Developing Model of E-Management Factors for Future Government Organizations in UAE

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Abstract

E-management factors has gained success and popularity in its functional viability and qualitative prominence now a day. As its accomplishments were not found to be at par in all extents of functioning, therefore it was reasonable to examine future government organizations perspective upon the applicative paybacks of E-management factors in Ministry of Interior striving towards excellence. In order to extract a holistic insight of the situation three facets of E-management factors for future government organizations. Infrastructure, training and development, and integration were taken as independent variables of the research. A tool containing 27 close ended items on 7 point Likert scale was constructed, duly standardized and administered upon a sample of 320 the employees at the ministry of Interior in immigration and traffic departments in UAE.Upon analysis on percentile scale the outcome strongly favored that future government organizations mechanism derives positive outcomes in terms of acceptance for e-management factors. Overall 70% respondents were `Strongly agree' and 30% `Agree' with the success of e-management factors of future government organizations in UAE.The results show that there is a significant correlation between factors of e-management and future government organizations across the public sector in UAE.The is a huge mandate which has direct influence upon the optimum outcome in terms of government organizations performance in UAE.

Keywords: E-management factors, future government organizations, UAE.

1.   Introduction

The United Arab Emirates (UAE) started adopting large-scale data technology since 2013. Establishment of a smart government was the first application, which was aimed at providing services to the UAE public around the clock, anywhere. The goal of this project is to take advantage of the huge data applications to serve the UAE citizens around the clock and anywhere in the world (Sideri. 2019). The idea of this project was based on the context of the Government's efforts to develop government services and achieve high quality of life for UAE citizen and residents, according to the UAE Vision 2021.

As adoption to ICT are necessities to such developing country, the e-government program launched in order to facilitate and stimulation e-government transactions whilst decreasing e-government centralisation adoption to the greatest possible extent, with coordination between government agencies, in line with the program's official mission and vision. When taking into account the fact that ICT is adopted across all public sector and other operations and tasks, as well as the e-government program, in UAE, there is a valuable avenue for research in terms of the transformation for future government organizations in UAE. Despite such innovation, there continues to be pressure from citizens in terms of the government needing to improve performance, which ultimately means a greater degree of emphasis on the performance of government organizations across the public sector, which do not continue to be at the desired stage of achievement and performance when compared with economically developed regions(Mushore , 2019).

In this vein, the UN e-Government Development Index (EGDI, 2016) positioned

UAE at 29, whilst Bahrain, Kuwait, Saudi Arabia, Qatar, Oman, Lebanon and Jordan were positioned at 24, 29, 40, 44, 48, 66, 73, and 91 respectively, with no report or study suggesting whether or not the adoption of ICT could be determined as enhancing future government organizations within the public sector in UAE specifically and the Middle East overall. With this noted, this report seeks to establish the influence of e-management application in the public sector in UAE, as well as its role in future government organizations performance, with statistics suggesting that the role of ICT in terms of enhancing future government organizations, particularly across the UAE sector. Leading to answering the research main question "What is the role of e-management for future government organizations in the UAE public sector?" .So, this paper aims to investigate the impact of e-management factors for future government organizations in UAE, also seeks to increases the significance of the research through extending the use of data in mind of decision-making purposes.This paper is structured into three sections. The first introduced the study and its background, whilst the subsequent sector details the methodological approach applied. Finally, the third section presents a discussion, draws the conclusions and makes suggestions in regards future works.

2.   Theoretical literature and hypothesis development

E-management capability within this concern option especially with increasing administration from streamlining inner operations to the cross-departmental movement of information (MITI, 2018). It's no simple job to manage changes in an organization (Rahimi et al., 2019). Generally, there is a large amount of opposition or limitations from the veteran or elderly staff because most of the organizational people can obtain within their relief area following some time applying method or process (Rockwell, 2019). Therefore, the changes within the organization must act strategized and planned well before it hauls the field (Omar, 2017). To implement the e-management system in government organizations, several factors need to be addressed which this study focuses on reviewing its critical factors as shown in Table 1.

