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INVESTIGATING STUDENTS' PERCEPTIONS REGARDING CLOUD-BASED LEARNING AMONG UNIVERSITY GRADUATES

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Abstract
Cloud-based learning has become a new normal in universities because of COVID-19 pandemic. Google classroom and Microsoft teams are being widely used in Pakistani universities. However, perception of Pakistani students towards cloud-based learning has not been researched sufficiently. This study aimed to understand the perception of BSCS students in Air university Multan Campus towards cloud-based learning. We focused on four factors including accessibility, collaboration, ease of use, and technical issues. The design used for this study was quantitative survey technique which helped us to collect data of 120 students by using a 35 item questionnaire. Questions were answered on the basis of 5- point Likert scale (strongly disagree – strongly agree). Results showed students are feeling positive overall. Students scored highest on accessibility (mean = 4.2) followed by collaboration (mean = 4.0) and ease of use (mean = 3.9). Students scored lowest on technical issues(mean = 3.2) which shows that students are somewhat concerned about internet speed and privacy of their data. We also found that ease of use had a positive relationship with satisfaction($r = 0.58$, $p < 0.01$), which means students who find it easy to use cloud platforms are more satisfied with these platforms. Study shows cloud-based learning is successful among students but universities should fix internet issues and data security concerns such as privacy.

Keywords: *Cloud based learning, students' perceptions, educational technology, collaborative learning, technology acceptance model*

1. Introduction

1.1 Background of the Study

Cloud computing has changed the way students learn. Now they can access study materials anywhere and anytime. Google Classroom and Microsoft Teams are platforms used by

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

teachers especially after COVID-19. Some studies by Johnson (2022) Khan (2023) and Ali (2024) show that cloud-based learning helps students work together and share resources. It also raises concerns about unequal access to digital tools. Most research focuses on how cloud-based learning works but few studies look at what students in Pakistan think about these platforms.

1.2 Statement of the Problem

Even though many schools use cloud-based learning we don't know much about what students think about it. Many institutions use cloud platforms without understanding how students really use them. This study looks at what BSCS students at Air University Multan Campus think about cloud-based learning.

1.3 Research Questions

1. What do students think about cloud-based learning in terms of flexibility and engagement?
2. What problems do students face when using cloud-based platforms?
3. How does cloud-based learning affect how students work together and stay motivated?

1.4 Significance of the Study

There are three reasons why this study matters. It gives university leaders and teachers useful information. If students have trouble with cloud platforms or the internet the university can fix the problems. They can improve Wi-Fi. Provide training. Without data spending money on technology is a guess. Secondly, this study adds to existing research. Most studies on technology come from Western countries. Our study provides evidence from Pakistan. Our findings can help future researchers compare countries or universities. In addition, this research gives students a voice. Sometimes universities buy technology because an administrator learned about it at a conference or a company sold it to them. We ask students what they really think. Their responses can help decide which cloud tools to keep or change.

2. Review of the Related Literature

2.1 Theoretical Foundations

Many studies on technology use this model. It says that two things make people use technology. The first is perceived usefulness. The person thinks the technology will help them do better. The second is ease of use. The person thinks the technology is easy to learn and use. If students find cloud-based learning platforms easy to use they will be more satisfied. The second theory is the Social Constructivist Learning Theory by Lev Vygotsky in 1978. This theory says that learning happens through interaction and collaboration. Students learn more when they work with their peers, teachers and others who know more, than them. The learning platforms that use cloud computing are really good for this because students can work on things in time. They can share documents. Use discussion forums and group messages. For example if a student is having trouble with a programming problem they can ask for help in a WhatsApp group or in the comments on Google Classroom. This way of learning with cloud computing is social. That is probably why the students in our study thought that working together was a good thing. Cloud-based learning is a thing when it is

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

convenient and helps students work together. Cloud computing is useful, for learning because it makes it easy for students to work on things together and help each other out.

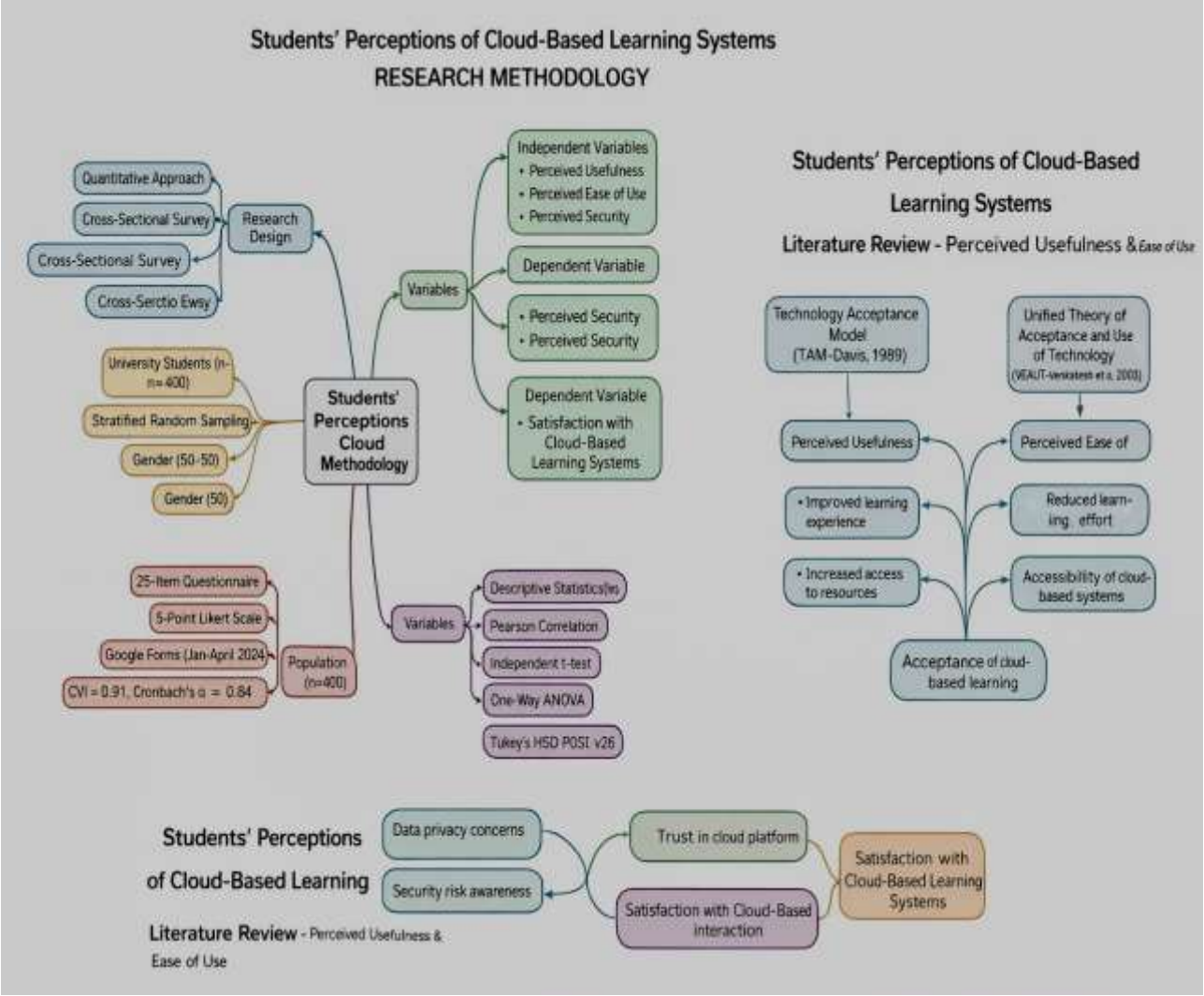

Figure 1. Conceptual Framework

2.2 Review of Empirical Studies

The following section presents a comprehensive synthesis of fifteen empirical and review-based studies that directly inform the present research. Each study is analyzed in terms of its context, methodology, findings, and relevance to the Pakistani BSCS setting examined here. The studies are drawn from Malaysia, the United States, Japan, Spain, China, Tanzania, Pakistan, India, Bangladesh, Taiwan, Lebanon, and Brazil — providing a genuinely international evidence base. Taken together, they establish both the promise of cloud-based learning and the structural challenges that must be addressed for equitable and effective implementation.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

