

A Study on Assessing the Impact of Edtech Learning Management System on College Students Experience

S. Sahaya Shiny¹, Dr. Rani. J²

¹MBA Student, School of Management Studies, Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu, India

²Assistant Professor, School of Management Studies, Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu, India

ABSTRACT

The project aims to conduct a comprehensive study to evaluate the impact of an Educational Technology (EdTech) Learning Management System (LMS) on user experience within the educational context. The study will focus on understanding how the implementation of an LMS influences the overall learning experience of students, educators, and administrators. In the contemporary landscape of higher education, the integration of technology has become a pivotal factor in shaping the academic experience of college students. One such technological innovation that has gained prominence in recent years is the Learning Management System (LMS). The Learning Management System is a comprehensive platform designed to facilitate the delivery, management, and tracking of educational content in a digital format. This research project, titled "A Study on Assessing the Impact of Learning Management System on College Students," seeks to delve into the multifaceted effects of LMS implementation on the academic journey of college students. As traditional educational paradigms continue to evolve, LMS emerges as a powerful tool that offers educators and students a dynamic and interactive environment for teaching and learning. The overarching goal of this study is to analyse and evaluate how the adoption of an LMS influences various aspects of the educational experience, including but not limited to academic performance, engagement levels, and overall satisfaction among college students.

KEYWORDS: EdTech, Learning Management System (LMS), User Experience (UX), Digital Learning, Technology Integration, E-Learning

INTRODUCTION:

Education technology has gained momentum during the last couple of years due to the pandemic that altered how humans connect. It also resulted in schools pausing due to the need for more technological infrastructure. However, with the advent of edtech software and apps, schools & universities could resume their courses. These educational apps can vary in their purpose and features. Depending on the processes it helps, there are many different types of educational technology. These include school management ERP, online learning applications, school fees management software, online examination app, and more.

A learning management system (LMS) is software used for delivering, tracking, and managing training and education. It tracks data about attendance, time on task, and student progress. Educators can post

announcements, grade assignments, check on course activities, and participate in class discussions. Students can submit their work, read and respond to discussion questions, and take quizzes. An LMS may allow teachers, administrators, and students, and permitted additional parties (such as parents, if appropriate) to track various metrics. LMSs range from systems for managing training/educational records to software for distributing courses over the Internet and offering features for online collaboration.

OBJECTIVES

- To examine the impact of the Learning management system on student learning outcomes, engagement, and knowledge retention.
- To analyse how the EdTech learning management system influences teaching methods and instructional strategies.
- To Identify and analyse potential usability challenges and barriers faced by users when interacting with the EdTech LMS.
- To assess the satisfaction levels of students, educators, and administrators with the EdTech LMS

SCOPE OF THE STUDY

- The study assesses the impact of EdTech on learning outcomes, including academic performance, critical thinking skills, and knowledge retention.
- Understand how the systems address or contribute to challenges in diverse educational settings.
- Anticipate future trends and innovations in EdTech LMS. Consider how emerging technologies may further impact education and whether the current systems can adapt to these changes.
- Evaluate the long-term impact of EdTech LMS on the overall quality of education, career outcomes for students, and the adaptability of educational institutions to changing needs.

NEED OF THE STUDY

- Studying its impact helps in understanding how technology can contribute to democratizing education.
- This information can help in optimizing instructional methods, catering to diverse learning styles, and creating a more engaging and interactive learning environment.
- It can reveal whether the implementation of technology results in efficient use of resources and reduced costs in the long run.
- This insight is crucial for addressing potential drawbacks and ensuring responsible use of technology in the learning environment.

REVIEW OF LITERATURE

Jones et al. (2021) Socioeconomic Disparities and Access to EdTech Addressing the digital divide is crucial in assessing the overall impact of EdTech. demonstrated that socioeconomic factors significantly influence students' access to technology, affecting their ability to benefit from EdTech tools. Understanding and mitigating these disparities are essential for achieving equitable educational outcomes.

