Organisational Culture Change as an Antecedent for Enhancing the Successful E-Government System's Implementation

Boniface Okanga* and Jennifer Davis Adesegha

Department of Research & Business Analytics: Cloud Analytika-London-United Kingdom.

Corresponding Author: Okanga Boniface, Department of Research & Business Analytics: Cloud Analytika-London-United Kingdom.

Abstract

As governments increase their investments in the creation of e-government system to respond to the changes induced by the increasing digitisation of all aspects of the world, exploring how poor organisational culture change can affect the successful e-government system's implementation is important for discerning the improvement initiatives that must be adopted. To accomplish that, this study uses systematic review to evaluate the existing literature, so as to respond to the question as to how organisational culture change drives the successful e-government system implementation as well as the major challenges to avoid during such initiatives. Through the analysis of the existing studies, e-government system's implementation was found to instigate the need for change in five different areas that encompass technology, processes, people, organisational culture and structure. Unfortunately, as empirical facts indicate, that is often not easy due to the bureaucratic nature of government institutions as well as path dependencies that hinder the successful organisational culture change which is required for enhancing the effective e-government system's implementation. Such situations can induce the emergence of espoused values that contradict the espoused values that are deemed essential for enhancing the successful e-government system's implementation. Failure of organisational change suggests that some e-government system tends to work only at the level of web-based and email system as others progress to the integrated system offering super e-government services. In that context, it is suggested that if e-government system is to be successfully implemented, the government will have to adopt the organisational culture change process that diagnoses the existing organisational culture before undertaking changes that support the successful e-government system's implementation.

Keywords: Organisational Culture Change, E-Government System, Inhibitors E-Government System Implementation

1. Introduction

Organisational culture change is an essential antecedent for enhancing the successful e-government system implementation. It entails change and transformation of behaviours, attitudes, beliefs, practices, thinking and etiquettes to influence the overall seamless implementation of the e-government system [1]. Even if most of the governments do not often pay attention to the significance of organisational culture change and transformation, empirical facts still suggest organisational culture constitutes the underlying systems that drive or even undermine successful organisational change and transformation.

During the implementation of change required for the creation of the e-government system, organisational culture change and transformation facilitate the seamless transition of the government departments from using the physical-paper-based system to usage of the remote online paperless-based system [2]. It enables government staffs become aware of the fact that it is no longer required for one to print and sign documents before giving the office assistant to take to the directors' office or any other government office.

Instead organisational culture change and transformation imply that with the e-government system in place, it is the e-mails, Teams, zoom, videoconferencing facilities and some bit of telephones that would be used in the accomplishment of different governmental activities. The introduction of e-government system introduces enormous changes that suggest that instead of using noticeboards and physical paper-based memos to communicate the new position of the department about a particular issue, the concerned government official would just write and communicate to all the stakeholders using e-mail [3].

Alternatively such communication can also be posted on the government department's website, social medial platforms or some other e-government portals. All these require the change and transformation of the organisational culture because the introduction of e-government system instigates

the need for change in five different areas that encompass technology, processes, people, culture and structure.

Unfortunately, changing and transforming the organisational culture to support e-government system implementation is often a complex challenge that most of the contemporary government leaders and managers grapple with (Li & Xu, 2024; Zhou, Lyu & Chen, 2024). Using the methodology described below, it is such dynamics of e-government system implementation that motivate this study to explore how organisational culture change is a critical antecedent for enhancing the successful e-government system implementation.

2. Methodology
To discern how organisational culture change is a critical antecedent for enhancing the successful e-government system implementation as well as the major challenges to avoid, the study used systematic review. Systematic review refers to one of the methods for qualitative critical content analysis that focuses on extracting and evaluating the existing literature and theories to discern how the emerging research findings offer critical insights on the phenomenon being investigated [4]. To accomplish that, the process of systematic review was structured according to three steps encompassing literature search, extraction and analysis. Literature search was guided by two fundamental research questions that sought to evaluate:
• How organisational culture change drives successful e-government system implementation?
• What inhibits organisational culture change during e-government system's implementation?

