

Project Management Framework for Improving MIS\ E-Government Implementation Success Potential

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Abstract:-The successful implementation of e-Government is a main target for many countries but still faces difficulties and barriers resulting in a high failure ratio. As a result, researchers are motivated to investigate the different factors for success and failure of MIS/e-Government projects [12] [13][14]. Several methodologies and frameworks were developed to identify success and failure factors: various reasons were discussed, multitudes of factors were identified, and several factors lists were introduced, each of which doesn't give the complete view of success and failure as they can be viewed from multiple dimensions [7], leading to confusion. In this paper, we will examine the success factors lists for projects in general as well as the success factors list for MIS/e-Government projects and try to standardize the concepts and the terms used to describe the factors and generate a unified, categorized and classified list of success and failure factors for MIS/e-Government projects that encompasses all possible dimensions as per Project Management Institute (PMI) in their Project Management Body of Knowledge (PMBOK) guide. ITPOSMO is a recognized model of Conception-Reality gaps. We integrate the obtained success factors list assigned to the PMI Project Management Body of Knowledge (PMBOK) with the ITPOSMO model to reach a unified framework for identifying the impact of success factors on MIS/e-Government projects implementations.

Keywords – E-Government projects, Success, Failure

I. INTRODUCTION

Organizations of different types realized that a projectized approach is required for converting their strategic objectives into practical achievements [1]. Generating a standard definition for a project is often a complex process as it must cover both the generic and the domain specific activities [3]. The wide spread of projects in organizations today motivates both the researchers and practitioners to search for factors that influence projects success. The determination of whether a project is a success, or a failure is a complex process as it can be viewed differently by various parties engaged in the project, and a lot of success and failure factors lists are introduced but most of them lack grouping, classification, and identification of interaction between factors.

In the field of information and communication technology (ICT) e-Government projects is considered an important application of information and communication technology in

the world [6]. It is becoming a global phenomenon occurring in developed as well as developing countries [7]. Most governments need to change the way they interact with their citizens and businesses and provide electronic services instead of traditional manual services.

There are several definitions of e-Government, but no single one globally adopted [6] [8]. The definition of e-Government differs according to the national strategies and plans for different countries.

Many implementations of e-Government projects in developing countries have been reported either partial or total failure. According to Napitupulu D, Sensuse D (2015) most e-Government projects failed to achieve the desired outcome and the failure rates was very high about 85% and the project success was only 15% [7] [26]. Heeks and Stanforth (2007) reported about 70% to 80% of e-Government implementations failed to achieve the desired output and outcome [27] [28].

According to Heeks [13] most implementations of e-Government in developing countries fail, with 35% being classified as total failures and 50% as partial failures. In addition, Gartner (2002) reported that more than 60% of e-Government initiatives have failed or below from expectation. Therefore, knowing reasons of success and failure is necessary to ensure future projects success.

The remainder of this paper is organized as follows: Section 2 presents the research methodology used to collect, unify, and categorize the success factors list for e-Government projects. Section 3 reviews the previous work done on success factors for any generic projects and success factors list for e-Government projects. Section 4 describes the model formulation. Section 5 presents the results and discussion. A brief conclusion is presented in section 6.

II. RESEARCH METHODOLOGY

The research methodology consists of four phases as follows:

1. Success factors list formulation

In this phase we will first review the literature that focuses on success factors for generic project types, then literature related to MIS/e-Government projects success factors will be reviewed. Out of the above we will construct a consolidated

list of factors that encompasses both generic project success factors and specific MIS/e-Government success factors.

We will revise the success factors list generated and try to identify the similar factors and remove redundancy.

There are several factors that have different names, but give more or less the same meaning, so unification of terms will be required to resolve the conflict of understanding. Similar factors will be grouped together, and a unified term will be given to each group.

2. Success factors list PMI classification

The unified and standardized list of success factors from the previous phase will be classified and categorized as per PMI knowledge areas and process groups this will help better understand the effect of every factor on project success.

3. Success factors list ITPOSMO categorization

The success factors list generated from phase 1 will be categorized and grouped as per elements ITPOSMO model.

