

# Secure and Failure Factors of e-Government Projects Implementation in Developing Country: A study on the Implementation of Kingdom of Bahrain

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**Abstract**—The concept of e-government has begun to spread among countries. It is based on the use of information communication technology (ICT) to fully utilize government resources, as well as to provide government services to citizens, investors and foreigners.

Critical factors are the factors that are determined by the senior management of each organization; the success or failure of the organization depends on the effective implementation of critical factors. These factors vary from one organization to another according to their activity, size and functions. It is very important that organizations identify them in order to avoid the risk of implementing initiatives that may fail to work, while simultaneously exploiting opportunities that may succeed in working.

The main focus of this paper is to investigate the majority of critical success factors (CSFs) associated with the implementation of e-government projects. This study concentrates on both technical and nontechnical factors. This paper concludes by listing the majority of CSFs relating to successful e-government implementation in Bahrain.

**Keywords**—Critical success factors, E-government, ICT, Implementation, Kingdom of Bahrain.

## I. INTRODUCTION

WITH the development of information technology concepts it was necessary for the governments to evolve and move information from the concept of dispersed applications that support various business units in an independent manner, to the concept of information services that serve the entire government as one entity. The e-government concepts emerged from the latter perspective. E-government is widely defined as a network of advanced computer systems that enable public access to a large number of government services and transactions automated online or through other electronic means. Okot-Uma has defined e-government as “e-government refers to the processes and structures pertinent to the electronic delivery of government services to the public” [1]. Another definition of e-government is e-government as “the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees.” [2]

In light of the forgoing we can define that the e-government as the environment where citizens can find services they want

and answers of their governmental questions using computer networks.

The ICT sector in Bahrain and the GCC countries are at their early stage of development, but are quickly gaining trust. The Economic Development Board (EDB) has placed information technology and telecommunication at the forefront of Bahrain’s efforts to attract private investment and improve government services.

Today ICT has had a significant effect on the development of countries in this century. From this point of view, the government of Bahrain has built a strategy of economic diversification, including a considerable emphasis on ICT. ICT plays an important role in promoting accessibility, connectivity, accountability, efficiency, as well as effective, social, political, and economic development in many countries. According to Northwest, ICT allows any organization or firm in business to compete with others and remain operational. [3]

As compared with other countries in the region, Bahrain has been at the fore front of IT development. ICT in Bahrain is planned and implemented by the Central Informatics organizations. [4]

The e-government project is one of the vital projects undertaken by the Central Information Organization (CIO). Implementation of this project will turn all transactions of the community to electronic transactions. This transaction is not only between governmental organizations or between citizens and government, but also between various civil society institutions, and the public and private sectors. This will affect citizens’ private lives. This project will eliminate electronic illiteracy and help spread information between citizens. This is necessary because of the urgent need to use the computer for daily service transactions needed by individuals.

This paper investigates CSFs that affect the implementation of the E-government of Bahrain. Furthermore, this paper presents a model for the use of CSFs. The results are vital for researchers in this field. Defining the CSFs of e-government implementation will help the country avoid e-government project failure.

## II. PURPOSE OF THE STUDY

- Determine the level of awareness of e-government concept on the Bahraini citizens.

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- Explore the impact of CSFs on the implementation of e-government of Bahrain.
- Provide a CSFs model for an e-government program in Bahrain.

### III. METHODOLOGY

This research aimed to provide a model for CSFs affecting the e-government implementation. It pointed towards having a list of the CFs that might effect the successful implementation of e-government in Bahrain.

Several data collection techniques were used during this research. The author used different techniques to check the validity of the findings. The first technique is the literature review the information gathered through it was used to narrow down the project scope. This information used to build and enhance the questionnaires and interview questions.

CSFs affect Bahrain e-government in the questionnaire instrument was developed using the data gathered from the literature to test the relevance of the CSFs found from the largely literature to the Bahraini situation. Questionnaires were distributed to different fragments of Bahraini society to find out their willingness to use e-government and to discuss possible CSFs that affect the successful implementation of e-government. Interviews were conducted to review, envision, and develop CSFs that affect the successful implementation of e-government in Bahrain. Results from these interviews were used to add further details on the questionnaires results.

