

EXPLORATION OF E-LEARNING VS TRADITIONAL LEARNING IN INDIA

Gulbir Singh¹, Vivek Bhatnagar², Rajeev Gupta^{3*}, Gautam Kumar⁴

^{1,4}Assistant Professor, MMICT&BM, M. M. (Deemed to be University), Mullana, Ambala, Haryana, India, ²Associate Professor, MMICT&BM, M. M. (Deemed to be University), Mullana, Ambala, Haryana, India, ³Assistant Professor, M. M. Engineering College, M. M. (Deemed to be University), Mullana, Ambala, Haryana, India.

Email: ¹gulbir.rkgit@gmail.com, ²vivek.bhatnagar@mmumullana.org, ^{3*}rajeev.gupta@mmumullana.org, ⁴gautam.bopara@gmail.com

Article History: Received on 14th December 2019, Revised on 20th February 2020, Published on 11th March 2020

Abstract

Purpose of Study: The purpose of the study is to carry out the comparison of traditional learning and e-learning with reference to university education.

Methodology: A comparative analysis method that has been selected to fulfill the purpose of the study. The research data has been collected by various sources internet, previous research studies published in the Journal, universities which offer different technical and nontechnical programs .and further analyzed by in-depth understanding approach.

Result: The outcome of this study will show the effect of e-learning in the current era. As we have compared e-learning with traditional learning and the result shows us that e-learning has filled the gap between the universities and the real-life industries' demands.

Main finding: The result of this study showed that e-learning is the need of the present era in order to fulfill the gap between the universities and the real-life industries' demands. Additionally, e-learning based courses will have more impact and provide more skill and exposure to students as compared to traditional learning mode.

Implications/Applications: This article can help the different universities and students to introduce more e-learning courses in their curriculum and they can fill the real-time industries' demands.

Novelty/originality of the study: Our research can ensure that e-learning has a huge impact on our students and can help to increase the skills and exposure of them according to the current demands.

Keywords: E-Learning, Traditional Learning, Internet, Universities, Industries, Exposure, Skills, LMS, Moodle, Project-based Learning, India, Google Docs, 3D-Printing, Gamification, Cloud-Based Learning, Wearable Technologies.

INTRODUCTION

“Don't limit a child to your own learning, for he was born in another time.” **Rabindranath Tagore**

E-learning is an educational and learning method that uses ICT to interact and collaborate in educational media. E-learning's rate and effect vary from stage to stage in our life. These trends have also opened up new educational avenues and have resulted in traditionally held changes. India is passing through a very curtail stage of development and facing the problems posted by market environment and rapidly changing technology. Today students feel the school is not interactive or challenging enough. E-learning has brought back the enjoyment in learning through its interactive, innovative content and delivery. In the distance education system, E-learning became a new mantra for providing higher education courses over long distances. Perceptions about how education is obtained, Students are now quickly adopting technology as a medium for attending classes remotely, either through VSAT enabled school rooms or through virtual classrooms in the online mode. [Joe Pulichino, \(2005\)](#) ([Shaikh Farhat Fatma, \(2013\)](#))

The engineering education community captured more attention worldwide as compared to others in the past few decades. Specifically, in Computer Engineering lots of innovations/advancements have happened which changes the face of the modern digital world. From the time the Internet came in light, the working culture of industries tremendously changed, as everything is interconnected. Due to advancements in technology IT industry adapting these new technologies rapidly in order to provide reliable services as well as to win the completion in the market with each other. Like (As per our study examples should be from Software area we're providing time to time) if we take a look on databases previously RDBMS (SQL) was in demand but from past, one decade (No-SQL) achieved a lot in the industry, Similarly, some Open-Source products widely used by developers Nowadays which was not the case earlier? So, the thing is with such changes in technology, demand for manpower who can work very well with such advanced technologies increases day by day. The skills gap needs to be addressed by universities, and this problem has existed for many years and doesn't seem to be getting fixed. The conception here is that with respect to advancement in technologies adapted by industry similar changes have to be done in academic courses. So that newcomers who're pursuing their graduate or undergraduate degrees can enhance their skills during the academic only as soon as possible. But there are lots of obstacles in the way of course development, which every university has to tackle first while initiating that task. There are various notion comes in mind while new course development task takes place, it may be possible that university is hiring

