RESISTANCE TO CHANGE: E-LEARNING INITIATIVE AT THE HASHEMITE UNIVERSITY IN JORDAN

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Abstract

The purpose of the current study is to determine the degree to which faculty members at the Hashemite University in Jordan are resistant to the undergoing use of e-learning initiative as a paradigm shift in their traditional teaching methods. The results indicated that resistance to e-learning initiative exists but it is not too strong to affect the change process seriously. Furthermore, there were no significant differences among resistance dimensions and proposed demographics of faculty members. However, there were significant differences between faculty members in scientific colleges and those in social colleges in the dimensions of expectations and personal meaning for the favor of faculty members in social colleges.

Introduction:

Education technology initiatives across Jordan reveal a movement to develop a network infrastructure in K-16 classrooms and to infuse computer-based technologies into curriculum and instruction. Currently, the Hashemite University, one of the official universities in Jordan, is in the process of integrating e-learning strategy into the education process. As evidence, an E-Learning Office has been established at the campus of the university to provide training programs for faculty members on how to develop online courses. It is expected that by the end of the academic year 2004-2005, most of faculty members in different colleges will be somehow involved in a kind of online education.

E-learning, e-education, or online learning refers to "the way people communicate and learn electronically which has only recently emerged as a key source of competitive advantage in the information society" (Roffe, 2002, p. 40). Educational literature indicates that the increased investment in e-learning initiatives appears to have occurred as a reaction to the view that higher education is in crisis. The crises center around four issues- the quality of learning, access to education, the cost of providing education, and dwindling public revenues (Gunasekaran, McNeil, & Shaul, 2002).

As in other universities, it is expected that once the program is fully operational, students will have the opportunity to undertake their studies both on and off campus. Mature students and those in employment will have an open and flexible learning opportunity to access academic programs. Also, the project is expected to enhance the university competitiveness and re-establish it as a center of excellence within the region and beyond (Tarr, 1998; Mutula, 2002). By the same token, there are other technical educational advantages that may arise when supplementing a course with Web-based tools. Examples of these advantages including student-to-student and faculty-to-student communication, providing 24 hours-a-day accessibility to course materials, enabling student-centered teaching approaches, and providing just-in-time methods to assess and evaluate student progress (Abouchedid & Eid, 2004; Nisar, 2002).

However, several significant barriers might stand in the way. First, if students and instructors are going to effectively use e-learning to support learning outcomes, they must have access from their classrooms. Also, if instructors are not professionally developed to use e-learning effectively, e-learning will likely go the way of countless other failed educational innovations. Furthermore, there are other major barriers that may prevent e-learning adoption and use; such as: adequate time given to instructors to learn new related skills, access to the internet both at university and home, and instructors' attitudes toward using e-learning (Cizek, 1999).

There may be an even more insidious problems regarding e-learning. As frequently mentioned in the literature, resistance to e-learning change program is likely to occur, in personal level, when a faculty fears a shift in power, the need to learn new skills, an arbitrary

forcing to adopt an innovation, or the stress of having to join a new team (Kegan & Lahey, 2001). Whereas, resistance in institutional level results from major changes such as: setting and moving toward a new vision and mission, restructuring, or integrating new technologies into core processes (Conner, 1992). In fact, as OToole (1995) submitted, "a foray to the library reveals hundreds of speculations about the root causes of resistance to change" (p. 161). In general, when people do not have a sense of control relative to a change, it is normal for them to resist the change overtly or covertly.

In conclusion, fundamental to the literature on organizational change in higher education is the notion of resistance. It accompanies any major change whether it is self-initiated or presented by others, and whether it was originally perceived positively or negatively (Conner, 1992).