In addition to using these research questions, the study also used keywords like "organisational culture change"; "E-government system"; "inhibitors of organisational culture change during e-government implementation"; "inhibitors of organisational culture change"; and "inhibitors of e-government system implementation". To obtain the required relevant information, the literature search process entailed the use of search engines like Google, Web of Science, PubMed and Core. It is only the articles that had full texts published in English in the period between 2015 and 2024 that were extracted. In that process, the articles that had only abstracts with full texts were excluded from the study.

Once all the required articles were extracted, each of the 28 articles used in the study were subjected to thematic and narrative analysis. In the first instance, relevant themes, subthemes and their accompanying texts were extracted to offer insights on how organisational culture change drives successful e-government system implementation. Subsequently, relevant themes, subthemes and their accompanying texts were extracted to explain the common inhibitors of organisational culture change during e-government system's implementation [5,6]. Drawing from such processes of analysis, the details of the findings are as evaluated below.

2.1. Findings
From thematic and narrative analysis, outcomes of systematic review are presented according to subsections that are aligned with the research questions to encompass:
• Organisational Culture Change as a Driver for successful e-government system implementation
• Inhibitors of Organisational Culture Change during E-Government System's Implementation
• Details of the themes, subthemes and their accompanying texts are evaluated as follows.

2.2. Organisational Culture Change as a Driver for Successful E-Government System Implementation
E-government system's implementation instigates the need for change in five different areas that encompass technology, processes, people, organisational culture and structure [7]. In terms of technology, the creation of e-government system introduces more complex technologies like network technology, information system infrastructure, and the need for the synchronisation of the internal governmental systems with the external systems and other players and partners in the larger government ecosystem. Besides the need for managing the complex information security issues arising from the complex networks being used in the e-government system, it also instigates the need for the utilisation of technologies like data analytics [8]. In terms of the organisational culture, this implies that if the government has just been dealing with small issues of just website maintenance and network management, the introduction of e-government system signifies the government IT department must be prepared to deal with more complex information technologies.

Such complex information technologies may require the introduction of new complex skills that have the competencies and expertise that some of the quasi-political leaders in government do not have [9]. It may also require the introduction of complex procurement processes to not only procure such new technologies, but also the partners who will be in charge of implementing and maintaining the technologies and networks required for ensuring the effective functioning of the e-government system. The creation of e-government system also introduces new processes of how different government activities are accomplished. It introduces new processes where there is limited face-to-face interaction as compared to virtual interactions. In the long run, it changes the organisational culture from the use of the more physical interactive system to use of the physically isolated virtual system.

Due to limited physical interactions, this means there must be a new way of getting to understand the needs and demands of the employees so as to discern how to motivate them to perform more effectively [10]. Yet as the e-government system introduces new processes requiring new rules, procedures and norms, it may also change the nature of human resource management. Though e-government causes physical social isolation of the employees, it also disrupts silos to create a coherently integrated organisation. It creates vertically and horizontally integrated e-government systems

that not only facilitates the internal interactions amongst the government staff, but also between the government staffs, the political arm of government, general public and other key partners like the civil society organisations, activists and religious leaders [11].

Contrasted with the previous operational cultures in which government departments worked in silos, the creation of e-government system breaks down the silos. This causes the need for more collaborative work approach in which not only higher level of information sharing and exchange becomes the norm, but also in which the good or the bad culture in the other government department may also creep into the other government departments. This implies that as the organisational culture is being changed to support the successful implementation of e-government system, it must also be accompanied with the change of the management and leadership styles to handle the new dynamics that may come with the implementation of e-government system [12].

Instead of using autocratic or democratic system, the existence of e-government system requires the utilisation of directive leadership and management style. This is because due to limited interactions, all the prescriptions about the dos and don'ts are posted on the government websites, portals and other online communication forums. With such instructions in place, most of the employees tend to just work independently within the prescribed guidelines to deliver the desired outcomes [13]. This contrasts with the past where there was too much physical interactions requiring good interpersonal relationship management skills to get the employees motivated to aid the accomplishment of the desired activities. As the introduction of e-government introduces new operational system and management system, it also leads to the change of the organisational structure. Contrasted with the traditional limited silo-based structures, e-government system introduces a more complex boundaryless structure.