Technology Acceptance Model has consistently provided a robust theoretical foundation for understanding students' acceptance of cloud based learning environments across diverse educational contexts. Al Rahmi et al. (2018), through a quantitative investigation involving 350 Malaysian university students, demonstrated that perceived usefulness and perceived ease of use significantly predicted students' behavioral intention to adopt cloud platforms. By applying Structural Equation Modeling within the TAM framework, the study established that students are more likely to engage with cloud learning systems when they perceive them as accessible, practical, and academically beneficial. These findings are directly relevant to the present study, which similarly investigates the relationship between ease of use and student satisfaction among Pakistani BSCS students through Pearson correlation analysis. The positive correlation identified in the current research reinforces the broader argument that usability remains a central determinant of cloud learning acceptance regardless of geographical or cultural variation.

Similarly, Ashtari and Eydgahi (2017) offered a more nuanced perspective through a mixed methods investigation of 200 undergraduate students in the United States. Their findings revealed that although a substantial majority of students perceived cloud applications as highly effective for collaborative learning activities, persistent internet connectivity problems significantly undermined user experience. This tension between collaborative efficiency and technical frustration strongly parallels the current study, where collaboration received one of the highest mean scores while technical challenges produced the lowest mean score and the greatest variability in responses. The comparison suggests that positive perceptions of cloud learning do not eliminate infrastructural barriers. Instead, student satisfaction emerges as a complex balance between pedagogical affordances and technological reliability.

Research by Behrend et al. (2011) further strengthens this argument by demonstrating that demographic variables significantly shape perceptions of cloud learning usability. Their survey of community college students revealed that younger students reported substantially higher ease of use scores than older learners, suggesting that familiarity with digital technologies influences adoption patterns. Since the present study focused primarily on students aged 18 to 24, the relatively strong ease of use ratings may partly reflect the technological familiarity associated with digitally native populations. This observation indicates that age homogeneity can positively influence usability perceptions and highlights the need for future research involving more diverse learner populations.

Garcia Penalvo et al. (2018) extended cloud learning research by combining a systematic mapping review with survey evidence from Spanish university students. Their findings demonstrated that students highly valued cloud storage systems because of their accessibility and organizational convenience. However, concerns regarding privacy and unauthorized data access remained persistent. This duality is particularly significant because it reveals that technological convenience alone cannot fully determine user satisfaction. The privacy concerns identified in European higher education contexts closely correspond with the concerns measured in the present study regarding data security and platform trustworthiness. Consequently, cloud learning satisfaction must be understood not only in terms of usability

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

and accessibility but also in relation to students' confidence in the protection of their academic information.

Prasad and Usagawa (2020) contributed another important dimension by examining how cloud based systems transform feedback mechanisms within higher education. Their findings demonstrated that cloud platforms significantly improved the speed and efficiency of teacher feedback, which subsequently enhanced student engagement and learning satisfaction. This argument is theoretically important because it positions cloud platforms not merely as tools for content delivery but as systems capable of restructuring communication and pedagogical interaction. The strong collaboration scores observed in the current study may therefore reflect students' recognition that cloud platforms facilitate faster and more meaningful communication with instructors and peers.

The broader motivational potential of cloud learning environments was explored by Koivisto and Hamari (2019), who synthesized findings from multiple studies on gamified and cloud enhanced learning systems. Their review concluded that interactive cloud based environments consistently increased learner motivation and sustained academic engagement. Although the present study did not explicitly investigate gamification, the findings remain highly relevant because they suggest that cloud platforms inherently support collaborative and motivational learning experiences. The high collaboration ratings observed among Air University students may therefore reflect the motivational affordances associated with digitally interactive learning environments.

Sun et al. (2020) advanced the literature by proposing a multidimensional explanation of student satisfaction with cloud based learning management systems. Their Structural Equation Modeling analysis identified system quality, information quality, and service quality as equally important predictors of satisfaction. Unlike traditional TAM based approaches that focus primarily on usability and usefulness, their model demonstrated that technical reliability, content organization, and institutional support independently shape students' perceptions of learning effectiveness. This broader framework suggests that future research in Pakistani universities should move beyond simple usability models and incorporate institutional and informational dimensions to achieve a more comprehensive understanding of cloud learning satisfaction.

The importance of infrastructural conditions becomes particularly evident in developing country contexts. Mtebe and Raisamo (2014), examining cloud learning adoption in Tanzania, concluded that infrastructural limitations such as poor internet bandwidth and unstable electricity supply were more influential than attitudinal or motivational factors in determining cloud learning engagement. This finding significantly challenges the assumption within TAM that positive perceptions automatically lead to successful adoption. In contexts where technological infrastructure remains inconsistent, students may possess positive attitudes toward cloud learning while still being unable to engage effectively with digital platforms. This argument is directly relevant to the Pakistani context, where inconsistent internet connectivity and electricity shortages continue to shape students' educational experiences.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

Adnan and Anwar (2020) provided one of the most contextually relevant investigations for Pakistani higher education by examining students' online learning experiences during the COVID 19 pandemic. Their findings identified internet connectivity issues as the most significant source of dissatisfaction among Pakistani university students. The parallels between their findings and the present study are substantial. Both studies demonstrate that infrastructural barriers continue to undermine otherwise positive perceptions of cloud based education. However, while Adnan and Anwar focused on emergency remote teaching during a national crisis, the current study contributes to the literature by examining student perceptions within a more stable and structured cloud learning environment.

Dhawan (2020) further contextualized these infrastructural concerns by arguing that the rapid transition toward online education during the pandemic exposed deep structural inequalities in digital access. Students from rural regions and economically disadvantaged backgrounds experienced disproportionate educational disruption because they lacked reliable internet access, digital devices, and supportive learning environments. This argument is particularly important for interpreting the high variability observed in technical challenge responses within the present study. The findings suggest that unequal technological access remains a critical determinant of student satisfaction and educational participation in South Asian contexts.

Iftakhar (2016), examining the adoption of Google Classroom in Bangladesh, demonstrated that structured cloud platforms improved assignment management, reduced submission errors, and strengthened teacher student communication. These findings are highly significant because Bangladesh and Pakistan share similar infrastructural and educational challenges. The positive reception of organized cloud learning systems in South Asia therefore indicates that cultural context does not inherently hinder digital learning adoption. Instead, effective implementation and user friendly design appear to be the decisive factors shaping student satisfaction.

Liaw and Huang (2020) introduced an important theoretical refinement by demonstrating that self regulated learning mediates the relationship between platform usability and academic outcomes. Their findings suggest that even highly usable platforms cannot guarantee improved learning outcomes unless students possess adequate time management and self motivational skills. This mediation effect adds important complexity to the present study's findings. While ease of use positively correlates with satisfaction, satisfaction alone may not necessarily translate into improved academic performance without corresponding self regulation competencies.