Theoretical Framework and Literature Review

Resistance to change has long been recognized as a crucial factor that can influence the success or failure of an organizational change effort (Waddell & Sohal, 1998). Many researchers stress that the reasons for the failure of many change initiatives can be found in resistance to change (Bovey & Hede, 2001; Del Val & Fuentes, 2003; Okumus & Hemmington, 1998). A research conducted by Maurer as cited in Waddell & Sohal (1998), indicated that resistance is the little-recognized but critically important contributor to the failure of one-half to two-third of all major corporate change efforts. Likewise, a longitudinal study of 500 large organizations found employees' resistance as the most frequently cited problem encountered managers when they implement change (Waldersee & Griffiths, 1997). Resistance to change, therefore, is defined as "a fundamental block to change and a prime reason why change does not succeed or get implemented" (Mabin, Forgeson, & Green, 2001, pp. 169-170). In the context of higher education, resistance to change can be defined as a faculty behavior that seeks deliberately to stop, delay, or alter change (Bemmels & Reshef, 1991; Folger & Skarlicki, 1999; Yukl, 1994).

Turning to the opposite concept, receptivity at the individual level refers to a faculty member's willingness to consider change and recognize the legitimacy of such proposals. On an organizational level,

receptivity refers to the sum of the faculty members' receptivity (Eriksson, 2004). "Receptivity as a process shapes and is shaped by the continuous sense making and sense giving activities conducted among various members of the organization" (Huy, 1999, p. 327).

Resources of Resistance to Change

As the understanding of resistance become increasingly sophisticated, it became obvious that resistance is a far more complex phenomenon than one thought. Rather than being simple driven by the parochial self-interest of individual employee, resistance is a function of variety factors (Waddell & Sohal, 1998).

In a study conducted by Trader-Leigh (2002), seven factors were identified as causes of resistance. Factor one, self interest: such as commitment, beneficial, rewards, capacity for additional work, etc. Factor two, psychological impact: such as job security, loss of expertise, and loss of social status. Factor three, tyranny of custom: such as low tolerance for change, limited understanding of change implications, and political constraints. Factor four, the redistributive factor: such as benefits, over control, agreement with department goals. Factor five, the destabilization effect: such as turnover and communication processes shift. Factor six, culture compatibility: such as reward and support for culture change. Factor seven, the political effect: such as political constraints.

Mabin, Forgeson, & Green (2001) proposed that resistance is caused by three factors: (a) Individual factors: such as personality factors (e.g. high need for control, locus of control, need for achievement, etc.); attitudes based on previous experiences of change; (b) Group factors: such as group cohesiveness, social norms, and participation in decision-making; (c) Organizational factors: such as threats presented by the unknown, challenges to the status quo, and workload consequences.

Waddell and Sohal (1998) concluded from their research that resistance was a function of a variety of social factors, including:

- Rational factors: resistance can occur when the faculty members' own rational assessment of the outcomes of the proposed change differ with outcomes expected by management.
- Non-rational factors: the reaction of an individual faculty to a

proposed change is a function of predispositions and preferences which are not necessarily based on an economic-rational assessment of the change.

- Political factors: resistance is influenced by political factors such as favoritism or "point scoring" against those initiating the change effort.

- Management factors: inappropriate or poor management styles also contribute to resistance.

Del Val and Fuentes (2003), divided the sources of resistance into five groups. The first group is called distorted perception, interpretation barriers, and vague strategic priorities. It includes: myopia, perpetuation of ideas, implicit assumptions, communication barriers, and organizational silence. The second main group which deals with low motivation for change are direct costs of change, cannibalization costs, cross subsidy comfort, past failure, and different interests among employees and management. The third group, which is the lack of a creative response, includes fast and complex environmental changes, reactive mind-set, and inadequate strategic vision. The fourth group is political and cultural deadlock. It consists of implementation climate and relation between change values and organizational values, department politics, incommensurable beliefs, deep rooted values and emotional loyalty, and forgetfulness of the social dimensions of change. Finally, the last group includes leadership inaction, embedded routines, collective action problems, and cynicism.

Another strand of the literature argues the importance of sociological aspects on resistance to change. Sociological factor plays a fundamental role in the process of change and thus in the creation of resistance to change. On the basis of this factor "When perceived as a threat to one's security or ingrained habit, or even, as loss of status or as fear of the unknown, a change will generate resistance" (Macri, Tagliaventi, & Bertolotti, 2002, p. 295).

