Journal of Infrastructure, Policy and Development 2024, 8(8), 4503.
https://doi.org/10.24294/jipd.v8i8.4503

Review

Critical success factors frameworks, and models for risk assessment of eGovernment projects: A systematic literature review

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CITATION

Esiefarienrhe BM, Monageng T. (2024). Critical success factors frameworks, and models for risk assessment of eGovernment projects: A systematic literature review. Journal of Infrastructure, Policy and Development. 8(8): 4503. https://doi.org/10.24294/jipd.v8i8.4503

ARTICLE INFO

Received: 31 January 2024
Accepted: 29 May 2024
Available online: 22 August 2024

Abstract: eGovernment projects are capital intensive and have high probability of failure because of the dynamic and technological laden environment in which they operate. The number of skilled labour and technicalities required are often not available in quantity needed to sustain such project. There is always the need to have in place adequate risk assessment framework to guide the execution and monitoring of eGovernment projects. Several studies have been conducted on the critical success factors relating to risk assessment of eGovernment projects to understand the reasons for the high rate of failure. Therefore, there is need to review these articles and categorize them into different research domain in project risk assessment so as to reveal domain with more or less research and those that need to understand the future research directions in risk assessment for eGovernment projects. Using the positivism paradigm, this study utilized the Systematic Literature Review methodology to collect 147 articles from the following academic databases namely IEEE, Preprints, WorldCat Discovery, ArXiv. Ohio-state University databases, Science Direct, Scopus, ACM, NWU digital library, Usenix, Jise database, Sagepub, MDPI Academia published between 2013 to 2023. Different inclusion and exclusion criteria were applied pruning to 48 articles that were used for the study. The results show the classification of articles in risk assessment for eGovernment projects into those that discusses project analysis, review, framework, maturity and model tools, implementation, and integration, applied methodology and evaluation with the percentage of articles published in each domain with the past 10 years. The various critical success factors that should be considered in the development of a robust risk assessment framework were discussed and future research directions in eGovernment risk assessment were given based on the reviews.

Keywords: e-Government; risk assessment framework; project developing risk; critical success factors in project management

1. Introduction

With increased application of computer technology coupled with digitization of government processes, governments globally are increasingly turning to eGovernment projects (Ifinedo et al., 2008) to enhance service delivery, improve efficiency, and foster citizen engagement. The successful implementation of eGovernment initiatives is crucial for modernizing public administration and ensuring responsive governance. However, achieving success in these projects is a complex undertaking (Fitsilis et al., 2016; Nyaniro et al., 2021) requiring careful consideration of various factors which are regarded as the critical success factors (CSFs) which are responsible for the success or failure of Information and communication technology (ICT) based eGovernment projects failing. The term ICT is used to encompasses the various hardware, software, tools and techniques that are used to collect, process, output, communicate and store

information. Computer hardware, broadband and internet availability are fundamental infrastructures required to implement any successful eGovernment policies and these are limited or hardly available in developing countries (ITU, 2019). Of importance to a successful implementation of eGovernment projects are the availability of adequate amount of hardware, software, internet backbone and technical personnel. These act as drivers for the system as observed by Kumarwad and Kumbhar (2018) that software, hardware, and connectivity issues plaque most eGovernment projects hence their high failure rate. The inadequate amount of equipment, incorrect specification, and wrongly developed software functional and non-functional specifications could jeopardize any eGovernment projects leading it to failure as these infrastructures are the backbone of these projects.

Developing countries faces several challenges, such as limited internet access and coverage (about 390 million people do not even have access to a mobile broadband signal (ITU, 2019). Statistics provided by ITU (2019) indicated that 4.1 billion people (or 54 percent of the world's population) were using the Internet in 2019, with the numbers increasing to 4.9 billion people in 2021, or 63 percent of the population. Unfortunately, 2.9 billion people remain offline, 96 percent of whom live in developing countries.

CSFs are attributes, quality and values that are responsible for achieving excellence in performance. With the introduction of eGovernment, public service delivery is expected to become more accessible, transparent, and efficient. Although there are several literatures available on CSFs for risk assessment of eGovernment projects/initiatives, there is need to categorize them into various aspects of eGovernment risk assessment research, year of publication, publication type and authors of such publications. This is necessary for sound application of risk assessment framework, models and strategies that are result-oriented as generalised risk assessment method would not mitigate risk in all categories. The need to provide a specific CSF for eGovernment risk assessment of ICT projects is becoming more apparent in developing countries due to the rising inflation and increase in the number of failed eGovernment projects (ITU, 2019). In developing nations, researchers have indicated alarming figures, with Heeks (2004) estimating 35% of eGovernment projects being complete failures, 50% being partial failures, and only 15% being successful. While Gartner's (2000) indicated a 60% eGovernment global failure rate requiring careful consideration of various factors that can assist in mitigating failures, invariably referring to CSFs planning and control. Governments globally are increasingly turning to eGovernment projects to enhance service delivery, improve efficiency, and foster citizen engagement, making eGovernment projects a major area of interest to researchers since this decade. However, not much attention has been paid to the risk involved in such projects and how eGovernment can be assessed and evaluated. It is imperative for governments to establish robust frameworks that uphold citizens' right to privacy and foster trust while managing sensitive data about projects. Furthermore, making use of frameworks improve general governance by facilitating proactive monitoring and evaluation including assessing on a continuous basis on-going project for risk of various types to ensure projects implementation are on course and all resources needed to ensure its completion are available (Heeks, 2008). Conclusively, there are no arguments on the need for effective eGovernment project

risk assessment programme as it would require a comprehensive set of policies and strategies to guide the development of the necessary regulatory frameworks, as opposed to situations where there are unclear or ambiguous guidelines on instruments reusability to carry out assessment of eGovernment project planning or implementation (Dionysis et al., 2009).

