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An Investigation on Impact of E-Learning Implementation on Change Management in Malaysian Private Higher Education Institutions

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ABSTRACT

The purpose of this research is to analyse the impact of identified variables to adapt change management due to e-learning implementation in Malaysian private higher education institutions focusing on educators' perspectives. The conceptual framework was modified in combination of various theories from Systemic Change Models and E-learning Cycle Models. A self-administered questionnaire adapted from Siebel 4.0-2 Survey Questionnaires (SSQ) by Hambling, 2010 was the data collection instrument. The sample consisted of educators from private higher education institutions with visions or missions based on e-learning implementation in Malaysia. As per findings, through review of the visions and missions, the selected private higher education institutions integrated teaching and learning, advancement of the knowledge based on e-learning and leadership in service and outreach.

Keywords: Change management, e-learning, vision, mission, private higher education, implementation

INTRODUCTION

E-learning is a teaching and learning method that switches educators' responsibilities from instructors to facilitators (Frye, 2002). This is important because an e-learning based pedagogy requires educators to not only extend their teaching potential, but also to adjust their attitudes (Center of Educational Technology, 2005). This is in line with the National Accreditation Board (NAB), an accreditation agency which supports the uppermost of educational values and the authorisation of courses by private higher education institutions (Ministry of Education, 2010). These institutions were given approved university status by the

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Malaysian Minister of Higher Education, authorised under the Private Higher Educational Institutions Act 1996. MAPCU (Malaysian Association of Private Colleges and Universities) registered 18 March 1997. They form Malaysia's most prominent group of private higher education institutions with involvement from well established private colleges and universities in Malaysia (Molly, 2005). The Malaysian Association of Private Colleges and Universities is acknowledged by the Ministry of Education, the National Accreditation Board, the Multimedia Development Corporation, the Ministry of Finance, and the Economic Planning Unit of the Prime Minister's Department (Molly, 2005).

The main point of managing an online digital archive is to create and utilise the instructional technology in various ways for accommodating student preferences (Ravet & Layte, 2008). In researchers' views, the important issue to integrating instructional technology is how to accommodate learners with different learning abilities. Clearly, there is a need to look at the educators' strategies and their attitudes to adapt to changes produced by implementing e-learning in learning and teaching. In private higher education institutions, the quality of e-learning is deeply linked to the educators' mindset about their roles (Ridzuan, 2010). They should be able to adjust according to the changes they encounter in diverse teaching environments (Ridzuan, 2010). The Sixth International Conference on adult education, held in Brazil in December 2009 found that many private higher education institutions still rely on professional programmers to set a syllabus that included e-learning, instead of the educators who are the subject experts (Victoria, 2009).

The survey of Zakaria and Iksan (2007) states that with good professional development programmes, the majority of Malaysians believe that to turn our country into a knowledge-based economy, we need to incorporate technology for educational advancement. According to the Malaysia Education Blueprint (2013-2025), the Ministry of Education has identified the need to convert lecturers' careers as the most preferred job by the graduates (Ministry of Education, 2012). Educators' qualities influence students' outcomes (Zakaria & Iksan, 2007). The quality of the education system is only as good as its educators (Ministry of Education, 2012). In short, educators' ability to adapt to change is becoming an issue of dependence in the education system.

PROBLEM STATEMENT

In the National Higher Education Strategic Plan (2010) e-learning has been identified as one of the Critical Agenda Projects (CAPs) and is a National Key Result Area (NKRA) for MOHE (Ministry of Education, 2011). Embi (2011) identified the main aspects of e-learning to be e-learning policies, governance, Learning Management Systems (LMS), training, the development of e-content and the integration of e-learning in teaching and learning. These aspects have exposed a gap in the practice of e-learning that has proved the difficulty of implementing and sustaining e-learning in the Malaysian education system (Embi, 2011). E-learning was not an application that was readily available with the birth of the internet. It came about only almost two decades after the internet was introduced (Alhabshi, 2006). Hence, implementing e-learning is not as easy as it was first thought (Alhabshi, 2006).