E-government introduces boundaryless government systems which are not only integrated with the internal government systems, but also with multitudes of the external players that seek to influence government policies in different ways [1]. This suggests that as compared to the traditional structure where government officials used to work in the isolated government departments, in the modern digital era, government departments are integrated with multitudes of players in the public domain. To thrive, new leaders in government have to adopt different approaches of working and cooling tension from the public about certain issues that the government cannot easily deliver to the now more empowered population of the world [13]. These suggest that as e-government system is introduced, even the organisational culture in the government system must also change. Unfortunately, as empirical facts indicate, that is often not easy.

2.3. Inhibitors of Organisational Culture Change during E-Government System's Implementation
Systematic review of various theories and literature suggests the major inhibitors of organisational culture change during e-government system's implementation often arise from:
• Path Dependencies
• Fear of the Unknown and Power Dilution
• Poor Top Management's Support
Details of these themes are evaluated as follows.

2.4. Path Dependencies
Path dependencies refer to a set of rules, practices and behaviours that have been relied on for accomplishing different organisational activities for a long time [14]. It connotes the behaviours, practices, attitudes, rules and thinking that are perceived as essential for enhancing the organisation's effective performance due to their capabilities that have been exhibited in better performance results of the organisation over the years. Due to the bureaucratic nature of government institutions, path dependencies tend to be hindrances to the successful organisational culture change which is required for enhancing the effective e-government system's implementation [15]. Path dependencies in government institutions often arise from the set of behaviours and practices that are perceived for over the years to define how the government department accomplishes its activities to influence the achievement of the best results.

By default, when it comes to the accomplishment of different activities, a government official may by default resort to doing things in that way even if the new system which is in place demands a new way of doing things [16]. For instance, if by convention of the government institutions, a budget document has never been shared with the public before its conclusion in the council/parliament, the government official may refuse to share such a document on the e-government portal for access and comments by the other government agencies and the public. It is such defined ways of thinking that emerge to constitute the path dependencies that define the way things are done in a particular organisation to influence the attainment of the best results [17]. It is such path dependencies that often become hindrances to organisational culture change required for enhancing the effectiveness of e-government system's implementation. Such a thing echoes the thinking in Schein's Organisational Culture Model that holds that even if there are three layers of organisational culture that encompass artifacts and behaviours, espoused values and basic underlying assumptions, it is often the espoused values and the basic underlying assumptions that are difficult to change as compared to the other sets of the organizational culture [18].

As Edgar schein explains, artifacts and behaviours are the most visible parts of the organisational culture which is often reflected in the dress-codes, communication patterns, work office layout that may reflect collaborative team approach or lack of it. Artifacts and behaviours are also depicted in the management style, decision-making processes and problem-solving processes that are often easily observable even to clients or the general public when a problem occurs in a particular department. In government departments, artifacts and behaviours are reflected in the government's policy

making processes and budget decision-making processes [19]. In the traditional era, the government's policy making processes may require gathering views from the public, formulating policy and sending it to parliament for approval or disapproval.

But in the new digital age where e-government is more instrumental, that may not be the pattern of policy formulation any more [20]. Due to the improved connectivity with the public, some individuals from the public can be easily invited to comment on the policy in parliament. Alternatively the policy statement will still need to be put in the public domain for comments and suggestions about anything that the general public may like or dislike about the policy [21]. These are some of the policy changes that the creation of e-government may introduce. Because the creation of e-government requires more empowered government employees to be engaged in the independent accomplishment of certain activities or problem-solving activities, periodic employee training and development may emerge as part of the organisational culture of continuous improvement.

But if such a culture is not adopted, it may affect the successful utilisation of e-government systems in the way that influences the overall effectiveness of the newly created e-government system [22]. Besides artifacts and behaviours, fear of the unknown and power dilution can also affect the effectiveness of organisational culture change to support e-government system's implementation.

