International Journal of Science, Technology, Engineering and Mathematics
Volume 5 Issue 3 September 2025
DOI: https://doi.org/10.53378/ijstem.353240

EduComply: A progress tracking system for compliance in teaching-learning deliverables using decision support system

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Abstract

This study presents the development of EduComply, a progress tracking system designed to support compliance in teaching-learning deliverables using a Decision Support System (DSS). The system aims to automate and improve the submission, monitoring, and review of key teaching-learning deliverables, including syllabus, self-paced learning modules (SLMs), tables of specifications (TOS), and exams. The study utilized the developmental-descriptive design and Agile methodology; the system was developed through continuous feedback and iteration. It features real-time tracking of syllabus implementation, centralized submission workflows, and automated dashboards that support timely compliance monitoring. The integration of a Decision Support System allows the system to assess three parameters: faculty deliverables, student performance, and activity-based student feedback. This provides administrators with actionable insights that can guide interventions and policy decisions. User evaluations from faculty, administrators, and students showed a high acceptability. The findings show that while the system is highly accepted and effective in technology-oriented colleges, its lower ratings in non-technical colleges indicate the need for improved adaptability and scalability to diverse academic environments. It revealed that the system improved academic compliance while underscoring the need for contextual refinements for broader institutional adoption. The study recommends future enhancements such as integration with existing LMS platforms, grade tracking, and expanded analytics to support long-term implementation and cross-departmental scalability.

Keywords: *progress tracking system, faculty deliverables, syllabus compliance, decision support system, student feedback*

Article History:

***Received**: May 24, 2025* ***Revised**: July 16, 2025*
***Accepted**: July 17, 2025* ***Published online**: August 4, 2025*

Suggested Citation:
Salisi, G.P. & Balahadia, F.F. (2025). EduComply: A progress tracking system for compliance in teaching-learning deliverables using decision support system. *International Journal of Science, Technology, Engineering and Mathematics*, 5(3), 40-78. https://doi.org/10.53378/ijstem.353240

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1. Introduction

Education plays a crucial role in shaping individuals and contributing to societal development by equipping learners with knowledge, critical thinking, and essential values for personal and professional growth (Verma et al., 2023). The global impact of quality education is evident through ongoing efforts to improve teaching and learning processes (Silveira et al., 2023). However, ensuring consistent delivery of quality education requires effective monitoring and evaluation mechanisms aligned with established standards and frameworks.

Quality assurance (QA) frameworks in education provide the foundation for maintaining high standards in teaching and learning. In the Philippines, the Commission on Higher Education's (CHED) Institutional Sustainability Assessment (ISA) outlines structured processes for planning, documenting, implementing, and reviewing academic practices to ensure continuous improvement (Kayyali, 2023). Internationally, ISO 21001:2018 emphasizes stakeholder satisfaction, instructional effectiveness, and systematic QA processes (Marina et al., 2024). These frameworks highlight the importance of monitoring faculty deliverables, instructional quality, and learning outcomes. Developing a digital system to automate the submission, review, and monitoring of teaching-related outputs can further support accreditation, internal audits, and institutional compliance.

Faculty deliverables, including syllabi, lesson plans, grade sheets, examination papers, instructional materials, and other documentation, are essential for ensuring compliance with institutional standards, supporting QA, contributing to program accreditation, and reflecting institutional performance (Jaquilmo & Sarmiento, 2023; Guanzon et al., 2025). Monitoring these deliverables promotes accountability, facilitates evidence-based decision-making, and supports continuous improvement. Despite this, many institutions still rely on manual tracking, which is time-consuming, inefficient, and prone to storage and record-keeping challenges (Silwamba & Matela, 2025; Dada & Taiwo, 2024).