senior Content Writer or gonna use Open Education Resources for making enhancement(s), the decision depends on the situation or content already in hand, both the methodologies have their own pros and cons. Okay, let's talk on both these choices in a bit. Open Education Resources means information is freely available and accessible for everyone i.e. traditional as well as non-traditional learners can take benefit from it. So that with open license facility adaption, repurposing of education contents can be done without any hurdle for seeking permissions [Kawatra, P. S., & Singh, N. K. \(2006\)](#). OER are quite helpful but sometimes suitable or necessary amount of information for writing contents of new courses not available, In these situations utilization of content, a writer takes place but has its own drawbacks like: Time-Extensions, Plagiarism, Revision, Cost, etc. Apart from all these issues while developing new courses, permission has to be taken from educational government bodies regarding how much alteration has to be permitted in existing courses.

Need of E-Learning

Overall most of the students failed in the live environment, especially in software industries after completing their graduate degrees. The main reason behind the real culture of software industries is purely different from traditional studies in universities and colleges. To fill this gap and create links between universities and real-life industries we introduced this e-learning. In the e-learning courses where students were working on the live projects from day 1 and playing the role of interns and the teachers play the role of managers.

Tools for e-learning

LMS (Learning Management System)

Learning the Management System (LMS) is an application for the documentation organization, following, announcing, and conveyance of instructive courses, preparing projects, or improvement and learning programs. The learning framework idea developed legitimately from e-Learning. In spite of the fact that the principal LMS showed up in the advanced education part, most of the LMSs today center on the corporate market and education industries. Learning Management Systems make up the biggest section of the learning framework advertise. The main presentation of the LMS was in the late 1990s.

Teaching the board frameworks were intended to distinguish preparing and learning holes, using expository announcing and information. LMSs are centered over web-based learning conveyance yet bolster a scope of employments, going about as a stage for online materials, including courses, both content-based and synchronous based. An LMS may offer study hall the executives for teacher drove preparing or a flipped homeroom, utilized in advanced education, however not in the corporate space.

An LMS delivers and manages all kinds of content, as well as videos, courses, and documents. within the education and better education markets, associate LMS can embody a spread of practicality that's like company, however, can have options like rubrics, teacher and educator expedited learning, a discussion board, and infrequently the utilization of a curriculum. A curriculum is never a feature within the company LMS, though courses could begin with heading-level index to provide learners an outline of topics lined.

Gamification

Through gamification, e-learning becomes fun and learning can be done via videos and different games which is very interactive for learners and beginners.

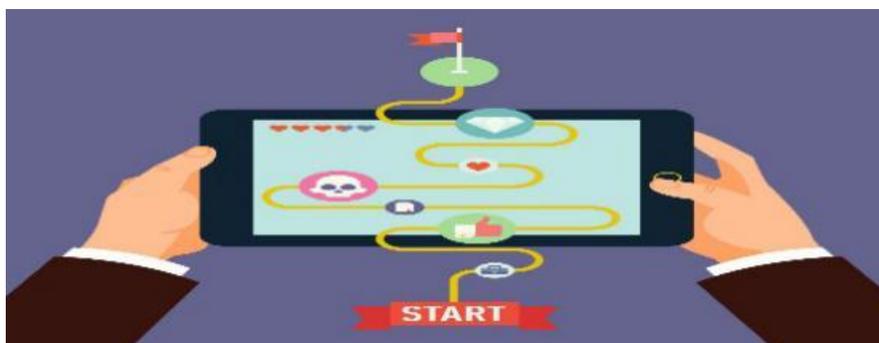


Figure 1: Gamification and Game-Based Learning

Source: <https://www.eidesign.net/gamification/>

Cloud-Based Systems

Today most of the companies which provide learning in a centralized way use a cloud-based system. The cloud-based system can enable them to provide e-learning to the learners at the same time over the globe using the virtual environment. The cloud-based learning reducing the traditional way of coaching.