4. PMI-ITPOSMO integration

In this phase we generate a two-dimensional view of MIS/e-Government Success factors by PMI knowledge areas and project phases and ITPOSMO elements. The new generated framework can be used as a guideline to consider success factors in management work increasing the probability of success.

Figure (1) below shows the research methodology phases

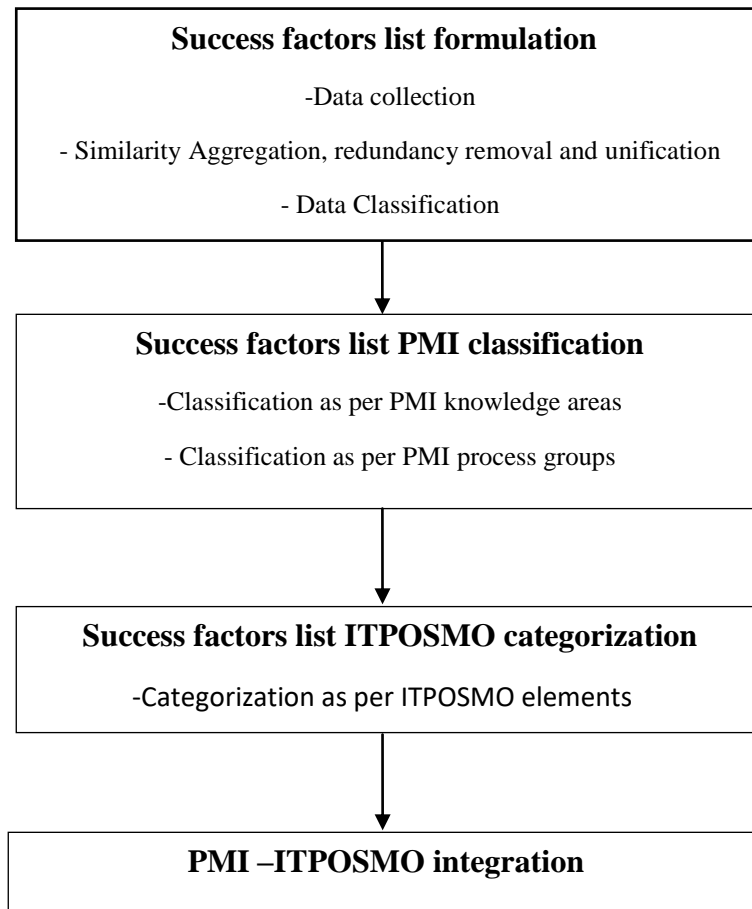


Figure (1): Research Methodology Phases

III. LITERATURE REVIEW

3.1 Generic Projects Success Factors

The early literature discussing the success and failure of projects considers that the main success factors for is

represented by the iron triangle; that is (1) The completion project on time, (2) Within the specified budget, and (3) Meeting the quality requirements [3][6]. But these three factors were proven not to be sufficient to govern the success

of any project: Some projects with the three elements available have been judged to be unsuccessful.

There are internal and external factors that affect the success of the project. Researchers have listed these different factors and produced multitude of success factors, most of which were common in many researches. There is limited agreement among authors on the factors that influence project success.

Through literature review on the success of the project, it was found that similar success factors are repeated but formulated in different ways and can be grouped together to reach a list of unified, standardized, and classified success factors.

3.2 MIS/e-Government Success Factors

Several researchers investigated the different factors for e-Government success and provided a list of success factors from various points of view, focusing on a specific perspective.

Ndou (2004) classified the factors according to policy issues, Information and Communication technology issues, management issues and collaboration issues. Fortune and White (2006) provided a list of 27 critical success factors for e-Government projects. Altameem (2006) identified 13 factors for e-Government success. Van Dick (2007) provided 10 critical success factors for e-Government. Kanan (2009) classified the factors into four main categories: Technical, Social, National, and Organizational. Ali M. Al-Naimat et al (2013) proposed a list of 10 critical success factors for e-Government implementation.