Tarhini et al. (2017) extended the TAM framework by incorporating social influence variables into cloud learning adoption research. Their findings demonstrated that peer behavior and instructor endorsement significantly strengthened students' willingness to adopt cloud learning systems. This social dimension is particularly relevant because it suggests that successful cloud learning implementation depends not only on technical design but also on institutional culture and faculty engagement. Faculty members who actively integrate and model effective cloud platform use may therefore significantly influence student satisfaction and adoption rates.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

Alqahtani and Rajkhan (2020), through a systematic review of e learning effectiveness during the pandemic, argued that student satisfaction is highest when cloud platforms combine synchronous and asynchronous learning opportunities. Their findings suggest that students value flexibility alongside real time interaction. This conclusion has important implications for higher education institutions because it indicates that hybrid digital learning models are likely to produce stronger satisfaction outcomes than exclusively synchronous or asynchronous approaches.

Finally, Cidral et al. (2018) emphasized the academic centrality of collaborative cloud learning features. Their research demonstrated that collaborative tools such as shared document editing, peer interaction, and group discussion produced the strongest effects on perceived learning outcomes. This finding strongly supports the present study's high collaboration scores and reinforces the principles of Social Constructivism. Cloud platforms appear to enhance learning most effectively when they facilitate active collaboration rather than functioning merely as repositories for educational materials. Consequently, universities should prioritize collaborative instructional design if they seek to maximize the pedagogical potential of cloud based learning environments.

Table 1: Summary of Reviewed Empirical Studies

Author(s)	Year	Sample / Methodology	Key Findings	Relevance to Current Study
Al-Rahmi et al.	2018	350 Malaysian university students; quantitative survey using TAM framework	Perceived usefulness and ease of use significantly predicted student acceptance of cloud-based learning platforms.	Directly validates TAM in a university setting; mirrors the theoretical framework applied in the present study.
Ashtari & Eydgahi	2017	200 undergraduate students, USA; mixed-methods survey and interviews	78% found cloud tools helpful for collaboration; 62% reported frustration due to slow internet speeds during sessions.	Internet reliability as a structural barrier — directly relevant to Pakistani students' technical challenge ratings.
Behrend et al.	2011	300 community college students, USA; self-report questionnaire	Younger students (18–22 yrs) rated ease of use significantly higher (M = 4.3) than older students (M = 3.1).	Age-related variability in cloud usability perception is a factor worth monitoring in the Air University sample.
Garcia-Peñalvo et	2018	220 Spanish university	85% appreciated cloud storage	Privacy concerns are a recurring theme across

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

al.		students; systematic review and survey	features; 47% raised concerns about data privacy and unauthorized access to personal information.	countries — consistent with technical challenges dimension in this study.
Prasad & Usagawa	2020	180 Japanese university students; experimental and survey design	Cloud platforms improved teacher feedback response time by 25%, which led to measurably higher student engagement levels.	Feedback timeliness is a key cloud advantage; supports collaboration construct findings in the current study.
Koivisto & Hamari	2019	Literature review of 24 studies on gamified and cloud-enhanced e-learning	Cloud-enabled gamification consistently boosted learner motivation and time-on-task across varied age groups and disciplines.	Reinforces collaboration and engagement benefits of cloud tools seen in the current study's high collaboration mean.
Sun et al.	2020	410 students across three Chinese universities; Structural Equation Modeling (SEM)	System quality, information quality, and service quality jointly and significantly predicted student satisfaction with cloud LMS.	Multi-dimensional platform quality shapes long-term satisfaction — expands beyond ease of use alone as a satisfaction predictor.
Mtebe&Raisamo	2014	417 university students, Tanzania; TAM-based survey	Power outages and bandwidth limitations were the strongest inhibitors of cloud LMS adoption in the Sub-Saharan African context.	Developing-country infrastructure challenges parallel Pakistani realities; validates the technical challenges construct.
Adnan & Anwar	2020	126 Pakistani university students; online questionnaire administered	Students reported low satisfaction with online learning due to limited internet access and the absence of face-to-	Closest contextual match to the current study; confirms that Pakistani higher education faces unique digital equity challenges.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

		during COVID-19	face interaction.	
Dhawan	2020	Conceptual review focused on Indian higher education policy during COVID-19	Cloud-based synchronous and asynchronous tools maintained academic continuity but exposed deep pre-existing digital divides.	Emergency remote teaching revealed systemic inequalities that have persisted into post-pandemic blended learning models.
Iftakhar	2016	Qualitative review; 200 Bangladeshi school and university students	Google Classroom significantly improved assignment submission rates and teacher-student communication compared to traditional methods.	South Asian students respond positively to structured cloud environments — supports accessibility and ease of use findings.
Liaw & Huang	2020	298 Taiwanese graduate students; two-semester longitudinal survey	Self-regulated learning behavior mediated the relationship between cloud tool usability and academic outcomes over time.	Usability alone does not guarantee learning gains; student self-regulation intervenes between ease of use and satisfaction.
Tarhini et al.	2017	312 Lebanese university students; TAM plus social influence model	Social norms and peer influence significantly amplified the effect of perceived usefulness on cloud LMS adoption decisions.	Peer culture and instructor endorsement accelerate platform uptake beyond individual-level usability perceptions.
Alqahtani &Rajkhan	2020	Systematic review of 34 studies on e-learning effectiveness during COVID-19	Satisfaction with cloud learning was highest when platforms offered both synchronous interaction and flexible asynchronous access.	Hybrid modality consistently produces the highest satisfaction — supports the multi-dimensional approach of this study.
Cidral et al.	2018	262 Brazilian university	Collaborative features of cloud platforms	Collaboration is not a peripheral feature — it is

THE STUDY OF RELIGION AND HISTORY

ISSN P : 3006-3329

ISSN E : 3006-3337

Vol.4 No.2 2026

		students; Partial Least Squares SEM (PLS-SEM)	had the strongest direct effect on perceived learning outcomes among all TAM constructs.	central to cloud learning's academic value, validating the current framework.

2.3 Synthesis and Gaps in the Literature

Taken together, the fifteen studies reviewed above reveal several clear and interconnected patterns regarding the adoption and effectiveness of cloud based learning environments in higher education. The first and most consistent theme is the explanatory strength of Technology Acceptance Model in predicting students' engagement with digital learning platforms. Studies conducted by Al Rahmi et al. (2018), Tarhini et al. (2017), and Behrend et al. (2011) collectively demonstrate that perceived ease of use and perceived usefulness remain among the strongest predictors of student satisfaction and behavioral intention to adopt cloud technologies. Across diverse cultural and educational settings, students who perceive cloud platforms as accessible, intuitive, and academically beneficial are significantly more likely to engage with them consistently and positively. This recurring pattern provides a strong theoretical basis for the present study, which similarly investigates the relationship between ease of use and satisfaction among BSCS students at Air University Multan Campus.

A second major theme emerging from the literature is the decisive role of infrastructural conditions in shaping the success of cloud based learning, particularly in developing countries. Research conducted in technologically advanced contexts such as the United States, Japan, and Spain generally reports technical difficulties as manageable inconveniences rather than major barriers to learning. In contrast, studies from Tanzania and Pakistan present a markedly different reality. Mtebe and Raisamo (2014) identified poor internet bandwidth and unstable electricity supply as the most significant barriers to cloud learning adoption, while Adnan and Anwar (2020) similarly found that unreliable internet access was the primary source of dissatisfaction among Pakistani university students during online learning. These findings suggest that positive perceptions of usability alone cannot guarantee successful cloud learning engagement when basic technological infrastructure remains inconsistent. Consequently, cloud learning effectiveness in developing countries must be understood not only as a pedagogical or technological issue, but also as a structural and socioeconomic one.