Figure 2: Cloud-Based Systems.

Source: <https://www.skillssoft.com/blog/2014/07/what-is-cloud-based-learning/>

Wearable Technologies

The Google Glass, Apple Watch, Oculus Rift, Moto 360, and are a few of the **brainstorming innovations** which are commonly used in the e-learning industry.



Figure 3: Wearable technology

Source: <https://www.investopedia.com/terms/w/wearable-technology.asp>

3-D Printing

The 3-dimensional (3D) printing is the method of preparing a real-time object from a 3-dimensional model. 3D technologies can be applied to several fields like history, science, design, and mathematics. The 3D objects can be created quickly and can be used as an original or natural one. However, creating a 3D print of any object is very costly right now but in the enhancement in the technologies we may assume that it will become cheaper in the future.



Figure 4: 3D Printing

Source: <https://3dprinting.com/what-is-3d-printing/>

Outcome of e-learning

1. Practical exposure
2. Project-based learning
3. Job-ready professionals

E-learning is currently a well-established part of standard campus-based learning. However, in spite of great makes an attempt and variety of huge scale comes and also the institution of a national support structure e-learning has still not treated as a revolution to distance education and versatile learning. Regarding 100 percent of all students registered at establishments of upper education take distance courses however most of those courses aren't extremely e-learning courses.

There square measure essentially two components or phases of e-learning. In one part e-learning is employed for instructional purpose and at a different level, it's been used for coaching. The educational; use is proscribed to secondary and better secondary level. Within the second part, it's accustomed to offer to coach to the staff and to upgrade their skills. E-learning is growing at an awfully low rate in Bharat as compared to the international market wherever it's being employed in the least levels. The e-learning doesn't appear to exchange the traditional lecture rooms with blackboards however it appears to be with the already existing system. it's time we have a tendency to put together move the ability of the net for learning from promise to apply. Nothing will replace ancient schoolroom teaching; however, e-learning enhances the method and may facilitate reach bent the plenty.

LITERATURE REVIEW

From the 18th century, the distance education can be traced from a correspondence print-based study in the United States. In the mid of the 19th century, the correspondence education stats developing and spread to European Countries like Great Britain, Germany, Franc, and the United States.

During the late 1960s and 1970s, there were significant changes in distance education due to the development of new media technologies and different delivery systems. The distance education was first introduced by Open University in Great Britain which offers a college degree through distance education. The university uses all possible use of new technology to deliver learning to the students. In India, the Open and Distance educations come in 1960's. During the year 1980, there were 34 different universities that offer different courses thought distance education in India. In 1982, the first Open University named Indira Gandhi Nation Open University (IGNOU) was established in Andhra Pradesh and subsequently opened in different states of India like Rajasthan, Bihar, Utter Pradesh, Madhya Pradesh and Maharashtra between 1980s to 19190's. In the year 1995, a total of 2,00,000 students enrolled in open and distance education, accounting for 3% of them were reenrolled in higher education. ([Joe Pulichino. \(2005\)](#)) ([Shaikh Farhat Fatma, \(2013\)](#))

Most of the universities which offer Open and distance education follow the model of UK's Open Universities. The universities coordinate, collaborate and communicate through Distance Education Council (DEC) which was founded in 1992. The DEC is responsible for maintaining quality, promotion, and coordination.

A range of things as well as rising ICTs, liberalization, privatization and economic process have amplified the demand for open and distance learning. Whereas the govt. is to blame for over ninetieth of open and distance learning funding, plans are current to involve the non-public sectors additional closely, particularly through allowing the rise of fees. ([Kawatra, P. S., & Singh, N. K. \(2006\)](#)) ([Kumar G., Singh G., Bhatanagar V., & Jyoti K. \(2019\)](#))