In the present worldwide networked technology, integrated technology management is an important essential via an aggressive edge (Zacharewicz et al., 2017). To be able to endure or succeed later indicated by significant velocity of adjusting, organizations require considering approaches to incorporate, automate along with improving their operational systems, equally internally and externally (Schiavi et al., 2019 ; Zdravkovic et al., 2017). E-management was created to help an organization method all the issues even more quickly in contrast to the human's control potential, with the brand new Information and Communication Technology (ICT) including good performance storage, Central Processing Unit (CPU), storage administration, system program, running program, repository program and different required info-structure and infrastructure (Rahimi et al., 2017; Omar, 2017).

E-management program was created with a mix of technology-based programs and faculties of potential organizations in the upcoming world (Mayer et al., 2018). It comprises of preparing, coordinating, staffing, major or aiming, and managing an organization through a number of more than one person or entities or effort for the objective of completing a target through the deployment of ICT and manipulation of human resources, economic methods, and natural resources (Nicholas, and Steyn, 2017).

Information technology is used to enhance the administration of government by streamlining government organization operations and increasing the movement of data within the government (Rahimi et al., 2019). E-management increases the management of individuals by providing operational data for the local government on a website (Rockwell, 2019). While e-management concentrates over alleged "front–office" relationship, e-management identifies the alleged "back-office" organizational systems (Schiavi et al., 2019).

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Table 1: The E-Management factors toward future government organizations

Factor of E-Management	Classification	E-Management Impact	References
Infrastructure	Think strategically through analysis and competitive resources.	The strategically conscript devising framework that contains processes, creative and flexible planning creates a future value organization.	(Rahimi et al., 2017; Schiavi et al., 2019)
Training and development	Creating continuous improvement in the organization throughout each process.	Long-term planning requires improvements in quality towards a successful organization.	(Schiavi et al., 2019; Rockwell, 2019)
Integration	Implementing a new solution to replace the old solution to the needs of the organization.	The organization's choice of decisions to be applied and techniques to be used to enhance the prospects of plan execution.	(Rahimi et al., 2017; Shrivastava et al., 2019)

Table 1 summarized the E-management approaches for future government organizations focusing on strategy approach, (Noran and Bernus, 2017; Tang et al., 2018) stated that an organization needs to complete environmental evaluation of their recent strategies. Internal environment criteria contain problems such as operational inefficiencies, worker well-being, and restrictions from economic issues (Saadat and Saadat, 2016). Outside setting criteria contain political developments, financial adjustments, and improvements in customer tastes (Rahimi et al., 2019). The internal examination begins from considering the efficiency of the organization (Electric et al., 2019).

Organizations rely more on their progress upon the number and quality of the internally and outwardly circulated information (Noran and Bernus, 2017). Furthermore, it is known that individuals are supporting to transport from the culture centred on data to the culture centred on information (Tang et al., 2018). E-management plays a part in using one of the generally circulated ideas about the organizational tradition, that the powerful organizational tradition presents a significant supply because of its aggressive benefit

(Schiavi et al., 2019). The e-management shows an outfit of sophisticated methods centred on the application that offers a whole group of e-management of sources and basic services evaluation in a quick means of raising performance, by way of a comprehensive electronic control (Omar, 2017).

According, Schiavi et al., (2019); Oma, (2017) stated reorganizing the system workspaces to boost the outcomes to the performance of the government organization. Priester et al., (2016); Omar, (2017) stated access control is used to mitigate the chance of regulating the number of people who can access and efficiently operating the organization's performance. Alam et al., (2019); Wiredja et al., (2019) stated excellent housekeeping of shared file systems is basic to sustaining their long-term viability for future government organizations. Azmi et al., (2018); Priester et al., (2016) stated that labeling documents constantly by subsequent collection events may considerably enhance the storage and access of records for future government organizations.Jayakrishnan et al., (2018); Wiredja et al., (2019) stated that competitiveness in one area of the performance

gets the product or service more efficient and strategize. Rabbanikhah, (2016); Electric et al., (2019) stated that cross-training personnel increase the performance level and work more efficiently within the work scope.The framework resulted in the creation of six main hypotheses, which guide this work:

H1- System has a positive, significant relationship with a future government organization.
H2- Accessibility has a positive, significant relationship with a future government organization.
H3- Service efficiency and effectiveness have a positive, significant relationship with future government organizations.
H4- Easy usage has a positive, significant relationship with future government organizations.

H5-Competitiveness capability in government has a positive, significant relationship with future government organizations.
H6- Administrative efficiency has a positive, significant relationship with future government organizations.