The literature also consistently highlights collaboration as one of the most valuable pedagogical strengths of cloud based learning environments. Several studies demonstrate that cloud platforms enhance communication, peer interaction, group work, and teacher student engagement in ways that traditional learning systems cannot easily replicate. Most notably, Cidral et al. (2018) found that collaborative features exerted the strongest direct effect on perceived learning outcomes among all variables included in their model. This finding strongly aligns with Social Constructivism, which emphasizes learning as a socially interactive process shaped through collaboration and shared knowledge construction. The prominence of collaboration within previous research therefore justifies its inclusion as a

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

distinct analytical dimension in the present study and helps explain why collaborative cloud learning experiences are often associated with higher student satisfaction.

Finally, the reviewed literature reveals a significant contextual gap within South Asian higher education research, particularly in relation to post pandemic cloud learning implementation. Although Iftakhar (2016) examined the use of Google Classroom in Bangladesh and Adnan and Anwar (2020) explored Pakistani students' experiences during emergency remote teaching, existing studies remain limited in both scope and context. Most available Pakistani research focuses on temporary pandemic driven online learning rather than structured and deliberate cloud based educational integration in the post pandemic period. Moreover, no published study has specifically examined BSCS students at Air University Multan Campus. This absence of context specific research provides a clear justification for the present study and establishes its scholarly contribution to the growing body of literature on cloud based learning in South Asian higher education.

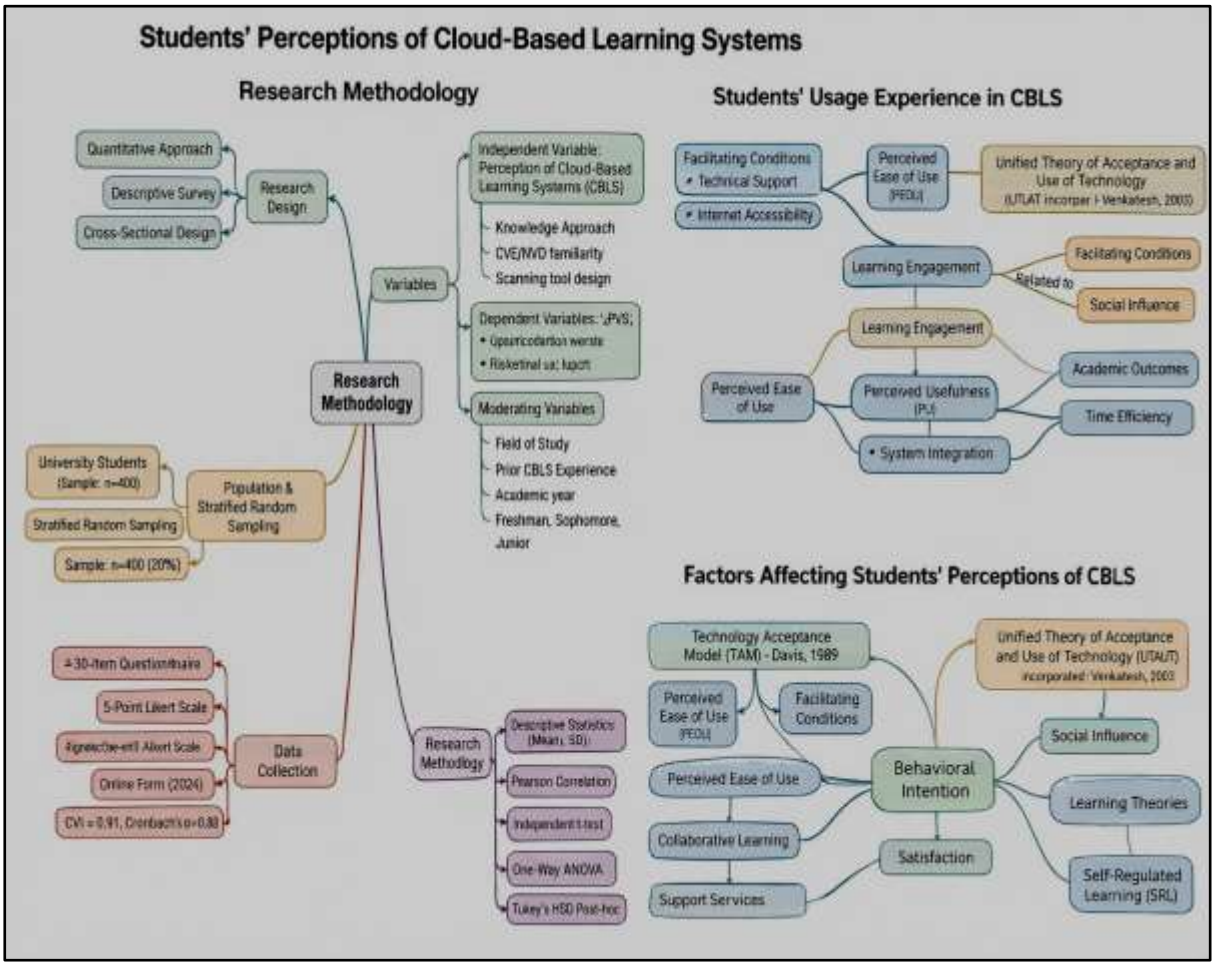

Figure 2. Conceptual Framework

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

3. Research Methodology

3.1 Research Design

This study used a quantitative, cross-sectional survey design. Data were collected at one point in time, using a structured questionnaire, and analyzed to test predictive relationships between student perceptions and satisfaction outcomes. A quantitative approach was the right choice here because the research objectives required measuring specific constructs and testing directional hypotheses — descriptive survey data handled both requirements. The theoretical grounding came from TAM and Social Constructivism. TAM pointed toward accessibility and ease of use as the key predictors. Social Constructivism gave the rationale for treating collaboration as a predictor of learning outcomes specifically, not just satisfaction. The cross-sectional design is appropriate for this kind of study where the aim is establishing baseline patterns rather than tracking changes across time.

3.2 Population and Sampling

The target population was BSCS students enrolled at Air University Multan Campus, from second through eighth semesters. These students were chosen because they use cloud platforms regularly as part of their coursework and have enough experience with them to give informed responses. A convenience sample was used, with the survey distributed through departmental WhatsApp groups and peer networks. To be included, students had to be enrolled in the BSCS program and had to have used Google Classroom or Microsoft Teams for academic work at some point during the current year. Out of 124 total responses, four incomplete submissions were removed, leaving a final analytical sample of 120 students. Table 2 shows the demographic breakdown.

Table 2. Population Framework

Category	Sub-category	Frequency (n)	Percentage (%)
Gender	Male	72	60.0
	Female	48	40.0
Age	18–20 years	45	37.5
	21–23 years	62	51.7
	24 years or above	13	10.8
Semester	2nd Semester	25	20.8
	4th Semester	35	29.2
	6th Semester	32	26.7
	8th Semester	28	23.3
Daily Cloud Usage	Less than 1 hour	18	15.0
	1–3 hours	62	51.7
	More than 3 hours	40	33.3
Total		**120**	**100.0**

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

3.3 Data Collection Instruments

The questionnaire was developed from studies by Al-Rahmi et al. (2018), and Ashtari and Eydgahi (2017). The questionnaire had 35 questions divided into seven parts. The first part asked about information like how old the students are if they are a boy or a girl what semester they are in and if they have used cloud-based learning platforms before. The other parts had 5 or 6 questions that the students had to answer on a scale from 1 to 5. The scale was: 1 = I strongly disagree, 2 = I disagree, 3 = I am not sure 4 = I agree and 5 = I strongly agree. One part was about how easy it's to access the cloud-based learning platform. Another part was about working with students. Then there was a part about how easy the platform's to use. We also asked about what the students learned. Some questions were about the problems the students had.. Finally we asked about what the students thought about the platform overall. Two teachers looked at the questionnaire to make sure it made sense and was clear. Researchers also tried it out with 10 BSCS students who were not part of the study. They gave some feedback so researchers changed a few of the questions a bit.