This study is aimed at enumerating the CSFs critical for a successful risk assessment of eGovernment project that can be resilience to various internal and external influences in the public domain and provide government with the tools to plan, implement and monitor public projects that are beneficial to the citizens and all those residing in the country. eGovernment projects are public projects meant for the wellbeing of the citizens and may not necessarily be established for profit maximization. In other to achieve the aim of this study, the following research questions will be answered in this study.

(1) What are the existing literatures on CSFs for risk assessment of ICT eGovernment project and how can they be categorised into various aspects of eGovernment research?
(2) What are the contributions of researchers to the various categories of risk assessment of eGovernment projects?
(3) What are the research gaps and future research directions in eGovernment research.

Researchers over the years are worried over the alarming rate of uncompleted and failed eGovernment projects particularly in developing countries in relation to the amount of funds that were spent from the public treasury for the execution of those projects. The issue of most concern is that no risk assessment and analysis were carried out on these projects to guard and mitigate occurrences of abandonment/failure. The CSFs that should be considered in eGovernment projects for successful planning and implementation has been discussed by researchers globally, but no articles have captured all researchers' contributions into a single compendium for easy of accessibility and use by researchers and scholars which is a gap this paper seeks to bridge. This paper seeks to present a systematic review of past and present research that has been conducted on critical success factors for risk assessment of eGovernment projects over the past 20 years with the view to unveiling future research directions and provide a single article for researchers to consult while answering the research questions set out in this study.

The organisation of this paper are as follows: Section 2 gives the research methodology utilized in this study. Section 3 discusses the results obtained from the study while section 4 discusses future research directions, recommendation and conclusion.

2. Material and methods

Research philosophies and paradigms provided a cover around the methodologies with which this study was conducted. They are the set of beliefs, assumptions, and principles around which research are conducted and they provided the approach adopted in the research. Literatures suggests that knowledge can be derived from careful and objective observation of research conducted by others and that we can

measure the impact or success of research by reviewing articles related to the domain of interest hence our philosophy is rooted in positivism paradigm. Following a positivism approach, we used the systematic literature review (SLR) as a methodological tool to conduct this study.

The North-West University library provided us with free access to both paid and open access databases and such access right forms part of the criteria for choosing databases to use for the research. Another criterion was the relevance of articles collected within the databases. Databases from medical sciences, astronomy, engineering, biological sciences were not used. The following databases namely IEEE, Preprints, WorldCat Discovery, ArXiv. Ohio-state University databases, Science Direct, Scopus, ACM, NWU digital library, Usenix, Jise database, Sagepub, MDPI, Academia were used to scoop articles published between 2013 to 2023 using key words "e-government", "Risk Assessment", "Risk Management Frameworks", and "eGovernment projects". The keywords were also combined using logical operators in a search string using AND/OR operators and wild card (where "*" is set to include possible segments after the phrase) to produce the following search strings: eGovernment* AND risk assessment*; Projects* AND government*; eGovernment AND framework AND critical success factors in eGovernment projects. This ensures accuracy in getting only the articles that focus on the risk assessment in eGovernment projects.

The search resulted in a total of 153 articles identified related to ICT project risk assessment and CSFs in eGovernment projects as shown in **Figure 1**. Duplicated articles were excluded, and articles published in conference proceedings that have their journal version available were also excluded resulting in 74 papers been retained and 79 papers eliminated from the study. After a carefully scan of the contents of the 74 papers, 10 papers were discovered to be written in other languages and were not eligible for inclusion hence they were excluded for language barrier leaving a total of 64 articles for further review. 64 articles were read in full to see how related their contents are to be studied. Some of the articles although have eGovernment as a title but did not duel on risk assessment or critical success factors of eGovernment projects and hence were not suitable for inclusion. A total of 26 articles were thus eliminated from the study after full article review for reasons of not relevant to the study, leaving a total of 38 articles for further review. A further search of the databases was conducted by consulting citations and references from eGovernment risk assessment publications and citations and 5 articles were found to meet the objectives of this study and were included in the study making it a total of 48 article used for the study. The steps given above on how articles were selected for this study is shown in **Figure 1**. In summary, a total of 48 papers were selected after a rigorous process. Papers were selected from the year 2010 to year 2023. Of the 48 papers, 31 were journal articles, 8 were conference papers on conference proceedings and 9 were books chapters.

