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A Research Study on Understanding Student's Attitude towards Online Learning

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ABSTRACT: Attitude is a positive; negative or mixed evaluation of an object that is expressed at some level of intensity. In this study understanding and identifying the attitudes of learners towards the LMS (Learning Management System) is important when investigating learner's satisfaction. Learner's attitude towards using online learning and online learning quality which includes system, information and service significantly impact students' acceptance of e-learning (Anthony, 2024). In order to design effective online learning environments, it is necessary to 'understand the target group' and considered learner's attitude as an important indicator of an effective LMS which is further linked to user satisfaction (Liaw et al 2007). Student Attitude referring to his/her positive/negative/mixed evaluation of online learning system as "manage study time", "self-disciplined", "believe that ELS is an effective educational tool (intention to use)", amongst others was proposed by Ozkan and Koseler (2009). Based on research paper "Measuring Student's Attitude towards online learning – a case-study" by Bertea, P. (2009), for this proposed study student attitude will be studied with reference to 5 items (3 positives and 2 negatives). The positive items included 1) time management, 2) schedule flexibility and 3) reducing costs. The negative items included a) online learning teaching efficiency and b) need for advanced technical abilities.

KEYWORDS: Student's attitude, Online learning, multiple linear regression, satisfaction, parameters

I. INTRODUCTION

Online learning, also known as electronic learning, involves the dissemination of knowledge using advanced technologies like mobile phones, webinars, and tablets. The global advancement of educational practices has been supported by online learning, which has evolved to offer learning opportunities for everyone (Kem, 2023).

Attitude is a positive; negative or mixed evaluation of an object that is expressed at some level of intensity. In this study understanding and identifying the attitudes of learners towards the LMS (Learning Management System) is important when investigating learner's satisfaction. Learner's attitude towards using online learning and online learning quality which includes system, information and service significantly impact students' acceptance of e-learning (Anthony, 2024). In order to design effective online learning environments, it is necessary to 'understand the target group' and considered learner's attitude as an important indicator of an effective LMS which is further linked to user satisfaction (Liaw et al 2007). Student Attitude referring to his/her positive/negative/mixed evaluation of online learning system as "manage study time", "self-disciplined", "believe that ELS is an effective educational tool (intention to use)", amongst others was proposed by Ozkan and Koseler (2009). Based on research paper "Measuring Student's Attitude towards online learning – a case-study" by Bertea, P. (2009), for this proposed study student attitude will be studied with reference to 5 items (3 positives and 2 negatives). The positive items included 1) time management, 2) schedule flexibility and 3) reducing costs. The negative items included a) online learning teaching efficiency and b) need for advanced technical abilities.

II. EXISTING LITERATURE

A research paper on case study of measuring student attitude for acceptance of online learning was presented in 5th International Science Conference – eLearning and Software for Education (eLSE) by (Bertea 2009). This study investigated the student's attitude for adoption of online learning. In a sample survey of questionnaire on 5-point Likert scale, 226 under graduate student's response was found valid for further analysis. To evaluate student's attitude, a questionnaire with 5 items (3 positives and 2 negatives) was formalized having a global alpha Cronbach of 0.749. The positive items included 1) time management, 2) schedule flexibility and 3) reducing costs. The negative items included

a) online learning teaching efficiency and b) need for advanced technical abilities. The study found connection of student attitude for adoption of online learning.

(Geng et al 2019), in a study conducted in blended and hybrid environment investigated self-directed learning and technology readiness in blended online learning environment. In this study two groups are formed one from blended learning environment and another set from non-blended learning environment. 96 UG students from blended learning (BL) and 111 UG students from non-blended earning (NBL) participated in the research. Results indicate self-directed learning and technology readiness have a positive influence on learning motivation in BL environment thus leading to satisfaction and intent of use. Learning motivation is found positively influencing the social presence in BL teaching environment. Technology readiness is important role in impact of teaching in the BL learning environment. The study evidenced that self-directed learning (student attitude) and e-readiness positively influences online learning.

