing.

5. Discussion

In this part, we will discuss the diagnosis of the most prominent difficulties and obstacles that impede the execution of e-government in developing countries based on the viewpoint of researchers, according to the table (3):

Table 3
Weight analysis of the challenges facing e-government implementation in developing countries, prepared by authors

Themes	Independent Variable	Dependent Variable	SIG	NS	Total of source	Weight
Organizational	Structure coordination	E-government Implementation	24	11	35	0.67
	Government plan and strategy		18	17	35	0.51
	Cost of service		12	23	35	0.34
	Power distribution		10	25	35	0.29
	Lack of ICT skill		10	25	35	0.29
	Lack of staff training		7	28	35	0.20
	Lack of integrity		4	31	35	0.11
	Lack of partnership and collaboration.		2	33	35	0.06
	Legacy government processes		1	34	35	0.029
	Lack of proper regulatory institutional		1	34	35	0.029
	weak e-government response to the issues demanded by its citizens		1	34	35	0.029
	lack of organizational security		1	34	35	0.029
	Federal-state power issues		1	34	35	0.029
	Organizational culture		1	34	35	0.029
	Lack of interaction reliability of G2G through the Internet		1	34	35	0.029
	Personal attitude among employees		1	34	35	0.029
Infrastructure	Incompatible infrastructure	E-government Implementation	30	5	35	0.86
	Information Quality		14	21	35	0.40
	System Quality		11	24	35	0.31
	E-government portal		9	26	35	0.26
	Lack of internet service		9	26	35	0.26

	Lack of communication technology		8	27	35	0.23
	Lack of information technology literacy		4	31	35	0.11
	Disruption in the electricity and internet services		3	32	35	0.086
	Lack of IS/IT capabilities.		2	33	35	0.06
	Lack of computer		2	33	35	0.06
	Lack of IT-savvy		1	34	35	0.029
	Lack of ICT trust		1	34	35	0.029
	Outdated software		1	34	35	0.029
	Obscurity of e-banking		1	34	35	0.029
	E-Commerce maturity		1	34	35	0.029
	expansive infrastructure		1	34	35	0.029
	Lack of computer maintenance		1	34	35	0.029
	Theft and vandalization of ICT equipment		1	34	35	0.029
	Lack of computer systems maintenance		1	34	35	0.029
Social	Lack of awareness	E-government Implementation	22	13	35	0.63
	Digital divide		13	22	35	0.37
	Resistance to change		12	23	35	0.34
	Demographic change		10	25	35	0.29
	Lack of Trust		10	25	35	0.29
	Low educational literacy rate		7	28	35	0.20
	Lack of citizen participation		4	31	35	0.11
	Lack of skills and expertise		3	32	35	0.086
	Culture		2	33	35	0.06
	Corruption in the deals of information		2	33	35	0.06
	Lack of motivation		1	34	35	0.029
	Negatives attitudes		1	34	35	0.029
	Cronyism and nepotism		1	34	35	0.029
	Poverty, inequality		1	34	35	0.029
Political	Security Rule and Politics	E-government Implementation	27	8	35	0.77
	Inconstant Legal and Regulations		18	17	35	0.51
	Budget Funding		17	18	35	0.49

	Government support		15	20	35	0.43
	Lack of privacy concern		15	20	35	0.43
	Lack of Transparency		6	29	35	0.17
	Corruption		1	34	35	0.029
	Bureaucracy crushing		1	34	35	0.029

5.1. Organizational themes

The above table(3) shows that 24 researchers agreed that structural coordination from organizational is the most important challenge that hinders the application of e-government with a weight analysis that equals to (67%). And it is followed by the Government plan and strategy factor which is approved by 18 researchers with weight equal to (51%). Then the "Cost of Service" factor follows approved by12 researchers with a weight of 34%. Then comes the power distribution and lack of ICT skills, and their weight was (29%) which are approved by 10 researchers. Then a Lack of staff training follows which is indicated by 7 researchers, at a rate of (20%). Then, Lack of integrity and Lack of partnership and collaboration with weigh of analysis (4%),(2%).