Yet, another prominent theoretical perspective is psychology based." From this perspective, individuals in organizations are predisposed to relate to their environment in a consistent manner as a result of their attitudes, values, needs, etc." (Clarke, 1997, pp. 10-11).

Utility of Resistance to Change

There continues to be a variety of arguments proposed that resistance to change might not necessarily be a problematic and imply dysfunctional behavior (Perren & Megginson, 1996). One recent support to this view of resistance has been provided by Waddell and Sohal (1998). They reviewed the traditional views on resistance, the research over the last 50 years, and the current practices. On the basis of this review, they argued that resistance can play a useful role in any organizational change. First of all, resistance point out that change is not inherently good. Second, resistance plays a crucial role in influencing the organization toward greater stability by balancing forces from external and internal environment. Third, resistance plays a crucial role in drawing attention to weak aspects of change initiative. Fourth, resistance energizes the change process. And finally, resistance encourages the research for alternative methods and outcomes to synthesize the conflicting opinions. In the words of Mabin, Forgeson, and Green (2001), resistance to change is "better than apathy, it avoids group-think, it provides alternative ideas for consideration, and a wider set of people involved in the evaluation of alternatives may overcome the problem that many managers have of failing to consider or evaluate enough alternatives" (p.170).

According to Fiorelli and Margolis (1993) some level of resistance to change might be legitimate and productive. Resistance to change may prevent the implementation of inappropriate change strategy and reflect that employees are thinking critically about the change, not simply confirming, and not naively obeying. Del Val and Fuentes, (2003) added that resistance to change has been considered a useful source in learning how to develop a more successful change process and should be seriously considered to help the organization to achieve the advantages of the transformation. In sum, these aspects of resistance utility make a persuasive case for re-evaluating the classical understanding of resistance. Equally, these aspects call into question the assumption that a change effort that is met with little resistance should not mean automatically a good change (Waddell & Sohal, 1998).

Management of Resistance to Change

Pursuing change and transforming organizations is a hard work. Many change initiatives encounter resistance and fail because cultures do not readily accept change, and do not effectively anticipate the impact of this change on human systems. To increase the success of implementation change strategies, management of resistance is needed (Trader-Leigh, 2002). "Change management is the process of continually renewing an organization's direction, structure, and capabilities to serve the ever-changing needs of external and internal customers" (Moran & Brightman, 2000, p. 66).

The suggestions and prescriptions of correct resistance management in the management literature is that participative techniques are the best method of handling resistance. Employees participation in the learning, planning, and implementation stages of a change process influences significantly their commitment to change and apparently lowers their resistance (Waddell & Sohal, 1998; Bolon & Bolon, 1994). In the words of change expert Daryl Conner (1992), resistance is usually "the result of low trust and inadequate participation. If employees sense that they are not allowed to discuss their true feelings or if they are not involved in implementation decisions, they are likely to feel disenfranchised from the change effort" (p. 128). Research conducted by Okumus and Hemmington (1998) support this point. They found that "in some cases there was no resistance at all and some employees helped the managers before and during the implementation process. The stated reasons for this were that they used strategies of communications, training and participation" (pp. 286-287).

To summarize, significant change efforts seems to encounter less resistance and be completely successful if managers fundamentally reframe their own thinking and thinking of those they guide to see the major change as not only imperative but achievable. Furthermore, managers have to implement strategic planning approach that is complete and adequate for the massive, holistic, and systematic change that is required. In addition, managers need to prepare their organization for the important transformations that major change requires by helping them understand the essence of change and appreciate why it is so important to the organization and internal and external stakeholders.

Finally, managers have to provide and implement a detailed, structure, disciplined transition plan for identifying and then completing the major change (Lick & Kaufman, 2001).

In conclusion, the review of the related literature has clarified that resistance remains to this day a complex, multi-faceted phenomenon that continues to affect the outcomes of change, both negatively and positively. However, the review has procured a solid understanding of resistance, its nature, resources, and benefits that can accrue to an organization through its proper utilization of resistance. Moreover, the review has found that limited research has been carried out in higher education sector in spite of that institutions of higher education can minimize negative effects of change by encouraging resistance to be expressed openly. Loser institutions fail to realize that all major change produces disruption, whether the change is viewed as for better or worse, and all disruption produce resistance. But, winner institutions increase their successes by understanding and respecting the nature of resistance (Conner, 1992).