In a research by (Meng, et al 2019) in Online and Blended environment a user-satisfaction study of online learning teachers was carried out. 'Teaching Ecosystem Design: Teachers' Satisfaction with the Integrated Course Service System', is a study of teacher-satisfaction in Online Learning. 253 teachers from primary, Junior and High schools in Taiwan participated in the research study for teacher-satisfaction across six factors including 1/ system content, 2/ system accuracy, 3/ Ease-of-use, 4/ Report Format, 5/ System timeliness, 6/ Community building. The resultant outcome indicated influence of all six factors namely 1/ system content, 2/ system accuracy, 3/ Ease-of-use, 4/ Report Format, 5/ System timeliness, 6/ Community building on teachers-satisfaction. Moderating attributes of age, school level, teaching experience and position also played significant role leading to teacher-satisfaction. The study implied teachers e-readiness (technology readiness including ease-of-use) which is one of the factors of the study positively impacts user-satisfaction.

Research study done Yemen in Online and Blended environment by (Fadhel et al, 2019) themed on web based systems success measurement and student's satisfaction around factors of security and others, this research comes from a University in Yemen which is facing civil war for decades. This study can be of significance given the situation of land. Outcome can relate to similar conflict zones and can help in decision making. UG students numbering 230 participated in this research conducted through questionnaire survey. Identified factors were Perceived usefulness, management support, computer anxiety and security for impacting User-satisfaction. The research analysis shows a significant influence of Perceived usefulness, Management support, Computer Anxiety and Security leading to User-satisfaction.

A research around Social Media Usage for Computing Education conducted by Agbo et al. (2020) takes a look at the influences social media has in life of today's learners. This research study was conducted in online and blended environment. Young learners in developing countries are drawn to social media for its outreach and contents and easy accessibility. In this age of Information Technology Internet and Social Media empowers the learners of today across all age group. Study conducted in Nigeria provides a valuable input which is relevant to lands with similar traits including economy, infrastructure, people, education among others. 313 UG and Masters students participated in this questionnaire survey who are versed with social media and online learning. The study analysis found a significant influence of Social Media leading to Perceived Learning Outcome. Also Social Media influences Group communication. Group communication influences perceived Learning outcomes. The study stated that social media has an important role in student attitude and teacher e-readiness which results in perceived outcome and relate to user-satisfaction.

Done in Blended and Hybrid environment, Safsouf et al. (2020) carried out a research to analyse and understand the success of E-Learners in Higher Education. 127 UG students familiar in Online Learning in Morocco participated in the research study through questionnaire survey. The research model weighed in many factors from available literature, expert opinion and tested models to check the E-Learner success. The analysis shows computer-self-efficacy, computer-anxiety, perceived-playfulness/enjoyment directly related to perceived-ease-of-use. Factors including social interaction, system quality, service quality, course and information-quality, course-flexibility and diversity in assessment leads to e-Learner satisfaction. Course flexibility, diversity in assessment and self-effort influences self-regulation. User-satisfaction influences attitude to LMS (Learning Management System) which further influences intention to continue to use LMS. Self-regulation, user-satisfaction, Intention to continue to use LMS factors E-learner success.

Abdurrahaman et al, 2020, in Online and Blended environment study evaluated factors affecting User-satisfaction in University LMS. The study was conducted in a Malaysian University to find out influencing factors in LMS setup leading to intention to use LMS through User-satisfaction. 132 UG students using the LMS platform participated in the

research done through questionnaire survey. Through the small sample size, response from participants belonging to various ethnicity including Arab, African, Asian were captured thus giving this research a Global reach. Three factors shortlisted leading to User-satisfaction were 1/ System-quality, 2/ Information-quality, 3/ Service-quality. Identified in the analysis of the research revealed significant influence of 1/ System-quality and 2/ Information-quality on user-satisfaction while 3/ service-quality remained insignificant. Further user-satisfaction influences Intention to use.