Darmawan et al. (2014) identified a list of 55 critical success factors that have the same degree of importance, but the list is neither categorized nor classified.

Abo-Shanab (2014) formulated a framework for classifying e-Government success factors in to three main categories: Infrastructure, Human and Governmental factors. Each

category contains factors that need to be considered during e-Government projects implementation.

The number of success factors obtained from literature exceeds two hundred. Listing of these factors would be cumbersome and is of no practical value for the purpose of this paper; and so, will not be presented here.

It can be shown that several factors are repeated and have the same meaning but formulated and written in different ways. For instance, in the research of Yeo(2002), there is a factor called “Monitor performance and feedback”, and in the research of Daniel F. Ofori (2013), there is a factor named “Monitoring and feedback”, but in the research of Cooke Davies (2002) there is a factor called “direct monitor and feedback”. Although, each of the factors has a different name but they have the same meaning that is the need of “monitoring performance and feedback”. Another example of factors, in the research of Anderson et.al, (2002), there is a factor called “Planning/controlling”, and in the research of Spalek,S (2005), there is a factor named “resource estimation and planning”, but in the research of Ioana B., Emil C., Razvan N there is a factor called “Accurate schedule and plan”. Although, each of the factors has a different name but they have the same meaning that is the need of “proper planning”, while the “control” factor should have been part of a separate factor.

So, unifying the concepts and the terms used to describe the factors is very important to remove redundancy and confusion.

Table (1) below summarizes the literature review on MIS/e-Government success factors, identifying the recurrence of each factor in the different publications. The right- most column shows the frequency the factor has been mentioned in the reviewed works: the higher the count, the more important this factor is perceived by the authors.

Table(1): Summary of MIS/e-Government success factors in the literature.

Serial	MIS/e-Government Success Factors	Khang, D. B., & Moe, T. L. (2008)	Yeo, (2002)	Turner & Muller,(2005;2007)	Jeffrey K. Pinto,Dennis P. Slevin,1987	Frese& Sauter (2003)	Daniel F. Ofori.(2013)	Hyvan, (2006)	David Baccarini and Adam Collins	Pinto&Slevin (1987, 1989)	Andersen et.al, (2002)	Walid Belassi and Oya Icmeli Tukul	Boyd (2001)	Ioana B., Emil C., Razvan N	Spalek, S. (2005).	Shenhar, A., Levy, O., & Dvir, D. (1997	Els, M., Van der Merwe, M.F. & Hauptfleisch Mladen Radujkovic, Mariela Sjekavica(2017).	Cooke Davies, (2002)	BMG Report, (2014)	Abdullah and Ramly, (2009)	CHAGS Report, (1994)	D Napitupulu and Dana Sensus(2014)	scott,Delone and Golden(2016)	S.Peter,Delone and Mclean(2008)	Delone and Mclean(2003)	Kerzner, (1992,2001,2003)	Total
1	Stakeholder/Sponsor/ Client/User Engagement				•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				•	15	
2	Top Management Support	•	•	•	•	•	•	•	•	•	•	•		•	•				•	•							15
3	Monitoring, Controlling and	•	•	•	•	•	•	•	•	•			•	•				•	•							15	

	Feedback																															
4	Clear Project mission, Vision, Goals and objectives	•	•		•	•	•	•	•	•	•		•	•			•	•		•								14				
5	Proper Planning	•		•	•	•			•	•	•			•	•		•		•	•						•		13				
6	Competent Project Teams	•		•	•		•	•	•	•			•	•		•	•											13				
7	Effective Communication	•			•	•	•	•	•	•	•	•	•			•												12				
8	Project Compliance with the planned budget, time frame and performance criteria				•						•	•				•	•											9				
9	Meeting technical specifications and Matching Standards & regulations				•		•				•	•				•	•											8				
10	Appropriate troubleshooting mechanisms	•			•			•	•	•		•			•													8				
11	Stakeholder/Sponsor/Client/User Acceptance and satisfaction				•		•				•			•	•				•									7				
12	Risk Management	•							•					•	•		•		•									6				
13	Availability of resources	•				•	•	•		•																	•	6				
14	Project Manager Competencies									•			•	•			•	•	•									6				
15	External Environmental factors (Social, Cultural, Political and Economic)				•				•	•		•				•	•											6				
16	Adequate use of project management tools and techniques					•							•	•			•		•									5				
17	Organizational Factors (structure, culture, competence, responsibilities, and Policy & Strategy)									•									•	•	•							4				
18	Authority of the Project Manager/Leader	•							•		•					•												4				
19	Clear Statement of Requirements					•								•	•											•		4				
20	Good information quality																									•	•	•	•	4		
21	Good system quality																										•	•	•	•	4	
22	Good service quality																											•	•	•	•	4
23	Good system usability																											•	•	•	•	4
24	Supportive ICT Infrastructure																											•	•	•	•	4
25	Procurement and Contract																											•				1
26	Clearly defined roles and responsibilities												•																		1	

