

The Shift Toward Electronic Administration in Government Institutions in Libya to Meet the Challenges of the Digital Age

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Abstract

One of the most important aspects in modern societies which was suffering from insufficiency in the traditional administration considered as E-administration or E-management. The e-administration is modern alternative that keep pace with recent developments which work to provide assistance to costumers in different sectors, meet their management demands and seeks to achieve their satisfaction in getting higher and easier capabilities to manage their life affairs. The orientation towards e-administration isn't a modern form of life we obtain to adopt it, but it is an urgent need to our societies and motive to that administrations to work on developing themselves and solve their management problems by avoiding the traditional style and orientation towards flexible and electronic style. E-administration plays main role in bringing different changes in the administrative work, which contributed to the development in a lot of administrative work stages and its methods and providing information through an appropriate time and at the lowest cost that is why it can improve performance and achieve better quality.

Keywords: E-management, governance institutions, ICT,Libya

Introduction

The application of electronic administration in government institutions in developing countries such Libya is still facing many difficulties and problems arising from the process of change, which prevent the use of the data of the technological age and its role in the development and construction pursued by these countries in all areas, thus creating a gap between the department of government and the use of modern technology.

So to meet the best use of the modren technology, it is time for the decision makers in Libya to start preparing the needs required for this use.

This research paper tries to explain innovations in expansion of E-government in Libya for making a point in which direction Libya is moving. The study aware that in the 21st century, many countries are providing services to their citizens using the Internet. The chief motive is that these services could be reached by majority of the populace whether they are living in rural or metropolitan regions. 179 out of 192 United Nations members accounted that they have developed tactics to execute E-government systems. In countries such as Libya, where the inhabitants are stretched over a huge physical region, the require to organize services by means of the internet is incredibly obvious. However, since the accomplishment of such deployment would be extremely costly, its success is incredibly significant to ensure continuous investment and improvements. This is predominantly significant in the circumstance of Libya, where E-government is a recently realized novelty. As a result, it is clear to learn aspects that might assist or weaken the recognition of E-government services in Libya. The most considerable matter for the accomplishment of E-government is the level to which the people accept these services.

The paper also reviews necessary stages and processes of E-government expansion in Libya:

- The first phase is the citizen-centric government initiatives; people can entrance government data online. This is the data distribution and data-sharing stage. The suggestion is to give instantaneous data to make out to the assurance of the community.
- The second stage is to set aside connections. In this step of improvement, there is various points of connections taking place among the government and the citizen. Lots of governments nowadays have accepted Access and Identity Management (IAM), systems to facilitate and smooth the progress of such communication.
- The final stage is the citizen-centric E-government ripeness. That is about attractive the contribution of the people in the dissimilar features of government supervisory in a practical fairly than an unfriendly manner. Supervisory is no longer the kingdom of a handful of officials or a small amount of people from politic. Supervisory is deeply predisposed by the society who can radiate their votes to contour the course of action that preside over their lives. At this point of improvement, government websites are topically or costumers-group leaning, tolerant by approaching about the elements they hand out. These sites distance manifold organizations and manifold stages of government, are additional instinctive to utilize, and attain crosswise compound directs impeccably.

The aim of this research is to analyse the drivers and barriers impacting on e-administration implementation in government institutions in Libya to cope with the requirement of the digital age. The main objectives of this research that arise as a result of the above aim are:

1. The reason for the shift toward electronic administration in Libya.
2. The areas of application of the electronic administration in government institutions.
3. Requirements for the application of the electronic administration in government institutions.
4. Obstacles that limit the application of the electronic administration in government institutions.
5. The skills required in the administrative body of electronic administration in government institutions.
6. Training needs for human component in the electronic administration.
7. Evaluation of the ICT gap in Libya

This paper follows the descriptive method and analytical method through the description of the current reality of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions as well as the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya.

The researcher followed the descriptive analytical approach and the field study method being the most corresponding to the current study.