The review of literature revealed that the research studies has emphasized the importance of user-satisfaction as key to E-learner motivation and intention to use learning platforms in future. Also the literature review pointed that factor of student's attitude is related to e-learner satisfaction. With online learning environment becoming the new normal, E-Learner satisfaction is set to play a significant role in both motivation and intention to continue to use online learning platforms. Given these scenario, there are no significant research done on the students attitude to online learning in Indian context and this is the gap that I would contribute to through my proposed research study.

III. METHODOLOGY

In this study, internal consistency reliability was assessed using Cronbach's alpha coefficient. Cronbach's alpha measures the extent to which items within a measurement instrument are correlated. A higher alpha coefficient indicates greater reliability and internal consistency among the items.

Analyzing the correlation of students attitude towards online learning through satisfaction. Six different constructs formed the basis of the survey that was conducted amongst 62 respondent students who have pursued or are pursuing online learning courses of short (upto 3months) to long term (6months and beyond) or continuous online courses. Total 36 items formed from the 6 constructs were included in the survey as (LATC-7, LAC-7, LISE-7, PU-4, PE-4, LIPO-7).
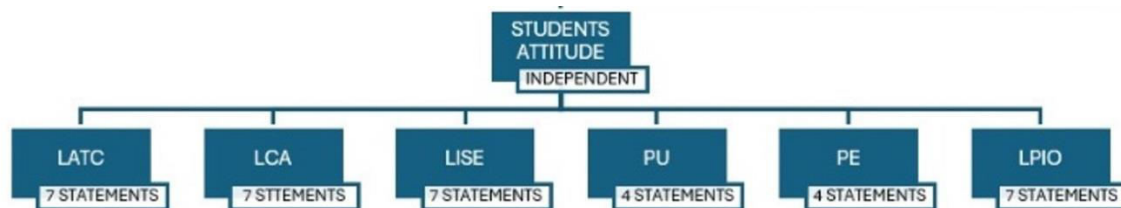
IV. DATA ANALYSIS AND RESULTS

The survey is aimed to assess the students attitude towards online learning.
Sample Description:
A total of 62 respondents participated in the survey, comprising students enrolled in education institutions offering online learning courses. The sample represented diverse academic disciplines and varying levels of familiarity with online learning platforms.
The statistical analysis of the respondents in the pilot survey are detailed below:
Frequency Table:
Online course duration: The prerequisite of participation in the survey was completion of online courses of short-term duration (3 months), long-term duration (6 months), continuous online learning or all the options. The outcome of the pilot survey shows students participants included 46.8% of short-term online course duration, 25.8% long-term online course duration, 6.5% from continuous online courses and 21% from all online course options.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Short term course	29	46.8	46.8	46.8
	Long term course	16	25.8	25.8	72.6
	Continuous Online Learning	4	6.5	6.5	79.0
	All	13	21.0	21.0	100.0
	Total	62	100.0	100.0	

Gender: Gender analysis of the students participation in the pilot survey shows 53.2% participation by males and 46.8% by female students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	33	53.2	53.2	53.2
	Female	29	46.8	46.8	100.0
	Total	62	100.0	100.0	

Educational Institution's category: Students participation in the pilot survey shows 3.2% from government-run, 48.4% from privately-run, 1.6% from autonomous and 46.8% from EdTech online education platforms thus evidencing and increased presence of opportunity in this sector.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Government	2	3.2	3.2	3.2
	Private	30	48.4	48.4	51.6
	Autonomous	1	1.6	1.6	53.2
	EdTech Platform (Coursera/Khan Academy)	29	46.8	46.8	100.0
	Total	62	100.0	100.0	

Discipline: The majority of the participating students in the pilot survey comprising of 40.3% are from Fashion education background, with 22.6% from business, 16.1% from others- denoted by 8 (medical, pharmacy, armed forces, skill development, etc), 8.1% from commerce, 4.8% from humanities, 3.2% from science and engineering and 1.6% from architecture & interior streams.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Business	14	22.6	22.6	22.6
	Fashion	25	40.3	40.3	62.9
	Architect-Interior	1	1.6	1.6	64.5
	Commerce	5	8.1	8.1	72.6
	Humanities	3	4.8	4.8	77.4
	Science	2	3.2	3.2	80.6
	Engineering	2	3.2	3.2	83.9
	8	10	16.1	16.1	100.0
	Total	62	100.0	100.0	