There were ten main CSFs listed on the questionnaire draft. Participants were asked to rank them on a scale of one to five, with one indicating an item of least relevance, and five representing an item of the highest relevance. These factors are internal politics, governance, vision and strategy, effective staffing, competence, leadership, change in management, information sharing, self-interest and adequate IT. The three CSFs ranked the highest in relevance to Bahrainis from the questionnaire were, in the following order: adequate IT, vision and strategy, and information sharing.

Interviews helped to gather more information and viewpoints on e-government programs in the Kingdom of Bahrain. The main goal of interviews was to find out more information about plans, strategies, perception, achievements, and CSFs encountered in e-government from the decision makers' point of view in Bahrain. Another aim was to evaluate current progress and planned future activities for Bahrain's e-government. The outcome of these interviews was used to supplement the questionnaires' results.

The data collected was analyzed based on mean, standard deviation, frequencies and percentages using SPSS. The analyzed data is presented in figures and tables.

### IV. FINDINGS OF THE STUDY

*Issue 1: Intention to make a transaction with the government*

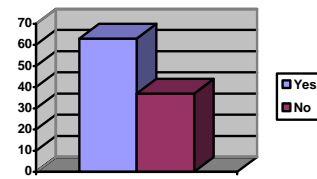


Fig. 1: The sample distribution according to intention to do transactions with government.

Figure one reveals that 63% of the samples are required to perform any transactions with any public organization in the near future. They face some problems when they conducting transactions with the public sector. Some of these problems are congestion; slow the completion of the transaction, repeated visits to government agencies to complete a single transaction, length of time, lack of clarity in some measures and laws and routine.

*Issue 2: E-government Awareness*

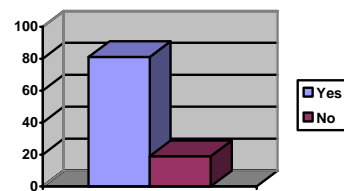


Fig. 2: The sample distribution according to awareness of e-government concept.

According to figure two, about 81% of the samples have heard about e-government. A significant portion of the respondents have heard about e-government projects from work, television and street advertisements, newspapers, magazines, family members, school, lectures about e-government, shopping malls, and while completing e-government transactions in other countries.

*Issue 3: Willingness to use e-government portals*

The majority of respondents are willing to use e-government portals to either reduce the time and effort needed to complete government transactions, utilize a cultural interface for the Kingdom of Bahrain, reduce congestion, facilitate the completion of transaction, distribute information, improve the country, reduce congestion on roads, overcome routine, improve government services, work privately, and to complete government transactions when abroad.

*Issue 4: Awareness of e-government programs in Bahrain*

TABLE I  
THE SAMPLE DISTRIBUTION ACCORDING TO WILLINGNESS TO USE E-GOVERNMENT

	Frequency	%
Yes	81	81
No	19	19
Sum	100	100

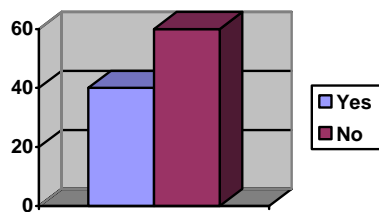


Fig. 3: The sample distribution according to awareness of e-government programs in Bahrain.

It was found that 40% of respondents were aware of e-government programs in Bahrain. In the questionnaire, there was an option for respondents to write down the programs they knew. Some of these programs include sites for paying Bahrain’s state university tuition, checking radiology results, paying electricity and water bills and traffic fines, receiving a Smart Cart, renewing commercial registration licenses, obtaining building permits, accessing public library services, applying for visas, educational services, renewing vehicle registration, getting flight and hotel reservations and travel information.

Issue 5: Experience with e-government portals

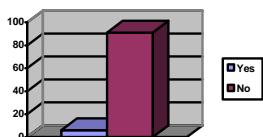


Fig. 4: The sample distribution according to negative experience with e-government portal.