Furthermore, the challenges faced by institutions of higher learning in relation to e-learning utilisation (88.9%) were that the academic staff was complacent about the current teaching practices, due to lack of training on how to adapt to the changes in the education system in Malaysia (Hamat, Embi & Sulaiman, 2011). Most lecturers are found to be unfamiliar with e-learning. (Embi, 2011) Therefore, training is often considered the fastest way to deliver instructions (Embi, 2011). "One finds that the diverse array of theoretical perspectives and overwhelming latest application without proper concepts are the reasons for lacking in acceptance of e-learning" (Gene & Weibelzahl, 2007, pp. 42-45). These findings indicated that change is crucial for e-learning implementation in higher learning institutions. However there is a gap in identifying the significant of concepts and theories of e-learning and change management for educators.

In order to encourage change in people to include ICT in the educational and administrative processes, Malaysia has heavily invested in its education plan, resources and infrastructure (Ministry of Education, 2012). The future economic and social well-being of the nation depends critically on the success of adaptation to educational transformation (Ministry of Education, 2007). Universities are being equipped with the latest ICT infrastructures, and educators are being trained to use ICT for education and also administrative purposes (Gene & Weibelzahl, 2007). Since ICT has yet to be seen to be fully embraced by educators, an analysis of how private higher education institutions implement e-learning is deemed necessary (Maznah & Harland, 2012). Therefore this research has only focused on educators from private higher education institutions with an e-learning based vision and mission. Change management was the main area of interest within the field of e-learning implementation. However there has been no study conducted to analyse the relationship between change management and the e-learning focus on educators that emphasizes methodological triangulation by using qualitative and quantitative methods concurrently. To address this gap in methodology, there is a need to conduct a comprehensive study on managing change in status, trends, challenges, and ways to adapt change management and to explore the journey that educators experience during the change process of e-learning implementation in private higher learning institutions.

RESEARCH QUESTION, OBJECTIVE AND HYPHOTHESIS

The objective of this research is to analyse the significant relationship between e-learning implementation and change management in private higher education institutions within Malaysia from the perspectives of educators, thus the following research question has been constructed: Is there a significant relationship between e-learning implementation and change management in private higher education institutions within Malaysia from the perspective of educators? To relate research question and objective of the research the hypothesis of this research has been reviewed as e-learning implementation has no significant effect on change management in private higher education institutions within Malaysia from the perspective of educators.

METHODOLOGY

The research instruments were modified according to the conceptual framework based on theoretical framework. This research matter examined aspects of literature on e-learning and change management to identify a theoretical outline. In this research the survey method, cross sectional study and exploratory method were used as the research strategy to conduct this research in Malaysia's private higher education institutions. This survey method was used because the data obtained was standardized, facilitated comparison and analyzed using quantitative means.

A self-administered questionnaire was chosen as the data collection instrument for the quantitative method and interviews were conducted as the qualitative method. The samples were educators from private higher education institutions with visions or missions based on e-learning implementation in Malaysia. The questionnaire was adapted from the Siebel 4.0-2 Survey Questionnaire (SSQ) by Hambling (2010). The rationale for adapting the ideas of the SSQ was because the research that Hambling conducted used the Systemic Change Model in implementation of the Siebel 4.0-2, an e-learning platform from the perspective of the 'people' who were the users. SSQ was cited by 14 research articles that used Systemic Change Model from the year 2010-2012 (MS Academia, 2013). Besides that, this research questionnaire used the ideas of SSQ with modified variables to suit the conceptual framework and answer the research questions.

For this study, the researcher selected participants from institutions with university status situated in Kuala Lumpur that incorporate e-learning implementation in their vision and mission. Private higher education institutions in Kuala Lumpur were selected as the sample because the majority of the university status private higher education institutions with visions and missions on e-learning were situated in Kuala Lumpur. Besides, technologically advance private universities were also situated in Kuala Lumpur. In line with government ambition to make Malaysia a regional hub for education, higher education in Kuala Lumpur aims at attracting top world institutions with innovative teaching and learning (Ministry of Education Statistic, 2013).