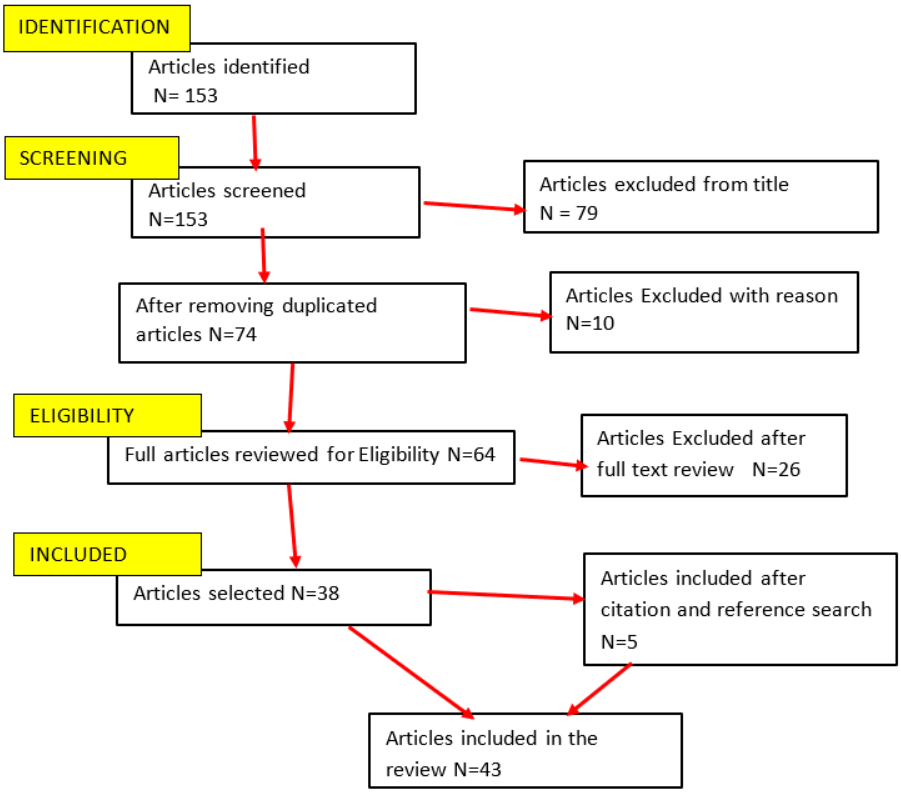

Figure 1. Flow diagram of the identification of relevant papers.

2.1. Classification of selected papers

In this section, we provided a breakdown of selected papers. How they were categorised based on abstract intentions. Of the total number of papers selected, 17 papers were categorised as proposed framework as they dealt with developing or proposing a eGovernment framework to solve project management problem. In summary, consideration were given to other factors of general scope with a summary of how "risk assessment framework" in eGovernment projects fares. Interestingly, the combination of "eGovernment projects" were found in titles of 13 papers while "risk assessment" were found in 5 papers. Furthermore, "framework" was found in the header of 18 paper while the phrase "eGovernment" were found in all the papers.

From the total numbers of selected papers, only five (5) papers (Abdallah and Fan, 2012; Frost and Lal, 2019; Joshi et al., 2017; Meiyanti et al., 2018; Waheduzzaman and Miah, 2015) concentrated on framework development in developing countries in their titles with no paper specifically discussing risk assessment for ICT-based eGovernment projects in developing countries.

2.2. Classification of papers by year

Figure 2 shows the numbers of papers published yearly from 2010 to 2022 that were reviewed. The year with the most publication was 2017 while the year with the least number of publications was 2014. The pie chart shown in **Figure 3** gives the channel of publication and it indicates the numbers of papers that were published in journals, proceedings or in books format.

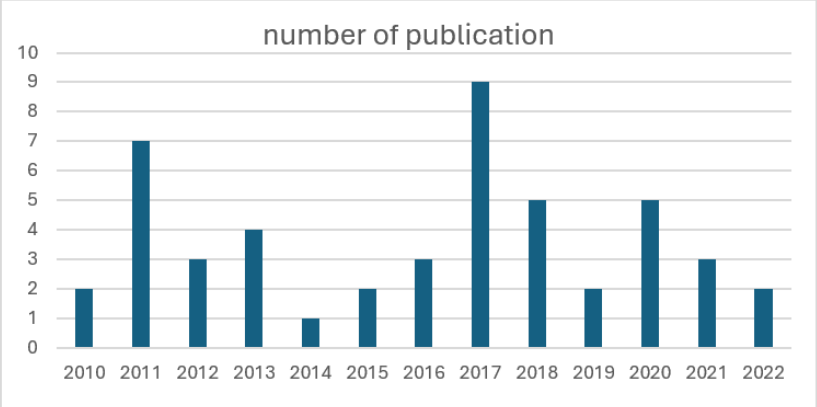

Figure 2. Total publication reviewed classified according to year.

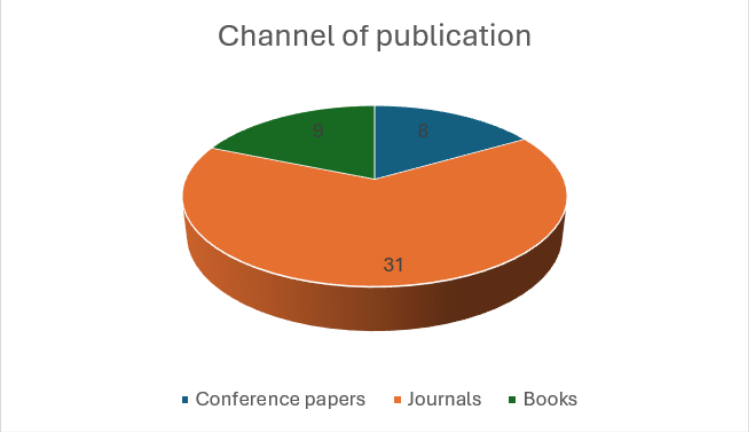

Figure 3. Pie chart showing publication type reviewed.