Location: Region wise segregation of the pilot survey samples shows participation of 66.1% from Delhi NCR, 1.6% from Northern India, 3.2% from Western India, 3.2% from Southern India and 25,.8% from online participants.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Delhi NCR	41	66.1	66.1	66.1
	Northern India	1	1.6	1.6	67.7
	Western India	2	3.2	3.2	71.0
	Southern India	2	3.2	3.2	74.2
	Online	16	25.8	25.8	100.0
	Total	62	100.0	100.0	

Accessibility of online learning: The devices in use for undertaking online courses as stated by the participating students shows 56.5% on laptop or desktop, 43.5% on laptop, desktop & mobile while no one chose mobile as an option for undertaking online courses.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	on laptop or desktop	35	56.5	56.5	56.5
	on both laptop-desktop & mobile	27	43.5	43.5	100.0
	Total	62	100.0	100.0	

Internet proficiency: Among the participants of the pilot survey majority comprising of 48.4% each identified their proficiency skills in internet as experts and intermediate which implies that the skill set is already acquired at the higher education level while 3.2% identified themselves as beginners.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Expert	30	48.4	48.4	48.4
	Intermediate	30	48.4	48.4	96.8
	Beginner	2	3.2	3.2	100.0
	Total	62	100.0	100.0	

Results:

The Cronbach's alpha coefficient for the measurement instrument used in this study was calculated to assess its reliability. The value of Cronbach's alpha ranges from 0 to 1. A coefficient closer to 1 indicates high internal consistency among the items in the instrument.

In overall scale of all 62 respondents in pilot survey, Cronbach's alpha value of .952 suggests that the measurement instrument used in this study demonstrates high internal consistency. Table with details as illustrated below.

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.952	86

For E-Learner attitude towards the course (LATC), Cronbach's alpha value of .735 suggests that the measurement instrument used in this study demonstrates intermediate internal consistency. Table with details as illustrated below.

LATC

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.735	7

For E-Learner computer anxiety (LCA), Cronbach's alpha value of .716 suggests that the measurement instrument used in this study demonstrates intermediate internal consistency. Table with details as illustrated below.

LCA

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.716	7

For E-Learner internet self-efficacy (LISE), Cronbach's alpha value of .946 suggests that the measurement instrument used in this study demonstrates high internal consistency. Table with details as illustrated below.

LISE

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.946	7

For Perceived usefulness in web/online learning (PU), Cronbach's alpha value of .891 suggests that the measurement instrument used in this study demonstrates high internal consistency. Table with details as illustrated below.

PU

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.891	4

For Perceived ease of use in web/online learning (PE), Cronbach's alpha value of .936 suggests that the measurement instrument used in this study demonstrates high internal consistency. Table with details as illustrated below.

PE

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.936	4

For E-Learner perceived interaction with others in online courses (LPIO), Cronbach's alpha value of .846 suggests that the measurement instrument used in this study demonstrates high internal consistency. Table with details as illustrated below.

LPIO

Case Processing Summary

		N	%
Cases	Valid	62	100.0
	Excluded[a]	0	.0
	Total	62	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.846	7

The reliable measurement instrument is crucial for obtaining consistent and dependable results. Researchers can have confidence that the instrument's items are measuring the intended constructs consistently across different respondents. It is important to note that the high internal consistency observed in this study enhances the robustness of the research findings. Researchers and practitioners can rely on the instrument to accurately measure the variables of interest, making the study's results more meaningful and trustworthy.

Correlation

Total 36 items formed from the 6 constructs were included in the research survey as (LATC-7, LAC-7, LISE-7, PU-4, PE-4, LIPO-7). The result outcome is discussed here.