In order to achieve the research objectives, a research methodology that allows for the collection of secondary data through a literature review adopted, and for primary data to be gathered during a fieldwork exercise. The overall approach is of a single case study focusing on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya, chosen because case studies allow for rich data to be collected about the issue under investigation. The descriptive and deductive methods applied and also the methods of the questionnaire and SPSS statistical methods implemented.

The study society is represented in the most important government institutions in Libya.

The entries of the sample are represented in about 300 respondents from the personnel in the mentioned administrations.

The survey consists of two types of questions:

1. The demographic characteristic which is represented by four questions regarding to gender, age, occupation level and number of years of experience
2. The questions about the impact of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions as well as the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya.

The questionnaire contains following parts:

- Part I includes General Information about the participants and gives data about their gender, age, occupation and the number of years they have worked in the given field meaning their experience.
- Part II is comprised of the questionnaire questions related to the level of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions in Libya.
- Part III is comprised of the questionnaire questions related to the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya.
- Part IV is comprised of the questionnaire questions related to the impact of the level of ICT development on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya .

This study questionnaire has been addressed to the employees in the Libyan government institutions for the purpose of defining the role of the application of the electronic administration and e-management implementation to meet the challenges of the Digital Age in Libya .

The sample is selected as the following Table No 1:

	Number of questioners	Percentage
All questioners	350	100%
Collected questioners	300	85%
Questioners not suitable for analysis	6	1%
Analyzed questioners	294	84%

To test the relation between the gender and the opinion of the respondents, the **Chi-Square is used as following:**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.223 ^a	3	.527
Likelihood Ratio	2.190	3	.534
Linear-by-Linear Association	1.814	1	.178
N of Valid Cases	294		

Table No 2 : **Chi-Square Test**

A. 2 cells (25.0%) have expected count less than 5. The minimum expected count is .87.

To test the relation between the age and the opinion of the respondents, the **Chi-Square is used as following:**

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.784 ^a	9	.027
Likelihood Ratio	14.881	9	.094
Linear-by-Linear Association	.548	1	.459
N of Valid Cases	294		

Table No 3: Chi-Square Tests

A. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .39.

Representing the results of the validation of study hypotheses

Main hypothesis:

There is a statistically significant impact of the level of the ICT development on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya .

Sub- hypotheses:

The first hypothesis:

There is a rise in the level of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions in Libya.

The second hypothesis:

There is an increase in the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya.

Table No 4 : Testing Sub-hypothesis 1

There is a rise in the level of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions in Libya.

Statement		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I don't know
Improve productivity and increase capacity of government.	Frequencies	59	227	8			
	Percentage %	33	64	3			
Reduce the overall costs of the organization and efficiency gains.	Frequencies	82	196		16		
	Percentage %	62	31		7		
Improve of quality of decision and policy making.	Frequencies	45	214	19	16		
	Percentage %	20	62	11	7		
Improve collaboration among different departments.	Frequencies	119	175				
	Percentage %	47	53				
Improve quality of services delivery to business and	Frequencies	102	156	21	10		5
	Percentage %	32	45	11	7		5

customers.							
Reduce human performance errors.	Frequencies	66	174	24	30		
	Percentage %	29	53	7	11		
Reduce data collection, processing and storage.	Frequencies	97	147	22	18		10
	Percentage %	26	50	14	7		3
Improve the organization's business process.	Frequencies	174	78	22	20		
	Percentage %	34	31	7	28		
Network and community cohesion.	Frequencies	14	18	21	154	87	
	Percentage %	3	14	19	38	26	
Promote the use of ICT in other sectors of the society.	Frequencies		8	26	125	129	6
	Percentage %		7	21	36	33	3
Provide protection, security and confidentiality of information.	Frequencies	17	234	14	12	12	5
	Percentage %	12	69	7	4	5	3

The decision: In this test, we explore the level of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions in Libya
After all calculations and statistical analysis on the sample under the study and extracting results from it can be concluded that there is an increase in the level of the ICT development which will benefit the modernization and improving the business performance to increase the possibility of future success of the government institutions in Libya. This proves that the sub-hypothesis 1 is valid and true.

