

Digital Transformation Adoption and AI-integrated Smart Learning Ecosystems in Higher Education Industry in Telangana

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Abstract

Introduction: To achieve India's Vision Viksit Bharat@2047, the focus on digital transformation (DT) has revolutionized the services industry particularly in the Higher education sector. Keeping in view of the global demands, the higher educational institutions (HEIs) are fostering data driven restructuring of the teaching and learning process (TLC) to enhance educational outcome to excel and provide personalized smart learning ecosystem for learners. The integration of Artificial Intelligence (AI) in higher education and the adoption of digital transformation is the core objective of the research paper.

Objectives: The study explores the AI integrated avenues for Smart learning in HEIs. The study aims to examine the adoption of digital transformation in HEIs in Telangana. The study performs gap analysis between learners' expectations and experiences on smart classrooms and AI augmented learning ecosystems in HEIs. Further, the study analyzes the factors facilitating the digital transformation in HEIs pertaining to AI integration.

Methodology: Study is based on mixed methods research design comprising descriptive and experimental research design. Descriptive research design is applied to analyze what factors influence the facilitation of digital transformation in HEIs and examined between expectations and experiences pertaining to AI augmented learning eco systems using experimental research design through hypothesis testing using paired sample t-test. The analysis of adoption of digital transformation in HEIs covers the universities of select categories functioning in Telangana State. The primary data covers the perception of the learners pertaining to their expectations and experiences in select districts of Telangana.

The secondary data supplements the research paper in the form of literature review extracted from journals, news papers, research data bases and internet sources. The selection of sample respondents is based on stratified purposive sampling method. A total of 400 respondents are selected for the sample study which is statistically found feasible at 5% margin of error and 95% confidence interval.

Findings: The results show that, remarkable variation is observed in terms of adoption of digital transformation in HEIs particularly in various categories of universities functioning in the state of Telangana. The study on primary sources of data shows that, for the variables on real time feedback, subscriptions to learning platforms, interactive teaching through digital technologies, learning transformations, e-books and digital learning, chatbots and visual assistants, AI supported academic advising, virtual simulations, LMS integrated with AI, no remarkable variation is observed.

The factor analysis results statistically prove that, the 15 variables/items were analyzed through factor analysis and underlying dimensions represent 3 factors. The 3 factors which facilitate digital transformation are Digital infrastructure; AI augmented teaching and personalized learning. Based on the results from the primary and secondary sources of data the AI integrated digital transformation tree is developed to cover AI augmented learning eco system for the sustainable development of higher education in the era of impact of AI across industries.

Key words: AI tools, Digital transformation, EFA, Gap Analysis, LMS, SDGs

1. Introduction

The Digital Transformation (DT) in higher education is in the transition stage as the conventional practices received digital transformation with organizations reshaping their organizational design through effective digital transformation and restructuring their structure through effective employee engagement with guiding proper leadership. Approximately 87 percent of the world's renowned business leaders have firmly in a belief that business procedures will be at risk without the support of Digital transformation. The integration of technology to the operational and delivery processes has now become the most important challenges and as a result, the organizations are blending the business processes with the technology through improved customer experience and creating better technology driven business models (Prince, 2024). To achieve sustainability, the organizations have the need to rely on the modern technology driven transformation in place of traditional operational approach. The introduction of digitalization and the need for the change in the organizational culture has portrayed the organizations to adopt the digital transformation of their conventional organizational culture (Zhang J., Chen Z , 2023). The era of digitalization not only provided the organizations an opportunity to excel but also provided the human resources to nurture the sense of continuity within the business and transform themselves to accept the new challenges. Through collaboration and support of human resources, many organizations have transformed their conventional practices to system driven and technology driven work environments, with growing emphasis on cooperation, openness to the challenges and exchange of knowledge (Khuzaini et al., 2024).

