

Mechanisms in Utilizing Electronic Management at Al Ain University of Science and Technology

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Abstract

This study aims at exploring some potential techniques for applying the Electronic Management in the college of Education, Humanities and Social Sciences at Al Ain University of Science and Technology. To achieve the objective of the study the researchers, based on previous related studies, developed and used a questionnaire, which they believe, has the necessary elements to sufficiently elicit the subjects' responses. All Academic staff (30) teaching in the Education College in the academic year 2013-2014 formed the subjects of the study. The results indicated that in order to exploit the benefits of Electronic Management, all stakeholders must address certain issues in system design, system implementation, and organizational support.

Key words: Management, training, technology, electronic devices, knowledge

Introduction

In this period of globalization, interconnection of the world for the advertising of items and administrations has changed drastically. To help them contend successfully in their current or new commercial centers, most organizations are dealing with e-business activities (Seresh, Fayyazi, & Asl, 2008). In this third millennium era, learning and data innovation are the most noticeable viewpoints by the researchers. The expressions "knowledge is power" and "content is king" are frequently said as a part of reference to business led on the Internet. In the education arena, instructive frameworks around the globe particularly in created and creating nations have expanded weight to show students the learning and abilities required for the future information and communication technologies (ICT). Towards ICT coordination in colleges, a substantial number of instructive activities and exploration have been coordinated since 1990s. The advancement of innovation framework in advanced education foundations has gotten to be noticeable with the generation and mixture there of refined ICT-based apparatuses for direction and learning. A lot of exploration has demonstrated that the utilization of ICT in instruction can build students 'inspiration and extend understanding, advance dynamic, synergistic and long lasting learning, offer shared working assets and better access to information, and help them to think and communicate inventively (Kim & Reeves, 2007).

Moreover, information can be recorded as an asset for creating value-added products and services. The movement of social orders towards an information-based society has affected various parts of human life, for example, financial, social and social perspectives (Clay Dibrell & Miller, 2002). It is considered that powerful forces are reshaping the educational world and are calling for fundamental changes in organizational processes.

Globalization, higher degree of complexity, new technology, increasing competition, changing client demands and changing economical and political structures are the prime forces of change (Mårtensson, 2000). This test has constrained business administrators to perceive that they should move in an auspicious way to actualize a successful e-business procedure as a work drive that upgrades consumer loyalty while enhancing endeavour productivity and viability (Oppong, Yen, and Merhout, 2005). Through the use of information innovation, it can give an aggressive edge, build client benefit and make an adaptable creation environment (Ofelia et al., 2009; Seresht et al., 2008). In parallel, the electronic application framework has been practice all through the world, incorporating into the college.

For the most part, E-management is an expansive name for a few e-business modules. These business modules incorporate instruments for straightforward data trade and on-line coordinated effort between various players in the production network. E-management alludes to the behind-the-scene information frameworks that backing the management including information and data administration, keeping up electronic records and utilizing electronic apparatuses to convey and cooperate to guarantee the achievement of a business through the capacity to convey the level of administration, accessibility, security and execution required (Gonthier & Aigrain, 2006). Then again, Electronic administration or E-Management is a sorted out element that can be characterized as a standout amongst the most encouraging worldview change in the administration framework. Four fundamental procedures which incorporate the objective setting process (mission, technique, arranging, planning, and so forth.), the authoritative procedure (structure and coordination systems), the control procedure (vital control, inspecting, controlling, and so forth.), and the group administration process (HR administration, post and chain of importance definition, inward interchanges, and so on.) are the four principle forms.

This centre inborn procedures characterize the inner way of associations. Likewise, three extraneous procedures are upheld by a hidden data framework incorporated the customer connection prepare, the supplier-connection process, and the accomplice connection process supplement the inward procedures and position the associations in their surroundings. In this way, E-administration alludes to the utilization of electronic information taking care of (EDH) for the data framework supporting the four centre interior procedures of administration. Nevertheless, EDH frameworks and applications have a place with the more extensive group of Information and Communication Technologies (ICT). At the point when brought into management, ICT frameworks and applications carry with most likely new efficiencies into associations. ICT-based management – e-management, additionally raises new issues, as in it adjusts the administrative and correspondence forms. Each one of these procedures is upheld by a basic data framework.