3.3 ITPOSMO model

Several models were created to locate success and failure of MIS/e-Government. One of these models is ITPOSMO proposed by Heeks [2]. The model consists of three groups: (1) the technical factors (2) the human factors and (3) the organizational factors, as detailed in Figure (2).

The success and failure of information system is measured according to the “design-reality gap” which identifies the range of variance between the current situation and the desired one.

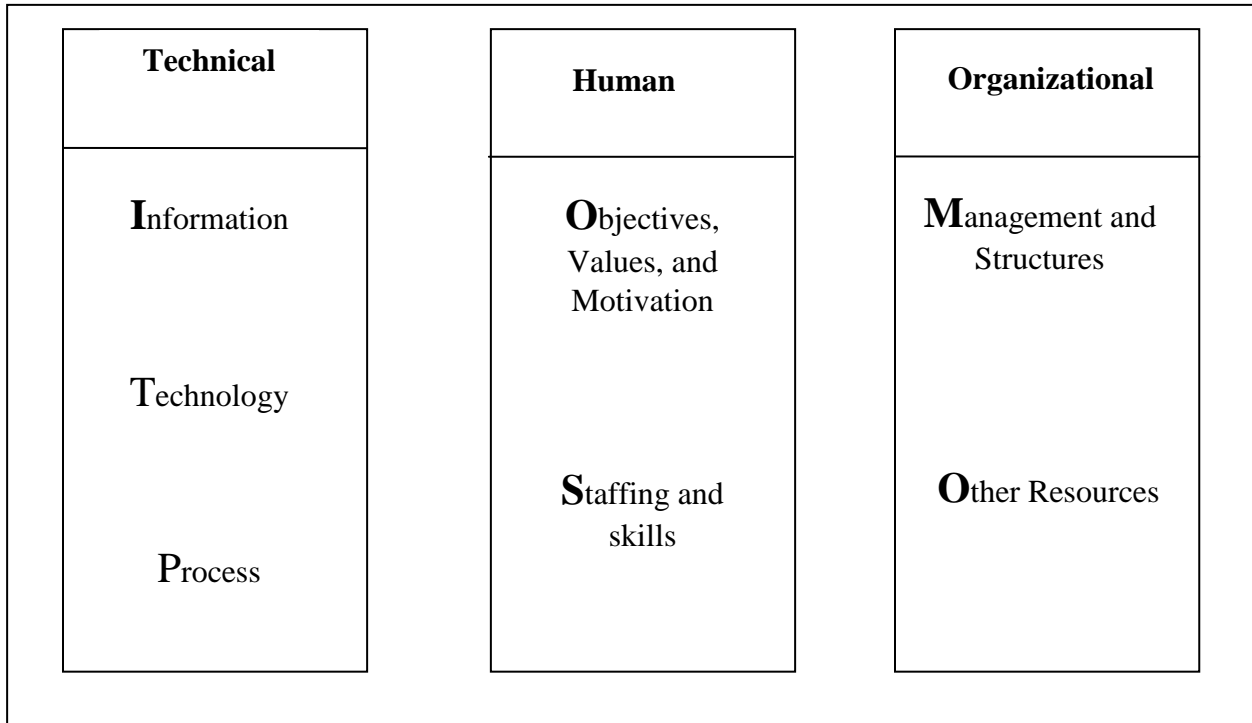


Figure (2): Components of ITPOSMO model

IV. MODEL FORMULATION

The Project Management Body of Knowledge (PMBOK Guide) provides guidelines for managing projects [16]. It contains the globally recognized standard and guide for the project management [16]. It also describes the project management life cycle and its related processes, as well as the project life cycle [16]. The PMBOK Guide specifies a standardized 49 processes for project management and grouped them into five process groups and ten knowledge

areas. This model will be used to group and categorize the MIS/e-Government success factors.