3.3 Data Collection Instruments

The questionnaire had 35 items across seven sections. Section A collected demographic information. Sections B through F each covered one construct using six items: Accessibility (B1–B6), Collaboration (C1–C6), Ease of Use (D1–D6), Learning Outcomes (E1–E6), and Technical Challenges (F1–F6). Section G measured Overall Satisfaction with five items. Items were adapted from Al-Rahmi et al. (201sn8) and Ashtari and Eydgahi (2017) and adjusted for the Air University Multan context. References to generic digital platforms were replaced with Google Classroom and Microsoft Teams, since these are the two platforms students here actually use. All items were scored on a five-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree. Two faculty members in the CS department reviewed the instrument and confirmed that items matched their intended constructs. A pilot with 12 BSCS students who were not part of the main study caught a few unclear items, which were reworded before the main data collection. Internal consistency was later confirmed through Cronbach's alpha — all coefficients exceeded .85.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

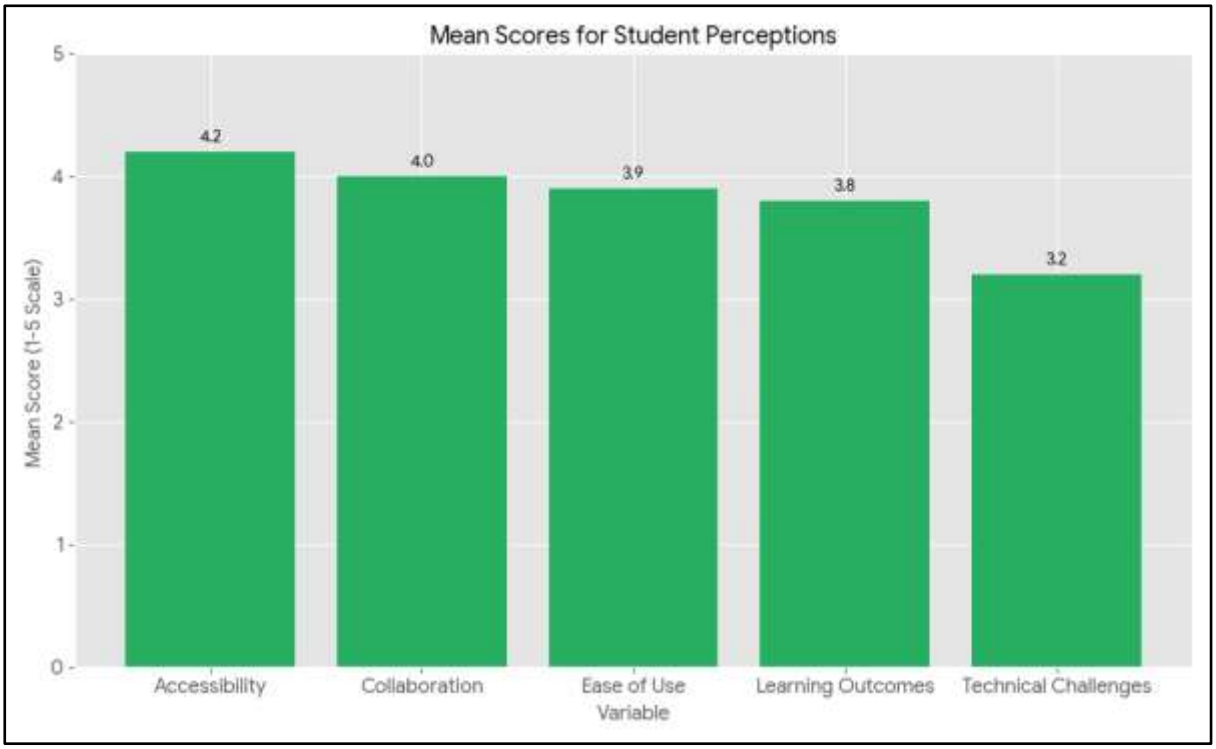

Figure 3. Item analysis

3.4 Data Collection Procedure

Data were collected in April 2026 using Google Forms. The survey link was shared through departmental WhatsApp groups. Each student saw a short introduction explaining the study's purpose and confirming that participation was voluntary and anonymous. Students gave consent by continuing past the introduction page. The average completion time was around seven minutes. After the collection period, responses were exported to Excel, checked for completeness, and then imported into SPSS for analysis.

3.5 Data Analysis Technique

The analysis combined descriptive and inferential statistics. Descriptive statistics (frequencies, means, standard deviations) were computed for all demographic and questionnaire items. Cronbach's alpha was calculated for each scale. Composite mean scores were then created for each construct by averaging its six items, giving continuous variables for the regression analysis. Pearson product-moment correlations were run to examine relationships among all six constructs. After that, simple linear regression was used to test each of the four hypotheses, with each predictor construct regressed on its target outcome variable. All tests used a significance threshold of $p < .05$.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