2. Conceptual overview of Digital Transformation

The Digital transformation (DT) aimed to systematically change the existing traditional procedures to digital form through providing increased coverage, access, support and empowerment in various platforms across the industry. DT is considered as the rewiring to existing organization with a goal to build more sophisticated transformational change through wiring with digital transformation in terms of executing data driven, technology driven services to make the organization to adopt to the goals create value (McKinsey Company,2023).DT is treated as business strategy initiative that has been adopted in companies across all areas through integrating the technology into the modernization of processes, operations, technology driven and customer driven innovations to achieve modernization (IBM,2025). DT creates an environment that motivates and attracts the organizations to adapt to the embedded technologies across their business operations to adopt more strengthened view on changing markets, better serving the customers. The enablement makes people, operations, and processes shift from conventional mode to data driven mode using emerging technologies'SAP,2025). DT is a key business driven strategy adopted in digital means to transform an organization to provide more value to the customers (Coursera, 2025). The improved demand for the data analytics and customized feedback, rapid exchange of feedback information and analytics output on the comments of the HEI is one of the crucial benefits of DT adaptation. The smart content of presentation of the existing information is enhanced through DT. HEIs are transforming the manual records to digitize to increase the longevity, security and smart usage.

3. Review of Literature

The literature review is organized into studies in Higher education and with special reference to DT interventions, and DT influence on organizational culture, employee engagement and leadership.

Digital Transformation (DT) as a way to improve operational efficiency, change employee behavior, spur innovation and achieve competitive advantages (Lee & Kwak, 2019; Sharma, 2021). DT in relation to employees' work behavior and organizational performance. Zhan et al. (2025) have used the SEM technique to test the negative effects between DT and counterproductive work behavior (CWB) and explored the moderating roles of digital literacy based on surveys of 390 employees in chosen industries in China. Their results show that DT negatively affects CWB. Furthermore, they suggest that Digital literacy negatively moderate the relationship between DT and employees' work behavior outcomes. Vietnam, Vuong (2026) explores impact of generative AI on employees' job performance, job crafting, and work engagement and moderating effects of digital competence. The study emphasizes that emerging technology performance depends not only on technological features, but also on employees' digital competence in harnessing technologies to achieve work-related outcome performance.

Digital competence has been largely explored in the field of education. Dang et al. (2024) Their findings report positive effects of the use of digital competence on teaching-learning practice, students digital competence, empowerment, and work engagement; suggesting that digital transformation of learning institutions not only requires physical

technology infrastructure and equipment but also human capital capabilities for faculty and students to use technology proficiently.

Chen and Kim (2024) tested the mediating roles of innovation based on 19 articles published between 2009 and 2019 about the relation between DT and organization performance. They conclude that DT foster innovation inside organization, and that innovation as a result of DT acts as mediator from which the impact of DT transmits into organization's performance and sustainability. Implication of DT and Digital Learning have been studied for university. Aboobaker et al. (2021) found that DT has played a significant role in influencing students' learning process and learning orientation as well as influencing students' engagement in digital learning (Based on surveyed 468 students, it was confirmed that DT had an important relation on working-related behavior outcome and learning orientation). Its outcomes should be understood as a multidimensional construct.

The importance of DT have further magnified among higher education institutions (HEIs) throughout the course of and after COVID-19 (Victor et al., 2021); they mentioned that digitalization initiative among HIEs during the post-COVID 19 will significantly change various elements within organization such as enhancing digital agility and smart campus design which means they require digital capabilities for efficiency, furthermore, studies conducted on digital technology for social good context reveal that digital platforms influence community engagement and social innovation through enhancement of coordination among stakeholders (Mogha et al., 2025)

The study pertaining to literature on existing studies reveal that, majority of the studies were focused on linking DT and the access to DT and the adoption of DT and system development in HEIs. Inter relationship among the various HEIs in Telangana is lacking in the existing studies. Most of the studies were focused on select HEIs, whereas the comparison of perceptions among the various categories of HEIs is not focused on detail. Keeping in view of the gaps observed from the literature, the research study aims to fill the gap mentioned.

4. Objectives

The objectives analysed are presented here.