Table (2) below shows how the success factors listed in Table (1) are categorized and classified according to PMI PMBOK knowledge areas. It is to be noted that a success factor may relate to different knowledge areas; this emphasizes the existence of a relationship between different areas, as well as the importance of this specific success factor.

Table(2): the success factors listed in table (1) categorized and classified according to PMBOK Knowledge areas.

Knowledge Areas	Success Factors
Project Integration Management	Proper Planning
	Monitoring, Controlling and Feedback
	Adequate use of project management tools and techniques
	Authority of the Project Manager/Leader
	Top Management Support
	Clear Project mission, Vision, Goals and objectives

	Appropriate troubleshooting mechanisms
	Project Manager Competencies
Project Scope Management	Proper Planning
	Monitoring, Controlling and Feedback
	Clear Statement of Requirements
	Project Compliance with the planned budget, time frame and performance criteria
Project Schedule Management	Proper Planning
	Monitoring, Controlling and Feedback
	Project Compliance with the planned budget, time frame and performance criteria
Project Cost Management	Proper Planning
	Monitoring, Controlling and Feedback
	Project Compliance with the planned budget, time frame and performance criteria
Project Quality Management	Proper Planning
	Monitoring, Controlling and Feedback
	Meeting technical specifications and Matching Standards & regulations
	Good system quality
	Good information quality
	Good service quality
	Good system usability
Project Resource Management	Proper Planning
	Competent Project Teams
	Clearly defined roles and responsibilities
	Supportive ICT Infrastructure
	Availability of resources
	Monitoring, Controlling and Feedback
Project Communication Management	Proper Planning
	Effective Communication
	Monitoring, Controlling and Feedback
Project Risk Management	Proper Planning
	Risk Management
	External Environmental factors (Social, Cultural, Political and Economic)
	Organizational Factors (structure, culture, competence, responsibilities, Policy and Strategy)
	Monitoring, Controlling and Feedback
Project Procurement Management	Proper Planning
	Monitoring, Controlling and Feedback
	Procurement and Contract
Project Stakeholder Management	Proper Planning
	Monitoring, Controlling and Feedback
	Stakeholder/Sponsor/Client/User Engagement
	Stakeholder/Sponsor/Client/User Acceptance and satisfaction

Table(3): MIS/E-government Success factors organized according to PMBOK process groups.

Project Management Process Group				
Initiating	Planning	Executing	Monitoring	Closing
Clear Project mission, Vision, Goals and objectives	Proper Planning	Appropriate troubleshooting mechanisms	Monitoring, Controlling and Feedback	Procurement and Contract
Project Manager Competencies	Adequate use of project management tools and techniques	Competent Project Teams	Adequate use of project management tools and techniques	Adequate use of project management tools and techniques
Adequate use of project management tools and techniques	Stakeholder/Sponsor/Client/ User Engagement	Adequate use of project management tools and techniques	Meeting technical specifications and Matching Standards & regulations	Stakeholder/Sponsor/Client/ User Acceptance and satisfaction
Authority of the Project Manager/Leader	Availability of resources	Effective Communication	Stakeholder/Sponsor/Client/ User Engagement	
Stakeholder/Sponsor/Client/ User Engagement	Meeting technical specifications and Matching Standards & regulations		Risk Management	
Top Management Support	Clearly defined roles and responsibilities	Project Compliance with the planned budget, time frame and performance criteria	External Environmental factors (Social, Cultural, Political and Economic)	
	Effective Communication	Good system quality	Organizational Factors (structure, culture, competence, responsibilities, Policy and Strategy)	
	Risk Management	Good information quality	Effective Communication	
	External Environmental factors (Social, Cultural, Political and Economic)	Good service quality	Good system quality	
	Organizational Factors (structure, culture, competence, responsibilities, Policy and Strategy)	Good system usability	Good information quality	
	Procurement and Contract	Risk Management	Good service quality	
	Good system quality	Meeting technical specifications and Matching Standards & regulations	Good system usability	
	Good information quality	Procurement and Contract		
	Good service quality	Stakeholder/Sponsor/Client/ User Engagement		
	Clear Statement of Requirements			
	Supportive ICT Infrastructure			
	Good system usability			