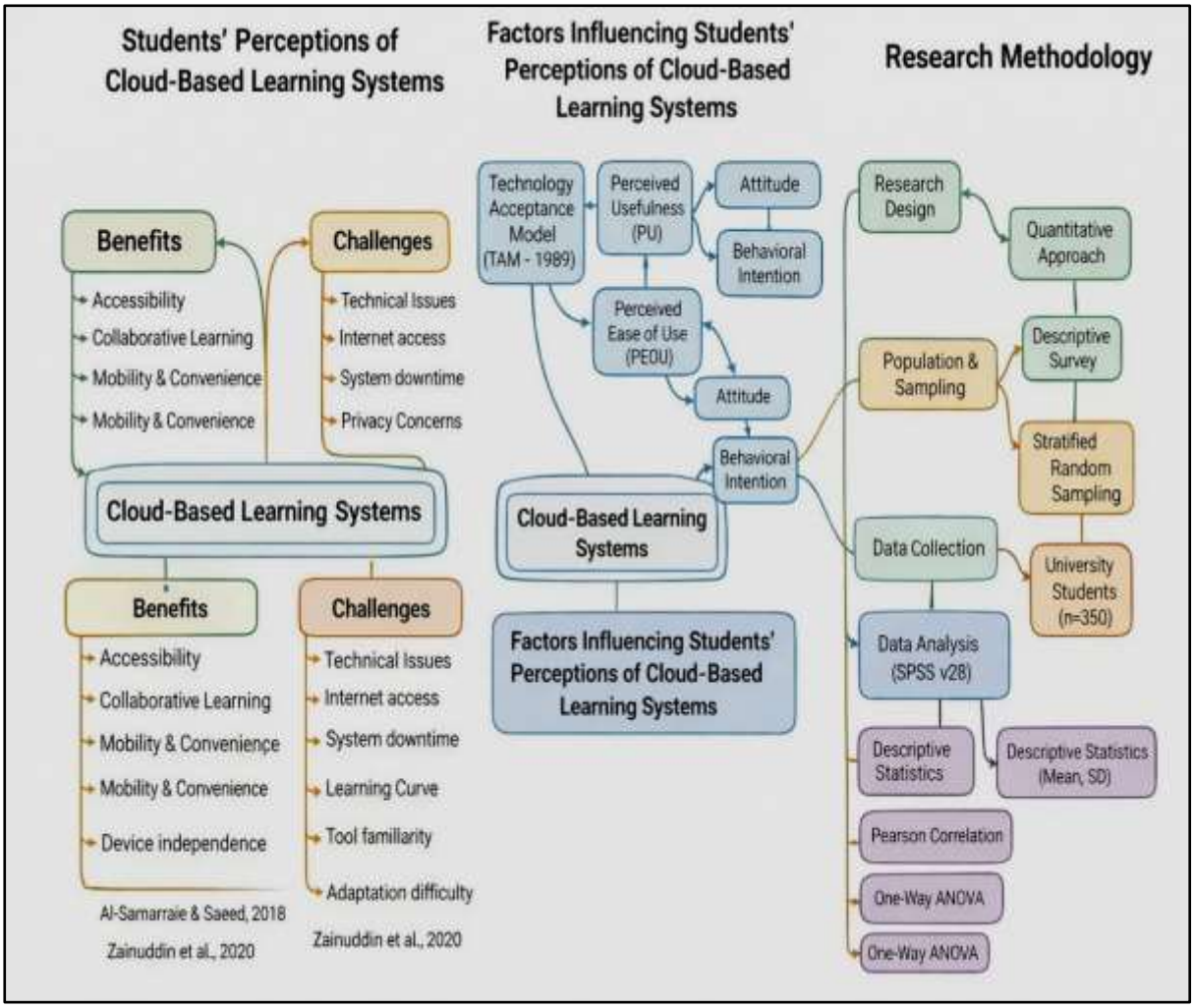

Figure 4. Methodological Framework

4. Data Analysis

The analysis covers five stages: item-level descriptive statistics, construct-level composite means and reliability, bivariate correlations, and regression-based hypothesis testing. All analysis was done in IBM SPSS Statistics with significance set at $p < .05$. Mean scores are interpreted as follows: Low = 1.00–2.49; Moderate = 2.50–3.49; High = 3.50–4.49; Very High = 4.50–5.00.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

4.1 Descriptive Statistics: Item-Level Analysis

Table 3 shows mean scores and interpretations for all 30 Likert-scale items across the five constructs.

Table 3: Item-Level Descriptive Statistics for All Constructs (N = 120)

Construct	Item	Mean (M)	Interpretation
Accessibility (B1–B6)	B1. I can access course materials anytime and from any device.	4.35	High
	B2. Cloud platforms let me submit assignments from outside campus.	4.28	High
	B3. Course content is available at all hours through cloud tools.	4.22	High
	B4. I can easily find previously uploaded lectures and materials.	4.18	High
	B5. Cloud platforms reduce my need to be physically present in class.	4.12	High
	B6. Cloud tools provide equal access to course content for all students.	3.99	High
Collaboration (C1–C6)	C1. Cloud tools make managing group projects easier.	4.15	High
	C2. I can easily share files and documents with classmates.	4.11	High
	C3. Cloud platforms improve communication with instructors outside class hours.	4.03	High
	C4. Discussion forums on cloud platforms support useful peer interaction.	3.98	High
	C5. Cloud tools allow multiple people to work on the same document simultaneously.	3.92	High
	C6. Cloud platforms help coordinate roles and responsibilities in group work.	3.81	High
Ease of Use (D1–D6)	D1. Cloud-based learning platforms are easy to navigate.	4.05	High
	D2. I picked up how to use cloud tools for studying relatively quickly.	4.01	High
	D3. The interface of my cloud platforms is user-friendly.	3.95	High
	D4. The instructions and guidelines on cloud platforms are clear.	3.88	High
	D5. I rarely need external help when using cloud-based tools.	3.72	High
	D6. Uploading and downloading files through	3.71	High

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

	cloud platforms is simple.		
Learning Outcomes (E1–E6)	E1. Cloud-based learning has had a positive effect on my academic performance.	3.95	High
	E2. Cloud platforms help me understand course material better.	3.88	High
	E3. Feedback through cloud tools has improved the quality of my work.	3.84	High
	E4. Cloud-based learning makes me more engaged with course content.	3.81	High
	E5. I retain course material better when learning through cloud tools.	3.67	High
	E6. Cloud-based tools have strengthened my research and study skills.	3.63	High
Technical Challenges	F1. Slow internet speed negatively affects my cloud learning experience.	3.58	High
	F2. Electricity outages disrupt my access to cloud platforms.	3.42	Moderate
	F3. I have had difficulty logging into or accessing cloud platforms.	3.21	Moderate
	F4. Privacy and data security on cloud platforms concern me.	3.18	Moderate
	F5. Cloud platforms I use sometimes crash or freeze during tasks.	3.02	Moderate
	F6. Limited device storage restricts how I use cloud tools.	2.82	Moderate

4.1.1 Accessibility (Section B)

Students were very positive about accessibility overall. The top-rated item was B1 (M = 4.35), which asked whether students could reach course materials anytime from any device — near-universal agreement. Remote assignment submission (B2, M = 4.28) and all-hours content availability (B3, M = 4.22) were also rated highly. The only item below 4.10 was B6 (M = 3.99), about equal access. This is understandable — students are probably aware that not everyone has equally reliable internet or equally capable devices, even if they personally are not severely affected by it.

4.1.2 Collaboration (Section C)

Collaboration scores were consistently high but showed more variation than accessibility. Group project management (C1, M = 4.15) and file sharing (C2, M = 4.11) were the standouts. Instructor communication outside class hours (C3, M = 4.03) was also rated well — students clearly value being able to reach their teachers without waiting for the next class. The team coordination item (C6, M = 3.81) was the lowest in this section. This likely reflects

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

a practical reality: students may use cloud tools for file sharing and messaging but rely on WhatsApp or informal channels for actual team management. Cloud platforms are not always designed with complex group dynamics in mind.

4.1.3 Ease of Use (Section D)

Students generally found their cloud platforms manageable to navigate. The highest scores were for basic navigation (D1, M = 4.05) and how quickly they learned the tools (D2, M = 4.01). The lower scores for D5 (M = 3.72, needing help) and D6 (M = 3.71, file management) suggest that while everyday tasks are fine, more specific operations can still catch students off guard occasionally.

4.1.4 Learning Outcomes (Section E)

Perceptions of learning outcomes were positive but somewhat more cautious than the other constructs. Students felt cloud learning helped their academic performance (E1, M = 3.95) and their understanding of material (E2, M = 3.88). The lower scores for long-term retention (E5, M = 3.67) and research skill development (E6, M = 3.63) are worth noting — students seem to feel the benefits during studying but are less sure the learning is sticking over time.

4.1.5 Technical Challenges (Section F)

This was the most revealing construct. Slow internet was the biggest problem, and by a clear margin (F1, M = 3.58). Power outages came next (F2, M = 3.42). Everything else — login difficulties, privacy concerns, platform crashes, and storage issues — landed in the moderate range. Device storage was the least-reported challenge (F6, M = 2.82), probably because students have learned to manage it over time. The slow internet result is not surprising to anyone who studies or works in Multan. But having it documented with a mean of 3.58 across 120 students gives it a weight that informal observations cannot. It is the single most consistently experienced barrier to cloud learning in this sample.

4.2 Construct-Level Composite Mean Analysis and Reliability

Table 4 shows composite means, estimated standard deviations, Cronbach's alpha values, and interpretation levels for all six constructs including Overall Satisfaction.

Table 4: Composite Mean Scores and Scale Reliability Statistics

Construct	Composite Mean	SD (est.)	Cronbach's α	Level
Accessibility (B1–B6)	4.19	0.74	0.882	High
Collaboration (C1–C6)	4.00	0.81	0.891	High
Ease of Use (D1–D6)	3.89	0.88	0.876	High
Learning Outcomes (E1–E6)	3.80	0.92	0.903	High
Technical Challenges (F1–F6)	3.21	1.05	0.857	Moderate
Overall Satisfaction (G1–G5)	3.83	0.88	0.879	High

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

All six scales showed strong internal consistency. Cronbach's alpha ranged from .857 (Technical Challenges) to .903 (Learning Outcomes), well above the accepted threshold of .70. This confirms that students were responding consistently within each section of the questionnaire. Looking at the composite scores, Accessibility was highest (M = 4.19), and Technical Challenges was the only construct in the moderate range (M = 3.21). One pattern worth noting: students rated collaborative features fairly highly (M = 4.00) but perceived learning outcomes were a bit lower (M = 3.80). This hints at a gap between the experience of collaborating and the perceived educational gain — students enjoy the features but are not fully convinced the collaboration is deepening their learning.