2.5. Fear of the Unknown and Power Dilution

E-government system's implementation can induce some radical organisational changes that seek to change everything. This can cause fear as most of the employees may begin to share a common fear about where the organisation and their employment future are heading [23]. Especially if the change will lead to the reduction of some structures as well as downsizing since computers will do some of the work, the fear and risks of sabotaging the e-government system's implementation often becomes even more eminent. This often frustrates the successful e-government system's implementation. Such situations can induce the emergence of espoused values that contradict the espoused values that are deemed essential for enhancing the successful e-government system's implementation [24]. Schein's Organisational Culture Model notes that organisational culture also often reflects the espoused values that constitute the shared values, norms and ways of thinking that influence how the organisational activities are accomplished. Espoused values are often reflected in the organisation's mission, vision, value statements and other official documents [25]. Espoused values depict the aspirations of the organisation which are often manifested in the vision and ambition of the senior managers and leaders to guide and influence the organisation to attain what they think is the best state of performance.

Due to the aspirations that organisational leaders and managers have for the organisation, attempts to change the espoused values of the organisation to accommodate the change required for the successful e-government system's implementation can be easily construed as an attack on the organisation's senior leadership and management [26]. Since it is the senior leaders and managers who are in charge of change implementation, it implies some of the changes that affect only artifacts and behaviours of the organisational culture may be implemented as the ones affecting their power as reflected in the espoused values may be ignored. Such a view echoes the common findings in most literature that indicate the fear of losing power to be one of the factors undermining the successful implementation of the organisational change.

The introduction of e-government system can induce the need for reducing the management layers. Alternatively, it can also induce the need for increasing the management personnel to dilute the management powers presently enjoyed by the current senior managers and directors in government offices [27]. Instead of bypassing several controversial public forums, the new systems created by the e-government system may also require senior government officials to do online consultations before making any decision. Since this can dilute the powers of some government officials, a tendency could emerge to try to undermine and sabotage the implementation of the aspects of the e-government system that may affect the successful implementation of the required organisational culture change and transformation [28]. In that process, it is not only fear of the unknown that may affect the successful culture change to support e-government system implementation, but also lack of support of top management's support.

2.6. Poor Top Management's Support

Poor top management's support can arise from two factors that include failure to change and fear of undermining the fundamental underlying assumption of the organisation. In terms of failure to change, some of the senior government leaders may fail to change and prioritize certain things even if the implementation of e-government system introduces new priorities [29]. Unless the importance of change and introduction of new priorities are highlighted to some of the senior leaders, some of the senior leaders may not recognise that since e-government has been introduced, there are new priorities like prioritizing the training and development budget to equip the ordinary staff with new skills that are required for working in the context of the newly created e-government system. Once the e-government system is in place, periodic maintenance and upgrade of software and network improvements must be prioritised to ensure the efficient functioning of the e-government system [30].

Unfortunately, some of such important priorities are often not highlighted during the implementation of the e-government system. The implication is that the e-government system may be fully created, but the government staff may continue using the old system because they have not been trained and supported to use the new technologies that the e-government system requires. With the periodic maintenance budget, it also implies that the frequent failure of the e-government

system may cause service disruption that forces the government staff to resort to doing things according to the old ways [31]. As these can frustrate the change of the organisational culture and practices that are essential for supporting the e-government system implementation, threats to the basic underlying assumptions of the government department can also undermine organisational culture change and transformation. Basic underlying assumptions are reiterated in Schein's Organisational Culture Model to connote the deeply held beliefs and values that are drawn from experiences, interactions and observations to shape key decision making processes in the organisation. Basic underlying assumptions also reflect the implicit values and understanding of who in the organisation has power and authority to influence and change how the general organisational activities are accomplished.

These basic underlying assumptions are often threatened by the introduction of the e-government system that seeks to change certain power and authority about how certain activities must be accomplished [32]. Like due to the power of social media platforms that interact with the e-government system, a particular decision of a senior government official can be questioned to even induce protests and riots from the population. If the senior government officials realise that such undesirable unintended outcomes may arise, they may tend to sabotage and frustrate any aspect of the e-government system that exposes more of the internal secrets and working of the government department to the external world [33]. Just like it happened in Uganda where President Museveni banned facebook for its scrutiny of government work, even some aspects of e-government system can be banned or even dismantled if it threatens the basic underlying assumption of the government department.