According to figure 4, the majority of respondents have not faced any problems with navigating the portal. Only 6% of respondents faced some problems while using e-government portals. The problems they faced include:

- Difficulty in entering the portal due to server problems.
- Mistakes in services price quotes.
- Slow web browsing.

Issue 6: Success factors for implementing e-government in Bahrain

From the questionnaire, the most important factors for the successful implementation of e-government are vision and strategy, and information sharing and IT standards. Interview results were used to provide an extended examination of the findings obtained from questionnaires.

These CSFs are effective management, marketing and awareness, process mapping, effective business process reengineering, leadership, capacity building, and indentified requirements. The CSFs affecting e-government in Bahrain are summarized in table two.

The table three classified the CSFs found from questionnaires and interviews into three classes as Altameem did in their research [5]

TABLE II  
DESCRIPTIVE ANALYSIS SUCCESS FACTORS

	Mean	Std. Deviation
Internal Political	3.6700	1.31083
Governance	3.9100	1.24799
Vision & Strategy	3.7200	1.38593
Get the right people	4.2700	1.08110
Competencies	3.5700	1.32768
Leadership	3.5200	1.22664
Effective Change Management	3.4500	1.18386
Share information	4.0000	1.18918
Self Interest	3.2900	1.38750
IT Standards	4.5300	0.83430

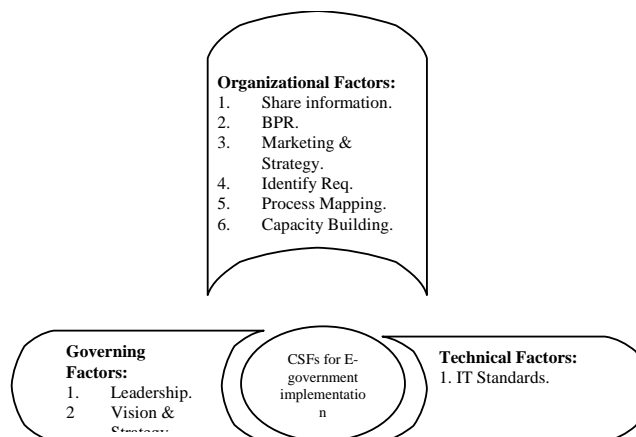


Fig. 5: CSFs for E-government Implementation in Bahrain Model

V. RESEARCH LIMITATIONS

The conclusion of this research is limited by the following factors:

- The sample size for surveys was 100, representing only those people with good education.
- E-government research in Bahrain is new; little research is conducted and published on Bahrain, specifically identifying the CSFs effect of e-government implementation.

- The interviewees were from the public sector and therefore conclusion the stated might not relate to people from private sector.

In spite of the previous limitations, the study's findings are believed to be appropriate to the Arab countries that share basic characteristics with Bahrain such as GCC countries.

## VI. CONCLUSION

The survey conducted in this research demonstrates that the majority of respondents were aware of e-government concepts, which they had heard about before this survey.

This paper examines in depth the data from the questionnaires and interviews include in this study in order to find the critical success factors affecting the implementation of e-government in Bahrain. The research found that the ten CSFs affecting the implementation of e-government are: vision and strategy, leadership, adequate IT, information sharing, change management, marketing and awareness, business process reengineering, identify requirements, process mapping and capacity building.

TABLE III  
BAHRAIN MODEL FOR SUCCESS FACTORS

Type No.	Governing Factors	Technical Factors	Organizational Factors
1	Leadership		
2	Vision & Strategy		
3		IT standards	
4			Share information
5			Marketing & Awareness
6			BPR
7			Identify Requirement
8			Process Mapping
9			Capacity Building
10			Change Management

## VII. FUTURE WORK

The work did in this is theoretical; this can be extended in the future. How a certain model can be applied successfully in e-government by identifying various CSFs. There may be other factors not covered in this research. They may affect the success of e-government in Bahrain and can be identified and taken into account in future research.

Finally, comparative studies could be performed to match the findings of this study with other Arab and developing

countries. By conducting a similar study on different countries, the result might be compared with these results and extends its results.

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