1. To explore the Smart Learning Ecosystems in Teaching and Learning requirements of the student community.
2. To examine the adoption of digital transformation in HEIs in Telangana.
3. To perform gap analysis between learners' expectations and experiences in smart classrooms and AI augmented learning ecosystems in HEIs.
4. To analyse the factors facilitating the digital transformation in HEIs pertaining to AI integration towards smart learning ecosystems

5. Methodology

Study is based on mixed methods research design compiled from descriptive and experimental research design. Descriptive research design is applied to analyze what factors influence the facilitation of digital transformation in HEIs and the gap is observed

between expectations and experiences pertaining to AI augmented learning eco systems using experimental research design through analyzing the testing of hypotheses using paired sample t-test. The primary data covers the perception of the learners pertaining to their expectations and experiences in select districts of Telangana. The secondary data supplements the research paper in the form of literature review extracted from journals, newspapers, research databases and internet sources. The selection of sample respondents is based on stratified purposive sampling method. A total of 400 respondents are drawn for the sample study which is statistically found feasible at 5% margin of error and 95% confidence interval.

6. Results and Discussion

The objective wise analysis is presented here.

Objective 1: to explore the Smart Learning Ecosystems in Teaching and Learning requirements of the student community.

An evaluation of AI tools specifically designed to meet the purpose of various academic requirements, applications were developed. These are aimed to serve the specific requirements of the HEIs.

Table-1 AI tools for smart learning Eco Systems

Sl.No.	Purpose	AI tools
1.	Customized learning and avenues of adaptive learning	ALKES, Century Tech , Coursera Coach, Deram Box Duolingo, Edmentum, I-Ready, Khanmigo, Quizlet AI, Squirrel Ai, Edma Path
2	Content creation and curation	HeyGen, Claude AI, Canva, Question well, Synthesia, , Curipod, Jasper, Google Gemini, Chat GPT
3	Assessment and evaluation	Exam Soft AI, Question, Scribber AI, Socrative, Scribber, Formative AI, Gradescope, Turnitin
4	Research Support and academic writing	Jenni AI, elicit, Note AI, Research Rabbit, Semarntic Scholar, Scite AI, Perplexity AI, Yomu AI
5	Immersive Learning (AR & VR)	Class Vr, Z space, Merge EDU, CoSpaces Edu, Google expeditions, Labster
6	Learning Analytics & Insights	Tableau, Blackboard AI, intellwrix, SAS Analytics, Power Bi, Google Looker Studio, D2L Bright space, Learning Locker
7	Faculty Productivity & professional Support	Microsoft Copilot, Notion AI, Google Gemini, Grammarly, QuillBot, Fireflies ai, DALL-e, Slides AI
8	Learning Management and administration	Moodle AI, Canvas(LMS), Google Classroom, SChoology, Talent LMS, Learn Dash, Docebo, Ed APP, Absorb LMS
9	Foundation infrastructure(Roots)	Cloud Computing, Data Security & Privacy, Digital Literacy, Smart Classrooms, AI Ethical Guidelines, Policy & Governance