Table (3) shows how the success factors listed in Table (1) are distributed over the phases of the project. Again, the existence of a specific success factor in different phases is an indicator of the importance of this factor.

Table (4) below shows the success factors distribution over the phases of each knowledge area. Table (4) can be used as a

guideline for project owners to actually insure that the proper attention is awarded to the proper factors in each phase of the project implementation, these minimizing the risk of failure.

Table 4: Two-dimensional view of MIS/e-Government Success factors by PMI process groups and knowledge areas.

Knowledge Areas	Project Management Process Group				
	Initiating	Planning	Executing	Monitoring	Closing
Project Integration Management	Project Manager Competencies Clear Project mission, Vision, Goals and objectives Adequate use of project management tools and techniques Authority of the Project Manager/Leader Top Management Support	Proper Planning Adequate use of project management tools and techniques	Adequate use of project management tools and techniques Appropriate troubleshooting mechanisms	Monitoring, Controlling and Feedback Adequate use of project management tools and techniques	Adequate use of project management tools and techniques
Project Scope Management		Proper Planning Clear Statement of Requirements	Project Compliance with the planned budget, time frame and performance criteria	Monitoring, Controlling and Feedback	
Project Schedule Management		Proper Planning	Project Compliance with the planned budget, time frame and performance criteria	Monitoring, Controlling and Feedback	
Project Cost Management		Proper Planning	Project Compliance with the planned budget, time frame and performance criteria	Monitoring, Controlling and Feedback	
Project Quality Management		Proper Planning Meeting technical specifications and Matching Standards & regulations Good system quality Good information quality Good service quality Good system usability	Meeting technical specifications and Matching Standards & regulations Good system quality Good information quality Good service quality Good system usability	Monitoring, Controlling and Feedback Meeting technical specifications and Matching Standards & regulations Good system quality Good information quality Good service quality Good system usability	
Project Resource Management		Proper Planning Availability of resources Clearly defined roles and responsibilities Supportive ICT Infrastructure	Competent Project Teams	Monitoring, Controlling and Feedback	
Project Communication Management		Proper Planning Effective Communication	Effective Communication	Effective Communication Monitoring, Controlling and Feedback	
Project Risk Management		Proper Planning Risk Management External Environmental factors (Social, Cultural, Political and Economic) Organizational Factors (structure, culture, competence, responsibilities, Policy and Strategy)	Risk Management	Monitoring, Controlling and Feedback Risk Management External Environmental factors (Social, Cultural, Political and Economic) Organizational Factors (structure, culture, competence, responsibilities, Policy and Strategy)	

Project Procurement Management		Proper Planning Procurement and Contract	Procurement and Contract	Monitoring, Controlling and Feedback	Procurement and Contract
Project Stakeholder Management	Stakeholder/Sponsor/Client/User Engagement	Proper Planning Stakeholder/Sponsor/Client/User Engagement	Stakeholder/Sponsor/Client/Engagement	Monitoring, Controlling and Feedback Stakeholder/Sponsor/Client/User Engagement	Stakeholder/Sponsor/Client/ User Acceptance and satisfaction

Table 5: the success factors listed in Table (1) categorized and classified according to ITPOSMO model.