Fundamentally, the term "ICT" is referred reciprocally to the Internet in which ICT is really a shorthand for the PCs, programming, systems, satellite connections and related frameworks that permit individuals to get to, dissect, make, trade and utilize information, data, and learning though the Internet, with mixed media instruments for data, correspondence, information and learning administration to augment the scope of human capacities together with its applications (the most well-known being world-wide web) can be characterized as a base that unites individuals, in better places and time zones, (Chaffey, 2007; Kalika, 2006).

Obstacles of application of E-management and mechanism to overcome it

The e-management application in a university setting may include e learning, e-library, and other learning process material with the usage of IT. For instance, in Europe, the use of a unified term of e-learning was agreed among the instructors, in which the application of new multimedia technologies was fundamentally comprehended by enhancing access to resources, services, the exchange of information and cooperation to improve the usage of e-learning, (Seresht et al., 2008; Šimonová, 2011). Consequently, the institutional community must give clients including the students and staff with high limit of Internet. The underlying center of what might turn into the Internet was the system that was planned by the defense ministry of America to help educating in the military and top-secret ventures. The system was connected to some different systems while proceeding with its work and considering its high proficiency, the researchers and examination foundations were soon pulled in to that. The simple system was relinquished by the American government however; this created type of system is presently transmitting so much different and extended information everywhere throughout the world to a large number of clients. Also, over the most recent decade, the IT upset has acquired headway that shows progressively noticeable impacts on the instruction (SHarahi, Ahmadi, Goodarzi, Beigi, and Joukar, 2014). Without an internet-friendly environment, electronic management will be hard to the essential clients, for example, staff, teacher and students.

For instance, in a library, the way toward seeking books in a rack must be troublesome if the Internet constantly disengaged. The students need to look for books manually in which will devour his or her time. As a result, the students will be languid to visit library and obtaining books.

Each university has diverse framework and obviously has distinctive engineer. Absence of mastery from the web designer, restricted and ungraceful advancement of information technology (IT) causes the e-management application in the university get to be wasteful. Along these lines, to defeat the issue, the institutions may utilize their own particular graduated students to satisfy the opportunity in their IT authoritative management. The advantage of students to wind up workers in their own particular colleges' association is that they will feel have a place with the hierarchical group. Plus, it will build the natural qualities which can be characterized by and large as accomplishing something or action for its fulfillments purposes as opposed to for some divisible outcome. For example, when a man is inherently spurred, he or she has a tendency to carry out the occupation for the fun or test involved as opposed to in view of external prods, pressures, or rewards (Deci, Vallerand, Pelletier, and Ryan, 1991; Nicholls, 1984). It has been found that within experimental investigations of animal behaviour in examination to ponder the marvel of characteristic inspiration that numerous living beings participate in exploratory, lively, and interest driven practices even without support or reward has demonstrated an urgent sign for the instructor. Besides, natural inspiration results in top notch learning and imagination, it is particularly critical to detail the components and powers that induce versus undermine it. (Deci et al., 1991). Thus, the student will attempt to improve or grow new framework in light of his or her experience as a student in a specific institution.

Another essential instrument to elevate e-management is to bring issues to light about its effects; our training framework still uses paper as opposed to utilizing paperless framework. For illustrations, speaker still uses conventional methods for educating by utilizing printed notes. From research finding, in spite of the fact that educators show awesome enthusiasm for and inspiration to find out about ICT, their utilization of ICT apparatuses is constrained and concentrates on a slender scope of uses, basically for individual purposes. A large portion of them keep on using PCs for low-level supplemental undertakings, for example, word preparing (lesson arranges, worksheets, evaluation tests, enlistment of evaluations, and so on.) or getting data from the Internet (Becker, 2001; Jimoyiannis and Komis, 2007). Advancement of IT in the fingertips, henceforth why not we utilize electronic gadget so we can create paperless framework? To expand the level of awareness, we can likewise relate the electronic management with the rise of cell phone among the clients. For the most part, a cell phone is a kind of cellular telephone that offers more propelled processing capacity and availability than an essential current cellular telephone. Additionally, it is another type of versatile Internet gadget that consolidates the conventional components of a telephone and a Personal Digital Assistant (PDA). The basic part of the two definitions is that a cell phone is an incorporated gadget with cellular phone innovation and the capacity to get to the Internet. The cell phone initially accomplished both the usefulness of a customary telephone and innovation of a PC. Not at all like conventional telephones, which are delivered as completed merchandise, has a cell phone empowered clients to introduce, include, and erase several applications. Through different applications, clients can likewise customize the interface. Thus, on the grounds that cell phones permit free access to the Internet regardless of time and area, clients of cell phones are entering a time of pervasive data.