Construct-I: E-Learner attitude towards the course (LATC)

E-learner satisfaction is positively correlated with e-learner attitude towards the course. This suggests that as E-learner attitude towards the course increase, E-learner satisfaction also increases. This indicates the importance of this factor in enhancing E-learner satisfaction. Results are detailed in the correlation chart as below:

LATC & Overall

Correlations

		Overall_Stu_Sat	LATC1_n	LATC2_n	LATC3_n	LATC4_n	LATC5_n	LATC6	LATC7_n
Overall_Stu_Sat	Pearson Correlation	1	-.274*	-.268*	-.039	-.098	-.080	.496**	-.505**
	Sig. (2-tailed)		.031	.035	.765	.450	.539	.000	.000
	N	62	62	62	62	62	62	62	62
LATC1_n	Pearson Correlation	-.274*	1	.825**	.372**	.478**	.312*	-.368**	.317*
	Sig. (2-tailed)	.031		.000	.003	.000	.014	.003	.012
	N	62	62	62	62	62	62	62	62
LATC2_n	Pearson Correlation	-.268*	.825**	1	.377**	.444**	.314*	-.330**	.371**
	Sig. (2-tailed)	.035	.000		.003	.000	.013	.009	.003
	N	62	62	62	62	62	62	62	62
LATC3_n	Pearson Correlation	-.039	.372**	.377**	1	.288*	.063	.002	.192
	Sig. (2-tailed)	.765	.003	.003		.023	.624	.989	.134
	N	62	62	62	62	62	62	62	62
LATC4_n	Pearson Correlation	-.098	.478**	.444**	.288*	1	.490**	-.046	.195
	Sig. (2-tailed)	.450	.000	.000	.023		.000	.721	.129
	N	62	62	62	62	62	62	62	62
LATC5_n	Pearson Correlation	-.080	.312*	.314*	.063	.490**	1	-.110	.150
	Sig. (2-tailed)	.539	.014	.013	.624	.000		.393	.244
	N	62	62	62	62	62	62	62	62
LATC6	Pearson Correlation	.496**	-.368**	-.330**	.002	-.046	-.110	1	-.169
	Sig. (2-tailed)	.000	.003	.009	.989	.721	.393		.189
	N	62	62	62	62	62	62	62	62
LATC7_n	Pearson Correlation	-.505**	.317*	.371**	.192	.195	.150	-.169	1
	Sig. (2-tailed)	.000	.012	.003	.134	.129	.244	.189	
	N	62	62	62	62	62	62	62	62

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Construct-II: E-Learner computer anxiety (LCA)

E-learner satisfaction is insignificantly correlated with E-learner computer anxiety. This suggests that as E-learner computer anxiety is independent of E-learner satisfaction. This indicates that this factor do not correlate to E-learner satisfaction. Another take can also be that the question was not clearly understood by the respondents and need further inputs and guidance towards understanding the question in better context. Results are detailed in the correlation chart as below:

LCA & Overall

Correlations

		Overall_Stu_Sat	LCA1	LCA2	LCA3	LCA4	LCA5	LCA6_n	LCA7_n
Overall_Stu_Sat	Pearson Correlation	1	.012	-.455**	.012	-.019	.047	.234	.040
	Sig. (2-tailed)		.925	.000	.929	.881	.717	.067	.757
	N	62	62	62	62	62	62	62	62
LCA1	Pearson Correlation	.012	1	.205	.529**	.266*	.356**	-.151	-.047
	Sig. (2-tailed)	.925		.109	.000	.036	.004	.240	.715
	N	62	62	62	62	62	62	62	62
LCA2	Pearson Correlation	-.455**	.205	1	.276*	-.060	.046	-.331**	-.463**
	Sig. (2-tailed)	.000	.109		.030	.641	.724	.009	.000
	N	62	62	62	62	62	62	62	62
LCA3	Pearson Correlation	.012	.529**	.276*	1	.413**	.476**	-.202	-.179
	Sig. (2-tailed)	.929	.000	.030		.001	.000	.115	.164
	N	62	62	62	62	62	62	62	62
LCA4	Pearson Correlation	-.019	.266*	-.060	.413**	1	.577**	-.197	-.069
	Sig. (2-tailed)	.881	.036	.641	.001		.000	.125	.594
	N	62	62	62	62	62	62	62	62
LCA5	Pearson Correlation	.047	.356**	.046	.476**	.577**	1	-.320*	-.052
	Sig. (2-tailed)	.717	.004	.724	.000	.000		.011	.691
	N	62	62	62	62	62	62	62	62
LCA6_n	Pearson Correlation	.234	-.151	-.331**	-.202	-.197	-.320*	1	.386**
	Sig. (2-tailed)	.067	.240	.009	.115	.125	.011		.002
	N	62	62	62	62	62	62	62	62
LCA7_n	Pearson Correlation	.040	-.047	-.463**	-.179	-.069	-.052	.386**	1
	Sig. (2-tailed)	.757	.715	.000	.164	.594	.691	.002	
	N	62	62	62	62	62	62	62	62

