SUCCESS OF E-LEARNING SYSTEMS IN MANAGEMENT EDUCATION IN CHENNAI CITY – USING USER'S SATISFACTION APPROACH

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ABSTRACT
The learning is inevitable part in every individuals' life which enriches their knowledge, skill, and attitude and enhances their competencies and capabilities. The employability of an individual depends on their competencies and capabilities. The e-learning plays an important role in enhancing the employability of the individuals. The purpose of the research paper is to analyze the users' satisfaction towards e-learning systems in management education in Chennai city. The researcher contacted all engineering colleges, Arts & science colleges, Standalone institutions, and business schools located in Chennai city, Tamil Nadu state, India which offers Master of Business Administration (MBA) programme in their educational institutions and also implemented e-learning course to develop the communication skill, soft skill, quantitative aptitude, verbal reasoning, and subject knowledge. The research survey was conducted among 360 samples (i.e. 300 management students, and 60 faculty members). The data collection instrument has six critical dimensions such as learner, instructor, course, technology, design, and environment. The frequency analysis, mean, standard deviation, and confirmatory factor analysis was used to analyze the primary data of the research. The results of the research indicates that all the critical dimensions of e-learning such as learner, instructor, course, design, technology, and environment are having significant positive relationship on measuring success of e-learning systems used in selected management educational institutions located in Chennai city. It is also found that users' (management students and faculty) are having more than moderate level of satisfaction towards all the dimensions of critical dimensions of success of e-learning systems. **Keywords:** e-learning success, management education, user satisfaction, Chennai city, management institutions.

INTRODUCTION

The education sector in India faced tremendous changes in recent time because of technological transformation around the world. The evolution of Information, Communication, and Technology (ICT) based tools made learning interesting and real-time experience. The self-learning of any technology, concepts are at finger tips at reasonable cost. The ICT tools made possible customized learning at convenient time. The term 'e-learning' refers to learning through electronic networks with internet. The e-learning made possible of online learning, which connects the eminent academicians and learners from different parts of the world. Various industries around the globe utilizes e-learning to educate, train, and provide continuous education to their employees through customized e-learning systems. All different kinds of educational institutions utilizes e-learning systems to enhance the experience of learning process. The e-learning provides great contribution towards school education, technical education, management education, medical education, etc. Now-a-days, the management education significantly utilizes the e-learning systems in order to enhance the KSA (knowledge, skill, and attitude) of the students, which increases their employability in business industry. The eLearning prepares the management students according to the industry expectations. The success of e-learning is measured through four different approaches such as technology acceptance model approach, user satisfaction approach, e-learning quality approach, and DeLone and McLean model approach (Alsabawy et al., 2012). The user satisfaction approach is used in the research in order to examine the success of e-learning systems used in management education. The prime aim of this research paper is to analyze the users' satisfaction towards e-learning systems in management education in Chennai city.

THEORTICAL FOUNDATIONS

Learners' Characteristics
Learners' perspective is an important dimension of e-learning system which deals with their perceived benefits by adopting e-learning systems. E-learning has no worth without beginners using the e-learning systems. Students of this generation have made it more demanding for education is increasing use of e-learning. For example, with the rises in the need for education is approaching from female non-traditional students with grown children, full-time, work part-time, and part-time students that work full time.

Instructors' Characteristics

Another important dimension is Instructors' perception towards the effectiveness of e-learning systems. The learning outcome are always influenced by attitude the user has toward the technology, teaching styles, and control over technology. Preceding research studies established that an instructor's technology control along with providing sufficient time to interact with students influences learning results.

E-Learning Environment

Lennon & Maurer, 2003 stated that "E-learning atmosphere denotes to where students connects online resources, use systems to access the online prospectus and communication, obtain tutor assistance, and receive assessment". Constructs which are applicable for a positive e-learning atmosphere contain of social influence, learners' perceived interactions with others, diversity in assessment, and perceived autonomy support.

Institution and Service Quality

Service quality expressively effects customer satisfaction. It is evaluated with five major dimensions of SERVQUAL such as: tangibles, reliability, responsiveness, assurance, and empathy. Whereas accessibility of equipment, training and enough support provided are also the major issues for e-learning acceptance. Moreover service quality, contains administrative interest such as management, funding, maintenance, and the delivery of resources, and are absolutely connected to satisfaction of the learners'. Likewise flexibility with regards to the program and course have an optimistic effect on learners' satisfaction with any e-learning courses, particularly for learners those who has to manage the battle with time, work, and family.