2.1.   The Conceptual Framework Proposed for the Research

A framework comprising a dependent variable and an independent variable is used in this work, with the latter signifying future government organizations and placing emphasis on three different criteria, namely strategic analysis, actionable insights and visualize decision making. The independent variable encompasses e-management with three factors, Infrastructure, training and development, and integration striving towards excellence. Finally, this fundamental model includes four hypotheses, which are labelled as such in Figure 1.
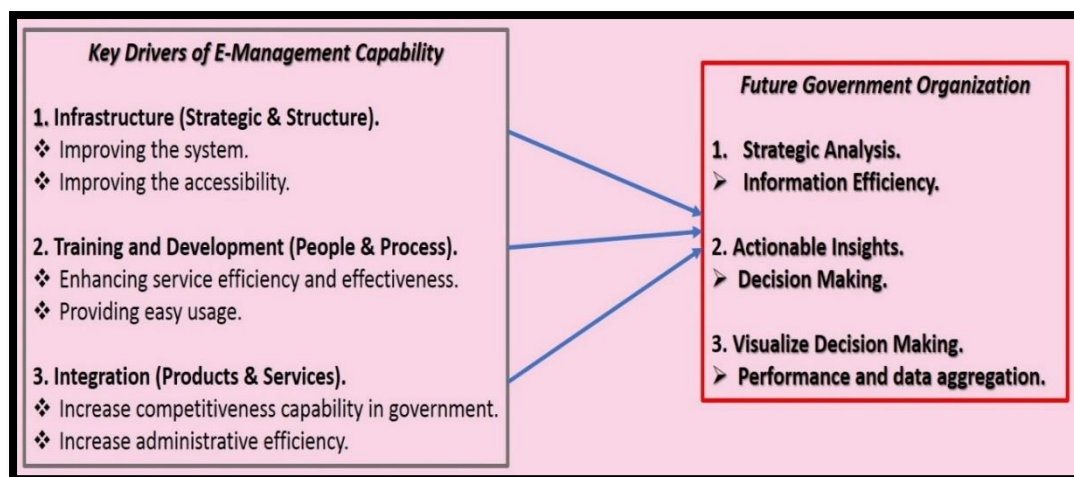

Figure 1. Research Framework

2.2.   Theory of the Research

Change theory a concept about modifying teases out various opinions and assumptions by what an organisation is trying for and how the team must perform together (Mayne, 2015). Utilizing theory of change to co-develop technique fosters agreement and may inspire team, supporting them to sense included and featuring them how their perfor-mance plays a part in long-term goals (Douthwaite, and Hoffecker, 2017). It is a decided record of what an organisation or task wants to achieve (Archibald et al., 2016). It allows recognizing actions that are not contributing to achieving

goals and knowing the data need-ed to check performance (Mayne, 2015). A variety of assumptions may possibly underlie the style of one's challenge or approach (Allen et al., 2017).Furthermore, the key drivers of e-management capability were the following: (a) Infrastructure; (b) Training and Development and (c) Integration. Therefore, the Theory of Change will be the fundamental theory for the key drivers of e-management capability that influence future government organization's context that leads towards strategic technology on public-policy goals and business needs of government organizations.

3. Methodology
Owing to the aim of this work being role e-management factors for future government organizations the public sector in UAE, the study makes use of a sample of 320 the employees at the ministry of Interior in immigration and traffic departments in UAE. It should be noted that these departments have been chosen in mind of their completely automated processes through ICT and e-government, with the departments both providing a large number of services across a wide number of citizens on a daily basis, meaning ICT being applied in such a department could have notable effects. This

work considers random sampling owing to the departments embodying a significant number of employees, which facilitates the investigation of each individual. Accordingly, random sampling was adopted.

4. Results and discussion
Altogether, 350 questionnaires were distributed across the chosen sample, with a response received in 320 cases, thus resulting in a response rate equal to 91%. SPSS software was used in order to complete questionnaire analysis and coding. Demographic data were garnered, as shown in Table 2.