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Construct-III: E-Learner internet self-efficacy (LISE)
E-learner satisfaction is positively correlated with E-learner internet self-efficacy. This suggests that as E-learner internet self-efficacy increase, E-learner satisfaction also increases. This indicates the importance of this factor in enhancing E-learner satisfaction. Results are detailed in the correlation chart as below:

LISE & overall

Correlations

		Overall_Stu_Sat	LISE1	LISE2	LISE3	LISE4	LISE5	LISE6	LISE7
Overall_Stu_Sat	Pearson Correlation	1	.560**	.594**	.542**	.543**	.604**	.667**	.624**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	62	62	62	62	62	62	62	62
LISE1	Pearson Correlation	.560**	1	.832**	.590**	.689**	.740**	.711**	.703**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	62	62	62	62	62	62	62	62
LISE2	Pearson Correlation	.594**	.832**	1	.616**	.689**	.795**	.727**	.721**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	62	62	62	62	62	62	62	62
LISE3	Pearson Correlation	.542**	.590**	.616**	1	.602**	.635**	.552**	.607**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
	N	62	62	62	62	62	62	62	62
LISE4	Pearson Correlation	.543**	.689**	.689**	.602**	1	.835**	.734**	.832**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	62	62	62	62	62	62	62	62
LISE5	Pearson Correlation	.604**	.740**	.795**	.635**	.835**	1	.869**	.860**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
	N	62	62	62	62	62	62	62	62
LISE6	Pearson Correlation	.667**	.711**	.727**	.552**	.734**	.869**	1	.827**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
	N	62	62	62	62	62	62	62	62
LISE7	Pearson Correlation	.624**	.703**	.721**	.607**	.832**	.860**	.827**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	62	62	62	62	62	62	62	62

**. Correlation is significant at the 0.01 level (2-tailed).

Construct-IV: Perceived usefulness in web/online learning (PU)
E-learner satisfaction is positively correlated with perceived usefulness in online learning. This suggests that as perceived usefulness in online learning increases, E-learner satisfaction also increases. This indicates the importance of this factor in enhancing E-learner satisfaction. Results are detailed in the correlation chart as below:

PU & Overall

Correlations

		Overall_Stu_Sat	PU1	PU2	PU3	PU4
Overall_Stu_Sat	Pearson Correlation	1	.832**	.826**	.638**	.674**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	62	62	62	62	62
PU1	Pearson Correlation	.832**	1	.868**	.767**	.665**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	62	62	62	62	62
PU2	Pearson Correlation	.826**	.868**	1	.609**	.682**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	62	62	62	62	62
PU3	Pearson Correlation	.638**	.767**	.609**	1	.499**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	62	62	62	62	62
PU4	Pearson Correlation	.674**	.665**	.682**	.499**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	62	62	62	62	62

**. Correlation is significant at the 0.01 level (2-tailed).

Construct-V: Perceived ease of use in web/online learning (PE)