Table 1: Advantages of Traditional and E-Learning Environment

	Traditional Classroom Learning	E-Learning
Advantages	<ul style="list-style-type: none"> • Immediate feedback • Being familiar to both instructors and students • Motivating students • Cultivation of a social community 	<ul style="list-style-type: none"> • Learner-centered and self-paced • Time and location flexibility • Cost-effective for learners • Potentially available to global audience • Unlimited access to knowledge • Archival capability for knowledge reuse and sharing
Disadvantages	<ul style="list-style-type: none"> • Instructor-centered • Time and location constraints • More expensive to deliver 	<ul style="list-style-type: none"> • Lack of immediate feedback in asynchronous e-learning • Increased preparation time for the instructor • Not comfortable to some people • Potentially more frustration, anxiety, and confusion

Source: [Dongsong Zhang, J. Leon Zhao, Lina Zhou, and Jay F. Nunamaker, Jr., \(2004\)](#)

With the rapid climb of e-learning, significantly in education establishments ([Loh et al. 2016](#); [Demirkan, Goul, and Gros 2010](#) and [Weng 2015](#)), successful e-learning has been investigated and discussed in various studies, from in different contexts, and different perspectives ([Sela and Sivan 2009](#); [Bhuasiri et al. 2012](#); [Soong et al. 2001](#); [Holsapple and Lee-Post 2006](#); [Lieblein 2000](#); [Selim 2007](#); [Alias et al.2012](#); [Sun et al. 2008](#); [Govindasamy 2001](#); [Swan et al. 2000](#); [Volery](#)

and Lord 2000). In this regard, [Bhattacharjee \(2001\)](#) pointed out that though initial acceptance is crucial for the success of the associate data system, its semi-permanent viability and ultimate success depend upon its continuing usage instead of its initial use. Other studies ([Limayem and Cheung 2008](#); [Chiu, Chiu, and Chang 2007](#); [McGill, Klobas, and Renzi 2014](#)) have also focused on the continued usage as the major determinant of e-learning success. Thus, issues related to the continuation of e-learning have quickly been examined by researchers, particularly those factors that affect e-learning continuation. In this regard, [Chiu et al. \(2005\)](#) stated that users' continuation intentions once initial use square measures the foremost indicator of e-learning success.

METHODOLOGY

Research design and sampling method – In the present study researcher used a holistic approach by using a comparative analysis method. The population of the study was all the content published in prints /online books, research papers, magazines, etc. The convenient purposive sampling techniques were used in selecting content.

Data Collection – The secondary data was obtained for this research which is collected by using the library and online browsing system.

Data analysis – The data were analyzed y using in-depth understanding by using the quality method and latter the comparison has been prepared by using pictures, tables, and graphs.

RESULT AND ANALYSIS

A comparison of the frequent existing platforms is exposed. This comparison is focused on the utility offered by these platforms on the behalf side of e-learning. The e-learning platform provides all the choices offered by other platforms and to add a special feature: the conversion of the content created by learners with a digital pen. This feature allows the management of this digitized content through modifying and creating documents to keep indifferent e-learning platforms (Moodle and Google). It allows permits the cooperative edition of the digitized documents and thus the automated analysis of exercises.

	Blackboard	Moodle	Sakai	Google Docs	E-Learning
Course Management	✓	✓	✓		✓
Self-assessment services	✓	✓	✓		✓
Real-time collaborative online edition				✓	✓
Automatic digitized notes uploading					✓
External platforms integration					✓

Figure 5: Comparison of the existing learning platform

Source: Self Proposed

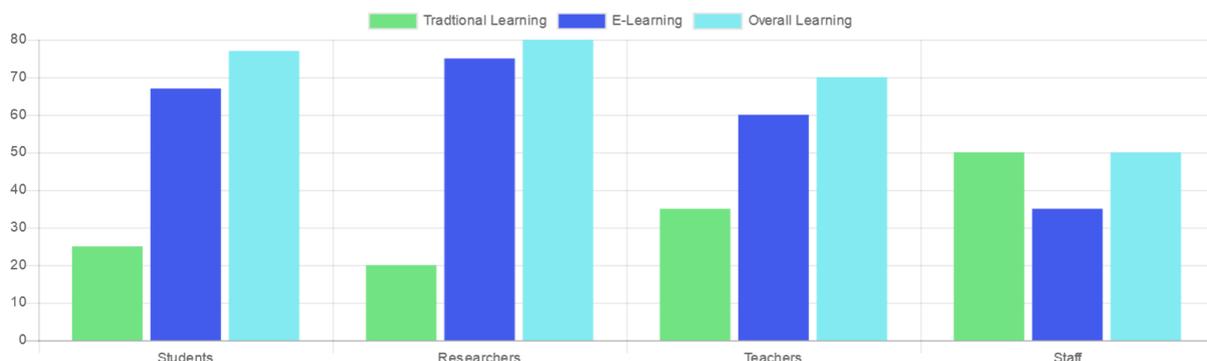


Figure 6: Students, researchers, teachers and staff feedback on e-learning, traditional learning, and overall learning