Table 2 The descriptive analysis of study sample

		Frequency	Per cent
Gender	Male	169	52.8
	Female	151	47.2
	Total	320	100.0
Age	18-24	52	16.3
	25-34	57	17.8
	35-44	71	22.2
	45-54	54	16.9
	55-64	48	15.0
	65 or above	38	11.9
	Total	320	100.0
Education	Diploma	72	22.5
	Bachelor Degree	82	25.6
	Master Degree	96	30.0
	Doctor of Philosophy	69	21.6
	Total	319	99.7
Missing	System	1	.3
Total		320	100.0
Experience	1 to 5 years	56	17.5
	6 to 10 years	72	22.5
	11 to 15 years	102	31.9
	More than 16 years	90	28.1
	Total	320	00.0

The sample of the study includes 169 male and 151 female respondents. The sample consists of more respondents of age 35-44 and fewer respondents of age above 60. Seventy-two respondents hold the degree of diploma, 82 have bachelor's degree, 96 have master's degree, and 69 respondents have done Doctor of Philosophy. Fifty-six respondents have 1-to-5-year experience working in the organization, 72 have 6-to-10-year experience, 102

respondents have experience of 11 to 15 years, and 90 respondents have experience working for more than 16 years in an organization. The descriptive statistic determines the characteristics of the data. It includes means, standard deviation, the minimum and maximum value of the data. It helps in summarizing the data set. The table below represents the descriptive statistics of respondent's demographical information

Table 3 The represents the descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	320	1	2	1.47	.500
Age	320	1.00	6.00	3.3219	1.60314
Education	319	1.00	4.00	2.5078	1.06654
Experience	320	1.00	4.00	2.7063	1.05994
Valid N (listwise)	319				

According to the above results, the survey was conducted by 320 respondents. The minimum values of gender, age, education, and experience are the same that is 2. The maximum value of gender is 3. The maximum value of age is six and education, and knowledge is the same as 4.

The mean age is 1.47 with the standard deviation of 0.5, far away from the mean value representing that data set to include data far from its mean value. The mean age is 3.23 with a standard deviation of 1.60, which is also far from its mean value, indicating data set includes data far away from its mean value. The mean value of education is 2.51 with a standard

deviation of 1.06, and the mean value of experience is 2.71 with a standard deviation of 1.06. More variables have a considerable gap in mean and standard deviation values, indicating that the data set is far from the mean value.

4.1.   Reliability

The reliability of the data was checked using the Cronbach Alpha value, as is already discussed. This test's importance needs to be equal to greater than 0.7. This value will indicate that whether the data collected was reliable and consistent. The table below represents the Cronbach Alpha value of the data collected.

Table 4 The reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.851	27

The total numbers of an item which is representing the questions other than demographical question were 27. The value of

Cronbach's Alpha is 85.1% which is above 70%. Hence it indicates that the data collected is reliable.

Table 5 The KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.811
Bartlett's Test of Sphericity	Approx. Chi-Square	1847.602
	df	351
	Sig.	.000

Before conducting the convergent and discrimination validity, the KMO's and Bartlett's test checks whether data is suitable for the factor analysis. The results of KMO's and Bartlett's tests are given below:

The significance value is less than 0.05, indicating that the data is suitable for the factor analysis.

4.2.   Convergent Validity

The table below represents the finding of the test conducted to test convergent validity.

Table 6 The test convergent validity

	CR	AVE
Future of Government Organization	0.8034	0.3151
Infrastructure	0.7354	0.3364
Training and Development	0.7642	0.3520
Integration	0.7811	0.3746

The value of CR is more significant than 0.70 for the study variables, indicating that the data collected is reliable. AVE measures the convergent validity of the data. The values of AVE for the future of government organization, infrastructure, training and development, and integration are below 0.50, confirming the convergent validity of the data

4.3. Discrimination Validity
The table below represents the finding of the test conducted to test discrimination validity.

Table 7 The test discrimination validity

	Future of Government Organization	Infrastructure	Training and Development	Integration
Future of Government Organization	0.10			
Infrastructure	0.44	0.11		
Training and Development	0.52	0.50	0.12	
Integration	0.53	0.40	0.48	0.14

The values in bold represent the value of discrimination validity. Those are obtained by taking the square of the AVE values. The discrimination validity is confirmed if these values are less than the correlation values. The discrimination validity values of four variables (future of government organization, infrastructure, training and development, and integration) are less than the correlation value, which confirms the discrimination validity of the data