Besides that higher education institutions in Kuala Lumpur are envisioned as leading in teaching and learning facilities with a major contribution to the education sector of the country. There are 37 private universities in Malaysia with total 282928 students studying in Malaysia (Ministry of Education, 2013).

Universities in Malaysia have been shaped with conducive monitoring from the Universities and University Colleges Act 1971 (Ministry of Higher Education, 2012). The number of students and educators was determined by the ratio of 1:13 which means that in total there were 21763 of educators in the year of 2014 (Ministry of Education, 2014). There were nine private higher education institutions with university status that were qualified to participate in this research after analyzing the vision and mission of the institutions. However, only private higher education institutions in Kuala Lumpur with university status that included e-learning implementation in their institute's vision and mission statement were selected. Educators in this research consist of teachers, tutors, instructors and lecturers in the selected private higher education institutions based on their qualifications.

Besides that, Krejcie and Morgan's (1970) model was used because it was an appropriate model to get the sample size and this model has been cited in 394 studies.

CONTENT VALIDITY

Content validity was determined through using scales which were adopted from established empirical studies (Narver et al., 1993; Jaworski & Coupland, 2014). The questionnaire validity and reliability was ascertained by conducting Cronbach alpha. Furthermore, the researcher conducted a pilot test to determine the actual validity in the context of this research.

Moreover, the test was not used for statistical purposes and responses from the pilot test were not included in the research findings. In fact, only a preliminary reliability evaluation was carried out with Cronbach's Coefficient Alpha Reliability analysis.

Additionally, participants were encouraged to be very free with their responses, make suggestions for improvement and delineate any difficulties that they found. After questionnaires were answered by each participant, they were asked for their comments. Comments were solicited on the clarity of the questions and the editing was done in order to simplify the questions. The pilot test results identified ambiguities in the questionnaire items. Problems concerning instructions given for completing the questionnaire were also solved. A final version of the questionnaire was prepared for use in the actual research. The entire commentaries, opinions and implications of the respondents were taken into consideration. The summary results of Cronbach's Alpha stated in Table 1.

Table 1
Summary results of Cronbach's Alpha

	Construct	No. of items	Means	Std-deviation	Cronbach's Alpha
1	Stakeholders involvement	2	75.39	14.76	.8002
2	Systems view	8	45.89	4.67	.9001
3	Evolving mindset	4	59.56	7.87	.8395
4.	Understanding transition	3	64.56	9.87	.8279
5.	System design	8	80.70	14.87	.8007
6.	System evaluation	2	80.66	14.89	.8021
7.	Academic transform	6	53.86	11.54	.7910
8.	Service and satisfaction	10	64.63	9.32	.8153
9.	Ownership control	10	62.83	11.28	.8522

NUMBER OF QUESTIONAIRES DISTRIBUTED, RETURNED AND USABLE

In order to capture the targeted sample size of 381 respondents, 550 survey questionnaires were distributed to private higher education institutions in Kuala Lumpur that have visions and missions on e-learning implementation. A total 493 were returned, representing a response rate of 89.6%. Out of the 493 returned, 487 were found to be usable (98.8%) and 6 questionnaires were rejected due to incomplete responses (1.21%). From this feedback, it was concluded that respondents were willing to give their cooperation in answering the survey questions at their

convenience. This provides evidence that if a survey is monitored and administered properly, much information can be gathered from the respondents.

SKEWNESS AND KURTOSIS OF STUDY VARIABLES

All variables were measured on a five points Likert type scale. The mean scores for all the variables range between 20.23 and 67.54. This indicates that change management variables and e-learning variables are at a moderate level. The standard deviation scores range from 6.03 to 22.67.