Source: Self Proposed



Figure 7: Comparison of e-learning, traditional learning and overall outcome with time

Source: Self Proposed

Figure 5 shows the compression existing learning platforms like Blackboard, Moodle, Sakai, Google Docs and e-Learning. The compression is done on the basis of the following criteria:

1. Course Management
2. Self-assessment service
3. Real-Time Collaboration
4. Automatic Digitized Notes
5. Integration of External Platform

The feedback of students, researchers, teachers, and staff were shown in figure 6. The feedback was taken over e-learning, traditional learning, and overall learning. From the figure, we can easily see that e-learning has a major import in education.

Figure 7 shows the overall growth of e-learning over the decade and it can clearly be seen that the growth of e-learning is readily increasing over time.

Top 10 growth rates by country

The given below growth rate shows how different country adopts e-Learning and a significant indicator since it can reveal different revenue opportunities. The growth rate of e-learning by different country is:

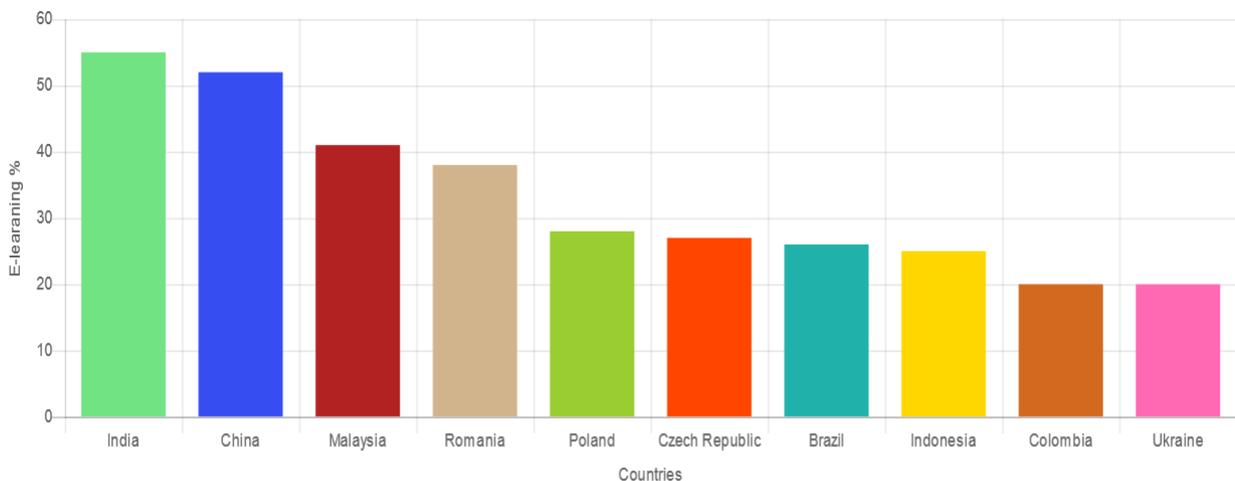


Figure 8: E-learning Growth Rate

Source: Self Proposed



By the above (figure 8) growth rate we can understand how the different countries are adapting to e-learning culture worldwide.

DISCUSSION/LIMITATION

Our research includes the comparison of traditional and e-learning environments in India. When we talk about the comparison of learning techniques it tends e-learning more independently as compared to traditional e-learning, and the whole environment is virtual. So the learners basically the students will take more interest and explore more. For e-learning, one needs to have some basic knowledge about the technologies in which the learning program is hosted. In e-learning, the cost may be a key factor while traditional learning is more cost-efficient. These are the few positive and negative features of e-learning and traditional learning, before choosing any these education medium the learner need to understand his/her requirement and abilities.