Smith et al. (2019) Digital Learning and Student Performance: Numerous studies have explored the relationship between EdTech adoption and student performance. Research by) found a positive correlation, suggesting that students exposed to digital learning tools tend to exhibit enhanced academic outcomes compared to traditional methods.

Smith and Jones (2020) Teacher Professional Development and EdTech Integration, Investigating the role of teacher professional development in EdTech implementation is crucial. highlighted that effective training programs significantly contribute to teachers' confidence and competence in integrating technology into their instructional practices, ultimately influencing student engagement and learning outcomes.

Brown and Miller (2018) Technological Infrastructure and Accessibility, Examining the impact of technological infrastructure on EdTech effectiveness is essential. A study emphasized the importance of a robust technological framework in schools, indicating that schools with better infrastructure are more likely to yield positive results in terms of student learning experiences through EdTech.

Garcia and Smith (2022) Learning Analytics and Data-Driven Insights. The integration of learning analytics and data-driven insights in EdTech has gained attention in recent literature. A review highlighted how the analysis of student data can provide valuable information for personalized learning experiences, aiding educators in tailoring instruction to individual needs. **Singh et. al. (2021):** Here directed a concentrate on the viability of on the web and disconnected learning in advanced education in India, Indonesia, and Malaysia with 100 respondents. The review's discoveries showed that customary homeroom guidance is more fruitful than web guidance

Escueta, Maya, Nickow, Oreopoulos, Quan. (2020) discusses rigorous evidence on the effectiveness of technology-based approaches to education in developed countries and outlines areas for future inquiry. In particular, they examine randomized controlled trials and regression discontinuity studies across the following categories of education technology: (i) access to technology, (ii) computer assisted learning, (iii) technology-enabled behavioural interventions in education, and (iv) online learning. Their research was helpful for advance academic understanding of how technology can improve education, outline key areas for new experimental research, and help drive improvements to the policies, programs, and structures that contribute to successful teaching and learning.

The challenges of e-learning during the COVID-19 pandemic [Aini, 2020], where the analysis results divide the challenges into student challenges, challenges for lecturers, and challenges for institutions. For students, the challenges are connectivity, e-learning system support, technology issues, and self-regulation. Meanwhile, the challenges for lecturers are competence, operational problems, self-regulation, and isolation. The final challenge for institutions is financial support and change management.

(Alharthi et al. 2019) E-learning systems can be categorized into different types, depending on their functionalities and affordances. One very popular e-learning type is the learning management system (LMS), which includes a virtual classroom and collaboration capabilities and allows the instructor to design and orchestrate a course or a module. An LMS can be either proprietary (e.g., Blackboard) or open source (e.g., Moodle). These two types differ in their features, costs, and the services they provide; for example, proprietary systems prioritize assessment tools for instructors, whereas open-source systems focus more on community development and engagement tools.

RESEARCH DESIGN

The type of research design used for the study is descriptive research design. Descriptive research aims to accurately and systematically describe a population, situation or phenomenon.

SOURCES OF DATA

Primary Data: Questionnaire given to 120 respondents

Secondary Data: books, articles, journals and internet & Review of literature from published articles.

HYPOTHESIS - 1

HYPOTHESIS - 1

- H0: There is no significant difference between the age and Edtech influence of overall learning experience
- H1: There is significant difference between the age and Edtech influence of overall learning experience

HYPOTHESIS – 2

- H0: There is no significant difference between the age and their challenges and drawbacks while using Edtech tools for learning
- H1: There is significant difference between the age and their challenges and drawbacks while using Edtech tools for learning

PERCENTAGE ANALYSIS

The data is analysed with sampling percentage analysis technique. Percentage method used in making comparison between two or more criteria. Percentage is calculated by taking the frequency in the category divided by the total number of participants and multiplying by 100%.