In that context, failure of organisational change suggests that some e-government system tends to work only at the level of web-based and email system as others progress to the integrated system offering super e-government services. Such a view is derived from Wescott's (2001) Model of E-Government that indicates that as governments invest in their e-government systems, they tend to progress through six stages that encompass establishment of internal e-mail system and network, enabling inter-organisational and public access to information, creation of two-ways communication, permitting exchange values, promoting digital democracy and allowing joined up government. The first stage is where the government creates the internal e-mail system and network just for usage in the communication and facilitation of the processes for the accomplishment of different government activities [34].

The second stage is where more online information is availed to the other government departments and the general public. This often leads to the development of two-ways communication in the third stage of e-government system's development to facilitate more improved government-public interface. Subsequently the exchange values are introduced to permit the creation of the system for supporting the online application and processing of activities like licence

applications, building permit applications or procurement related activities. This often leads to the utilisation of the e-government system to promote digital democracy by encouraging the public to express opinions, consult and get involved in different policy making decisions of the government [35,36].

Subsequently, higher level of integration is attained in the final stage to improve the linkage of the e-government subsystems amongst themselves and with the rest of the external ecosystem subsystems. However, if the e-government system will threaten the position or the thinking of some senior government leaders, the e-government system's evolution may be constrained to only the level of value exchange and not the integrated level used for promoting digital democracy that interferes with the conventional government policy making processes. These suggest that if e-government system is to be successfully implemented, a number of managerial implications still arise for the contemporary government leaders and managers.

2.7. Managerial Implications

As reflected in the organisational culture change framework in Figure 1, it is argued that the overall findings of this study imply that to enhance the successful e-government system implementation, the government will have to adopt the organisational culture change process that uses two steps encompassing:
• Step 1: Organisational Culture Diagnosis in the Context of Changes induced by E-Government System
• Step 2: Organisational Culture Change and Transformation to support e-government System's Implementation
Details of these steps are evaluated as follows.

2.7.1. Step 1: Organisational Culture Diagnosis in the Context of Changes induced by E-Government System

Regarding the first step, the concerned government officials must undertake organisational culture diagnosis in the context of the changes induced by the e-government system in the areas like processes, people, structure, culture, policy, skills, technology and leader/management dimensions. Such analysis will enable the government official to discern the process areas that have been affected by the introduction of the e-government system. It will enable the assessment of the new processes that have been introduced and the old processes that must be eliminated to improve the overall efficiency of the e-government system. Yet, as processes change, it also affects people for the reason that e-government system may require the elimination of certain processes and activities to cause job loss amongst the government employees.

That implies that for the implementation of e-government system to be effective, an analysis must also be conducted to understand the implications of the newly introduced e-government system on the government employees. The introduction of e-government system can eliminate processes and jobs in one area, but can also require the recruitment of more people who are working in the government call centres to respond and answer multitudes of online queries and

services that may arise from the migration of the physical government system to the online government operations. That signifies as e-government is being implemented, the government staff must be cautioned against resisting the change because the system could open new job opportunities in other areas that they may be required.