Table No 5: Testing Sub-hypothesis 2

There is an increase in the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya

Statement		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I don't know
The weakness of some managers in the feasibility of applying electronic administration.	Frequencies	6	175	7	96	8	2
	Percentage %	4	43	7	38	5	3
Weak preparation and training of staff to use electronic techniques.	Frequencies	90	181		12	2	9
	Percentage %	28	54		10	3	5
Decreased confidence of the administration in its ability to use electronic management applications.	Frequencies	72	191	14	12		5
	Percentage %	14	71	7	5		3
Weakness some employees recognize the idea of e-administration for fear of losing their jobs.	Frequencies	63	188	14	17		12
	Percentage %	15	66	7	9		3
Lack of sufficient knowledge of electronic management techniques.	Frequencies	100	153		14	24	3
	Percentage %	38	40		5	15	2
Shortage of staff specialized in the operation and maintenance of computers.	Frequencies	94	165	19	16		
	Percentage %	24	54	12	10		
Some employees fear responsibility in the event of an electronic device malfunctioning.	Frequencies	79	158	19	19	10	9
	Percentage %	27	49	9	9	3	3
Implementing e-administration	Frequencies	124	147	5	15	3	

requires a higher level of knowledge among the employees.	Percentage %	33	48	4	14	1	
Complexity in understanding the processes and systems among the employees.	Frequencies	109	167	5	8	5	
	Percentage %	34	47	3	13	3	
Disagreement of some departments to change and poor connectivity between the departments of institutions.	Frequencies	89	182	16	4		3
	Percentage %	35	59	4	1		1
Absence of law and regulations for the application of e-administration	Frequencies	14	17	124	136		19
	Percentage %	3	3	37	52		5

The decision: in this test, we explore the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya

After all calculations and statistical analysis on the sample under the study and extracting results from it can be concluded that there is a rise in the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya. This proves that the sub-hypothesis 2 is valid and true.

Table No 6 : Testing main hypothesis

There is a statistically significant impact of the level of the ICT development on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya .

Statement		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I don't know
The main of technical constraints for e-management implementation in government institutions is speed of change in information technology and the difficulty of compatibility.	Frequencies	107	158	12	8	9	
	Percentage %	22	48	14	4	12	
Poor infrastructure required to implement e-management.	Frequencies	95	186	3	1		9
	Percentage %	22	62	5	2		9
The weakness of the programs of protection of data and information.	Frequencies	59	183	16	19		17
	Percentage %	15	57	5	16		7
The weakness of the telecommunication service in the institution.	Frequencies	65	169	27	31		2
	Percentage %	19	50	12	18		1
Lack of accurate and integrated databases.	Frequencies	144	134		16		
	Percentage %	47	43		10		
Insufficient computer hardware available in the government institutions.	Frequencies	103	153	15	15	4	4
	Percentage %	28	48	9	9	3	3
The weakness of the follow-up and development of the software applied.	Frequencies	104	186	4			
	Percentage %	35	62	3			
The indicative of a lack of evidence described the mechanisms for the application of electronic administration.	Frequencies	130	124	14	18	8	
	Percentage %	35	34	10	14	7	
Unstable power supply.	Frequencies	103	175	16			
	Percentage %	33	60	7			
The scarcity of the existence of a backup system when a fault happened.	Frequencies	8	18	107	145	10	6
	Percentage %	7	17	22	35	14	5
Easy penetration of the Internet.	Frequencies	3	12	99	175	3	2
	Percentage %	4	11	36	43	4	2

The decision: in this test, we explore the impact of the level of the ICT development on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya .

After all calculations and statistical analysis on the sample under the study and extracting results from it can be concluded that there is a statistically significant impact of the level of the ICT development on the level of the application of the electronic administration and e-management implementation in government institutions to meet the challenges of the Digital Age in Libya. This proves that the main hypothesis is valid and true.