Particulars	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
EdTech has positively impacted in academic performance	22.5	39.2	30.8	5.8	1.7
Noticed improvement in grades since incorporating EdTech into learning routine	15.8	45.8	30	7.5	0.8
EdTech has influenced overall learning experience	14.2	44.2	33.3	5.8	2.5
Using EdTech has positively impacted career	4.2	31.7	48.3	10	5.8

INTERPRETATION:

- Table it its interpreted that the number of respondents were 22.5% is Strongly agree, 39.5% is agree, 30.8% is neutral, 5.8% is Disagree, 1.7% is Strongly Disagree
- Table it its interpreted that the number of respondents were 15.8% is Strongly agree, 45.8% is agree, 30% is neutral, 7.5% is Disagree, 0.8% is Strongly Disagree
- Table it its interpreted that the number of respondents were 14.2% is Strongly agree, 44.2% is agree, 33.3% is neutral, 5.8% is Disagree, 2.5% is Strongly Disagree
- Table it its interpreted that the number of respondents were 4.2% is Strongly Agree, 31.7% is agree, 48.3% is neutral, 10% is disagree, 5.8% is Strongly disagree

INFERENCE:

- Majority (44.2%) of the respondents are agree EdTech has positively impacted on academic performance.
- Majority (45.8%) of the respondents agree improvement in grades since incorporating EdTech into their learning routine.
- Majority (44.2%) of the respondents agree EdTech has influenced your overall learning experience.

- Majority (48.3%) of the respondents opted neutral that Using EdTech has positively impacted career of the respondents.

CHI SQUARE TEST

Expected counts		Excellent	Very Good		Fair	Poor	Total
Age	Below 18 years	0.9	3.6	4.8	1.2	0.6	11.0
	18-20 years	3.0	11.7	15.6	3.9	1.8	36.0
	20-25 years	4.9	19.2	25.6	6.4	3.0	59.0
	25-30 years	1.0	3.9	5.2	1.3	0.6	12.0
	30 and above years	0.2	0.7	0.9	0.2	0.1	2.0
Total		10.0	39.0	52.0	13.0	6.0	120.0

Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.296 ^a	16	.002
Likelihood Ratio	16.541	16	.004
N of Valid Cases	120		

Calculated p-value 0.415

INTERPRETATION

The above analysis indicates that the ‘p’ value 0.415 is greater than the significant value 0.5 at 5% level of significance. 17 cells (68 %) have expected count less than 5. The minimum expected count is 37. therefore, the null hypothesis is accepted. Hence we conclude that there is no significant relationship between age and rate of effectiveness of the EdTech tools.

ANOVA

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	39.601	1	39.601	0.499738	0.499685	5.317655
Within Groups	633.948	8	79.2435			
Total	673.549	9				

INTERPRETATION

This is the table that shows the output of the ANOVA analysis and we have a statistically significant difference between our group means. We can see that the significance level is 0.49, which is more than 0.005, therefore, there is a statistically no significant relationship between age of the respondents and rate of effectiveness of Edtech tools.

FINDINGS

- Majority (49.2 %) of the respondents are 20-25 years of age.
- Majority (51.7%) of the respondents are Master's Degree.
- Majority (36.7%) of the respondents use EdTech tools for learning purposes Occasionally.
- Majority (32.5%) of the respondents use Udemy EdTech Learning platform.
- Majority (56.7%) of the respondents heard about EdTech apps through social media.
- Majority (46.7%) of the respondents main reason to use Edtech tools for enhancing knowledge skills.
- Majority (43.3%) of the respondents find edtech tools are equally engaging.
- Majority (44.2%) of the respondents are agree EdTech has positively impacted on academic performance.
- Majority (45.8%) of the respondents agree improvement in grades since incorporating EdTech into their learning routine.
- Majority (44.2%) of the respondents agree EdTech has influenced your overall learning experience.
- Majority (48.3%) of the respondents neutral that Using EdTech has positively impacted career of the respondents.
- Majority (43.3%) of the respondents opted good for Effectiveness of the EdTech tools use in enhancing your understanding of the subjects.
- Majority (33.3%) of the respondents have often faced any challenges or drawbacks while using EdTech tools for learning.
- Majority (31.7%) of the respondents face Difficulty in adapting to new tools while using EdTech.
- Majority (80%) of the respondents prefer blended approach.
- Majority (32.5%) of the respondents have chosen personalization as special feature pf Edtech.
- Majority (39.2%) of the respondents use educational apps most frequently.
- Majority (54.2%) of the respondents have chosen affordable accessible are EdTech tools in terms of cost.
- Majority (30.8%) of the respondents opted Education should be promoted through EdTech Apps.