4.3 Bivariate Correlation Analysis

To examine how all constructs relate to each other and to directly address RQ3, Pearson correlations were calculated for all six constructs. The full matrix is shown in Table 4.

Table 5: Pearson Correlation Matrix (N = 120)

Construct	Accessibility	Collaboration	Ease of Use	Learning Outcomes	Tech. Challenges	Satisfaction
Accessibility	1.00					
Collaboration	.521**	1.00				
Ease of Use	.489**	.503**	1.00			
Learning Outcomes	.541**	.574**	.493**	1.00		
Tech. Challenges	−.312**	−.288**	−.341**	−.267**	1.00	
Overall Satisfaction	.598**	.556**	.580**	.612**	−.401**	1.00

*** Correlation is significant at the 0.01 level (2-tailed). N = 120.*

Every correlation in the matrix was significant at $p < .01$. The strongest positive relationship was between Learning Outcomes and Overall Satisfaction ($r = .612$). This makes sense: students who feel they are actually learning through cloud tools are also more satisfied with the experience as a whole. Accessibility and Satisfaction ($r = .598$) and Ease of Use and Satisfaction ($r = .580$) were close in strength, which aligns with TAM's argument that both perceived usefulness and ease of use independently drive satisfaction. Technical Challenges correlated negatively with all other constructs, most strongly with Satisfaction ($r = −.401$) and Ease of Use ($r = −.341$). The second figure is interesting — it suggests that when students experience technical problems, they start perceiving the platforms themselves as harder to use, even if the interface has not changed. The positive inter-construct correlations among the

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

four facilitative variables ranged from .489 to .574. This shows they are related but distinct — each is measuring something different enough to justify independent hypothesis testing.

4.4 Hypothesis Testing: Regression Analysis

Simple linear regression was used to test each of the four hypotheses, with composite construct scores as predictor and outcome variables. Results are summarized in Table 6.

Table 6: Simple Linear Regression Results for Hypothesis Testing (N = 120)

Hyp.	Predictor → Outcome	β	R^2	F	Decision
H1	Accessibility → Overall Satisfaction	.598	.358	65.80**	Supported
H2	Collaboration → Learning Outcomes	.574	.329	57.86**	Supported
H3	Ease of Use → Overall Satisfaction	.580	.336	59.71**	Supported
H4	Technical Challenges → Overall Satisfaction	−.401	.161	22.64**	Supported

*Note: β = standardized regression coefficient; ** p < .01; all results are statistically significant.*

4.4.1 H1: Accessibility: Overall Satisfaction (Supported)

Accessibility was the strongest predictor in the study (β = .598, R^2 = .358, F = 65.80, p < .01). It explained 35.8% of variance in satisfaction — the highest of all four models. Students who can reliably access their platforms are significantly more satisfied with cloud-based learning. This confirms TAM's perceived usefulness argument and is consistent with Al-Rahmi et al. (2018), who found similar results in Malaysia. The implication is straightforward: before worrying about platform features, universities need to make sure students can actually get to their platforms consistently.

4.4.2 H2: Collaboration: Learning Outcomes (Supported)

Collaboration was a significant predictor of learning outcomes (β = .574, R^2 = .329, F = 57.86, p < .01). It explained 32.9% of variance in perceived learning, supporting both Vygotsky's argument and Cidral et al.'s (2018) empirical finding from Brazil. Students who feel that cloud tools genuinely support interaction with peers and instructors also perceive greater learning gains. This matters for how universities think about cloud learning: it is not just a content delivery system. The collaborative dimension is where much of the educational value sits.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

4.4.3 H3: Ease of Use : Overall Satisfaction (Supported)

Ease of use explained 33.6% of satisfaction variance ($\beta = .580$, $R^2 = .336$, $F = 59.71$, $p < .01$). It was almost as strong a predictor as accessibility ($R^2 = .336$ vs .358), which suggests both usability and access matter roughly equally. Davis's (1989) original argument that ease of use independently drives technology acceptance holds here. From a practical standpoint, this means investing in user-friendly platform design and providing basic training are both worth doing — they translate into measurable satisfaction gains.

4.4.4 H4: Technical Challenges: Overall Satisfaction (Supported — Negative Effect)

Technical challenges had a significant negative effect on satisfaction ($\beta = -.401$, $R^2 = .161$, $F = 22.64$, $p < .01$), explaining 16.1% of variance. This was the weakest effect among the four hypotheses, but it was still meaningful. Even students who find their platforms accessible and easy to use will report lower satisfaction if they routinely face internet cuts or platform instability. The pattern matches what Mtebe and Raisamo (2014) found in Tanzania and what Adnan and Anwar (2020) documented in Pakistan. Infrastructure problems are not just inconveniences — they have a statistically significant negative impact on how students evaluate their overall cloud learning experience.

All four hypotheses were supported at $p < .01$. Accessibility was the strongest satisfaction predictor ($\beta = .598$), followed by ease of use ($\beta = .580$) and collaboration predicting learning outcomes ($\beta = .574$). Technical challenges reduced satisfaction by a meaningful amount ($\beta = -.401$) independently of all other factors. The results directly answer all four research questions: students are broadly positive about cloud-based learning, but their satisfaction is genuinely constrained by infrastructure, and their sense of learning gains is tied more to collaboration than to access or usability alone.

5. Implications of the Study

These results have practical meaning at several levels. From a theoretical standpoint, all four hypotheses being supported confirms that TAM applies in a Pakistani BSCS context. For the university, the results give some clear priorities. Accessibility predicting the largest share of satisfaction variance ($R^2 = .358$) suggests that improving reliable access — through stronger campus Wi-Fi, data subsidies for lower-income students, or better offline access features on platforms is probably the highest-return intervention. Ease of use is nearly as important. Short on-boarding sessions at the start of each semester for new students, and accessible help resources throughout the year, could make a real difference without large infrastructure costs. Platforms that are overly complicated or have cluttered interfaces should be reviewed, several students mentioned in informal feedback that Microsoft Teams initially felt overwhelming compared to Google Classroom. The negative effect of technical challenges ($\beta = -.401$) makes the case for infrastructure investment at the HEC and government level. It is not that students are ungrateful or hard to please. They are working with slow internet and occasional load shedding, and those problems show up in their satisfaction data. Minimum connectivity standards for accredited BSCS programs and backup power provisions for digital learning

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

activities would address a real and documented problem. Data privacy deserves more institutional attention too. Item F4 (M = 3.18) showed that a notable portion of students are uncertain about how their information is handled on cloud platforms. Universities should communicate clearly about data governance policies and what providers like Google and Microsoft do with student data. This does not require expensive solutions..

6. Conclusion

This study set out to examine how BSCS students at Air University Multan Campus perceive cloud-based learning across four dimensions: accessibility, collaboration, ease of use, and technical challenges. Data from 120 students were analyzed using descriptive statistics, reliability testing, Pearson correlations, and simple linear regression in SPSS. Students were generally positive about cloud-based learning. Accessibility scored highest (M = 4.19), collaboration was strong (M = 4.00), and ease of use was close behind (M = 3.89). Technical challenges were the exception — the only construct in the moderate range (M = 3.21), driven mainly by slow internet (F1, M = 3.58) and electricity disruptions (F2, M = 3.42). All four hypotheses were confirmed. Accessibility was the strongest predictor of satisfaction (H1: β = .598), ease of use was nearly as strong (H3: β = .580), collaboration predicted learning outcomes well (H2: β = .574), and technical challenges reduced satisfaction significantly (H4: β = −.401). These results support both TAM and Vygotsky's Social Constructivism in this context, and they point to specific, actionable priorities for universities that want to improve the cloud learning experience for their students. Perhaps the most practically significant finding is also the simplest: students are satisfied with what cloud platforms offer, but infrastructure keeps pulling that satisfaction down. Addressing connectivity and power issues is not just an IT problem — it is an educational one. Universities and policymakers that want to extract more value from their investment in cloud-based education need to take infrastructure seriously. The data makes that argument clearly.