Results

The paper presents citizen's satisfaction with this service and can help Libyan authorities to use superiority criterion to judge their service deliverance method, observe and institute original associations that could come out as hypothetical input. Moreover, this research explores difficulties that may be expected throughout E-government development efforts and presents alternatives for overcoming them.

With this research it is meant to make available facts, terms, and requirements for establishing E-government in Libya in order to present the best solution for the work that has to be done to develop E-government. This work was motivated by an ambition to influence E-government teaching, previously organized in the developing world, to make the most of the possibility for success. Here is as well presented the way how government should influence a change of the system inside its organizations as instrumental of transparency and information substitute what would help to improve deliverance of government services to populace, superior government connections with production and commerce, civilian empowerment throughout admittance to information and contribution in managerial and well-organized government executive.

Conclusions

Government at all levels face a major challenge in attempting to turn the ownership structure of the large companies in order to open them to the market for attracting investors, but also not to lose profits which had so far. It has to wage between social costs and benefits into practical implications for project choice.

The importance of this research lies in the following points:

The importance of this paper, above all, laying in recognizing the elements and processes which would help authorities understand the key issues influencing people's needs as well as their approval with the services provided and also using the quality criteria to grade government's service delivery process. Furthermore, the importance in offering facts, terms, and requirements for establishment of E-government in Libya, to indicate the best solution for the emerging issues and actions to be taken to develop E-government and further bring benefit to the society.

Recommendations

- Among the processes taking place in the majority of the modern world, Libya has to shift from the traditional ways of communication and service deliverance by the governments towards electronic ways of communication.
- The presented contemporary knowledge is supposed to be used in a mode favorable for the regime and general public.
- As an alternative of spotlighting on the practical manner of the E-government, the focus is supposed to be on forming a framework that can efficiently respond to citizens' needs.
- E-government has to keep up with transforms in the inner and outdoor environments to advance citizens' awareness by providing them with computers and internet courses and facilitating them to compact with the E-government services.
- The governments should parallel work on reducing if not entirely eliminating the obstacles preventing them to accomplish the goal of establishing efficient E-governments. These obstacles are many, ranging from political and communal to economic and technological.

References

1. Hélène Michel, "e-Administration, e-Government, e-Governance and the Learning City: A typology of Citizenship management using ICTs." *Electronic Journal of e-Government* Volume 3 Issue 4 2005 (213-218).
2. Hafkin, N. and N. Taggart, "Gender, Information Technology, and Developing Countries: An Analytic Study", *Academy for Educational Development for the United States Agency for International Development*, (2001)
3. Almaghrebi, A., "Requirements of applying e- Administration service delivery, trends towards workers: an empirical study on the Damietta port. A paper introduced to The twentieth annual scientific conference, the service industry in the Arab future vision", *Mansoura University*; (20 – 22 2004 April).
4. Mellivell, L, "British University E- Management in Hong Kong Setting. *Higher Education in Hong Kong*", 6(2), 32 – 77(2007)
5. Abdalnaser, M & Quraishi, "The contribution of e-governance in the development of the administrative work of higher education institutions: A case study of Faculty of science and technology, University of-BiskraAlgeria. *Elbahith Review, Kasdi Merbah University of Ouargla*" – Algeria, 9, 87 –100(2011)