While the factors, Legacy government processes, Lack of proper regulatory institutional, weak e-government response to the issues demanded by its citizens, lack of organizational security, Federal-state power issues, Organizational culture, Lack of interaction reliability of G2G through the Internet, and Personal attitude among employees obtained at a rate of approval of one researcher out of the total researchers and with an analytical weight equal to (3%)

5.2. Infrastructure themes

Table (3) shows that 30 of researchers agreed that incompatible structure is the main challenge that faces e-government implementation which is related to infrastructure themes with a weight analysis that equals to (86%). And it is followed by the information quality factor which is approved by 14 researchers with weight equal to (40%). Then the system quality factor follows approved by 11 researchers at a weight of 31%. Then follows the E-government portal and lack of internet service, and their weight was (26%) which agreed by 9 researchers. Then they are followed by a Lack of communication technology which indicated by 8 researchers at a rate of (23%). Then they followed by a lack of information technology literacy and Disruption in the electricity and internet services which is agreed by 4 researchers with weighing of analysis (11%), (9%). Lack of IS/IT capabilities and lack of computer services which are approved by 2 researchers with weigh of analysis (6%).

While the factors, lack of ICT trust, outdated software, obscurity of e-banking, E-Commerce maturity, expansive infrastructure, lack of computer maintenance, theft and canalization of ICT equipment and lack of computer systems maintenance obtained the approval of one researchers out of the total researchers and with an analytical weight equal to (3%)

5.3. Social themes

Table (3) indicate that22 of researchers argued that unawareness is among the crucial obstacles that influence the implementation of-government, which is related to social themes, with a weight analysis that equal to (63%). And it followed by the digital divide factor, which mentioned upon by 13 researchers with weight equal to (37%). Then the resistance to change factor came with the agreed of 12 researchers, at a weight of 34%. Then came the demographic change and lack of trust, and their weight was (29%) which pointed out by 10 researchers. then they followed by a Low educational literacy rate which indicated by 7 researchers at a rate of (20%). Then they followed by a Lack of citizen participation and Lack of skills and expertise which is approved by 4 researchers with weighing of analysis (11%), (9%). While culture and Corruption in the deals of information is approved by 2 researchers with weigh of analysis (6%).

Whereas the factors; Lack of motivation, Negatives attitudes, Cronyism and nepotism, Poverty and inequality obtained the approval of one researcher out of the total researchers and with an analytical weight equal to (3%).

5.3. Political themes

Table (3) pointed out that 27 of researchers agreed that Security Rule and Politics is the most essential challenge that faces the application of e-government which is related to political themes with a weight analysis that equal to (77%). And it is followed by the Inconstant Legal and Regulations factor which is mentioned by 18 researchers with weight equal to (51%). Then the Budget Funding factor comes with the concurrent of 17 researchers with a weight of (49%). Then comes the lack of government support and Lack of privacy concern and their weight was (43%) which disagreed by 15 researchers. Then they are followed by a Lack of Transparency which is indicated by 6 researchers at a rate of (17%).

Whilst the factors; corruption and Bureaucracy crushing obtained the approval of one researcher out of the total researchers and with an analytical weight equal to (3%)

6. Results

The in-depth analysis reveals that all relationships have different effects, as the studies have shown that out of a total of 35 studies related to the research topic recognize the obstacles that facethe implementation of e-government in developing countries. For instance, Incompatible infrastructure factor, which is related to infrastructure themes, was repeated 30 times, and the result of the weight analysis was (30/35) which is equal to (0.86).In addition to that the study presented that the policy themes which are related to Security Rule and Politics, were repeated 27 times, and the result of the weight analysis was (27/35) which equal to (0.77).While the coordination factor which is related to the organizational themes was also a noticeable obstacle that impacted the implementation of e-government in developing countries. The number of researches that have mentioned the effect of this factor amounted to 24 times out of a total of 35 studies with an analytical weight of (24/35), which is equivalent to the ratio of (0.67). As for factors related to social themes, out of the total of 35 studies under analysis, 22 studies referred to the lack of awareness as the factor that hinders the implementation of e-government in developing countries with an analytical weight (22/35) which is equivalent to (0.63).

The results show that the most used relationships that emerged in the weight analysis covering 20 challenges recorded a percentage higher than 26%.They include coordination of the structure, government and strategic plan, service cost, power distribution, lack of ICT skills, structure, Incompatible infrastructure, quality of information, system quality, e-government portal. As well as, lack of internet service, lack of awareness, digital divide, resistance to change, demographic change, lack of confidence, security and policy rule, legal instability and regulations, budget financing, government support, lack of interest Privacy.They are found to be satisfactory through a weight analysis and is considered as the main challenges that hinder the implementation of e-government in developing countries. Therefore, countries must take them into consideration in the stage of implementing e-government to reach its established goals.

7. Recommendations

1. Infrastructure Development: Governments in underdeveloped countries ought to create an effective ICT infrastructure and produce new methods for solving the problems related to connectivity in faraway areas to reinforce e-government.

2- Law and Public Policy: Law makers must make sure that regulations are kept updated for identifying electronic records and businesses.