E-learner satisfaction is positively correlated with perceived ease of use in online learning. This suggests that as perceived ease of use in online learning increases, E-learner satisfaction also increases. This indicates the importance of this factor in enhancing E-learner satisfaction. Results are detailed in the correlation chart as below:

PE & overall

	Correlations	Overall_Stu_Sat	PE1	PE2	PE3	PE4
Overall_Stu_Sat	Pearson Correlation	1	.761**	.853**	.840**	.694**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	62	62	62	62	62
PE1	Pearson Correlation	.761**	1	.825**	.785**	.686**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	62	62	62	62	62
PE2	Pearson Correlation	.853**	.825**	1	.902**	.759**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	62	62	62	62	62
PE3	Pearson Correlation	.840**	.785**	.902**	1	.781**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	62	62	62	62	62
PE4	Pearson Correlation	.694**	.686**	.759**	.781**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	62	62	62	62	62

**. Correlation is significant at the 0.01 level (2-tailed).

Construct-VI: E-learner perceived interaction with others in online courses (LPIO)

E-learner satisfaction is positively correlated with E-learner perceived interaction with others in online learning. This suggests that as E-learner perceived interaction with others in online learning increases, E-learner satisfaction also increases. This indicates the importance of this factor in enhancing E-learner satisfaction. Results are detailed in the correlation chart as below:

LPIO & overall

	Correlations	Overall_Stu_Sat	LPIO_1_n	LPIO_2_n	LPIO3	LPIO4	LPIO5	LPIO6	LPIO7
Overall_Stu_Sat	Pearson Correlation	1	-.138	-.118	.274*	.280*	.159	.494**	.486**
	Sig. (2-tailed)		.284	.361	.031	.028	.216	.000	.000
	N	62	62	62	62	62	62	62	62
LPIO_1_n	Pearson Correlation	-.138	1	.773**	-.436**	-.379**	-.330**	-.383**	-.148
	Sig. (2-tailed)	.284		.000	.000	.002	.009	.002	.251
	N	62	62	62	62	62	62	62	62
LPIO_2_n	Pearson Correlation	-.118	.773**	1	-.341**	-.464**	-.423**	-.486**	-.283*
	Sig. (2-tailed)	.361	.000		.007	.000	.001	.000	.026
	N	62	62	62	62	62	62	62	62
LPIO3	Pearson Correlation	.274*	-.436**	-.341**	1	.678**	.541**	.329**	.440**
	Sig. (2-tailed)	.031	.000	.007		.000	.000	.009	.000
	N	62	62	62	62	62	62	62	62
LPIO4	Pearson Correlation	.280*	-.379**	-.464**	.678**	1	.579**	.525**	.395**
	Sig. (2-tailed)	.028	.002	.000	.000		.000	.000	.002
	N	62	62	62	62	62	62	62	62
LPIO5	Pearson Correlation	.159	-.330**	-.423**	.541**	.579**	1	.481**	.321*
	Sig. (2-tailed)	.216	.009	.001	.000	.000		.000	.011
	N	62	62	62	62	62	62	62	62
LPIO6	Pearson Correlation	.494**	-.383**	-.486**	.329**	.525**	.481**	1	.534**
	Sig. (2-tailed)	.000	.002	.000	.009	.000	.000		.000
	N	62	62	62	62	62	62	62	62
LPIO7	Pearson Correlation	.486**	-.148	-.283*	.440**	.395**	.321*	.534**	1
	Sig. (2-tailed)	.000	.251	.026	.000	.002	.011	.000	
	N	62	62	62	62	62	62	62	62

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

V. CONCLUSION

The survey provided valuable insights into the students attitude towards online learning. Out of 5 constructs 6 constructs shows positive correlation towards online learning while 1 construct "E-learner computer anxiety (LCA)" did not have correlation with online learning. Based on the findings, adjustments to the survey instrument will be made, and a larger sample will be targeted in the main research study.

The scales which are not valid needs more understanding from the participants and thus extra information and effort will be applied for making the understanding clear for the participants for better outcome.

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