ITPOSMO Groups	ITPOSMO Elements	Success Factor
Technical	Information	Good information quality
		Good system quality
		Good service quality
		Good system usability
	Technology	Supportive ICT Infrastructure
	Process	Meeting technical specifications and Matching Standards & regulations Clear Statement of Requirements
Human	Objectives, Values, and Motivation	Clear Project mission, Vision, Goals and objectives
	Staffing and skills	Competent Project Teams
		Clearly defined roles and responsibilities
		Project Manager Competencies
		Appropriate troubleshooting mechanisms
		Adequate use of project management tools and techniques
Organizational	Management and Structures	Monitoring, Controlling and Feedback
		Proper Planning
		Effective Communication
		Project Compliance with the planned budget, time frame and performance criteria
		Risk Management
		Availability of resources
		Procurement and Contract
		Authority of the Project Manager/Leader
	Other Resources	Top Management Support
		Stakeholder/Sponsor/Client/User Engagement
		Stakeholder/Sponsor/Client/User Acceptance and satisfaction
		External Environmental factors (Social, Cultural, Political and Economic)
		Organizational Factors (structure, culture, competence, responsibilities and Policy & Strategy)

Table (5) shows how the success factors listed in Table (1) are categorized and classified according to ITPOSMO elements

Table (6): the distribution of success factors listed in Table (1) over PMI knowledge area and elements of ITPOSMO model.

PMI knowledge areas	Technical			Human		Organizational	
	Information	Technology	Process	Objectives, Values, and Motivation	Staffing and skills	Management and Structures	Other Resources
Project Integration Management				- Clear Project mission, Vision, Goals and objectives	- Project Manager Competencies - Appropriate troubleshooting mechanisms - Adequate use of project management tools and techniques	- Monitoring, Controlling and Feedback - Proper Planning - Authority of the Project Manager/Leader	- Top Management Support
Project Scope Management			-Clear Statement of Requirements			- Monitoring, Controlling and Feedback - Proper Planning - Project Compliance with the planned budget, time frame and performance criteria	
Project Schedule Management						- Monitoring, Controlling and Feedback - Proper Planning - project compliance with the planned budget, time frame and performance criteria	
Project Cost Management						- Monitoring, Controlling and Feedback - Proper Planning - Project Compliance with the planned budget, time frame and performance criteria	
Project Quality Management	-Good information quality -Good system quality -Good service quality -Good system usability		-Meeting technical specifications and matching standards & regulations			- Monitoring, Controlling and Feedback -Proper Planning	
Project Resource Management		-Supportive ICT Infrastructure			-Competent Project Teams - Clearly defined roles and responsibilities	- Proper Planning - Availability of resources	
Project Communication Management						- Proper Planning - Effective Communication	

Project Risk Management						- Monitoring, Controlling and Feedback - Proper Planning - Risk Management	- External Environmental factors (Social, Cultural, Political and Economic) - Organizational Factors (structure, culture, competence, responsibilities and Policy & Strategy)
Project Procurement Management						- Monitoring, Controlling and Feedback - Proper Planning - Procurement and Contract	
Project Stakeholder Management						- Monitoring, Controlling and Feedback - Proper Planning	- Stakeholder/Sponsor/Client/User Engagement - Stakeholder/Sponsor/Client/User Acceptance and satisfaction

Table (7): the distribution of success factors listed in Table (1) over PMI process groups and elements of ITPOSMO model.

PMI process groups	Technical			Human		Organizational	
	Information	Technology	Process	Objectives, Values, and Motivation	Staffing and skills	Management and Structures	Other Resources
Initiating				- Clear Project mission, Vision, Goals and objectives	-Project Manager Competencies - Adequate use of project management tools and techniques	-Authority of the Project Manager/Leader	- Stakeholder/Sponsor/Client/User Engagement - Top Management Support
Planning	-Good information quality -Good system quality -Good service quality -Good system usability	- Supportive ICT Infrastructure	- Clear Statement of Requirements - Meeting technical specifications and Matching Standards & regulations		- Adequate use of project management tools and techniques - Clearly defined roles and responsibilities	- Proper Planning - Availability of resources - Effective Communication - Risk Management - Procurement and Contract	- External Environmental factors (Social, Cultural, Political and Economic) - Organizational Factors (structure, culture, competence, responsibilities and Policy & Strategy) - Stakeholder/Sponsor/Client/User Engagement
Executing	-Good information quality -Good system quality -Good service quality -Good system usability		-Meeting technical specifications and Matching Standards & regulations		-Appropriate troubleshooting mechanisms - Adequate use of project management tools and techniques - Competent Project Teams	- Project Compliance with the planned budget, time frame and performance criteria -Procurement and Contract - Effective Communication - Stakeholder/Sponsor/Client/User Engagement - Risk Management	