Significance of the Study

One can argue that the significance of this study comes from the assumption that resistance during a major change is inevitable, however, its expression can vary greatly. In some cases, resistance is conveyed overtly. In other instances, resistance is expressed covertly. When resistance is hidden, it can go unnoticed until it destroys a change project (Conner, 1992).

Moreover, unfamiliar major change almost always generates fear and anxiety in faculty members, often requiring them to radically shift their thinking, feelings, beliefs, and behaviors. Consequently, the more faculty members understand and accept about a change, the more comfortable and committed they tend to become. Such understanding gives faculty members a sense of control over the change, contributing to their sense of comfort and security and lessening their resistance to change (Lick & Kaufman, 2001).

Finally, with all the pressures exerted by forces of change within and external to the higher education institutions in Jordan, there is no much discussion on the connection to be made between higher education and organizational change. To date there is no evidence or reported

study identifying the degree to which people in institutions of higher education in Jordan are resistant to the imperative change in their institutions and which attributes are much related to their resistance?

The Research Objectives and Questions

This paper aims at assessing the degree to which faculty members at the Hashemite University in Jordan are resistant to the imperative change in their institutions, and which of their attributes are much related to the resistance regarding the undergoing use of E-Learning as a paradigm shift in their traditional teaching methods. Focusing more narrowly, this paper will address the following questions:

1 - What is the degree to which faculty members of the Hashemite University in Jordan resist the e-learning program?

2 - Are there significant differences among resistance dimensions and the following individual demographics of faculty members in the Hashemite University: (a) gender; (b) academic rank; (c) the country of graduation; (d) the e-learning workshop attended; (e) the number of years teaching at Hashemite University; and (f) the type of college.

Methodology

This study is quantitative in nature and was conducted using survey methodology. The survey was cross-sectional because the data were collected at one point in time. Means, standard deviations, t-test, and one-way analysis of variance (ANOVA) were utilized in this study. Means and standard deviations were used to measure the degree to which faculty members resist the e-learning change program. T- test and one-way analysis were used to determine whether, at a selected probability level ($\alpha < .05$), there are significant differences among resistance dimensions and the following individual demographics of faculty members: gender, academic rank, country of graduation, e-learning workshop, number of years teaching in the Hashemite University, and the type of the college.

Participants

The target population of this research consists of all faculty members at the Hashemite University in Jordan. Questionnaires were

distributed to participants at the workplace for completion at their own convenience to provide them with anonymity disclosing personal information about themselves and their reactions to change.

A total of 114 faculty members were voluntary participants. The sample represents approximately 71% of the population who taught during summer semester 2003/2004. Demographics of the sample show that 86 respondents are male, 52 respondents attended e-learning workshops, and 62 respondents teach in scientific college. The remaining demographic data for faculty members who participated in this study are shown in Table (1).

Table (1)
Demographics of the Sample

Variable	Number and Percentage of Total (114)
Gender	86 males (75.4%), 28 females (24.6%)
Type of college	62 scientific faculties (54.4%), 52 social science faculties (45.6%)
E-learning workshop	52 attended (45.6%), 62 not attended (54.4%)
Academic Rank	14 full prof. (12.3%), 12 Associate prof. (10.5%), 88 assistant prof. (77.2%)
Ability in a computer	14 beginners (12.3%), 47 good (41.2%), 46 professionals (46.5%)
Experience in HU	39 with 1-3 years (34.2%), 42 with 4-6 years (36.8%) 33 with 7-9 years (28.9%)

Instrumentation

The survey instrument used in this study was the Conductivity Scale developed by Mackert (2001). The Conductivity Scale is a 40-item Likert-scale questionnaire ranging from strongly disagree (1) to strongly agree (5) and measuring five scales: (a) alliance, (b) discord, (c) expectations, (d) personal meaning, organizational fit, and (e) knowledge and investment. Alliance measures the sense of connectedness between the faculty member and the change agent and process. Discord refers to the belief and accompanying emotions that a change initiative will negatively affect faculty member's role in the organization. By contrast, expectation factor describes faculty member's positive expecta-

tions of the change. Personal meaning is an assessment of how much personal success a follower envisions as a result of the new initiative. While organizational fit refers to the extent to which the proposed change matches the organization and its culture. Finally, knowledge and investment describes a faculty member's depth of information and involvement in the change (Mackert, 2001).