The normality distribution of the data, the skewness and kurtosis of each variable were examined. The critical value for both measures of normality has drawn the distribution. The skewness and kurtosis for the nine main variables of this study were examined. By applying the above criteria to the skewness values for each of the study variables, it is shown that none of the variables fall outside the more and less 2.58 range of skewness. Thus, the data for this study is normal with regards to skewness.

Univariate skewness and univariate kurtosis values range from -0.501 to 0.062 and -0.402 to 0.564 respectively. The relatively large value of Mardia's normalized multivariate estimate kurtosis (23.623) shows evidence that the data are slightly not multivariate normal. In order to address the issue of multivariate non-normality, bootstrapping is conducted to assess the stability of parameter estimates and report them more accurately. Within the context of the Structural Equation Model, bootstrapping provides a mechanism for addressing situations where the statistical assumptions of large samples and multivariate normality may not hold (Boon, 2003). In this study the Bollen-Stein bootstrap procedure (Bollen & Scott, 1993) was employed.

It is a modified bootstrap method for the $\chi 2$ goodness of fit statistic which provides means to test if the specified model is correct. In particular, it can be used to correct for the standard error and fit statistic bias that occurs due to non-normal data. It tests the adequacy of the hypothesized model based on the transformation of the sample data such that the model is made to fit the data perfectly. In this study, 1000 bootstrap samples were drawn with replacement from this transformed sample. The Bollen-Stein bootstrap *p*-value is 0.356 (>.05) indicating that there is sufficient evidence to reject the hypothesized model.

Considering the feasibility and statistical significance of all parameter estimates, the substantially good fit of the final model and the lack of any substantial evidence of model misfit, the author concludes that the nine dimensions (ownership control, academic transform, service and satisfaction, stakeholders involvement, system view, evolving mindset, understanding transition, system design and system evaluation) can represent an adequate description of educators' perspectives of change management due to e-learning implementation in private higher education institutions.

The Cronbach's alpha was computed on each of the Likert scale items that were factor loaded into the nine factors. The internal consistency reliability scores ranged from .641 to .854 after removing some items with low corrected item-total correlations value. Reliability is also an indicator of convergent validity (Hair, Black, Babin, Anderson & Tatham., 2006). According to Hair et al., (2006) coefficient alpha is generally an internal measure of reliability as in most practical cases it is only the lower bound on reliability. Hair et al., (2006) also

stated that coefficient alpha remains a commonly applied estimate although it may understate reliability. The rule of thumb for the reliability estimate is that 0.7 or higher suggests good reliability (Hair et al., 2006), and the results indicate that convergent validity exists for the constructs of the study. Variance extraction measures the total amount of variance in the indicators accounted by the variable (Hair et al., 2006). Variance extracts of less than 0.5 indicate that on average, more error remains in the items than the variance explained by the factor structure in the measurement model (Hair et al., 2006). The calculated results of the variance extracted, indicate that the variance extracted for item are below 0.5, however they did not cause concern as it is not uncommon to find estimates below 0.5, even when the reliability is acceptable (Hatcher, 1994).

The results of the construct reliability for the variables examining the dimension of change management due to e-learning implementation showed that the overall alpha that exceed the cut off point of reliability recommended by Nunnally and Berstein (1994), are evolving mindset, academic transform, system view, stakeholders involvement and ownership control with 0.942, 0.952, 0.914, 0.961 and 0.952 respectively. However, the result showed that the construct reliability coefficients for understanding academic transform, service and satisfaction and system design showed 0.864, 0.835 and 0.843 respectively. For system evaluation, the result for construct reliability coefficients showed 0.732. Table 2 revealed the summary of Skewness and Kurtosis.