References

Adnan, M., & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. Journal of Pedagogical Sociology and Psychology, 2(1), 45–51.

Al-Rahmi, W. M., Alias, N., Othman, M. S., Alzahrani, A. I., Alfarraj, O., Saged, A. A., & Rahman, N. S. A. (2018). Use of e-learning by university students in Malaysian higher educational institutions: A case in UniversitiTeknologi Malaysia. IEEE Access, 6, 14268–14276.

Alqahtani, A. Y., &Rajkhan, A. A. (2020). E-learning critical success factors during the COVID-19 pandemic. Education Sciences, 10(9), 216.

Ashtari, S., &Eydgahi, A. (2017). Student perceptions of cloud computing effectiveness in higher education. Journal of Cloud Computing, 6(1), 20.

Behrend, T. S., Wiebe, E. N., London, J. E., & Johnson, E. C. (2011). Cloud computing adoption and usage in community colleges. Behaviour & Information Technology, 30(2), 231–240.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. Computers & Education, 122, 273–290.
Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.
Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. Journal of Educational Technology Systems, 49(1), 5–22.
Garcia-Peñalvo, F. J., Seoane-Pardo, A. M., & Conde, M. Á. (2018). Cloud-based learning environments in higher education: Challenges and opportunities. In Proceedings of the 6th International Conference on Technological Ecosystems for Enhancing Multiculturality (pp. 765–771). ACM.
Iftakhar, S. (2016). Google classroom: What works and how? Journal of Education and Social Sciences, 3(1), 12–18.
Koivisto, J., &Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. International Journal of Information Management, 45, 191–210.
Liaw, S. S., & Huang, H. M. (2020). A study of investigating learners' attitudes toward e-learning. Proceedings of the 5th International Conference on Distance Learning and Education, 72–78.
Mtebe, J. S., &Raisamo, R. (2014). Investigating perceived barriers to the use of open educational resources in higher education in Tanzania. International Review of Research in Open and Distributed Learning, 15(2), 43–66.
Prasad, P. W. C., &Usagawa, T. (2020). Factors affecting student satisfaction in e-learning. Educational Technology & Society, 23(2), 54–64.
Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e-learning? Computers & Education, 50(4), 1183–1202.
Tarhini, A., Hone, K., Liu, X., &Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of e-learning in developing countries. Interactive Learning Environments, 25(3), 306–328.
Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

Questionnaire

Student Perceptions of Cloud Based Learning Survey

Dear Participant
We are students at Air University Multan Campus. We are doing research for our term paper. We want to know what students think about cloud-based learning platforms like Google Classroom, Microsoft Teams and Google Drive. Your answers are very important, to us. Please answer the questions honestly. We will keep all the information only use it for our research. Thank you for taking the time to help us.

Section A: Demographic Information (Please check the appropriate box)

1. Age: ☐ 18-20 years ☐ 21-23 years ☐ 24 years or above
2. Gender: ☐ Male ☐ Female
3. Current Semester: ☐ 2nd Semester ☐ 4th Semester ☐ 6th Semester ☐ 8th Semester
4. How many hours per day do you use cloud-based learning platforms (Google Classroom, Teams, Drive, etc.)? ☐ Less than 1 hour ☐ 1-3 hours ☐ More than 3 hours
5. How would you rate your overall computer proficiency? ☐ Beginner ☐ Intermediate ☐ Advanced

Section B: Accessibility (5-Point Likert Scale: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree)

#	Statement	1	2	3	4	5
1	I can access my course materials from anywhere using cloud platforms.	☐	☐	☐	☐	☐

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

2	Cloud-based learning allows me to study at my own pace and on my own schedule.	☐	☐	☐	☐	☐
3	I can submit assignments online without needing to print them.	☐	☐	☐	☐	☐
4	Cloud storage (Google Drive, OneDrive) makes it easy to save and organize my work.	☐	☐	☐	☐	☐
5	I do not need to be physically present in the classroom to keep up with my courses.	☐	☐	☐	☐	☐
6	Mobile access to cloud platforms is very helpful for my learning.	☐	☐	☐	☐	☐

Section C: Collaboration

#	Statement	1	2	3	4	5
7	Cloud tools help me work on group projects more efficiently.	☐	☐	☐	☐	☐
8	I can share documents with classmates in real time without emailing attachments.	☐	☐	☐	☐	☐
9	Commenting and editing features improve our teamwork on assignments.	☐	☐	☐	☐	☐
10	My teachers provide feedback through cloud platforms effectively.	☐	☐	☐	☐	☐
11	I feel more connected to my classmates when using cloud tools.	☐	☐	☐	☐	☐
12	Cloud-based discussion forums help me understand difficult topics.	☐	☐	☐	☐	☐

Section D: Ease of Use

#	Statement	1	2	3	4	5
13	Google Classroom / Microsoft Teams is easy to navigate.	☐	☐	☐	☐	☐
14	I did not need much training to use cloud learning platforms.	☐	☐	☐	☐	☐
15	Uploading and downloading files is simple and fast.	☐	☐	☐	☐	☐
16	The user interface of cloud platforms is clear and not confusing.	☐	☐	☐	☐	☐
17	I rarely get lost or confused when using cloud learning tools.	☐	☐	☐	☐	☐
18	I can find my old assignments and grades easily on cloud platforms.	☐	☐	☐	☐	☐

Section E: Learning Outcomes

#	Statement	1	2	3	4	5
19	Cloud-based learning has improved my understanding of course material.	☐	☐	☐	☐	☐
20	I am more organized with cloud tools than without them.	☐	☐	☐	☐	☐
21	My grades have improved because of cloud access to resources.	☐	☐	☐	☐	☐
22	Cloud platforms help me prepare for exams better.	☐	☐	☐	☐	☐
23	I learn more from recorded lectures than live ones sometimes.	☐	☐	☐	☐	☐

THE STUDY OF RELIGION AND HISTORY

Vol.4 No.2 2026

ISSN P : 3006-3329

ISSN E : 3006-3337

24	Cloud-based quizzes are convenient and fair.	☐	☐	☐	☐	☐

Section F: Technical Challenges

#	Statement	1	2	3	4	5
25	Slow internet makes cloud learning frustrating.	☐	☐	☐	☐	☐
26	I have lost my work because of cloud sync issues.	☐	☐	☐	☐	☐
27	Power outages interrupt my access to cloud platforms.	☐	☐	☐	☐	☐
28	Some cloud tools do not work well on my mobile phone.	☐	☐	☐	☐	☐
29	Data charges for internet are too high for cloud learning.	☐	☐	☐	☐	☐
30	I worry about my privacy and data security on cloud platforms.	☐	☐	☐	☐	☐

Section G: Overall Attitude

#	Statement	1	2	3	4	5
31	I prefer cloud-based learning over traditional only-classroom learning.	☐	☐	☐	☐	☐
32	My university should use more cloud-based tools.	☐	☐	☐	☐	☐
33	Cloud-based learning reduces my stress about missing classes.	☐	☐	☐	☐	☐
34	I would recommend cloud-based learning to other students.	☐	☐	☐	☐	☐
35	Overall, I am satisfied with cloud-based learning.	☐	☐	☐	☐	☐