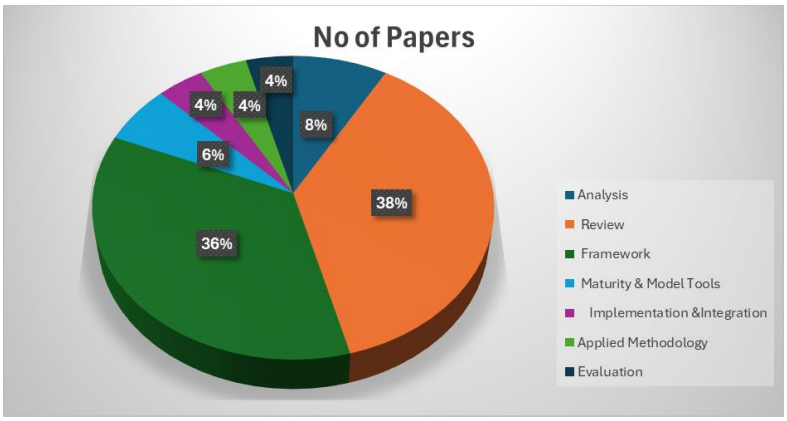

Figure 4. Pie-chart showing the percentages of papers published in the area of ICT project risk assessment.

Table 1 gives the results of publications summarised by category into sub-research in eGovernment risk assessment, year in which articles in each sub-research were published and the total numbers of articles published in each sub-research discipline. The categorization is important so that researchers working in specific disciplines can be known and the extent of work done in each sub-category can be determined. To categorise papers, the abstract of every paper were reviewed to summarize the entire paper to understand the author's work, The papers' introduction

section were reviewed to understand the objectives of the papers and the remaining sections of the papers were reviewed to understand the methods and proposed solution. The summary of the papers as classified and their percentages is shown in **Figure 4**.

Table 1. Classification of research in eGovernment risk assessment according to core area of research interest.

Disciplines within eGovernment risk assessment project	**Analysis**	**Review**	**Framework**	**Maturity & Model Tools**	**Implementation &Integration**	**Applied Methodology**	**Evaluation**
Year of publications and number of publications in each year	2011(1), 2012(1), 2016(1), 2017(1)	2010(1), 2011(1), 2012(2), 2014(1), 2015(1), 2016(1), 2017(2), 2018(3), 2019(2), 2020(1), 2021(1), 2022(2)	2010(1), 2011(2), 2013(3), 2014(1), 2015(2), 2016(4) ,2017(2), 2019(2)	2012(1), 2015(2)	2020(1), 2021(1)	2011(1), 2015(1)	2019(1), 2018(1)
Total number of publications in each discipline	4	18	17	3	2	2	2

3. Results and discussion

Pinpointing significant elements (constructs), the current study examined the frameworks, models, and CSFs for risk assessments of eGovernment projects that are accessible in literature. This study will assist researchers in developing frameworks that are appropriate for assessing risk of eGovernment projects particularly in developing countries. Research in this field is growing steadily with 6 review papers published between 2010–2015 while from 2016–2022, 13 papers were published showing an upward trend in the number of researchers in the discipline. Although literature reviews are impressive, it is also important to appreciate the amount of research conducted on developing eGovernment framework. Between 2010–2015, 9 researchers developed eGovernment frameworks with 8 more frameworks developed between 2016–2019 and no model developed in the period between 2020–2022 as shown in **Table 2**. The data in **Table 2** provided the answers to our research question 1 which was "what are the existing literatures on risk assessment frameworks and models for eGovernment project classified into core research disciplines and researchers' contribution to each discipline". The various disciplines within risk assessment for eGovernment projects are thus enumerated in the first row of **Table 2**. Given the above statistics, it is obvious that progress made by researchers in developing framework is slow with authors focusing on other aspects of eGovernment (Mohamed et al., 2012; Panos et al., 2016) for example, evaluating frameworks within e-government. Furthermore, Singh et al. (2020) and Sheoran and Vij (2022) reviewed existing frameworks and models without also developing a framework. Other researchers as shown in **Table 2** focused on developing integrated framework; a tool to benchmark the implementation of eGovernment projects. From the above studies, it is evident that there is a research gap in the development of framework for risk assessment of eGovernment projects.

According to Elmeziane et al. (2011), there is need to understand various CSF needed to steer information system projects and this is not limited to e-Government. Defining CSFs for eGovernment implementation will help avoid eGovernment project failure (Napitupulu, 2014). To develop our framework for effective risk management

procedures, we intend to use the following CFS to formulate framework to guide risk assessment in eGovernment projects. The CSFs are composed of top management, communications, culture, trust, information technology, and training. These CSFs listed above and discussed below provided the answers to the second research question of this study.

Table 2. Identified CSFs for the top management construct.

Domain	CFS Variables	Papers Found
Top Management	Communication	(Chandrachooodan et al., 2022; El Khatib et al., 2020; Gunawong and Gao, 2017; Jaffar and Manoj, 2011; Management Association, 2016; Panos et al., 2016; Sundberg, 2019)
	Management support	(Ambira et al., 2018; Chandrachooodan et al., 2022; El Khatib et al., 2020; Gunawong and Gao, 2017; Lemma et al., 2015; Pavel et al., 2013)
	Project management	(Chandrachooodan et al., 2022; El Khatib et al., 2020; Glyptis et al., 2020; Panos et al., 2016; Sundberg, 2019)

3.1. Top management

The results in **Table 2** shows that top management is quite significant in the success of eGovernement implementation, instrumental to implementing any risk assessment policy, gives directives for hardware, software, internet backbone and connectivity, acquisition, and maintenance. Overall, papers that mentions the significance of top management support and their roles are found in Chandrachooodan et al. (2022); El Khatib et al. (2020); Glyptis et al. (2020); Gunawong and Gao (2017); Meiyanti et al. (2018); Sundberg (2019); Singh et al. (2020); Sodhi (2015). These authors are of the view that top management are responsible for strategic planning, control, and commitment of resources to projects. They monitor and control projects execution and therefore their support is paramount to a successful eGovernment project execution and failure. Sometimes, top management may not support the success of eGovernment projects, even when they are involved in the approval and therefore do things that will eventually lead to the project failure. Therefore, a vital CSF for assessing risk in eGovernment projects is the supports from top management.