Source: Compiled from the study of select AI apps of select organizations

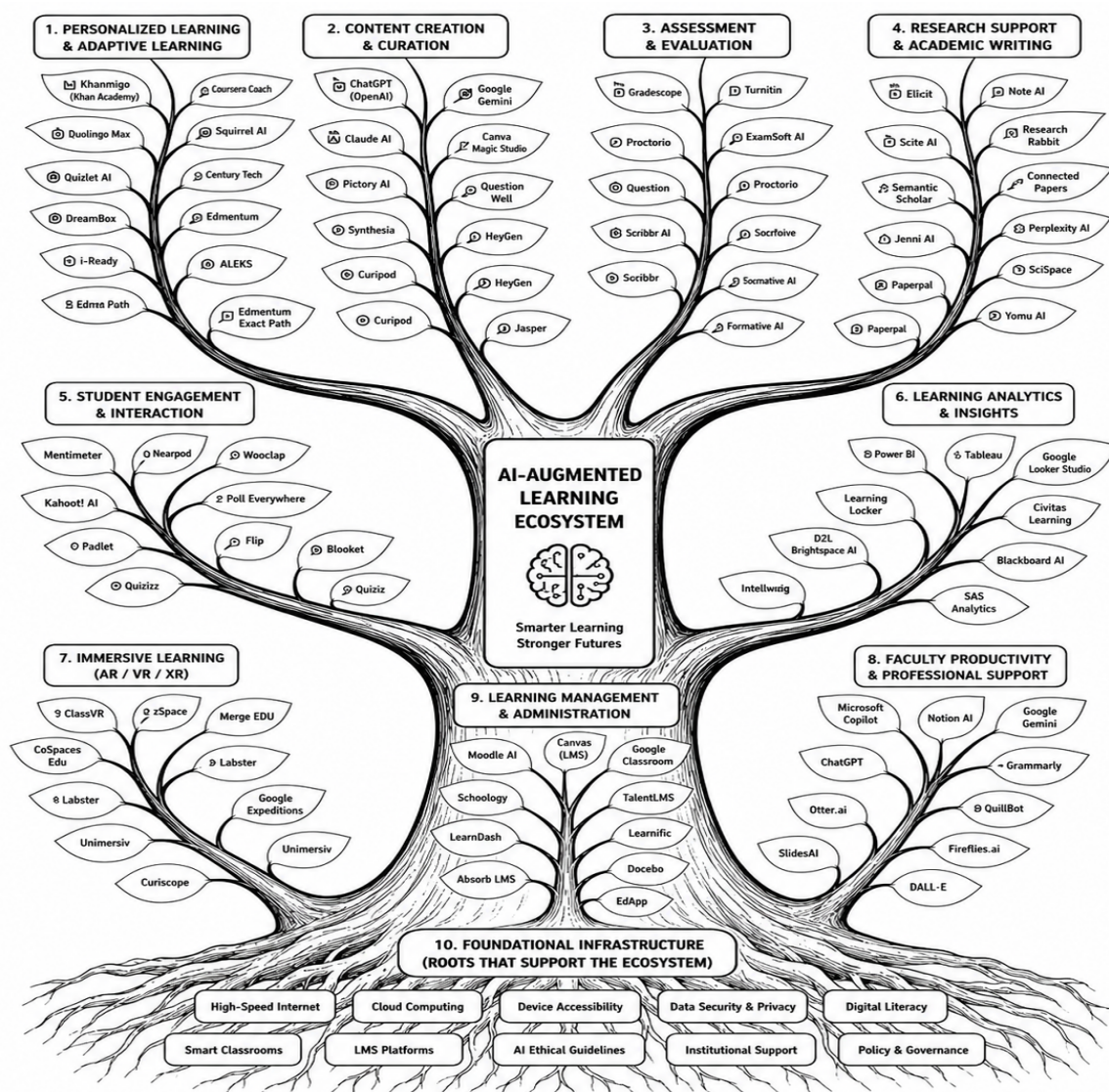


Figure-1 AI assisted Learning Resources Tree composed using AI tools

Objective 2: to examine the adoption of digital transformation in HEIs in Telangana.

The objective is analyzed using secondary sources of data extracted from the websites and study of publicly accessible digital documents through systematic observation

A total of 9 dimensions are analyzed to analyze the HEIs adoption to the digital transformation. Based on the adoption of these 9 dimensions, relevant scores are assigned to each of the select categories of universities functioning in the State of Telangana. On the basis of achievement, the total DT attainment score is computed. The 9 dimensions applied to examine the adoption of digital transformation in HEIs are e-resources, Dedicated website, e-information centre, cha

c) e-Information centre

d) Chatbots

e) 24X7 AI enabled services

f) Visitor Analytics

g) Online admission & Fee services

h) IQAC

g) NAAC accreditations score

The e-resources include e-books, journals and reports, research databases, research reports which can be accessed through institution portal. The access to these services provides the learners to experience more convenient ways to utilize the academic resources. The LMS services enabled with AI integration provide the assistance to the librarians to trace the accessions, monitor the student and faculty access to e-resources. The dedicated website provides one stop services for the learners to know about vision, mission, objectives of the universities, accreditation information, courses, department, faculty details, notifications, almanac and syllabus access services.