6. Alhasanat, S, "Obstacles of Applying Electronic Management in the Palestinian Universities", Master Thesis (Unpublished), Arabic studies and Research Institute, (2011)
7. Jackson, H., "Perceived Technological Processes in Texas Technical University. Higher Education", 9(11), 292 – 329 (2006)
8. Nkohkwo, Q. N. & Islam, M. S., "Challenges to the Successful Implementation of e-Government Initiatives in Sub-Saharan Africa: A Literature Review". *Electronic Journal of e-Government*, 11(2): 253-267(2013)
9. DeLone, W & Ephraim R., "Information Systems Success: The Quest for the Dependent Variable." *Information Systems Research*, 3(1), 60-95(1992)
10. Song, H. J., "e-Government in Developing Countries: Lessons Learned from Republic of Korea", United Nations Educational, Scientific and Cultural Organisation (UNESCO), (2006)
11. Schwester, R. "Examining the Barriers to e-Government Adoption", *Electronic Journal of e-Government*, 7: 113-122.(2009)
12. Ana Martinez, Antonio Esparcia, "E-Administration: Communication Technology at the Service of Citizens", University de Malaga
13. Huthaifa Ali Ellatif, Sammani Ahmed, "E-Management: Configuration, Functions and Role in Improving Performance of Arab Institutions and Organization", *International Journal of Computer Applications (0975 – 8887) Volume 80 – No.6, October 2013.*
14. Katarina Nygren, "e-Governmentality: On Electronic Administration in Local Government", January 2009, <http://www.ejeg.com/issue/download.html?idArticle=179>
15. "Libya – Telecoms, Mobile and Broadband," Budde.com, accessed August 21, 2013, <http://www.budde.com.au/Research/Libya-Telecoms-Mobile-and-Broadband.html>.
16. "Libya," OpenNet Initiative, August 6, 2009, <http://opennet.net/research/profiles/libya>.
17. "Libya – Telecoms, Mobile and Broadband," Budde.com, accessed August 21, 2013, <http://www.budde.com.au/Research/Libya-Telecoms-Mobile-and-Broadband.html>.
18. "Percentage of individuals using the Internet," International Telecommunications Union, 2012, accessed August 19, 2013, <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.
19. Tom Westcott, "Improving Libya's Internet Access," *Business Eye*, February 2013, pp. 18, available at <http://www.libyaherald.com/business-eye-issue-1-february-2013-2/>.
20. "Fixed (wired-) broadband subscriptions," International Telecommunications Union, 2012, accessed August 19, 2013, <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.
21. "Mobile-cellular subscriptions" International Telecommunications Union, 2011. Available at <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>.
22. "Libyana Introduces 3G Services for First Time in Libya," *The Tripoli Post*, September 26, 2006, <http://www.tripolipost.com/articledetail.asp?c=2&i=311>.
23. "Libya – Telecoms, Mobile and Broadband," Budde.com, accessed August 21, 2013, <http://www.budde.com.au/Research/Libya-Telecoms-Mobile-and-Broadband.html>.
24. "The Activation of The New Upgraded Submarine Cable System between Libya and Italy," *The Tripoli Post*, December 25, 2011, <http://www.tripolipost.com/articledetail.asp?c=11&i=7562>.
25. "ZTE suggest Libya will boast nationwide WiMAX network by Aug-13," *TeleGeography*, January 24, 2013, <http://www.telegeography.com/products/commsupdate/articles/2013/01/24/zte-suggests-libya-will-boast-nationwide-wimax-network-by-aug-13/>.
26. "Italian Company to Install Fiber-Optic Network," *Libya Business News*, September 29, 2012, <http://bit.ly/RbnhMm>.
27. Tom Westcott, "Improving Libya's Internet Access," *Business Eye*, February 2013, pp. 18, available at <http://www.libyaherald.com/business-eye-issue-1-february-2013-2/>.
28. "Literacy rate, adult total (% of people ages 15 and above)," *The World Bank*, accessed August 21, 2013, <http://data.worldbank.org/indicator/SE.ADT.LITR.ZS/countries>.
29. Interview with ex-Libyana IT engineer on March 2013.
30. "Project Cyber Dawn v1.0, Libya," *The Cyber Security Forum Initiative*, April 17, 2011, p.20, http://www.unveillance.com/wpcontent/uploads/2011/05/Project_Cyber_Dawn_Public.pdf
31. "Internet service back in each of the following areas," [in Arabic] *Libya Telecom & Technology*, <http://www.ltt.ly/news/d.php?i=200>, accessed July 23, 2013.
32. "Internet service outages and Libya iPhone spare result in optical fiber," [in Arabic] *Libya Telecom & Technology*, <http://www.ltt.ly/news/d.php?i=203>, accessed July 23, 2013.