Therefore, students may utilize cell phones as a medium in learning process however to guarantee that the thought is practical; teacher must have attention to utilize 100% the utilization of E-learning. All speakers must will to go to a course with a specific end goal to build up the e-management environment through e-learning. By e-learning medium, instructor can transfer their notes for the entire semester and the understudy can download the notes through their cell phones and convey along to the class when the session begin. Furthermore, this framework must be versatile benevolent so that the system of use of electronic administration in the colleges can be practical and solid.

Also, having an instructional class to an instructor on the best way to use ICT into their showing technique can expand the level of mindfulness. Absence of sufficient preparing and experience is viewed as one of the principle reasons why educators have negative dispositions toward computers and don't utilize technologies in their teaching activities (Kumar and Kumar, 2003). A series of independent studies show that both educators' personal speculations and discernments about instructing and learning forms and their level of capability with ICT assume a noteworthy part by the way they execute ICT and how they spur themselves to utilize ICT devices in the classroom.

These studies bolster an exploration finding in which assert that numerous lecturers have inspirational states of mind toward technologies yet they do not see themselves as qualified to viably integrate ICT into their teaching (Jimoyiannis and Komis, 2007; Ropp, 1999).

Research Problem

Because of the endless hazardous development of electronic records, we live in an electronic culture in the UAE and for all intents and purposes by far most of day by day exchanges and records are electronic in numerous fields. In any case, we feel that numerous impediments prevent applying electronic administration at Al Ain University and distinctive procedures ought to be investigated to guarantee the powerful use of electronic administration in the University. Henceforth the problem of this research is to investigate diverse strategies and systems that are relied upon to advance electronic administration at the college.

Significance of the Study

The significance of the study comes from three sources. Firstly, it dealt with the mechanisms for utilization of information and communication technology for development of managerial functions at Al Ain University. Secondly, it is expected to add new knowledge and to contribute to the progress and development of managerial functions in institutions. Thirdly, it explored some techniques to overcome the identified obstacles and proposed potential mechanisms for solutions.

Limitation of the study

1. The study was limited to the academic staff teaching in the College of Education, Humanities and Social Sciences in Ain University. Therefore, the findings of this study cannot be generalized to other faculty who teach other subjects or different programs.
2. The generalization of the results was based on the reliability and validity of the instrument that the researchers have developed and adopted.
3. The study was limited to the academic year 2013/2014.

Operational Definitions of Terms

The following terms are used in this dissertation and need some clarification.

Electronic Management: The utilization of information and communication technology in the administrative process at Al Ain University including planning, organization, implementation, oversight and monitoring and evaluation.

Mechanisms: These refer to the requirements, procedures and methods to implement the electronic management at the university.

Academic staff: are the individuals who were recruited to teach in the college of Education, Humanities and social sciences, and who hold doctoral degrees in their specialties including Professor, Associate Professor, and Assistant Professor Ranks.

Methodology

Questions of the Study

The purpose of this study was to explore some techniques for applying electronic management in Al Ain University of Science and Technology as perceived by faculty members' of the college of Education, Humanities, Social Sciences. The following are the specific questions of the study:

1. What are the techniques that promote the utilization of electronic management in the college of education in Al Ain University of Science and Technology as perceived by the faculty members?
2. Is there any significant difference $\alpha = 0.05$ among the faculty members' responses on the techniques that promote the utilization of electronic management due to their academic rank, gender, teaching experience and number of technology –based workshops attended?

Subjects of the Study

The subjects of the study comprised of 23 male and 7 female faculty members who were teaching at the college of education in Al Ain University in the 2014-2015 academic year.

Sample of the Study

Due to their availability and the insufficient number of faculty members in the education college, the entire population was the sample of the study. Table 1 shows the frequencies and the percentages of the subjects of the study.

Table 1: Frequencies and percentages of the subjects according to the study variables

Variables		Frequency	Percent
Gender	Male	23	76.7
	Female	7	23.3
Experience	10 years or less	12	40.0
	11years and more	18	60.0
Academic Rank	Associate Prof	8	26.7
	Assistant Prof.	13	43.3
	Lecturer professor	9	30.0
Technology-Related Workshops Attended	3 or less	13	43.3
	4 and higher	17	56.7
	Total	30	100.0

Instruments of the Study

Based on the literature reviewed and assisted by some faculty members at the college of Education, the researchers constructed a fifteen-item questionnaire and used it to collect data from the subjects of the study.