Table 2
Skewness and Kurtosis for study variables

Study Variables	Skewness	Kurtosis
1) Stakeholders involvement	0.062	-0.627
2) Systems view	-0.130	-0.468
3) Evolving mindset	-0.222	-0.862
4) Understanding transition	-0.306	-0.355
5) System design	-0.100	0.768
6) System evaluation	-0.500	-0.455
7) Academic transform	-0.465	-0.344
8) Service and satisfaction	0.060	-0.643
9) Ownership control	0.041	-0.535

CHARACTERISTICS OF THE RESPONDENTS

Data collected on the demographics of private higher education educators were analyzed using descriptive statistics. Respondents were asked to identify themselves according to five different categories from doctorate degree to diploma and the others. Four levels of professional qualification of educators in the selected private higher education institutions were identified. The findings showed that 244 (50.1%) of the respondents held a Master level degree. In total of 46 (9.5%) of the respondents had a doctoral degree and the remaining 190 (39.1%) respondents had a bachelor degree with six 6 (1.2%) respondents holding a diploma and only one who answered “Other” for their qualification.

More than half of the respondents were lecturers: 265 (54.4%) respondents. This was followed by tutors, 101 (20.7%) respondents and teachers 80 (16.4%) respondents. However, 25 (5.1%) respondents were senior lecturers and only 16 (3.2%) respondents were instructors.

The most respondents, almost one third, (169 or 34.3%) were in the age range between 25-35 years. 97 (20%) respondents were more than 56 years old. These results indicated that slightly fewer educators were in the age range 46-55 and 36-45 which were 94 and 92 respectively. The fewest educators (35 or 7.2%) were in the range of less than 25 years old.

Most of the respondents (398 or 81.7%) were full time educators, compared to part time respondents numbering 80 (16.4%) and under contract who numbered only 9 (1.8%) respondents. None of the respondents was in "other" category of job status.

Most respondents 191 (39.2%) had 2-5 years of experience in the teaching profession. The results indicated that more than one third of the total respondents had teaching experience within five years. 96 (19.7%) respondents had 6-10 years of experience in the teaching profession. 85 respondents had 11-15 years of teaching experience and this number was close to respondents who had 6-10 years of teaching experience. These results also indicated that fewer educators or 66 (13.6%) had less than 1 year of experience. Those with 16-20 years of experience in the teaching profession numbered 46 (9.4%). Furthermore, 3 (0.6%) of educators stated they had teaching experience exceeding 20 years.

CORRELATION ANALYSIS

Pearson's correlation analysis was conducted on all the main constructs as well as between e-learning implementation variables and change management variables. After the measurements were confirmed the correlation analysis was performed to provide preliminary information regarding the associations between the relationships of each dependent variable with independent variables using multilinear regression. The correlation analysis also gives an indication of whether there exist any multicollinearity problems in the data set. In this study, e-learning variables are explained by three separate variables namely academic transformation, ownership control (OC), and service and satisfaction (SS). In order to generate comparable mean scores on e-learning variable for each of the three variables, the weighted average approach was used. The total score for each three variables were divided by numbers of items. Among the studies that used average approach were Albers-Miller and Straughan (2000).

It was an evident that there is not very strong correlation (0.8 and above) between any pairs of the nine variables of this study. One correlation coefficient value ("academic transform" (AT) and "evolving mindset (EM)") was significant at the 0.01 level while the remaining were significant at the 0.05 levels. "Academic transform" also was found to have significant and positive correlation with "understanding transition (UT)" (r=0.449). "Ownership control" was recorded having high correlation with "system view (SV)" (r= 0.481). However, it was recorded as having low and positive correlation with "stakeholders involvement (SI)" (r= 0.276). "Service and satisfaction" recorded high correlation with positive significance with "system evaluation (SE)" (r=0.413) and "system design (SD)" (r=0.383). According to Benny and Feldman (1985), a rule of thumb states that any correlation exceeding a value of 0.8 (a very strong correlation) between independent variables is likely to result in multicollinearity

in the data. The multicollinearity is likely to affect the interpretation of the regression model as the absolute of the correlation coefficients (ranging from -0.088 and 0.449) are lower than the acceptable cut off value of 0.8. Table 3 shows the summary of the correlation coefficient matrix.