Analysis of the people dimension of organisational culture change must also be accompanied with the evaluation of structure. E-government system's introduction can necessitate the introduction of new structures as the existing structures may be eliminated, combined or even reduced. Such analysis is important for understanding how given the existing structural changes, what needs to be done to improve the overall efficiency of the e-government system. Change in the work processes and structure can also affect the organisational culture and policy reflecting the acceptable established norms, rules, practices and behaviours of how different government activities are accomplished.
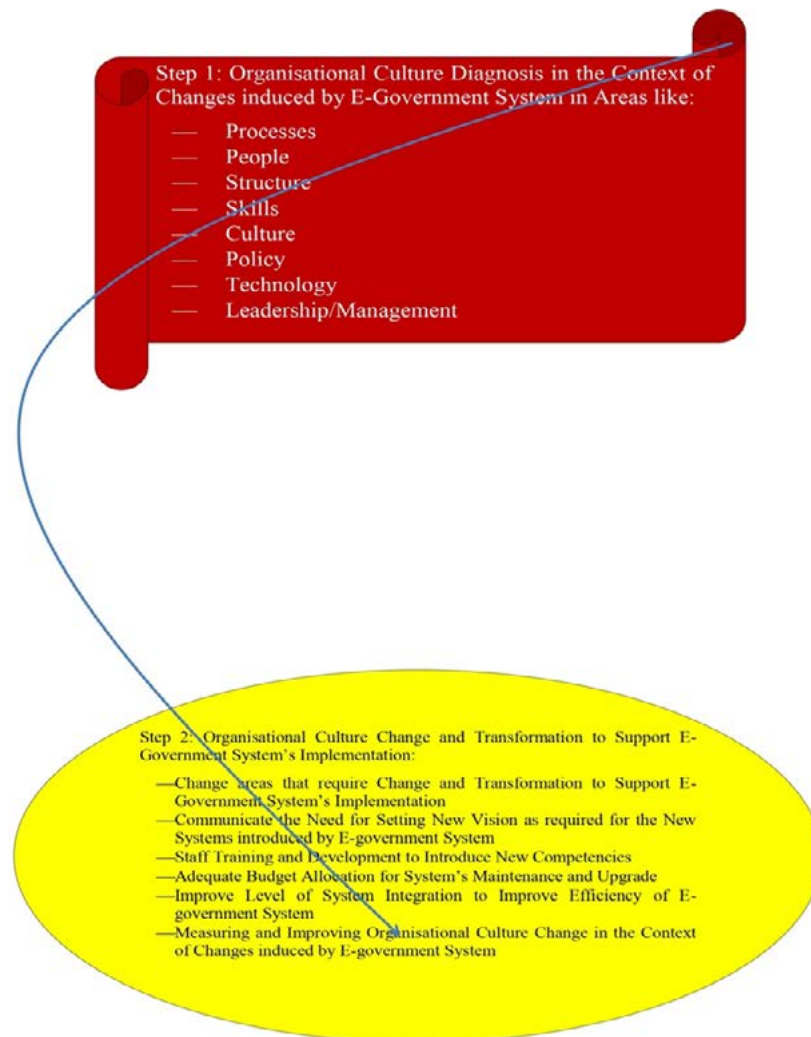

Figure 1: Organisational Culture Change Framework for Enhancing the Successful E-Government System Implementation

Improving the overall efficacy of the e-government system would require the diagnosis of how the e-government system have introduced new practices, behaviours and norms that must be embraced to influence its overall effectiveness in the accomplishment of different government activities. Such analysis is important for government official to discern the areas that need to be changed to support the effective use of e-government system. Subsequently, the management will have to evaluate the new technologies, skills and management/leadership approaches and styles that are required for the e-government system to operate more effectively. However, after understanding how the e-government system's implementation will affect the organisation; the next step requires the complete change and transformation of the organisational culture to support e-government system's implementation.

2.7.2. Step 2: Organisational Culture Change and Transformation to Support E-Government System's Implementation
In step two, it is essential to undertake organisational culture change and transformation to support e-government system's implementation. Such initiatives would require the change of the areas that require change and transformation to support e-government system's implementation. After areas for change like people, processes, management/

leadership style, operational policy, culture and structure are identified; the management must communicate the need for setting new vision as required for the new systems introduced by e-government system. In terms of the underlying assumptions of the organisation, this will enable the senior management figures in different government entities to recognise that their thinking and belief systems are not under threat and attack from the implementation of the e-government system.

To prepare the employees about the complexities to expect as well as about the expected new skills and competencies, the management must take undertake staff training and development to introduce new competencies that support effective utilisation of e-government system. These must be accompanied with the allocation of adequate budget for e-government system's maintenance and upgrade. Besides improvement of the level of system integration to improve efficiency of e-government system, the management must also constantly measure and improve organisational culture change in the context of new changes induced by the e-government

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