Validity and Reliability of the Questionnaire

In order to ensure the validity of the instrument, the questionnaire was given to a panel of faculty members for their feedback on the statements. Based on the responses, the questionnaire was modified resulted in its final form.

The reliability of the questionnaire was measured by using Cronbach Alpha coefficient. The questionnaire was applied on a sample from the population equivalent to the participants of the study; Cronbach Alpha coefficient was calculated and found to be 0.81.

Procedures of the Study

The researchers distributed the questionnaire in person along with instructions and the importance of the study on the intended population. Twenty-Eight filled questionnaires were received while one faculty member was absent. In order to analyze the subjects' responses, descriptive and referential analyses were conducted. The nonparametric Mann Whitney Test was also employed in order to examine the significance of the different variables on the subjects' responses.

Measuring responses

The questionnaire adopted a five-point Likert scale ranging from 5= Strongly Agree to 1= Strongly Disagree. In order to determine the level of the subjects' agreement, each scale was given a gradual ranged value as indicated in table.

Table (2): Mean Range of Scale Rating

Scale	Mean range
Strongly Disagree	1.0- 1.49
Disagree	1.50 – 2.49
Neutral	2.50- 3.49
Agree	3.50 -4.49
Strongly Agree	4.50- 5.0

Results:

The results are presented in the section below in accordance with the questions of the study

Question One: *What are the techniques that promote the utilization of electronic management in the college of education in Al Ain University of Science and Technology as perceived by the Staff members?*

In order to answer the first question, the means and the standard deviations of the items in the mechanics were computed; table 7 illustrates the results.

Table 3: Averages and standard deviations of the items in descending order

Rank	Item #	Item	Mean	Std. Deviation
1	3	Building a unified, comprehensive, and accurate university database.	1.73	.980
1	4	Developing a solid strategy for cooperation and coordination among the university departments	1.73	.868
3	2	Training for the administrative and academic staffs to utilize efficiently the Electronic Management	1.70	1.022
3	15	Promoting the values of Electronic Management and taking actions against individuals who resist the implementation of the electronic management.	1.70	.750
5	7	Providing all essential resources including human, technological ones and the required software for implementing the Electronic Management.	1.63	.890
5	13	Designing Intranet technology to meet the needs of employees at the university	1.63	.765
7	6	Employing information protection techniques (firewall, data encryption, electronic signature)	1.62	.677
8	5	Utilizing different forms of electronic communication such as electronic mail, voice mail and video conferencing	1.60	.724
8	12	Securing constant training for the staff and students	1.60	.770
10	14	Exchanging programs, training and initiatives with nearby universities	1.57	.774
11	11	Forming a working group comprising specialists in membership management to identify the various alternatives, and make senior management aware of all the financial, technical and human aspects	1.53	.730
12	10	Allocating a budget to promote the implementation of electronic management in the university	1.50	.820
13	1	University administrative support for the implementation of Electronic Management.	1.47	.900
13	9	Eliminating bureaucracy and crippling routines in handling electronic documents at the university.	1.47	.681
15	8	Coping up with the rapid advancements in hi-tech software and electronic programs.	1.37	.809
		Total	1.59	.484

Table 3 shows that the means ranged between 1.73 and 1.37 and those items 3 and 4 are ranked first with the highest means while item 8 came in the last rank with the lowest average. However, the overall mean of the Mechanics category was 1.61 and the standard deviation 0.484.

Question Two: *Is there any significant difference $\alpha = 0.05$ among the faculty members' responses on the techniques that promote the utilization of electronic management due to their academic rank, gender, teaching experience and number of technology –based workshops attended?*

In order to answer question two of the study, the means and the standard deviations were calculated in order to examine the effect of the variables of the study on the mechanisms to overcome the barriers. While Kruskal-Wallis Test was used to investigate the effect two of the academic rank on the responses, the Mann-Whitney Test was utilized to examine the effect of the gender, teaching experience and number of technology based workshops on the responses. Tables 4 to 7 illustrate the results.