- The chatbots provide customized services such as instant queries that can be solved effectively with an AI interface. The service provides assistance to new university entrants of university, learners and people who require information.
- 24X7 AI enabled services provide assistance in the form of information about admissions, placements information, fee structure, faculty and resources.
- Visitor Analytics provides a number of hits made on university websites. The number presents the number of times the users have visited the website.
- Online admission and fee services provide customized services to instant pay of fee, admission uploads, fee receipts backup services.
- IQAC data provide criterion wise self study reports that can be accessed by users.

These also have become mandatory for universities applying for accreditation.

NAAC Grade, a standard 8-grade scale, provides assessment of the quality of university in terms of academic, administration, resources, infrastructure and standard procedures. These were categorised into 8 grades(A++,A+,A,B++,B+, B,C,D) on a CGPA range between 1.51 to 4. Where below 1.51 deemed as not accredited.

Based on these 9 select dimensions, the performance of select categories of universities is assessed and the results are shown in table-1.

a) Results reveal that, highest number of universities is under Public Universities (17) category. The score results of Public universities show that, highest performance is observed in the maintenance of dedicated websites (94.1) followed by e-information centres(58.8) and online admission & fee services(58.8). No score is observed for chatbots and 24X7 AI enabled chat. These results prove that AI adoption in public universities is yet to take momentum. The overall score of DT adoption is 42.7 percent.

b) A total of 11 private universities are functioning in the state and the score received is 50.7 percent of total DT adoption. Highest is observed for e-information centres(91.7%) and dedicated websites(91.7%) .

c) Under Central universities category, among the total 4 universities, the score received is 50.9 percent and highest performance is observed in the category of dedicated website and e-information centres with 100 score.

d) In deemed universities category, score of 100 is observed for dedicated websites and overall adoption percentage is 47.9 percent.

e) Institutions of national importance category received a 71.7 percent score.

f) Specialised state level institutes have the score of 43.3 percent where only one university is functioning under this category.

Overall, the HEIs have the adoption score percentage of 51.2% in digital transformation. Highest improvement was noticed in the categories of e-resource centres and chatbots. Least performance is observed in case of 24X7 AI enabled services.

Table-2 Adoption of Digital Transformation in HEIs

Sl. No	Category of University	1	2	3	4	5	6	7	8	9	Score
1	Public Universities (17)	47.1	94.1	58.8	0.0	0.0	29.4	58.8	47.1	48.8	42.7
2	Private Universities (11)	41.7	91.7	91.7	16.7	25.0	16.7	75.0	33.3	64.5	50.7
3	Central Universities (4)	75	100	100	0	0	0	50	50	83.3	50.9
4	Deemed to be Universities (5)	60	100	80	20	20	20	40	20	71.7	47.9
5	Institutes of National Importance (2)	100	100	100	0	0	50	100	100	95.0	71.7
6	Specialised state level institutes (1)	100 %	100 %	100 %	0%	0%	0%	0%	0%	90%	43.3
	Average	70.6	97.6	88.4	6.1	7.5	19.3	53.9	41.7	75.5	51.2

Source: Compiled from Universities websites and reports

Objective3: To analyze the gap between learners' expectations and experiences in smart classrooms and AI augmented learning ecosystems in HEIs, paired sample t-test is applied to examine 15 select variables and learners' expectations and experiences are recorded on a 5 point likert scale. The select 15 variables are real time feedback, subscriptions to learning platforms, interactive teaching through digital technologies, learning transformations, e-books and digital learning, AI enabled digital class rooms, Smart board, AI based assessments, experiential learning through AI, AI based practical sessions, chatbots and visual assistants, personalised learning experience, AI supported academic advising, virtual simulations and LMS integrated with AI.

The following results are notified at 399 df and 5 percent margin of error.

a) Noteworthy variation in the expectations and experiences is observed for the variables AI enabled digital class rooms, smart board, AI based assessments, experiential learning through AI, AI based practical sessions and personalized learning experiences.

b) For the variables on real time feedback, subscriptions to learning platforms, interactive teaching through digital technologies, learning transformations, ebooks and digital learning, chatbots and visual assistants, AI supported academic advising, virtual simulations, LMS integrated with AI, no remarkable variation is observed.