3.2. Communication

Communication channels are designed to guarantee management support, communicate the project scope effectively, establish clear plans, coordinate communication, and reach consensus on project goals (El Khatib et al., 2020). Therefore, it is important for various teams working on the projects to meet on regular basis and discuss matters arising and to map a way forward. Like any other project, assessing project risks requires drivers to move them forward. According to Choudhari et al. (2011), "A project may meet specific time and cost but with low quality or do not meet with project objectives" due to poor communication. Also, through communication project objectives can be set and progress on the project measured and communicated to all parties. Communicating the project statistics to the members of the project team is of utmost importance for the success of every project. **Table 3** shows the CSF variables that should be communicated about projects (goals, objectives, support and understanding).

Table 3. Identified CSFs for the communication construct.

Domain	CFS Variables	Papers Found
Communication	Project goals	(Choudhari et al., 2011; El Khatib et al., 2020)
	Project Objectives	(Choudhari et al., 2011; Gunawong and Gao, 2017; Hatsu and Ngassam, 2017; Pavel et al., 2013)
	Project support	(Reddick, 2010; Panos et al., 2016; Reddick, 2010)
	understanding	(El Khatib et al., 2020; Gunawong and Gao, 2017)

3.3. Culture

Cultures deals with established norms within the organisation. We were able to identify three variables from literature as shown in **Table 4** that relates to culture. Dialogue as a variable, although not frequently mentioned in literature, is important as it encompasses discussions on planning a project from objectives to deliverables. Project teams must exchange ideas, resolve conflicts, and engage in meaningful dialogue to steer a project to success. It is imperative to emphasise the significance of planning, effort, collaboration, and the formation of an acceptable culture, as well as the necessity of early engagement with all project team and stakeholders to address concerns and proactively identify risks (Dionysis et al., 2011; Weerakkody, 2011).

Table 4. Identified CSFs for the culture construct.

Domain	CFS Variables	Papers Found
Culture	Dialogue	(Dionysis et al., 2011; Dionysis et al., 2009)
	Planning	(Dionysis et al., 2011; Dionysis et al., 2009; Frost and Lal, 2019)
	Coordination	(Dionysis et al., 2011; Dionysis et al., 2009; Frost and Lal, 2019)

3.4. Trust

From **Table 5**, it can be seen that confidentiality, integrity and availability were highly discussed, bringing the question as to their importance and relevance to the eGovernment projects and their contribution to project failure. Overall, the effective implementation of risk assessment for eGovernment infrastructure is necessary to increase the efficiency and transparency of government services (Joshi et al., 2017; Sheoran and Vij, 2022).

Table 5. Identified CSFs for the trust construct.

Domain	CFS Variables	Papers Found
Trust	Confidentiality	(Alrubaiq and Alharbi, 2021; Glyptis et al., 2020; Joshi and Islam, 2018; Maria and Flora, 2017; Munyoka and Manzira, 2013; Management Association, 2013; Meiyanti et al., 2018; Sundberg, 2019; Singh et al., 2020; Sundberg and Larsson, 2017)
	Integrity	(Aladwani, 2016; Alrubaiq and Alharbi, 2021; Alzahrani et al., 2017; Choudhari et al., 2011; Joshi and Islam, 2018; Sundberg, 2019; Venkatesh et al., 2016)
	Availability	(Joshi and Islam, 2018; Kalamatianou and Malamateniou, 2017; Meiyanti et al., 2018; Sheoran and Vij, 2022; Sundberg, 2019)
	Compliance	(Aladwani, 2016; Al-Khouri et al., 2010; Chandrachooodan et al., 2022; Choudhari et al., 2011)
	Accountability	(Aladwani, 2016; El Khatib et al., 2020; Joshi et al., 2017; Hatsu and Ngassam, 2017)
	Transparency	(Joshi et al., 2017; Sheoran and Vij, 2022)
	Sustainability	(Anand and Vaidya, 2019; Alrubaiq and Alharbi, 2021; Frost and Lal, 2019; Huggins and Frosina, 2017)
	Ethics	(Aladwani, 2016; Davidavičienė et al., 2018)

3.5. Information technology

Of the five variables mentioned under IT as a CSF, system performance as shown in **Table 6** is the most mentioned possibly because of its importance in eGovernment as it measures the users' satisfaction when using the system. It measures the system quality, speed, performance of the system, reliability, and accessibility. Having a system with good performance can bring tangible benefits to users of the system and build trust in their use. Individuals are willing and ready to accept change if they are aware of the benefits the systems they are adopting can bring to them (Joshi and Islam, 2018). Service quality reflects the citizens' evaluation of the service that they actually receive and what they expect (Wang, 2010). Also using the right technologies, systems and support personnel capable of meeting user demands contribute to the effectiveness of eGovernment systems (Singh et al., 2020). Under this CSF is where all hardware, software, internet connectivity and skilled personnel to manage the project will be built into the framework.