Infrastructure and System Quality

Technology has an important role in delivering learning outcomes because learners interact more in e-learning environments than with traditional face to face instruction. System design facilitates formative interactions, controls organizational activities, and provides correct and sufficient information to reduce uncertainty. System quality has a strong positive effect on learners' satisfaction and directly affects user beliefs. Factors that are relevant for infrastructure and system quality include Internet quality, facilitating conditions, reliability, ease of use, system functionality, system interactivity, system response, and equipment accessibility.

Course and Information Quality

Meaningful educational experiences are brought by well-designed courses, curriculum, and learning materials facilitate to the learners. Information quality is well-defined as the accuracy, completeness, ease of understanding, the significance of online course materials, which is measured in relations of accuracy, timeliness, completeness, relevance, and consistency. Learning is a complex activity because in accumulation to teaching skills, curriculum and teaching resources impact the learning process establish that information quality has a robust positive effect with regards to learners' satisfaction.

REVIEW OF LITERATURE
Literatures related to users' satisfaction towards e-learning system

Shayan and Iscioglu (2017). Learning Management Systems (LMS) have played a significant role in education. The purpose of this study is to investigate the acceptance level of LMS amongst students of two Universities in Tehran, Payamnoor and Farhangian. The total number of participants was 200. This study was directed based on a quantitative research method and data collection from a questionnaire which was then interpreted according to accurate statistical procedures through SPSS software. Results show that most students, regardless their gender, age, and department were satisfied with the usage of Payamnoor and Farhangian LMSs. However, a student's grades seem to play a significant role regarding his or hers level of satisfaction from the LMS.

Dreheeb et al. (2016), in their paper focused on the system quality of e-learning. The e-learning system depends on the quality to be successful and the real success is sustained usage. The users of e-learning system will stop using such system if the quality is poor, where often the users reject the system unless they try it, where the intentions of continuing using the system are still weak. There are several attributes and functionalities that can have an impact on the use of e-learning based on user perspective, such as are usability, reliability and efficiency. These quality attributes are used to reflect the quality of the software product. The intended objective of this study is to develop an appropriate model for e-learning to satisfy the users from the side of using the e-learning system, where carried the

discussion of twenty-four model with thirty attributes. Finally, the result of this study adopted the process of structural equation model which indicated that the hypotheses have positive relations.

Esterhuyse et al. (2016), investigated the relationships between the metrics influencing intention to use and the satisfaction of using e-learning in companies. The results of a survey distributed amongst a South African software development company's customer base revealed that the 94 respondents have positive enjoyment and self-efficacy levels, and low computer anxiety levels. Correlation analysis revealed significant relationships between enjoyment and self-efficacy and between enjoyment and satisfaction. Companies should therefore ensure that users enjoy using e-learning as it can directly influence satisfaction and self-efficacy.

Norzaini and Redzuan (2016), conducted using the qualitative method to identify the learner satisfaction on the synchronous e-learning style and also to identify what are the issues and challenges that can be improved towards the implementation of successful synchronous e-learning. A model called E-Learner Satisfaction (ELS) model is introduced to design a tool for data collection and analysis. This study has identified the student's satisfaction level towards the usage of synchronous e-learning and also identified several issues that is linked to the weaknesses of the system and the challenges faced by students.

Cheung and Lee (2011), investigated antecedents and consequences of user satisfaction with an e-learning portal. Building on prior literature, the research model postulates a positive link between overall satisfaction and intention to continue to use an e-learning portal. Data collected from 504 undergraduate students are examined through the Structural Equation Modeling approach with Partial Least Squares (PLS). Empirical findings demonstrated that our research model provides a relatively high explanatory power. Moreover, all associated hypotheses are found to have statistically significance. The implications of this study are noteworthy for both researchers and practitioners.

Literatures related to success of e-learning system

Basak et al. (2016), presented a conceptual framework on the critical success factors of e-learning implementation in higher education, derived from an in-depth survey of literature review. The aim of this study was achieved by identifying critical success factors that affect for the successful implementation of e-learning. The findings help to articulate issues that are related to e-learning implementation in both formal and non-formal higher education and in this way contribute to the development of programs designed to address the relevant issues.