Overall, it is further observed from the mean analysis, the gap is noticed that, for the variables interactive learning through digital technologies(3.51), chatbots and visual assistants(3.40), AI supported academic advising((3.29), the experiences of the learners was observed higher than the expectations.

Table-3: Paired Sample t-test results

Pair No		Variations in pairs					t	Ŷ	P-VAL
		Avera ge	SD	S.E. M.	95% CI				
					Less	High			
1	Real time feedback	.107	1.701	.085	-.060	.275	1.264	399	.207
2	subscriptions to learning platforms	.045	1.751	.088	-.127	.217	.514	399	.608
3	interactive teaching through digital technologies	-.103	1.698	.085	-.269	.064	-1.207	399	.228
4	learning transformations	.065	1.701	.085	-.102	.232	.764	399	.445
5	e-books and digital learning	.112	1.728	.086	-.057	.282	1.302	399	.194
6	AI enabled digital class rooms	.265	1.433	.072	.124	.406	3.697	399	.000
7	smart board	.210	1.475	.074	.065	.355	2.847	399	.005
8	AI based assessments	.655	1.697	.085	.488	.822	7.722	399	.000
9	Experiential learning through AI	.220	1.532	.077	.069	.371	2.872	399	.004

10	AI based practical sessions	.445	1.818	.091	.266	.624	4.895	399	.000
11	chatbots and visual assistants	-.087	1.701	.085	-.255	.080	-1.029	399	.304
12	personalized learning experience	.348	1.659	.083	.184	.511	4.188	399	.000
13	AI supported academic advising	-.015	1.546	.077	-.167	.137	-.194	399	.846
14	virtual simulations	.142	1.581	.079	-.013	.298	1.803	399	.072
15	LMS integrated with AI	.083	1.665	.083	-.081	.246	.991	399	.322

Source: Field Study results

Results of Gap Analysis

The comparison of means for expectations of learners and experiences of learners in HEIs, the following table is generated highlighting about the Gap which the HEIs should focus.

For comparison of results, the following methodology is adopted.

- Results are quantified into weighted means and standard deviations are computed.
- Results are then compared with their respective means.
- If Expectation > experience -> Expectation gap, where the HEIs should focus to reduce the gap.
- If Expectation = Experience -> HEIs are able to meet the expectations of the learners in the era of AI.
- If Expectation < Experience -> Improved performance of HEI to bring smart learning eco system for the empowerment of learners.

The results of gap analysis are as follows:

- Pertaining to Real time feedback, subscriptions to learning platforms, learning transformations, e-books and digital learning, AI enabled digital class rooms, smart boards, AI based assessments, experiential learning through AI, AI based practical sessions, personalized learning, AI supported academic advising and virtual simulations, the expectation score is exceeding experience score. The results reveal that, HEIs must concentrated on these dimensions to provided improved Teaching and Learning experience and advancing to reach SDG 4 on ensuring and providing Quality education to

meet national and international demands. For the dimensions interactive teaching through digital technologies, chat bots and visual assistants the gap score remained positive which reflects that, learners have positive experience which is exceeding the actual expectations.