4.4. Hypothesis Testing:
After the literature review analysis, the hypothesis constructed is given below:
Null Hypothesis: There is no influence of e-management capabilities (Infrastructure, training and development, and integration) on the future of the government organization.
Alternative Hypothesis: There is an influence of e-management capabilities (Infrastructure, training and development, and integration) on the future of the government organization.
For this purpose, correlation analysis and regression analysis were carried out. The results of correlation analysis are given below:

Table 8 The results of correlation analysis

Correlations					
		Future of Government Organization	Infrastructure	Training and Development	Integration
Future of Government Organization	Pearson Correlation	1	.435**	.519**	.534**
	Sig. (2-tailed)		.000	.000	.000
	N	320	320	320	320
Infrastructure	Pearson Correlation	.435**	1	.496**	.402**

	Sig. (2-tailed)	.000		.000	.000
	N	320	320	320	320
Training and Development	Pearson Correlation	.519**	.496**	1	.478**
	Sig. (2-tailed)	.000	.000		.000
	N	320	320	320	320
Integration	Pearson Correlation	.534**	.402**	.478**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	320	320	320	320
**. Correlation is significant at the 0.01 level (2-tailed).					

According to the above values, the correlation value between future government organization and infrastructure is 43.5%, indicating a weak and positive relationship between them. The correlation value between future government organization and training and development is 51.9%, showing a moderate and positive relationship. Similarly, a moderate while positive relationship exists between future government organization and integration because the value is 53.4%.After conducting the correlation analysis, the regression analysis will confirm whether the association between the dependent and independent variables is significant. The below table represents the results of regression analysis.

Table 9 The model summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.628a	.395	.389	.87299
a. Predictors: (Constant), Integration, Infrastructure, Training, and Development				

Table 10 The coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.329	.251		5.298	.000
	Infrastructure	.160	.051	.163	3.154	.002
	Training and Development	.263	.051	.278	5.160	.000
	Integration	.304	.046	.336	6.587	.000
a. Dependent Variable: Future of Government Organization						

According to the value of R-square, there is a 39.5% variation in the dependent variable due to the independent variable. In other words, this can be explained as 39.5% of the dependent variable is defined by the study's independent variables.Moreover, the acceptance of the alternative hypothesis is based on the p-value. The p-value of all three dependent variables is less than 0.05, providing enough evidence to conclude that the alternative hypothesis is accepted as the results support the alternative hypothesis, which states as there is an influence of e-management capabilities (Infrastructure, training and development, and integration) on the future of the government organization. The finding proved that e management capabilities are essential for the future of the government organization. They do impact the future of the government organization by bringing change to it. The key drivers of e management capabilities

that affect the future of the government organization are the infrastructure, training and development, and integration.

The results confirm the finding of previous research such as (Kumar et al., 2017; Omar, 2017) said that infrastructure capability of the management capabilities helps in improving the system that leads to improvement in information efficiency. Moreover, the infrastructure also allowed the user to access the data more simply. The second factor of e management capabilities, training, and development help enhance the services' effectiveness and efficiency and make them easier to use. These lead to a better decision-making process (Thornton et al., 2017; Azmi et al., 2018; Alam et al., 2019;). Moreover, the previous studies of (Douthwaite and Hoffecker, 2017; Jayakrishnan et al., 2018; Electric et al., 2019) also confirmed that integration capability of e management helps in increase the competitiveness of the government organization and increase the efficiency of the administrative by assisting them in determining the data and information.

5. Conclusion

The concepts and usage of e-management arose with the widespread use of IT in the mid-1990s. The spread of IT in all life facilities has led to the inevitable evolution of services provided by the government organization from the traditional way to the emergence of e-management. Yet, developing key drivers e-management capability model is important in the mid-twentieth century that focus on future government organization that enables immense of information to be compressed for organization performance. We need to ensure that all IT initiatives support organizational goals and embody benefits through organizational efficiency, innovation, and strategic outcomes. Key drivers of e-management capability that in-fluence future government organizations will impact organizational characteristics and outcomes. Therefore, this research ponders on developing a conceptual model on key drivers of e-management capability that influences future government organizations, which strategize the guidance on information efficiency, decision making, and performance and data aggregation for future government organizations. , which clearly recognises e-management factors as being of important when seeking to enhance

future government organizations in the UAE public sectors context.

6. Limitations and future research

The study did not examine links between e-management factors and country strategy. It would be interesting to examine the situation among countries which clearly recognises e-management factors as being of important when seeking to enhance future government organizations.

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