IMPLICATIONS OF THE STUDY

E-learning is defined as learning via electronic means such as the internet, video, audio or multimedia. Students may access learning material at any time of the day and anywhere in the world as long as they have access to the server that house the material. With globalization and technological advancement, e-learning has transformed the traditional model of instruction in higher education. It is apparent that the trend in higher education is to incorporate e-learning in the curriculum.

SUGGESTIONS FOR FURTHER RESEARCH

In future research, our team will try to compare the elearning which are currently available/used in India with different countries that are using elearning as their major learning resource.

CONCLUSION

The main objective of this research is to provide a comparison and need to have e-learning over traditional learning. The e-learning will continue to grow as the current era to fill the gap between industries and educational institutions. We did different compression of e-learning over traditional learning by taking different surveys and feedback from students, teachers, and researchers and found that they are ready to adopt the e-learning mode of educations.

In the end, the main fact with respect to e-learning and traditional learning is a barrier to growth and adoption. So, it is very important to choose e-learning through the use of different technologies for education as well as for daily routine activities in order to improve the knowledge of learners.

"On the road to e-Learning, make sure that Learning is in the driving seat, and Technology is in the passenger seat with the map. Learning decides the destination, Technology helps you get there." **Ian Fyfe Learndirect Scotland**

ACKNOWLEDGMENTS

This research is carried under the support and cooperation of **RVGG Center for Innovation and Research**, Ambala, Haryana, India. RVGG is committed toward world class research in the field of Education, Internet of Things, Smart Farming, and Artificial Intelligence to resolve social challenges in society at national and international levels.

REFERENCES

1. Alias, N. Z., Zakariah, N. Z., Ismail, & Aziz, M. N. A. (2012). E-learning Successful Elements for Higher Learning Institution in Malaysia. *Procedia-Social and Behavioral Sciences*, 67, 484–89. <https://doi.org/10.1016/j.sbspro.2012.11.353>
2. Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25 (3), 351–70. <https://doi.org/10.2307/3250921>
3. Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J. J., & Ciganek, A. P.(2012). Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty. *Computers & Education*, 58 (2), 843–55. <https://doi.org/10.1016/j.compedu.2011.10.010>
4. Chiu, C. M., C. S. Chiu, and H. C. Chang. (2007). Examining the Integrated Influence of Fairness and Quality on Learners' Satisfaction and Web-based Learning Continuance Intention. *Information Systems Journal* 17 (3): 271–87. <https://doi.org/10.1111/j.1365-2575.2007.00238.x>
5. Chiu, C. M., M. H. Hsu, S. Y. Sun, T. C. Lin, and P. C. Sun. (2005). Usability, Quality, Value and E-learning Continuance Decisions. *Computers & Education* 45 (4): 399–416. <https://doi.org/10.1016/j.compedu.2004.06.001>
6. Demirkan, H., M. Goul, and M. Gros. (2010). A Reference Model for Sustainable E-learning Service Systems: Experiences with the Joint University/Teradata Consortium. *Decision Sciences Journal of Innovative Education*, 8 (1): 151–89. <https://doi.org/10.1111/j.1540-4609.2009.00250.x>
7. Dongsong Zhang, J. Leon Zhao, Lina Zhou, and Jay F. Nunamaker, Jr., (2004). Can E-Learning Replace Classroom Learning. *Communications of the ACM*, Vol. 47, No. 5, pg 75-79. <https://doi.org/10.1145/986213.986216>