Table-4: Results of Gap Analysis

Pair s		Expectatio n score	Experien ce Score	Result	Std. Deviati on	Std. Error Mean
Pair 1	Real time feedback	3.44	3.33	Expectatio n Gap	1.477	.074
Pair 2	subscriptions to learning platforms	3.42	3.38	Expectatio n Gap	1.475	.074
Pair 3	interactive teaching through digital technologies	3.40	3.51	Improved performan ce	1.472	.074
Pair 4	learning transformations	3.43	3.37	Expectatio n Gap	1.460	.073
Pair 5	e-books and digital learning	3.51	3.39	Expectatio n Gap	1.480	.074
Pair 6	AI enabled digital class rooms	3.53	3.26	Expectatio n Gap	1.482	.074
Pair 7	smart boards	3.51	3.30	Expectatio n Gap	1.470	.073
Pair 8	AI based assessments	3.74	3.09	Expectatio n Gap	1.246	.062
Pair 9	Experiential learning through AI	3.43	3.21	Expectatio n Gap	1.574	.079
Pair 10	AI based practical sessions	3.48	3.03	Expectatio n Gap	1.606	.080
Pair 11	chatbots and visual assistants	3.31	3.40	Improved performan ce	1.611	.081
Pair 12	personalized learning experience	3.38	3.03	Expectatio n Gap	1.589	.079
Pair 13	AI supported academic advising	3.27	3.29	Improved performan ce	1.559	.078

	AI supported academic advising	3.29	3.28	Expectation Gap	1.278	.064
Pair 14	virtual simulations	3.28	3.14	Expectation Gap	1.499	.075
Pair 15	LMS integrated with AI	3.23	3.14	Expectation Gap	1.498	.075

Source: Field Study

Objective -4: to analyze the factors facilitating the digital transformation in HEIs pertaining to AI integration towards smart learning ecosystems

Analysis: To perform analysis on this objective, factor analysis results are applied. The exploratory factor analysis is applied to examine the underlying dimensions in the form of factors that facilitate the digital transformation in HEIs pertaining to integration of AI in the learning process. The Principal Component Analysis(PCA) and Kaiser normalization are the techniques applied under Factor Analysis.

The results of KMO and Bartlett's measures prove that 89 percent of results support the factor analysis. It shows that the results fit for applying factor analysis and the results proved significant (Bartlett's statistic = 7894.59, df =105, $p=0.000<\alpha=0.05$). Communalities for initial Eigen of 1, the extracted variance was found in the range of 0.545 to 0.934. The results of total variance explained show that 3 factors are generated using PCA analysis. Factor-1 extracts 32.76% of total variance. Factor-2 extracts 23.9% of total variance and Factor-3 extracts 22.80% of total variance. Combinedly 3 factors accumulated 79.48% of total variance.

Table-5: Factor Analysis results on significance and Total Variance extraction

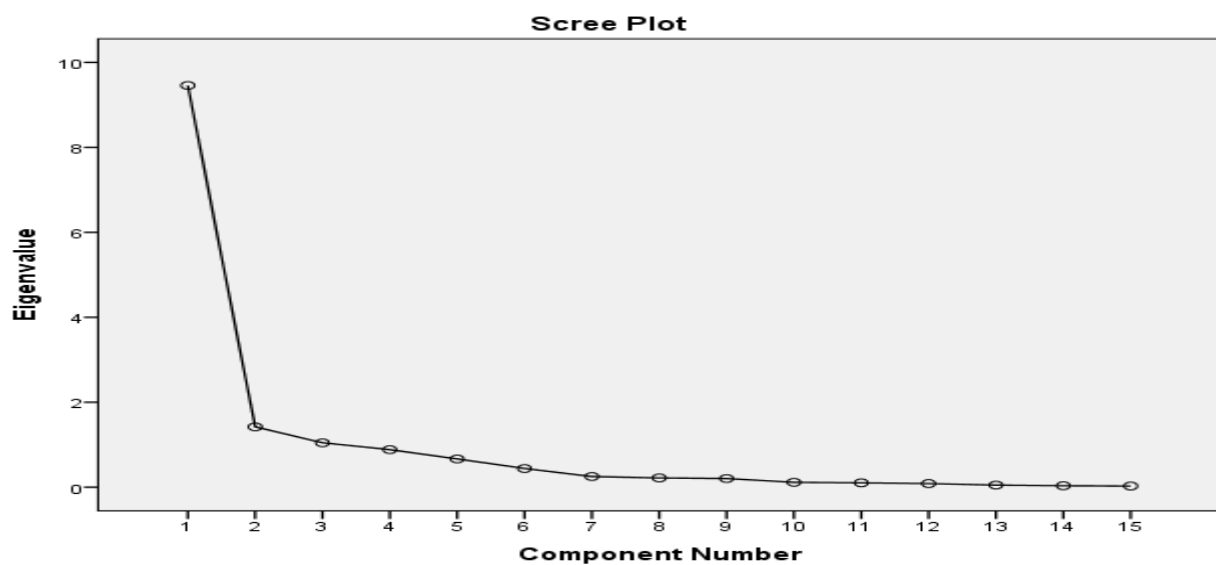
KMO measure						.890			
Bartlett's measure	χ^2					7894.594			
	ü					105			
	p-val					.000			
Total Variance Explained									
Component	IEV			ESSL			RSSL		
	Total	% of VAR	CUM%	Total	% of VAR	CUM%	Total	% of VAR	CUM%
1	9.457	63.044	63.044	9.457	63.044	63.044	4.915	32.765	32.765
2	1.421	9.472	72.516	1.421	9.472	72.516	3.587	23.914	56.679
3	1.045	6.968	79.484	1.045	6.968	79.484	3.421	22.805	79.484
4	.884	5.895	85.379						
5	.665	4.433	89.812						
6	.440	2.936	92.747						
7	.252	1.678	94.426						
8	.218	1.457	95.882						