The Conductivity Scale was 97 items distributed on 15 factors. Mackert applied statistical testing to determine the underlying factors of conductivity and to assess the instrument's validity and reliability. "This resulted in a 40 item, six factor solution" (Mackert, 2001, p.62). According to (Mackert, 2001) reliability for the final 40 item scale is high, with a coefficient alpha of 0.95. Further, computed coefficient alphas for each subscale was: Alliance 0.90; Discord 0.87; Expectations 0.87; Personal Meaning 0.79; Organizational Fit 0.74; and Knowledge and Investment 0.77. In order to assure the psychometric properties of the questionnaire in Jordanian culture, internal consistency measures of reliability were computed for the instrument (PIC) by calculating Cronbach's alpha coefficient. As a result, the internal consistency rating for each subscale was: Alliance 0.85; Discord 0.82; Expectations 0.88; Personal Meaning 0.74; Organizational Fit 0.70; and Knowledge and Investment 0.79. Moreover, the internal consistency rating for the final 40 item scale was 0.90. With its high internal consistency rating, Conductivity Scale was assumed to be an appropriate instrument for the present research.

At the same time, a demographic questionnaire was developed to collect general background information about the participants. Faculty members were requested to provide general background information regarding their gender, academic rank, country of graduation, number of years teaching in the Hashemite University, and type of the college.

Results

The data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 12. Descriptive statistics of all the variables in this study were examined by using SPSS frequencies. The minimum and maximum values of each variable were examined for the accuracy of data entry by inspecting "out of range" values. An examination of these values showed that no "out of range" values were entered. Missing subjects were not detected either.

Question 1 addresses the degree to which faculty members in the Hashemite University resist the e-learning program. Means and standards deviations were used to answer this question. Starting with the means, it is observable from Table (2) that the lowest mean of receptivity to change is 2.45 and the highest mean is 3.49. This result indicated somewhat moderate resistance to change.

Table (2)
Means and Standard Deviations of the Six Dimensions of Conductivity Scale

Dimension	Means	Standard Deviations
Alliance	3.07	0.35
Discord	2.37	0.62
Expectations	3.49	0.68
Personal Meaning	3.11	0.59
Organizational Fit	2.47	0.53
Knowledge and Investment	2.45	0.49

Note. The factor of Discord is reverse scored, high positive scores mean low levels of Discord.

With regard to the means and standard deviations of the six dimensions of the Conductivity Scale, the mean of the expectations dimension is higher than all other means (3.49), followed by personal meaning (3.11) and alliance (3.07) respectively. Organizational fit (2.47), and knowledge and investment (2.45) are approximately equal. Discord, the reveres scored dimension, shows somewhat moderate mean (2.37), reflects moderate levels of Discord. Further, the variability of scores in both expectations (SD = .68) and discord (SD = .63) dimensions is greater than other dimensions (see Table 2).

Question 2 concerns the significant differences among resistance dimensions and the following individual demographics of faculty members in the Hashemite University: gender, academic rank, country of graduation, type of the college, and number of years teaching in the Hashemite University. T- tests for independent samples were used to examine the difference in means between males and females, faculty

members in social science colleges and faculty members in scientific colleges, and faculty members who attended e-learning workshop and who not attended in each dimension of Conductivity Scale. However, one-way analysis of variance was utilized to identify whether the variances of the three level groups of academic rank, country of graduation, and number of years teaching in the Hashemite University were equal or significantly different.