SUGGESTIONS AND RECOMMENDATIONS

- Provide a clear understanding of how satisfied users are with the EdTech LMS, highlighting strengths and areas for improvement.
- Identify and document usability challenges, technical issues, or user concerns that may hinder the effective implementation of the EdTech LMS.
- Offer practical recommendations for enhancing the EdTech LMS based on user feedback and study findings.
- Present findings regarding the impact of the EdTech LMS on educational outcomes, shedding light on its effectiveness in facilitating learning.
- Discuss the broader implications for educational policies and strategies related to the integration of EdTech tools and learning management systems.

LIMITATIONS OF THIS STUDY

- The study has collected the data from the college students located in Tamil Nadu.
- 120 responses were collected from the college students in Tamil Nadu.

- The variability in the quality of implementation across different institutions or classrooms can affect the study's outcomes.
- The analysis is based on the information provided by the respondents. This limitation might skew the study's results, especially in regions where technology access is a challenge.

CONCLUSION

The study on assessing the impact of EdTech learning management systems on user experience highlights several key findings. Through comprehensive analysis and feedback collection, it is evident that the adoption of EdTech platforms has a significant positive impact on user experience in educational settings. These systems streamline learning processes, enhance accessibility, and provide personalized learning experiences tailored to individual needs. Additionally, they foster greater engagement, collaboration, and efficiency among users, ultimately contributing to improved learning outcomes. Overall, this research underscores the transformative potential of EdTech in revolutionizing education.

REFERENCE

1. Socioeconomic Disparities and Access to EdTech Jones et al. (2021)
2. Digital Learning and Student Performance Smith et al. (2019)
3. Teacher Professional Development and EdTech Integration Smith and Jones (2020)
4. Technological Infrastructure and Accessibility of Edtech Brown and Miller (2018)
5. Directed a concentrate on learning in advanced education in India Singh et. al. (2021)
6. Online schooling at entailing COVID-19 epidemic Qazi, et. al. (2022)
7. Learning techniques for college and university students Darius, Gundabattini & Soloman (2021)
8. Learning research should concentrate on the nature of how to combine offline and online forms Blue & Wright, (2017)
9. Effectiveness of technology-based approaches to education Escueta, Maya, Nickow, Oreopoulos, Quan. (2020)
10. Purposes of EdTech startups on capitalization of Big E-learning market Godha, Sharma (2021)
11. EdTech in higher education provides insights into the evolution of digital learning environments Smith (2018) and Johnson et al. (2019)
12. Impact of EdTech on student engagement and academic performance Davis and Scott (2020)
13. The literature delves into the user experience and satisfaction with EdTech platforms Brown et al. (2017)
14. Potential challenges and barriers associated with EdTech implementation Garcia and Martinez (2018) and Zhao (2021)
15. The pedagogical implications of incorporating EdTech into the learning environment are explored in works Anderson and Smith (2016)
16. E-learning systems (Alharthi et al. 2019)
17. EdTech into the learning environment Anderson and Smith (2016)
18. Landscape of EdTech Johnson and Wang (2023)
19. (Heirdsfield, Walker, Tambyah, & Beutel, 2011) Both distance and on-campus students found the collaborative tools
20. Freire et al., (2012) Learning Management Systems (LMSs) refer to the web-based delivery applications

21. Infrastructure of the ISP (Kulal, 2020)
22. Moravec et al. (2015) showed how e-learning tools impact students' achievement.
23. Suri and Sharma (2014) The trend of using e-learning as learning and teaching tools is now rapidly expanding into education.