FitzPatrick (2012), in his article attempted to explore the key success factors of eLearning in Education. Technology has changed the way that we live our lives. Interaction across continents has become a forefront of everyday engagement. With ongoing enhancements of technology, people are now able to communicate and learn in a virtual environment similar to that of the real world interaction. These improvements are shared in the field of education, where eLearning is becoming less static and more socially interactive. However, even though technology enhancements are enabling us to be more eLearning successful, there is still an enormous amount of uncertainty in how to implement eLearning successful. This is particularly the case in education for secondary schools. There is an evident struggle for schools to successfully implement eLearning effectively. With this in mind, the goal of this paper is to outline a professional development model, created to evaluate and support eLearning in education.

Shangeerthana and Chandrasekar (2016), in their study provided an insight about the key factors that can be re-considered for implementing ELearning in any of the India based Corporates towards its success by overcoming the failures, which can be accomplished by means of setting light to Employee's Learning strategy (in other words, E-Learning:- Employees Learning in Corporate).

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Prougestaporn et al. (2015), in their paper summarized the key success factors to create effective e-learning for higher education study, and review the applicable criteria's to evaluate the effectiveness of e-learning for higher education. The methodology was to review the literatures, relevant previous studies, and survey from respondents include students and experts. The paper summarized that there were 4 key success factors to create effective e-learning for higher education study, and there were four main criteria's to evaluate the effectiveness of e-learning for higher education.

Chen and Edward (2008), in their paper explored the concepts and best practices of successful e-learning in corporations. It will first describe what e-learning is as well as its history in relation to educational models. A brief

introduction will cover the variety types of e-learning. The paper will then provide information on e-learning limitations such as various standards, lack of infrastructure and architecture, and at length discuss employee motivation and cultural resistance to e-learning. Organizational advantages and benefits of e-learning will be outlined. Some of them include cost savings on travel, globalization, improved value-chain activities, and return on investment. Finally the paper will present some success stories and discuss the future implications of e-learning in corporations.

Bhuasiri et al. (2012), identified the critical success factors that influence the acceptance of e-learning systems in developing countries. E-learning is a popular mode of delivering educational materials in higher education by universities throughout the world. This study identifies multiple factors that influence the success of eLearning systems from the literature and compares the relative importance among two stakeholder groups in developing countries, ICT experts and faculty. This study collected 76 usable responses using the Delphi method and Analytic Hierarchy Process (AHP) approach. The results reveal 6 dimensions and 20 critical success factors for e-learning systems in developing countries. Findings illustrate the importance of curriculum design for learning performance. Technology awareness, motivation, and changing learners' behavior are prerequisites for successful e-learning implementations. Several recommendations are provided to aid the implementation of e-learning systems for developing countries which have relevance for researchers and practitioners. Limitations as well as possible research directions are also discussed.