Table (3) shows that there were no significant differences at the 0.05 level between faculty members' males and females on each dimension of Conductivity Scale. However, Table (4) illustrates that there were significant differences at the 0.05 level between faculty members in scientific colleges and faculty members in social science colleges only in the dimensions of Expectations and Personal Meaning for the favor of faculty members in social science colleges. Regarding the significant differences between faculty members who attended e-learning workshops and who not attended, Table (5) reports that there are no significant differences at the 0.05 level between faculty members who attended e-learning workshop and who not attended on each dimension of Conductivity Scale.

Table 3
The Differences between Faculty Members' Males and Females in Each Dimension of Conductivity Scale

Dimensions	Gender	N	Means	Std. Deviations	t	*p*
Alliance	M	86	3.09	.37	.98	.32
	F	28	3.01	.27		
Discord	M	86	2.37	.68	-.12	.89
	F	28	2.39	.46		
Expectations	M	86	3.47	.73	-.44	.65
	F	28	3.54	.49		
Personal Meaning	M	86	3.13	.61	.69	.48
	F	28	3.04	.51		
Organizational Fit	M	86	2.50	.58	1.17	.24
	F	28	2.36	.34		
Knowledge and Investment	M	86	2.47	.51	.60	.54
	F	28	2.40	.42		

Table 4
The Differences between Faculty Members in Scientific Colleges (Sc.) and Faculty Members in Social Science Colleges (So) in Each Dimension of Conductivity Scale

Dimensions	College	N	Means	Std. Deviations	t	*p*
Alliance	Sc.	52	3.06	.33	-.37	.70
	So.	62	3.08	.36		
Discord	Sc.	52	2.44	.63	1.07	.28
	So.	62	2.31	.63		
Expectations	Sc.	52	3.33	.73	-2.24*	.02
	So.	62	3.62	.61		
Personal Meaning	Sc.	52	2.98	.55	-2.11*	.03
	So.	62	3.21	.60		
Organizational Fit	Sc.	52	2.43	.58	-.72	.47
	So.	62	2.50	.49		
Knowledge and Investment	Sc.	52	2.50	.46	.90	.36
	So.	62	2.41	.51		

***Significant at the p < .05 level.**

Table 5
The Differences between Faculty members who Attended E-Learning Workshops (Yes) and who not Attended (No) in Each Dimension of Conductivity Scale

Dimensions	Workshop	N	Means	Std. Deviations	t	*p*
Alliance	Yes	52	3.02	.25	-1.27	.20
	No	62	3.11	.41		
Discord	Yes	52	2.48	.73	1.58	.11
	No	62	2.29	.53		
Expectations	Yes	52	3.41	.79	-1.11	.27
	No	62	3.55	.57		
Personal Meaning	Yes	52	3.06	.54	-.81	.41
	No	62	3.15	.62		
Organizational Fit	Yes	52	2.53	.61	.44	1.21
	No	62	2.41	.22		
Knowledge and Investment	Yes	52	2.48	.53	.62	.53
	No	62	2.43	.46		

Utilizing one-way analysis of variance, as can be observed in Table (6), shows that there were no significant differences among the three rank level groups (full, associate, and assistant professor) in each dimension of Conductivity Scale.

Similarly, Table (7) and Table (8) revealed that there were no significant differences in each dimension of Conductivity Scale among the three experience level groups (1-3Y, 4-6Y, and 7-9Y) and the three ability level groups in using the computer (beginners, good, and professionals). Further, there was no significant difference among the three level groups of country of graduation in each dimension of Conductivity Scale (see Table 9).

Table 6

The Differences among the Three Rank Level Groups (Full, Associate, or Assistant Professor) in Each Dimension of Conductivity Scale.

Sum of Squares			*df*	*F*	*p*
Alliance	Between Groups	.006	2	.02	.97
	Within Groups	13.986	11		
	Total	13.991	113		
Discord	Between Groups	.347	2	.42	.65
	Within Groups	45.577	11		
	Total	45.924	113		
Expectations	Between Groups	1.319	2	1.41	.24
	Within Groups	51.635	11		
	Total	52.954	113		
Personal Meaning	Between Groups	1.254	2	1.82	.16
	Within Groups	38.113	11		
	Total	39.367	113		
Organizational Fit	Between Groups	.044	2	.075	.92
	Within Groups	32.48	11		
	Total	32.262	113		
Knowledge and Investment	Between Groups	.103	2	.20	.81
	Within Groups	27.717	11		
	Total	27.820	113		

Table 7
The Differences among the Three Experience Level Groups (1-3Y, 4-6Y, or 7-9Y) in Each Dimension of Conductivity Scale.