Table 3
Correlation coefficient matrix

	Evolving mindset	Academic transform	Understanding transition	Service and satisfaction	System evaluation	System design	Ownership control	Stekeholders involvement	System view
1-Evolving mindset	1								
2-Academic transform	0.412**	1							
3-Understanding transition	0.220**	0.449**	1						
4- Service and satisfaction	0.211**	0.201**	0.297**	1					
5- System evaluation	0.153**	0.287**	0.308**	0.413**	1				
6- System design	0.236**	0.172**	0.279**	0.383**	0.345**	1			
7- Ownership control	0.299**	0.274**	0.371**	0.287**	0.184**	0/254 **	1		
8- Stakeholders involvement	0.231**	0.257**	0.311**	0.434**	0.267**	0.291**	0.276**	1	
9- System view	0.288**	0.361**	0.301**	0.203**	0.282**	0,319**	0.481**	0.258**	1

**p<0.01 level (2-tailed)

RELATIONSHIP BETWEEN E-LEARNING IMPLEMENTATION AND CHANGE MANAGEMENT

Multivariate analysis of variance (MANOVA) was conducted with six dependent and three independent variables. Box's M test was not significant, M=15.16, F (18, 171664) =.865, p>0.001 and so was Levene's test of homogeneity of variance. The non-significance of both tests indicates that the assumptions of homogeneity of variance covariance and homogeneity of variance are tenable.

MANOVA between variables revealed that there were significant differences in the mean scores of all measures of e-learning variables as well as change management variables. Significant differences exist in the mean scores of (SI), $F(2,485)=11.92$, $p<0.001$; (SV), $F(2,485)=10.93$, $p<0.003$; (EM), $F(2,485)= 9.53$, $p<0.001$; (UT), $F(2,485)=7.75$, $p<0.001$; (SD), $F(2,485)= 6.69$, $p<0.001$; (SE), $F(2,485)=10.03$, $p<0.001$. Post hoc test indicated that the mean scores of SI, SV, SD for OC and SS were not significantly different from each other. However, those obtained by AT were different and thus significantly lower than those of their counterparts of OC and SS. On the other hand, EM and UT for AT and SS were not significantly different from each other. However, SE for OC and AT was also not significantly different from each other.

The analysed data revealed that there were significant differences in the mean scores of all measures of e-learning and change management variables.

Significant differences exist in the mean scores of SI, SV, EM, UT, SD, and SE. These findings are consistent with related studies done by Sims (2008). The study found that change management had significant effect with the e-learning implementation. Some scholars like Jung et al. (2011) and Seale (2014) have highlighted that some facets of change, such as a system view, system design and system evaluation were needed for e-learning implementation. The

post hoc test indicated that the mean scores of SI, SV, SD for OC and SS were not significantly different from each other. However, those obtained by AT were significantly lower than those of their counterparts at OC and SS.

A related study conducted in Kuwait by Ali (2008) that examined the phenomenon of resistance to change, in implementing e-learning also found that "academic transform" had a lower significant difference compared to other study variables. The further argued that change was dependent on its conformance to values, attitudes and patterns of behaviour typical of human attitude. Therefore, in order to have high relevance in "academic transform", the change management variables that supported the study variables of "evolving mindset" and "understanding transition" will need to play a role. Thus the educators may have a particular way to adapt to the "academic transform" from the e-learning implementation. The rate of change depends on the change agent. Table 4 reveals the summary results of MANOVA on e-learning variables and change management variables.