Monitoring	-Good information quality -Good system quality -Good service quality -Good system usability		-Meeting technical specifications and Matching Standards & regulations		-Adequate use of project management tools and techniques	-Monitoring, Controlling and Feedback - Effective Communication - Risk Management Stakeholder/Sponsor/Client/User Engagement - External Environmental factors (Social, Cultural, Political and Economic) - Organizational Factors (structure, culture, competence, responsibilities and Policy & Strategy)	
Closing					- Adequate use of project management tools and techniques	- Procurement and Contract	- stakeholder/Sponsor/Client/User Acceptance and satisfaction

From Table (6), we could realize that the “Management and Structure” element of ITPOSMO, includes most of the success factors listed, and affects all 10 PMI knowledge areas, while no other elements does.

Also, from Table (7), we find that the “Management and Structure” together with “Staffing and Skills” affects all PMI process groups, while other elements touch few.

This demonstrates that the “Management and Structure” element is the most important element for project success as a whole, and in all its phases, and that the human skills are required over all the phases but not necessary all the knowledge areas.

V. RESULT AND DISCUSSION

There are several project management methodologies introduced, Project Management Body of Knowledge (PMBOK Guide) presented by PMI is one of the most well-known methodologies which provides guidelines for managing projects [16]. It contains the globally recognized standard and guide for the project management [16]. There are also several methodologies and models proposed to locate success and failure of MIS/e-Government one of these models is ITPOSMO.

From our review on various literatures we found that there is no clear link between project management methodologies and MIS/e-Government success and failure methodologies.

From this point we tried to set construct a new guideline framework that links between the two methodologies. We first generated a list of success and failure factors for MIS/e-Government projects and link it with PMI project management then we linked it with elements of ITPOSMO model and generate a two-dimensional view of MIS/e-

Government Success factors by PMI knowledge areas and project phases and ITPOSMO elements.

The new generated framework can be used as a guideline to consider success factors in management work increasing the probability of success.

VI. CONCLUSION

In this research, we have performed a literature review on success and failure factors of MIS/e-Government projects. The number of factors obtained from literature exceeds two hundred. It was found that multitude of factors are repeated and have the same meaning but formulated and written in different ways and some of them were classified and others were not.

Through this research, we tried to unify concepts and remove duplicates to formulate a consolidated and comprehensive success factors list of MIS/E-government Projects, the new generated list contains 26 success factors. After formulating this list, we have categorized it according to PMBOK the globally recognized guide and standard for project management profession, it can be applied to projects of any type and size. This research depended mainly on PMBOK six edition, the latest version released by PMI in 2016. The PMBOK Guide specifies a standardized 49 processes for project management and grouped them into five process groups and ten knowledge areas. First, we have distributed the success factors across project phases and noticed that lots of factors are repeated across phases. The existence of a specific success factor in different phases is an indicator of the importance of this factor. Second, we have distributed the success factors across knowledge areas, it is to be noted that a success factor may relate to different knowledge areas; this emphasizes the existence of a relationship between different

areas, as well as the importance of this specific success factor. And last, we have created a Two-dimensional view of MIS/e-Government Success factors, by PMI process groups and knowledge areas. It can be used as a guideline for project owners to ensure that the proper attention is awarded to the proper factors in each phase of the project implementation, these minimizing the risk of failure. After that we have distributed the success factors list across ITPOSMO elements and made a link between PMI project management methodology and ITPOSMO model to construct a new guideline framework for MIS/e-Government projects that enables success.

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