Table 6. Identified CSFs for the information technology construct.

Domain	CFS Variables	Papers Found
Information Technology (IT)	Information systems	(Alzahrani et al., 2017)
	Computer technologies	(Alzahrani et al., 2017)
	Effective monitoring	(Alzahrani et al., 2017)
	System performance	(Frost and Lal, 2019; Frost and Lal, 2019; Singh et al., 2020)
	Frameworks	(Singh et al., 2020)

3.6. Training

Training of staff on eGovernment systems should be adequate. From the reviewed papers as shown in **Table 7**, adequate skills are mentioned more than other variable followed by knowledgeable and lack of skill. Jaffar and Manoj (2011) stated that for the employees to accept a system, training and technical staffing should be considered during eGovernment planning. This construct can be measured by employees' satisfaction level and productivity ratio. Inadequate skilled human resources can become a major bottleneck in eGovernment projects which leverages advanced ICTs (Al-Khouri et al., 2010). Therefore, giving preferential treatment to individuals without adequate skills or knowledge could have detrimental effects on the overall performance of the project. Training of key stakeholders as a CSF ensures usability of output of eGovernment project (Hatsu and Ngassam, 2017). The amount of prior knowledge and experience, resource scarcity, and other factors can all influence how eGovernment evolve and develop (Glyptis et al., 2020). It is critical to close accessibility gaps in terms of technology access and ICT proficiency.

Table 7. Identified CSFs for the training construct.

Domain	CFS Variables	Papers Found
Training	Lack of Skill	(Alrubaiq and Alharbi, 2021; Glyptis et al., 2020; Joshi and Islam, 2018; Lemma Lessa et al., 2015)
	Adequate skills	(Ali, 2010; Aladwani, 2016; El Khatib et al., 2020; Joshi and Islam, 2018; Lemma Lessa et al., 2015)
	Staffing	(Joshi and Islam, 2018; Lowry, 2013; Lessa et al., 2015)
	Knowledgeable	(Al-Khouri, 2010; Aladwani, 2016; El Khatib et al., 2020)

4. Conclusion, recommendation, and future work

eGovernment project implementation presents special difficulties and developing eGovernment risk assessment framework (RAF) is critical. This study discusses RAF for eGovernment projects by reviewing existing literatures derived from various academic databases using a systematic review method. The study advocates for a robust framework development in other to mitigate risk leading to project failure as government projects are mostly geared towards serving the population and not necessarily for profit, hence less attention is paid to its planning, execution, and monitoring thereby increasing the rate of failure.

When planning, implementing, and monitoring of eGovernment projects, communication should take a center stage as ignoring it could cause projects bottlenecks and mistrust eventually leading to the collapse of projects.

Adequate infrastructure be it human resources, hardware, software, internet connectivity backbone, telecommunication devices etc. should be made available and updated regularly. These infrastructures are the building blocks of effective eGovernment, and their inadequate supply and maintenance create vulnerability that can be exploited leading the project failure.

Training of all stakeholders should never be overlooked. Training the staff behind project development must always equal the training of users who are the people making use the projects otherwise, the development of the RAF might lack critical components for success, omitting necessary requirements due to lack of knowledge by the users.

In a nutshell it has been established that the success of building a RAF depends on all of the above CSFs discussed, from resource to planning and stakeholder involvement to knowing users' needs and requirements. Finally, we realize that it would not be easy to develop a robust framework for RAF that cater for all countries but it is possible to develop a model suitable for each country due to different technical infrastructure challenges and projects funding among others.

RAF for developing countries would vary due to the social background and political landscape, therefore any intended framework in future should consider incorporating environmental variability particularly culture.

There is need for top management support to drive all stakeholders in delivering a proper and robust framework accepted and trusted by users of the system. It has been established that citizens of developing countries are not comfortable with TRUST issues mostly due to differences in political affiliations, wars, previous failed projects experiences, religious and ethical considerations among others. Researchers in future should endeavour to develop models and frameworks that incorporates trust and trust assurances into eGovernment project design.

Acknowledgments: The authors appreciate the support from FNAS Postgraduate office of the North-West University (MC) for publication cost and also MaSIM for research assistance.

Conflict of interest: The authors declare no conflict of interest.

References

Abdallah, S., & Fan, I. S. (2012). Framework for e-government assessment in developing countries: case study from Sudan. Electronic Government, an International Journal, 9(2), 158. https://doi.org/10.1504/eg.2012.046267

Aladwani, A. M. (2016). Corruption as a source of e-Government projects failure in developing countries: A theoretical exposition. International Journal of Information Management, 36(1), 105–112. https://doi.org/10.1016/j.ijinfomgt.2015.10.005

Al-Kaabi, R., (2010). Critical success factors of egovernment: A proposal model for e-Government implementation in Kingdom of Bahrain. In: Proceeding of the 6th International Conference one-Government (ICEG); Cape Peninsula University of Technology, Cape Town, South Africa. pp. 1–9.

Al-Khouri, A. M., Nasser, Al-Mazrouie, M., & Mohan, B. (2010). A Strategy Framework for the Risk Assessment and Mitigation for Large E-Government Projects. Available online: https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=99c87dc70cc1b9089cdfbd4db8a915cc1de1580b (accessed on 5 January 2024).