RESEARCH MODEL DEVELOPMENT

The researcher developed a research model to be tested through Confirmatory Factor Analysis using IBM AMOS 20.0 software based on the literature review summarized in the previous section of the research paper. The success of e-learning system used in the management educational institutions was verified through user satisfaction approach based on six important dimensions such as learner, instructor, course, technology, design, and environment. The research model of the present study is presented in figure 1.
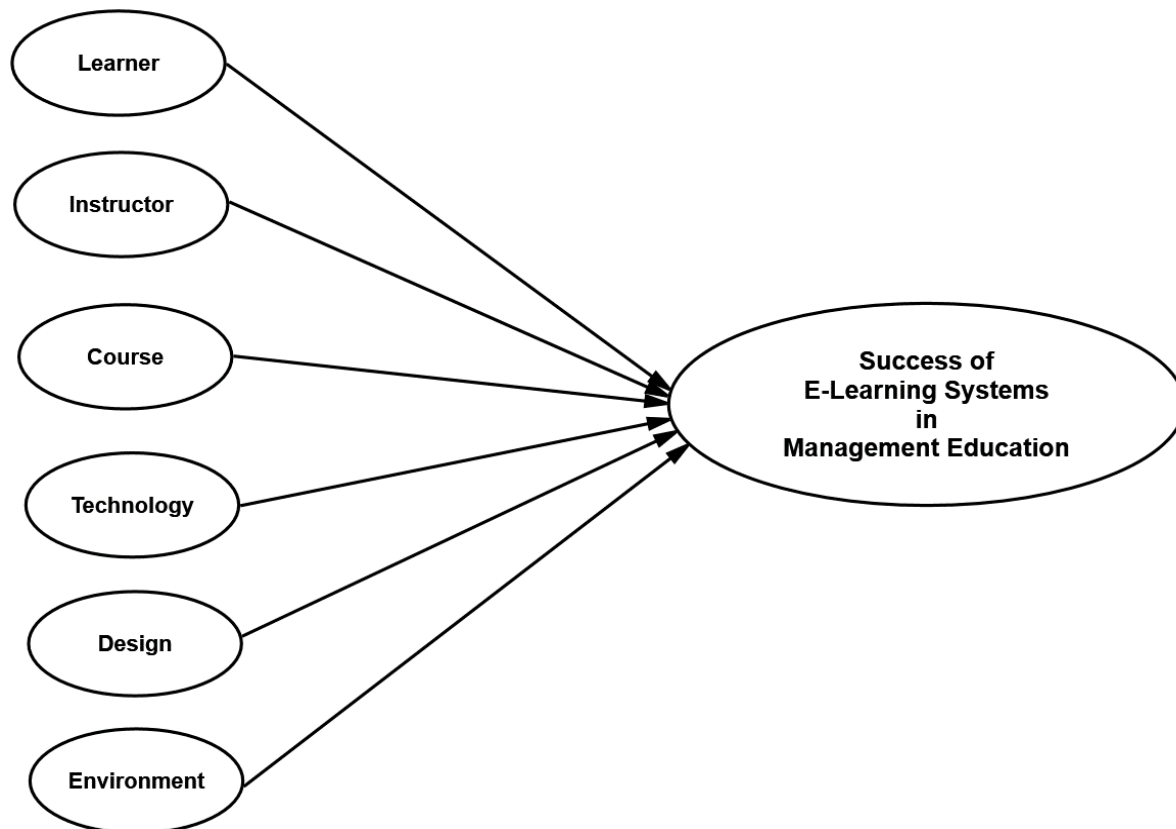
Figure 1. Research Model

RESEARCH METHODOLOGY

Research Design

The research followed exploratory research design in order to explore the success of e-learning systems in management education in Chennai city using users' satisfaction approach.

Data type and Data collection method

The primary data of the research was collected through self-administered questionnaire using survey data collection method, whereas the secondary data of the research was collected from print media (i.e. newspaper, books, magazines, and print journals) and internet media (e-books, web portals, e-journals). The primary data of the research is useful in examining the user satisfaction towards e-learning systems adopted in their management educational institutions. If the users are more satisfied which means it fulfills their expectations and requirements so the e-learning systems adopted in their management educational institution is successful. The secondary data was very useful in identifying the constructs, factors, and items used in earlier researches in various industries and educational domains..

Scale Development

The data collection instrument of the survey was designed based on Sun et al. (2008) which has six critical six dimensions such as learner (5 items), instructor (5 items), course (5 items), technology (5 items), design (5 items), and environment (5 items). The questionnaire has totally 38 items including eight demographic profile questions. The personal questions are of open-ended (name), close-ended questions (all other questions) measured through nominal and ordinal questions. The main dimensions of the questionnaire were measured through Likerts' five point satisfaction scale from 1- Highly Dissatisfied, 2- Dissatisfied, 3-Neutral, 4-Satisfied, and 5-Highly Satisfied. Two sets of questionnaire, one for faculty and another one for students with similar kind of questions are designed for data collection.

Sample and Procedure

The researcher contacted all engineering colleges, Arts & science colleges, Standalone institutions, and business schools located in Chennai city, Tamil Nadu state, India which offers Master of Business Administration (MBA) programme in their educational institutions and also implemented e-learning course to develop the communication skill, soft skill, quantitative aptitude, verbal reasoning, and subject knowledge. However, among the educational institutions contacted 50 institutions contacted only 15 institutes accepted for survey, from each institute 10 first year (II Semester), 10 second year (IV semester) MBA students, four faculty members were included for the survey which leads to the sample of management students (300 samples), and faculty (60 samples), with the total sample size of 360. The stratified random sampling technique was adopted to select the samples from the population.

Pilot study

The preliminary study was conducted among thirty five samples (25 students and 5 faculty members). Based on the data collected reliability of the questionnaire was found through split-half method using IBM SPSS 22.0 software. The table 1 presents the reliability Cronbach alpha coefficients of all the six factors used in the study.