8. Govindasamy, T. (2001). Successful Implementation of E-learning: Pedagogical Considerations. *The Internet and Higher Education*, 4 (3): 287–99. [https://doi.org/10.1016/S1096-7516\(01\)00071-9](https://doi.org/10.1016/S1096-7516(01)00071-9)
9. Holsapple, C. W., and A. Lee-Post. (2006). Defining, Assessing, and Promoting E-learning Success: An Information Systems Perspective. *Decision Sciences Journal of Innovative Education*, 4 (1): 67–85. <https://doi.org/10.1111/j.1540-4609.2006.00102.x>
10. Joe Pulichino, (2005). Current Trends in e-Learning - Research Report.
11. Kawatra, P. S., & Singh, N. K. (2006). E-learning in LIS education in India. In C. Khoo, D. Singh & A.S. Chaudhry (Eds.), *Proceedings of the Asia-Pacific Conference on Library & Information Education & Practice 2006 (A-LIEP 2006), Singapore, 3-6 April 2006* (pp. 605-611). Singapore: School of Communication & Information, Nanyang Technological University.
12. Kumar G., Singh G., Bhatanagar V., & Jyoti K. (2019). SCARY DARK SIDE OF ARTIFICIAL INTELLIGENCE: A PERILOUS CONTRIVANCE TO MANKIND. *Humanities & Social Sciences Reviews*, 7(5), 1097-1103. <https://doi.org/10.18510/hssr.2019.75146>
13. Lieblein, E. (2000). Critical Factors for Successful Delivery of Online Programs. *The Internet and Higher Education*, 3 (3), 161–74. [https://doi.org/10.1016/S1096-7516\(01\)00036-7](https://doi.org/10.1016/S1096-7516(01)00036-7)
14. Limayem, M., and C. M. Cheung. (2008). Understanding Information Systems Continuance: The Case of Internet-based Learning Technologies. *Information & Management*, 45(4), 227–32. <https://doi.org/10.1016/j.im.2008.02.005>
15. Loh, C., D. H. Wong, A. Quazi, and R. P. Kingshott. (2016). Re-examining Students' Perception of E-learning: An Australian Perspective. *International Journal of Educational Management*, 30 (1), 129–39.
16. McGill, T. J., J. E. Klobas, and S. Renzi. (2014). Critical Success Factors for the Continuation of E-learning Initiatives. *The Internet and Higher Education*, 22, 24–36. <https://doi.org/10.1016/j.iheduc.2014.04.001>
17. Sela, E., and Y. Sivan. (2009). Enterprise E-learning Success Factors: An Analysis of Practitioners' Perspective (with a Downturn Addendum). *Interdisciplinary Journal of E-learning and Learning Objects*, 5 (1), 335–43. <https://doi.org/10.28945/81>
18. Selim, H. M. (2007). Critical Success Factors for E-learning Acceptance: Confirmatory Factor Models. *Computers & Education*, 49 (2), 396–413. <https://doi.org/10.1016/j.compedu.2005.09.004>
19. Shaikh Farhat Fatma, (2013). E-Learning Trends Issues and Challenges, *International Journal of Economics, Commerce and Research (IJEER)*, Vol. 3, Issue 2, 1-10.
20. Soong, M. B., H. C. Chan, B. C. Chua, and K. F. Loh. (2001). Critical Success Factors for On-line Course Resources. *Computers & Education*, 36 (2), 101–20. [https://doi.org/10.1016/S0360-1315\(00\)00044-0](https://doi.org/10.1016/S0360-1315(00)00044-0)
21. Sun, Y., and A. Jeyaraj. (2013). Information Technology Adoption and Continuance: A Longitudinal Study of Individuals' Behavioral Intentions. *Information & Management*, 50(7), 457–65. <https://doi.org/10.1016/j.im.2013.07.005>
22. Swan, K., P. Shea, E. E. Fredericksen, A. M. Pickett, and W. E. Pelz. (2000). Course Design Factors Influencing the Success of Online Learning. *Paper presented at the WebNet 2000 World Conference on the WWW and Internet*, San Antonio, TX.
23. Volery, T., and D. Lord. (2000). Critical Success Factors in Online Education. *International Journal of Educational Management*, 14 (5), 216–23. <https://doi.org/10.1108/09513540010344731>
24. Weng, C., C. C. Tsai, and A. Weng. (2015). Social Support as a Neglected E-learning Motivator Affecting Trainee's Decisions of Continuous Intentions of Usage. *Australasian Journal of Educational Technology*, 31 (2), 177–92. <https://doi.org/10.14742/ajet.1311>