Table 4: Kruskal-Wallis Test Results-Significance of the Respondents 'Academic Rank

Academic Rank	N	Mean Rank	Chi-Square	df	Asymp. Sig.
Associate Prof	8	14.50	.478	2	.787
Assistant Prof.	13	14.96			
Lecturer professor	9	17.17			
Total	30				

Table 4 demonstrates that there is no statistically significant difference in the subjects' responses $\square\square\square\square$ due to their academic rank.

Table 5: Mann-Whitney Test result of the Significance of the Subject Gender

GENDER	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
Male	23	16.33	375.50	61.500	-.935	.350
Female	7	12.79	89.50			
Total	30					

Table 5 shows that there is no statistically significant difference in the subjects' responses □□□□ due to their gender.

Table 6: Mann-Whitney Test result of the Significance of the Subject Year of experience

experience	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
10 yrs or less	12	15.58	187.00	107.000	-.042	.966
11 yrs and more	18	15.44	278.00			
Total	30					

Table 6 shows that there is no statistically significant difference in the subjects' responses □□□□ due to their experience

Table 7: Mann-Whitney Test result of the Significance of the Subjects' number of technology-related workshops attended.

Technology-Related Workshops Attended	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
3 or less	13	15.27	198.50	107.500	-.126	.900
4 and higher	17	15.68	266.50			
Total	30					

Table 7 reveals that there is no statistically significant difference in the subjects' responses □□□□ due to the subjects' number of technology-related workshops attended.

Discussion and Recommendations

Harnessing information technology to manage documents and daily transactions is one of the most important challenges facing universities and other higher education institutions. It is important because most of the valuable information in these organizations is in the form of documents such as business forms, student's scores, announcements, reports, letters, memos, policy statements, contracts, agreements, etc. Moreover, most of the important business processes in organizations are based on, or driven by, document flows. Electronic Management (EM) promises major productivity and performance increases by applying new technologies to documents and document processing. However, in order to best utilize the electronic management processes, certain mechanisms must be in place to overcome the current obstacles. This paper argues that EM will be in a position to lead this evolution as major change agents; but some specific actions will be needed to assume this leadership role. The purposes of this paper are to illustrate the variety of ways this value can be realized, to explore effective techniques to implement electronic management from the faculty members of the faculty of education, sciences and humanities at Al Ain University of Sciences and Technology.

Bearing in mind the importance of electronic management, it is important to consider what techniques and possible mechanisms would enhance it. The current study confirmed the importance of "Building a unified, comprehensive and accurate university database" and "Developing a solid strategy for cooperation and coordination among the university departments." This is justified in that because the early applications are springing up in diverse areas, there is a danger that they will evolve separately although they benefit from being integrated. Therefore, planning will be important to build an integrated document technology infrastructure. In this process, several departments or organizational units will need to work together, even though they have different history, background, and perspectives. Electronic management requires entire educational organizations to adapt to new methods of working if such e-environment is to be successfully created, managed and preserved for the long term. This requires constant effective training for all staff although number of technology training session variable was insignificant in the current study; one possible interpretation for this is the facts that many faculty members are self trained and have not enrolled in commercial training.

Training, whether self, organized by universities or commercial, is however required to ensure that all stakeholders contribute to the ongoing provision of authentic records throughout the record life-cycle. To succeed in this, as noted by some respondents' written remarks, training must aim to raise awareness of the issues, communicate the incentives for compliance, and educate the required personnel on the relevant technology issues and best practices for their areas of responsibility. Another outstanding finding of the current study is related to the role and the need of the management support for successful implementation of electronic management. The results showed that the subjects rated techniques that the management adopted or should adopt in the lowest scale; this means that the management is committed to promote different technologies to advance the quality of administration at the university.

However, the researchers would emphasize that successful exploitation of the benefits of electronic management requires managers to address specific issues in system design, system implementation, and organizational support. However, electronic management is the responsibility of all individuals within an institution... it is not easy to implement. Another outstanding finding of the current study is the insignificance of the subjects' gender, experience, academic rank, and technology-based training in their responses. This can be attributed to the homogeneity of the sample of the study; they all work for the same university at the same faculty. To conclude, knowledge management efficiently is the most important asset to a university. The ability to adeptly manage the diverse types of information used by both academics and non-academics, in particular decision makers, is crucial for the sustainable improvement in the performance of the university as a whole. A variety of computer-based techniques for managing daily transactions has been developed and will continue to be developed to supplement innate human knowledge management skills

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