Table 1. Success of E-learning Systems - Reliability Analysis Results

S. No	Factors	No. of Items	Chronbach Alpha
1	Learner	5	0.747
2	Instructor	5	0.864
3	Course	5	0.764
4	Technology	5	0.959
5	Design	5	0.853
6	Environment	5	0.877
7	Success of E-Learning Systems	30	0.839

From the above table 1, it is identified that all the factors of success of e-learning system are having Chronbach alpha coefficients more than 0.7 (Hair et al., 2010), which means that all the factors are reliable.

RESULTS AND DISCUSSION

This section of the research paper is divided in to three sub-sections namely demographic profile of the respondents, descriptive statistics, and Confirmatory Factor Analysis (CFA) of the research model. The results of both the section are discussed with table and interpretation.

Profile of the Sampled Users

The demographic profile of the sampled users which includes management students and faculty are summarized in table 2.

<div align="center">Table 2. Profile of sampled Users</div>

S. No	Demographic Variables	Students		Faculty	
		Frequency	Percent	Frequency	Percent
1	**Gender**				
	Male	162	54.0	37	61.7
	Female	138	46.0	23	38.3
2	**Age Group**				
	20 – 25 Years	294	98.0	8	13.3
	25 - 35 Years	6	2.0	30	50.0
	35 - 45 Years	-	-	12	20.0
	Above 45 years	-	-	10	16.7
3	**Qualification**				
	Undergraduate	293	97.7	-	-
	Postgraduate	7	2.3	43	71.7
	Doctorate	-	-	17	28.3
4	**Computer Proficiency**				
	Basic	57	19.0	12	20.0
	Intermediate	217	72.3	31	51.7
	Advanced	26	8.7	17	28.3
5	**Designation**				
	Student	300	100.0	-	-
	Assistant Professor	-	-	42	70.0
	Associate professor	-	-	10	16.7
	Professor	-	-	8	13.3
6	**Work Experience**				
	Fresher	291	97.0	-	-
	Upto 1 Year	6	2.0	4	6.7

1 - 3 Years	3	1.0	12	20.0
3- 6 Years	-	0.0	27	45.0
Above 6 Years	-	0.0	17	28.3
7	**Overall satisfaction to E-learning systems implemented in Management Educational Institutes**			
	Highly Dissatisfied	5	1.7	2	3.3
	Dissatisfied	2	0.7	1	1.7
	Neither dissatisfied Nor Satisfied	13	4.3	4	6.7
	Satisfied	125	41.7	21	35.0
	Highly Satisfied	155	51.7	32	53.3
	Total	**300**	**100.0**	**60**	**100.0**

From the analysis, it is found that out of 300 management students 54% of them are male and rest of them are female. Out of 65 management faculty surveyed, majority (61.7%) of them are males and remaining of them are females. The study reflects that 98% of the respondent from student categories fall under the age group of 20-25 years, while 50% of the faculty those who were surveyed belong to the age group of 25-35 years. With regards to the qualification 97.7% of the students have completed their degree and 71.7% of the faculty have their academic qualification as post graduate.

It is also found form the study that 72.3% of the students had their computer knowledge in Intermediate level and 51.7% of the management faculty are also having Intermediate level knowledge in computer usage. Majority of the users taken for survey are students and 70% of the respondent were having their designation as Assistant Professor and 45% of the faculty had a work experience of 3-6 years. It is also inferred from the study that 51.7% of the students and 53.3% of the faculty were highly satisfied with e-learning systems in management education in Chennai city

Descriptive Statistics
Descriptive statistical tools describe the users' satisfaction towards various dimensions of success of e-learning systems with mean and standard deviation through the table 3.

Table 3. Success of E-learning Systems – Descriptive Statistics Results

S. No	Factors	Mean	Standard Deviation
1	Learner	4.03	0.134
2	Instructor	3.97	0.267
3	Course	4.11	0.735
4	Technology	3.81	1.357
5	Design	4.24	1.683
6	Environment	3.67	1.834
7	Success of E-Learning Systems	23.83	2.468

The mean score of all the six dimensions of success of e-learning systems ranges between 3.67 and 4.24. The users conveyed highest satisfaction towards design of the e-learning system (4.24) and least satisfaction towards the environment of the e-learning systems (3.67), however the users of e-learning systems have exhibited more than moderate level of satisfaction towards all the critical dimensions of e-learning systems. The overall score of e-learning systems is found to be 23.83. The standard deviation of the dimensions depicts the variance among the users in their perception towards selected dimensions of Success of E-Learning Systems.