Table 4
Results of MANOVA on e-learning variables and change management variables

	Mean			MANOVA		
	OC	AT	SS	*df*	*F*	*p*
SI	4.23	4.62	4.53	2	11.92	.000*
SV	4.13	4.56	4.51	2	10.32	.003*
EM	4.29	4.82	4.11	2	9.53	.000*
UT	4.08	4.57	4.32	2	7.75	.001*
SD	4.27	4.02	4.17	2	6.69	.000*
SE	4.66	4.13	4.22	2	10.03	.000*

*Significant mean effect

CONCLUSION

Overall, the implications of the findings are that educational institutions embrace all kinds of faculty and staff. However some of the educators may simply be opposed to change. This can result from adapted or assumed pedagogical concepts of the past or from a lack of exposure to better ways of doing things, or just being slow to decide. With regards to these barriers to change management due to e-learning implementation among the educators, the human factor is of vital importance and success largely depends on positive and constructive management motivation, educators' creativity, and adaptability to e-learning implementation in the relevant teaching and learning situations. The change management process has been acknowledged by private higher education institutions in Malaysia, as an engaging approach.

The private higher education institutions are showing interest in supporting research and development of new knowledge. This has allowed the researcher to explore the internal systems of the institutions and report the findings. Each finding could add to a greater reservoir of knowledge on change management due to e-learning implementation. Private higher education institution deputy vice chancellors, deans and the decision makers at the top level, e-learning experts and other relevant parties could definitely benefit from the findings that

reflect on experience that improves continuously. This study's findings also allow other higher education institutions to reflect on their counterparts' experiences of change management, due to e-learning implementation, in order that they might emulate them or adapt their practices.

For theoretical implications based on the findings, the model illustrates two types of variables affecting (positively or negatively) the different dimensions of change management due to e-learning. An inspection of the model indicates that age and experience variables, such as years of working experience as a lecturer, years of working in the institution, negatively influence the lecturers' adaptation to e-learning implementation. Findings indicate that younger lecturers show more confidence, and are better in using various new software, tools and programmes in the change management process, as compared to senior lecturers. These factors along with good communication helps determine the understanding of change management due to e-learning implementation. Secondly, "ownership control" has a significant effect on the "system view" when e-learning implementation starts in the institution, and the experiences of educators handling e-learning classes are positively affected, which has not been studied before. This is strengthened by the finding that lecturers with a Master's Degree and who are working full time in the respective institutions, show greater adaptability to change due to e-learning as compared to the other categories of educators. Thirdly, no research has linked the relationship of "service and satisfaction", which is also found to correlate with "system design".

For methodological implications the present study provides a few methodological contributions. In terms of adding to the body of literature, the significance of this study involves the newly developed change management due to e-learning implementation. In this study, the researcher decided to take a weighted average for the variables to represent change management due to e-learning. This is the first implication contributed by this study, as no past studies have conducted such research to develop a measurement of change management. This study departs from most of the previous studies in that it has focused on e-learning implementation and change management separately. Secondly, this study adds to the existing literature on change management due to e-learning implementation. In the newly developed variables constructed was measured using 18 items. Thus, this also provides a significant methodological contribution in terms of scale development for change management variables, due to e-learning implementation constructs. Lastly to date there is no known study investigating change management due to e-learning implementation in terms of significant relationship between change management variables that contribute to e-learning implementation, status, trend, problem, challenges and ways to adapt from the perspective of educators using quantitative methods. Therefore, it is a significant methodological contribution to the body of knowledge in terms of new findings pertaining to change management due to e-learning implementation in private higher education institutions.

In terms of practical implications the present study provides a number of contributions to practice. The first implication of this study is the variables of change management namely "stakeholders involvement", "system view", "evolving mindset", "understanding transition", "system design" and "system evaluation" influence three aspects of e-learning implementation, namely "ownership and control", "academic transform", and "service and satisfaction". This finding will enable educators and e-learning management teams in private higher education institutions, to create a more refined strategy to carry out successful change management.

In addition, this contribution can be discussed further in terms of status and trend, problem and challenges and ways to adapt to change and the journey of e-learning implementation. Leaders and top management of private higher education who integrate teaching and learning, advancement of the knowledge should concentrate in constructing a vision and a mission that relates to educators, teaching and learning.

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