Sum of Squares			*df*	*F*	*p*
Alliance	Between Groups	.198	2	.79	.45
	Within Groups	13.793	11		
	Total	13.991	113		
Discord	Between Groups	.089	2	.10	.89
	Within Groups	45.538	11		
	Total	45.924	113		
Expectations	Between Groups	.944	2	1.00	.36
	Within Groups	52.010	11		
	Total	52.954	113		
Personal Meaning	Between Groups	.306	2	.43	.64
	Within Groups	39.061	11		
	Total	39.367	113		
Organizational Fit	Between Groups	.734	2	1.30	.27
	Within Groups	31.518	11		
	Total	32.262	113		
Knowledge and Investment	Between Groups	.033	2	.06	.93
	Within Groups	27.787	11		
	Total	27.820	113		

Table 8
The Differences among the Three Ability Level Groups in Using the Computer (Beginners, Good, or Professionals) in Each Dimension of Conductivity Scale

Sum of Squares			*df*	*F*	*p*
Alliance	Between Groups	.211	2	.84	.43
	Within Groups	13.780	11		
	Total	13.991	113		
Discord	Between Groups	1.152	2	1.42	.24
	Within Groups	44.772	11		
	Total	45.924	113		
Expectations	Between Groups	.856	2	.91	.40
	Within Groups	52.098	11		
	Total	52.954	113		
Personal Meaning	Between Groups	.369	2	.52	.59
	Within Groups	38.999	11		
	Total	39.367	113		
Organizational Fit	Between Groups	1.601	2	2.89	.06
	Within Groups	30.660	11		
	Total	32.262	113		
Knowledge and Investment	Between Groups	.176	2	.353	.70
	Within Groups	27.645	11		
	Total	27.820	113		

Table 9
The Differences among the Three Level Groups of Country of Graduation (America, European and Australia, or Arab Universities) in Each Dimension of Conductivity Scale.

Sum of Squares			*df*	*F*	*p*
Alliance	Between Groups	.746	2	2.12	.08
	Within Groups	13.245	11		
	Total	13.991	113		
Discord	Between Groups	.098	2	.12	.88
	Within Groups	44.772	11		
	Total	45.924	113		
Expectations	Between Groups	.407	2	.43	.62
	Within Groups	52.548	11		
	Total	52.954	113		
Personal Meaning	Between Groups	.606	2	.86	.42
	Within Groups	38.762	11		
	Total	39.367	113		
Organizational Fit	Between Groups	.762	2	1.34	.26
	Within Groups	31.499	11		
	Total	32.262	113		
Knowledge and Investment	Between Groups	.755	2	1.55	.21
	Within Groups	27.005	11		
	Total	27.820	113		

Discussion

Resistance to change is an essential factor to be considered in any change process because a proper management of resistance is the key for change success or failure. Resistance to change helps us understand any phenomenon that hinders the process at its beginners or its development, aiming to keep the current situation (Del Val & Fuentes, 2003). Such understanding gives faculty members a sense of control over the change, contributing to their sense of comfort and security and lessening their resistance to change (Lick & Kaufman, 2001).

The results of this research indicate that resistance to e-learning change program exists but it is not too strong to affect the change process seriously. Change always carried resistance, but no single factor in the study was pointed out as a severe difficulty to achieve the change goals. Although the five dimensions of resistance were moderate, the expectation of the change initiative as perceived by faculty members has

the highest mean. It is hoped that faculty members who possess the higher level of expectation are more persistence in pursuing change objectives and less likely to resist organizational change. According to Bovey and Hede (2001), "individuals develop a mental schema that is oriented toward either 'good' or 'bad' and this drives their behavior" (p. 379).