Confirmatory Factor Analysis (CFA)
The research model to be tested is developed using IBM AMOS 20.0 software. The researcher developed second-order CFA by considering the factors of the research has observed variables using Average scores of all the relevant items. After connecting data sources to the research model, the CFA of the research was analyzed. The Figure 2 illustrates the CFA of success of e-learning systems implemented in management educational institutions using users' satisfaction approach.
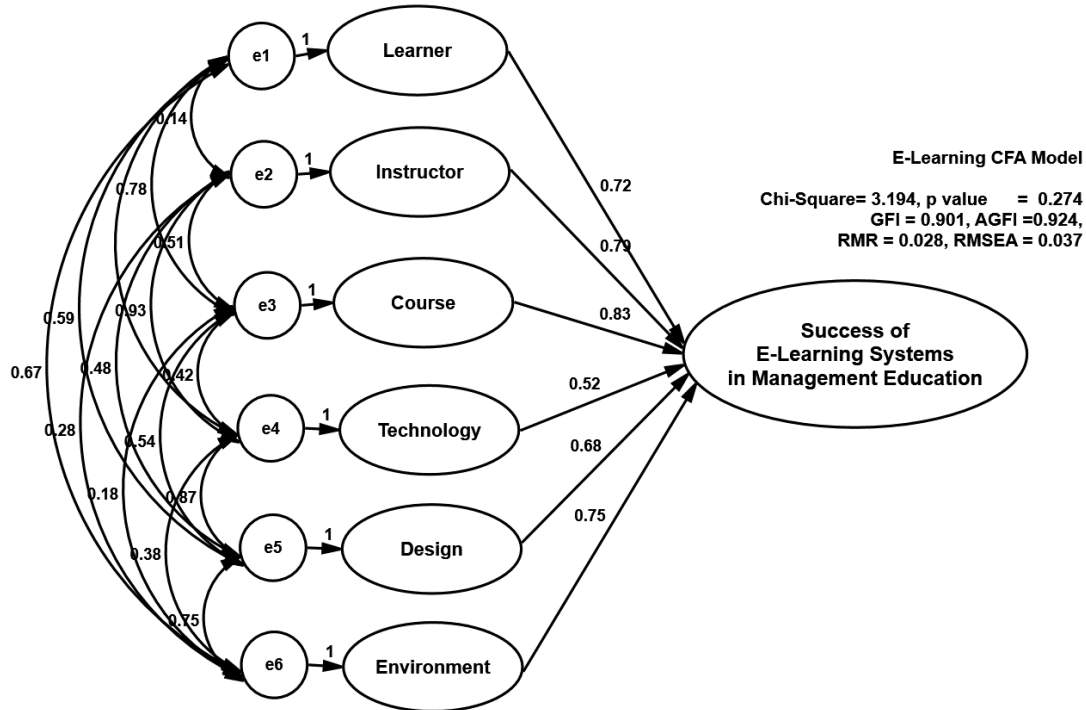
Figure 2. Confirmatory Factor Analysis

The results of the confirmatory factor analysis indicates that all the six critical dimensions of success of e-learning systems are having significant positive factor loading with more than 0.5, which indicates that all the factors are having significant influence on success of e-learning systems and all these relationships are significant at 1% level. The confirmatory factor analysis of the given research model also confirms convergent validity of the questionnaire. The model fitness indices of the research model indicates that all the indices shown in the model are having the values in the recommended range.

CONCLUSION
The e-learning supplements even sometimes complements the management education through appropriate design, develop, and delivery of the course related to the management education. Based on the results of the study, it is concluded that all the critical dimensions of e-learning such as learner, instructor, course, design, technology, and environment are having significant positive relationship on measuring success of e-learning systems used in selected management educational institutions located in Chennai city. It is also found that users' (management students and faculty) are having more than moderate level of satisfaction towards all the dimensions of critical dimensions of success of e-learning systems. Through this research paper, it is recommended to the policy makers and educational e-learning course developers that the exhaustive research on user satisfaction on e-learning systems with all possible dimensions of e-learning systems may uncover the true picture on success and effectiveness of e-learning systems in acquiring required KSA by the students which enhances their employability.

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