9	.204	1.357	97.239						
10	.115	.768	98.008						
11	.103	.686	98.693						
12	.085	.566	99.259						
13	.050	.331	99.590						
14	.034	.225	99.815						
15	.028	.185	100.000						

Source: Field Study results

The scree plot show maximum variation in the line diagram for first 3 components and the line diagram show horizontal for the remaining components.

Figure-2: Scree Plot results



Source: Compiled from Field Study

Table-6: Results of Rotated Matrix (RC)

Items	Component		
	1	2	3
e-books and digital learning	.897		
learning transformations	.889		
subscriptions to learning platforms	.884		
interactive teaching through digital technologies	.810		
Real time feedback	.758		
smart boards		.871	
AI enabled digital class rooms		.837	
AI based assessments		.789	
Experiential learning through AI		.593	
AI based practical sessions		.490	

virtual simulations			.810
personalized learning experience			.790
chatbots and visual assistants			.749
LMS integrated with AI			.653
AI supported academic advising			.608

Source: field study results

The factor analysis revealed 3 factors based on Principal Component Analysis and Varimax with Kaiser Normality analysis. The following are the underlying dimensions which are extracted as factors.

Factor-1 represents 32.7 percent of total variance. The factor is named as Digital infrastructure which is framed through combining the items (e-books and digital learning, learning transformations, subscriptions to learning platforms, interactive through digital technologies). Factor-2 represents 23.91 percent of total variance. Factor-2 is titled 'AI-augmented teaching'. The factors are extracted through combining the items (smart boards, AI enabled digital class rooms, and AI based assessments, experiential learning through AI, AI based practical sessions). Factor-3 represents 22.8 percent of total variance. The factor-3 is framed through combining the items, i.e., virtual simulations, personalized learning experience, chatbots, LMS integrated with AI and AI supported academic advising). Factor-3 is titled as personalized learning.

Overall, the factor analysis results statistically proven that the 15 variables/items are performed through factor analysis and underlying dimensions represent 3 factors. The 3 factors which facilitate the digital transformation are Digital infrastructure; AI augmented teaching and personalized learning.

7. Conclusion

AI has increased its presence in the Higher Educational Institutions in the form assisting the transformation of towards smart learning in the area of customized learning, content creation, assessments, evaluation, research support, immersive learning, increasing faculty productivity and learning management. The analysis of adoption of select categories of universities towards digital transformation reveal that, the adoption on digital transformation in HEIs is in the range of 42.7 to 71.7 percent where highest adoption was observed in institutes of national importance and least adoption is observed in public universities. The gap analysis reveal that, expectation gap is observed for 12 dimensions out of 15 dimensions where the HEIs need to focus on bringing increased AI adoption for effective digital transformation. The results of factor analysis show that, digital infrastructure, AI augmented teaching and personalized learning factors significantly influence the facilitation of digital transformation in HEIs through AI integration.

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