However, organizational fit and knowledge and investment were the dimensions of lowest receptivity means. According to Burnes and James (1995), when an organization is considering any form of change, it should compare the importance of the strategic significance of the change with the cultural resistance to make the particular change succeed. It is then possible for an organization to decide with a degree of certainty whether to ignore the culture, manage round it, attempt to change the culture to fit the strategy, or change the strategy to fit the culture. Given that the importance of culture and its effect on organizational change should not be underestimated. Comparing this result with other somewhat relevant studies shows consistence with the reviewed literature, sector sources of resistance to change, which indicates that culture and maintaining the status quo are the main source of resistance to change (Del Val & Fuentes, 2003; Lick & Kaufman, 2001; Mabin, Forgeson, & Green, 2001; Trader-Leigh, 2002).

Similarly, dimension of knowledge and investment received the lowest scores in the scale. This result suggests that, for effective participation, university must provide a constant supply of timely and useful information to enable shared decision making to take place at all levels of the university (Moran & Brightman, 2001). Further, this result is consistent with literature related to management of resistance stating that participative techniques are the best method of handling resistance. Managerial efforts to involve employees may increase their organizational participation and productivity. Employees participation in the learning, planning, and implementation stages of a change process influences significantly their commitment to change and apparently lowers their resistance (Bolon & Bolon, 1994; Conner, 1992; Lick & Kaufman, 2001; Okumus & Hemmington, 1998; Waddell & Sohal, 1998; Weber & Weber, 2001).

Another strand of results regarding demographic variables distinguished between faculty members in scientific colleges and faculty

members in social science colleges in the dimensions of Expectations and Personal Meaning for the favor of more receptivity and less resistance of faculty members in social science colleges. This result might be justified with the new paradigm spread out among social science faculties- especially newly hired faculties- that support using more technologies in their classrooms as a paradigm shift from predominant traditional teaching methods in social science colleges. Such is not the case with other demographic variables which revealed no significant effects of them on resistance to change. This result opens the door for more demographic variables to be included in further research.

Conclusion and implications

Several conclusions and implications can be drawn from this research. First, resistance to e-learning program in the Hashemite University is not too strong to hinder the change process seriously. However, this level of resistance should be managed not neglected. Second, dimensions of knowledge and investment and organizational fit reveal high degree of resistance comparing with other dimensions. If it is the case, then it would be helpful to increase the participation of faculty members in the different aspect of the change process. Further, the university should alter some of its culture building blocks- beliefs, assumptions, and behaviors - and develop beliefs, assumptions, and behaviors that are consistent with the new change program.

Other possible conclusions and implications are that the insignificant effect of most suggested demographic variables on resistance to e-learning program should encourage further research to be conducted to investigate the effect of other demographic variables such as job commitment, job satisfaction, and level of stress. Finally, it is hoped that this research will be seen as a starting point for research in change management at higher education level in Jordan and stimulus for further research in change to provide valuable insight for both academics and practitioners.

مقاومة التغيير: برنامج التعلم الإلكتروني في الجامعة الهاشمية في الأردن

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الملخص

هدفت الدراسة الحالية إلى تحديد درجة مقاومة أعضاء هيئة التدريس في الجامعة الهاشمية الأردنية لبرنامج التغيير المؤسسي المتمثل في التحول من أساليب التدريس التقليدية إلى التعلم الإلكتروني. وللكشف عن فروقات محتملة بين أعضاء هيئة التدريس في درجة مقاومتهم لبرنامج التغيير تم انتقاء متغيرات ديمغرافية متعددة ودراسة تداخلاتها. وقد توصلت الدراسة إلى تحديد الدرجة المتوسطة لمقاومة أعضاء هيئة التدريس لبرنامج التعلم الإلكتروني، إضافة إلى عدم وجود فروقات دالة بينهم في مقاومة برنامج التغيير قد تعزى إلى المتغيرات الديمغرافية المختارة باستثناء الفرق بين الكليات العلمية والإنسانية في بعدي التوقع والمعنى الشخصي للتغيير ولصالح أعضاء هيئة التدريس في الكليات الإنسانية.

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