Alrubaiq, A., & Alharbi, T. (2021). Developing a Cybersecurity Framework for e-Government Project in the Kingdom of Saudi Arabia. Journal of Cybersecurity and Privacy, 1(2), 302–318. https://doi.org/10.3390/jcp1020017

Altameem, T., Zairi, M., & Alshawi, S. (2006). Critical Success Factors of E-Government: A Proposed Model for E-Government Implementation. In: Proceedings of the 2006 Innovations in Information Technology; Dubai, United Arab Emirates. pp. 1–5. https://doi.org/10.1109/INNOVATIONS.2006.301974

Alzahrani, L., Al-Karaghouli, W., & Weerakkody, V. (2017). Analysing the critical factors influencing trust in e-government adoption from citizens' perspective: A systematic review and a conceptual framework. International Business Review, 26(1), 164–175. https://doi.org/10.1016/j.ibusrev.2016.06.004

Ambira, C. M., Kemoni, H. N., & Ngulube, P. (2019). A framework for electronic records management in support of e-government in Kenya. Records Management Journal, 29(3), 305–319. https://doi.org/10.1108/rmj-03-2018-0006

Anand, A., & Vaidya, S. (2019). Role of Trust in E-Government Projects. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3371734

Anthopoulos, L., Reddick, C. G., Giannakidou, I., et al. (2016). Why e-government projects fail? An analysis of the Healthcare.gov website. Government Information Quarterly, 33(1), 161–173. https://doi.org/10.1016/j.giq.2015.07.003

Chandrachooodan, G., Rajendran, R., & Rajendran, R. P. (2022). Conceptual Framework for Project Management for E-Governance Service Development. International Journal of Professional Business Review, 7(4), e0754. https://doi.org/10.26668/businessreview/2022.v7i4.e754

Choudhari, R. D., Banwet, D. K., & Gupta, M. P. (2011). Assessment of risk in e-governance projects: an application of product moment correlation and cluster analysis techniques. Electronic Government, an International Journal, 8(1), 85. https://doi.org/10.1504/eg.2011.037699

Davidavičienė, V., Aleliūnas, I., & Sabaitytė, J. (2018). Eurosai Itwg model adoption for new IT audit framework: e-government cases. Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu, 2, 114–122. https://doi.org/10.29202/nvngu/2018-2/14

Elbanna, A., Dwivedi, Y. K., Bunker, D., & Wastell, D. (2019). Smart Working, Living and Organising. In: IFIP Advances in Information and Communication Technology. Springer International Publishing. https://doi.org/10.1007/978-3-030-04315-5

El Khatib, M., Nakand, L., Almarzooqi, S., et al. (2020). E-Governance in Project Management: Impact and Risks of Implementation. American Journal of Industrial and Business Management, 10(12), 1785–1811. https://doi.org/10.4236/ajibm.2020.1012111

Elmeziane, K., Chuanmin, S., & Elmeziane, M. (2011). Notice of Retraction: Critical success factors of enterprise resource planning implementation in China: Case study in Shanghai city, China. In: Proceedings of the 2011 International Conference on E-Business and E-Government (ICEE). https://doi.org/10.1109/icebeg.2011.5881487

Fitsilis, P., Anthopoulos, L., & Gerogiannis, V. C. (2016). An Evaluation Framework for E-Government Projects. Citizens and E-Government, 69–90. https://doi.org/10.4018/978-1-61520-931-6.ch005

Glyptis, L., Christofi, M., Vrontis, D., et al. (2020). E-Government implementation challenges in small countries: The project manager's perspective. Technological Forecasting and Social Change, 152, 119880. https://doi.org/10.1016/j.techfore.2019.119880

Gunawong, P., & Gao, P. (2017). Understanding e-government failure in the developing country context: a process-oriented

study. Information Technology for Development, 23(1), 153–178. https://doi.org/10.1080/02681102.2016.1269713

Hatsu, S., & Ngassam, E. K. (2017). An integrated framework for benchmarking e-government projects. In: Proceedings of the 2017 IST-Africa Week Conference (IST-Africa). https://doi.org/10.23919/istafrica.2017.8102412

Heeks, R. (2003). Most eGovernment-for-Development Projects Fail: How Can Risks be Reduced? SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3540052

Heeks, R. (2008). ICT4D 2.0: The Next Phase of Applying ICT for International Development. Computer, 41(6), 26–33. https://doi.org/10.1109/mc.2008.192

Huggins, C., & Frosina, N. (2016). ICT-driven projects for land governance in Kenya: disruption and e-government frameworks. GeoJournal, 82(4), 643–663. https://doi.org/10.1007/s10708-016-9710-6

Ifinedo, P. (2008). Moving Towards E-Government in a Developing Society. In: Electronic Government. IGI Global. pp. 1953–1969. https://doi.org/10.4018/978-1-59904-947-2.ch148

Jaffar, A., & Manoj, T. (2011). A Holistic Framework to Evaluate E-government Systems. Available online: https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1066&context=amcis2011_submissions (accessed on 5 January 2024).

Joshi, P., & Islam, S. (2018). E-Government Maturity Model for Sustainable E-Government Services from the Perspective of Developing Countries. Sustainability, 10(6), 1882. https://doi.org/10.3390/su10061882

Joshi, P., Islam, S., & Islam, S. (2017). A Framework for Cloud Based E-Government from the Perspective of Developing Countries. Future Internet, 9(4), 80. https://doi.org/10.3390/fi9040080

Kalamatianou, M. A. & Malamateniou, F. (2017). An Extended UTAUT2 Model for e-Government Project Evaluation. In: ICDS 2017—The Eleventh International Conference on Digital Society and eGovernments; France. pp. 48–54.