3- Digital Division: Attempts should be done to solve e-government future problems related to digital divide, since they develop a gap between those who have internet access and those who don't have internet. Due to the fact, people without access to internet cannot benefit from e-government.

4- E-government portal: In the future, attention must be paid to the problems occurred in the e-government portal and efforts should be made to support an easy access and increase the supporting channels.

5- Accessibility: All members of the society should get benefit from the government without taking their physical abilities into consideration.

6- Trust: E-government programs should gain reliability and trust from corporations, governments, businesses, private organizations, and society individuals.

7- Privacy: Meanwhile, the e-government facilities expand in capacity and popularity, the information databases also increase in amount. Therefore, the protection of private data saved on those databases is a very significant concern.

8. *Security*: Citizens who are aware of technology might not use online facilities since they demand full personal data, especially when their security is in danger. That is a very important issue that e-government should handle in the future.

9-*Transparency*: Inadequate transparency holds back the society from sincerely partaking in government, making inquiries, and objecting unequal or unwise decisions. Therefore, transparency must be an essential matter of e-government in the future.

10- *E-government Plan and Strategy:* E-government plan makers must create systems and record structures that act jointly throughout all departments.

11- *Records Management*: Proper data management may assist executives in identifying impediments through which governments can avert changes.

12- *Permanent Availability and Preservation*: Governments can keep thousands of documents without using traditional ways of saving papers in warehouses. The files and documents are ready and accessible all the time, at the same time, enormous information is processed by skillful clerks, and technicians.

13- *Awareness*: Lack of trust may prevent citizens from trying e-government facilities since they believe that online services may not offer what they need due to their inadequate awareness in technology. That issue can be resolved through providing training campaigns and engaging people in the process and conducting researches to make sure that such online facilities responds successfully to the individuals needs and achieve the objectives properly.

14- Legal and regulation: New laws might be required to control the relationship between the private and the governmental sector to avert irregular rules and regulations.

15. *Workforce Issues*: A highly trained and enthusiastic teamwork is vital for e-government to successfully avert power distribution.

16- Cost of service: Policymakers must develop specific and reasonable objectives for the purpose of applying a

successful e-government program, they should also use available resources to obtain specified objectives.

17- *Government support*: It is difficult to determine the value and development, of e-government funds, but it is essential for the government to sustain support for the programs.

8. Conclusion

The main purpose of this study is to carry out a weight-analysis of findings reported in existing researches on challenges facing implementation of e-government in developing countries. The objective of this study was achieved through representing a common schematic representation of the challenges. Also, representing their refined diagram considering more frequent relationships. At the same time, identifying the number of significant, non-significant relationships between the constructs, and evaluating the weight for the most frequently used predictors, and researching 35 potential studies for performing the weight-analysis. The following salient facts can be extracted from the results of the study by analyzing empirical studies on the challenges facing the implementation of e-government in developing countries. The research indicated that the challenges can be classified depending on the organizational theory of the institution, which states that the most prominent challenges facing institutions. They are internal and external obstacles related to organizational, infrastructure, social and political themes. This is evident from the fact that out of 57 various unique predictors of e-government implementation research, only 24 have been examined five or more times with certain dependent variables. As far as the most frequently used relationships were concerned, all of them were used in the weight analysis as 20 of these factors scored 26 percent or above. The factors are Structure coordination, Government plan and strategy, Cost of service, Power distribution, Lack of ICT skill, Incompatible infrastructure, Information Quality, System Quality, E-government portal. While the other factors are Lack of internet service, Lack of awareness, Digital divide, Resistance to change, Demographic change, Lack of Trust, Security Rule and Politics, Inconstant Legal and Regulations, Budget Funding, Government support, Lack of privacy concern. They were generally found to be satisfactory by performing a weight analysis.

The best predictors (i.e., analyzed in five or more cases and with a weight>=0.80) with the significant weight-analytic result is Incompatible infrastructure. Moreover, no firm conclusions can be drawn from the thirty-three predictors that have been used less frequently (i.e., they were examined less than five times with respect to a given dependent variable). However, promising predictors with significant weight-analytic outcomes (e.g., Structure coordination, Government plan and strategy, Cost of service, Power distribution, Incompatible infrastructure, Information Quality, System Quality, E-government portal, Lack of awareness, Digital divide, Resistance to change, Demographic change, Security Rule and Politics, Inconstant Legal and Regulations, Budget Funding and

Government support) are more likely to be qualified as the best predictors. Also, they can be considered for further analysis in the e-government implementation challenges research.

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