Kefallinos, D., Lambrou, M. A., & Sykas, E. (2009). An Extended Risk Assessment Model for Secure E-Government Projects. International Journal of Electronic Government Research, 5(2), 72–92. https://doi.org/10.4018/jegr.2009040105

Kefallinos, D., Lambrou, M. A., & Sykas, E. D. (2011). A Multi-level Relational Risk Assessment Model for Secure E-Government Projects. Applied Technology Integration in Governmental Organizations, 153–181. https://doi.org/10.4018/978-1-60960-162-1.ch010

Kumarwad, L. L., & Kumbhar, D. R. (2018). Technical Issues in E-Governance Initiatives in Satara District in Maharashtra State (India). International Journal of Information Engineering and Electronic Business, 10(1), 1–8. https://doi.org/10.5815/ijieeb.2018.01.01

Lessa, L., Negash, S., & Belachew, M. (2015). Steering E-Government Projects from Failure to Success. In: Emerging Issues and Prospects in African E-Government. IGI Global. pp. 143–156. https://doi.org/10.4018/978-1-4666-6296-4.ch011

Lowry, J. (2013). Correlations between ICT and records policy integration and court case management system functionality. Records Management Journal, 23(1), 51–60. https://doi.org/10.1108/09565691311325022

Management Association. (2013). User-Driven Healthcare: Concepts, Methodologies, Tools, and Applications. IGI Global. https://doi.org/10.4018/978-1-4666-2770-3

Management Association. (2016). International Business: Concepts, Methodologies, Tools, and Applications. IGI Global. https://doi.org/10.4018/978-1-4666-9814-7

Mates, P., Lechner, T., Rieger, P., & Pěkná, J. (2013). Towards E-Government Project Assessment: European Approach. University of Rijeka, Faculty of Economics and Business, 31(1), 103–125.

Meiyanti, R., Utomo, B., Sensuse, D. I., et al. (2018). e-Government Challenges in Developing Countries: A Literature Review. In: Proceedings of the 2018 6th International Conference on Cyber and IT Service Management (CITSM). https://doi.org/10.1109/citsm.2018.8674245

Mohamed, M. A., Galal-Edeen, G. H., Hassan, H. A., et al. (2012). An evaluation of enterprise architecture frameworks for e-government. In: Proceedings of the 2012 Seventh International Conference on Computer Engineering & Systems (ICCES). https://doi.org/10.1109/icces.2012.6408524

Molefhi, H. N. E., Molale, E. (2012). Botswana e-Govenment Strategy 2011–2016. Available online: https://www.researchictafrica.net/countries/botswana/Nationa_e-Government_Strategy_2011-2016.pdf (accessed 19 January 2024).

Munyoka, W., & Manzira, M. F. (2013). Assessing the Impact of e-Government Projects: The Case of Limpopo Province in South Africa. Olitical Science, Computer Science.

Napitupulu, D. (2014). The Critical Success Factors Study for e-Government Implementation. International Journal of Computer Applications, 89(16), 23–32. https://doi.org/10.5120/15716-4588

Reddick, C. (2010). Citizens and E-Government: Evaluating Policy and Management. IGI Global. https://doi.org/10.4018/978-1-61520-931-6

Sheoran, S., & Vij, S. (2022). A Review of E-Government Assessment Frameworks: E-Readiness, Adoption, Citizen Engagement and Quality. JeDEM—EJournal of EDemocracy and Open Government, 14(2), 197–213. https://doi.org/10.29379/jedem.v14i2.717

Singh, H., Grover, P., Kar, A. K., et al. (2020). Review of performance assessment frameworks of e-government projects. Transforming Government: People, Process and Policy, 14(1), 31–64. https://doi.org/10.1108/tg-02-2019-0011

Sodhi, I. S. (2015). Emerging Issues and Prospects in African E-Government. IGI Global. https://doi.org/10.4018/978-1-4666-6296-4

Sundberg, L. (2019). Electronic government: Towards e-democracy or democracy at risk? Safety Science, 118, 22–32. https://doi.org/10.1016/j.ssci.2019.04.030

Sundberg, L., & Larsson, A. (2017). The Impact of Formal Decision Processes on e-Government Projects. Administrative Sciences, 7(2), 14. https://doi.org/10.3390/admsci7020014

Venkatesh, V., Thong, J. Y. L., Chan, F. K. Y., et al. (2016). Managing Citizens' Uncertainty in E-Government Services: The Mediating and Moderating Roles of Transparency and Trust. Information Systems Research, 27(1), 87–111. https://doi.org/10.1287/isre.2015.0612

Wang, H. (2010). Review of studies on online consumer trust. In: Proceedings of the 2010 Second International Conference on Computational Intelligence and Natural Computing. https://doi.org/10.1109/cinc.2010.5643778

Waheduzzaman, W., & Miah, S. J. (2015). Readiness assessment of e-government: a developing country perspective. Transforming Government: People, Process and Policy, 9(4), 498–516. https://doi.org/10.1108/tg-05-2014-0018

Weerakkody, V. (2011). Applied Technology Integration in Governmental Organizations: New E-Government Research. IGI Global. https://doi.org/10.4018/978-1-60960-162-1