Evaluating faculty performance is also critical for enhancing teaching quality (Ajmal et al., 2024). Classroom observation, a common evaluation tool, is often conducted only once per semester, limiting its effectiveness in monitoring syllabus implementation. International studies stress that observation alone is insufficient without standardized tools and clear evaluation policies (Hossni & Abouelanein, 2024). Student feedback complements these evaluations by providing insights into instructional effectiveness from the learner's perspective. Unlike standard faculty evaluations, student feedback emphasizes course

activities, engagement, and learning experiences, enabling educators to reflect, adjust teaching methods, and improve course design (Wisniewski et al., 2021; Morris et al., 2021; Messier, 2022). Mid-term or formative feedback supports timely interventions, promotes active learning, and fosters professional growth among educators (Ajmal, 2024; Donlan & Byrne, 2020; Happel et al., 2024).

Integrating faculty deliverables, syllabus compliance, and student feedback into a Decision Support System (DSS) offers a holistic, data-driven approach to instructional evaluation. DSS platforms enable real-time monitoring, analytics, and actionable insights, supporting evidence-based decision-making to improve teaching practices and student outcomes (Kashaka, 2024; Adeyemi & Alotaibi, 2025; Burstein et al., 2024).

This study developed EduComply, a progress tracking system that centralizes faculty deliverables, monitors syllabus implementation, and collects real-time, activity-based student feedback. The system supports administrators in data-driven decision-making, continuous improvement in teaching processes, and compliance with QA standards. Specifically, this study aims:

1. To design a management of faculty deliverables to track and ensure the compliance of faculty in syllabus, syllabus tracker, activities covered, topics covered, self-paced Learning Module (SLM), and table of specifications with exams.
2. To provide descriptive analytics that enable real-time monitoring of faculty deliverables.
3. To integrate Decision Support System based on faculty deliverables submissions, student performance and student rating evaluation into the teaching-learning activities.
4. To test and evaluate user acceptance using the Technology Acceptance Model (TAM).

2. Literature Review

2.1. Monitoring Systems

Progress monitoring is a standardized process that regularly assesses specific student skills or constructs, often through criterion-referenced measures. In higher education, however, monitoring extends beyond student outcomes to include faculty compliance with teaching-learning deliverables. This ensures that instructional goals and institutional standards are consistently achieved, enabling educators and administrators to make informed pedagogical and managerial decisions (Issayeva, 2021). Although manual tracking systems remain in use,

their inefficiency, time-consuming nature, and susceptibility to errors reduce their effectiveness compared to modern digital tracking systems (Seraspe et al., 2024). These challenges underscore the need for more efficient and accurate systems to ensure timely compliance with instructional requirements.

Digitalization has transformed organizational efficiency by automating processes, improving data accuracy, and enabling real-time decision-making. Digital office tracking systems, as a core component of this transformation, streamline workflows, minimize human error, and provide timely information (Kuusisto, 2017). By integrating these capabilities, such systems enhance organizational productivity and strengthen decision-making processes (Kim & Park, 2021). Within the context of teaching-learning deliverables, digital monitoring facilitates systematic, transparent, and actionable compliance tracking, thereby supporting evidence-based decision-making and institutional accountability.

Globally, digital monitoring systems have played a vital role in advancing educational governance and quality. For example, Austria's education monitoring system, established under the 2017 Education Reform Act, supports quality assurance, school evaluation, governance, and evidence-based policymaking through systematic data collection and analysis (OECD, 2021). Similarly, the OECD Digital Education Outlook 2023 emphasizes the importance of digital infrastructure, data governance, and tool integration in improving teaching, learning, and administrative processes (OECD, 2023). Innovative platforms such as UBUMonitor further illustrate the potential of technology-driven monitoring, as they integrate with LMS platforms like Moodle to enable real-time data visualization and analysis for tracking compliance and informing timely decisions (Sáiz-Manzanare, 2021).

While manual tracking systems remain limited by inefficiency, inaccuracy, and delays, digital monitoring systems have demonstrated effectiveness in addressing these shortcomings at both local and international levels. Nevertheless, most existing systems primarily emphasize student performance, with relatively few tools dedicated to systematically monitoring faculty compliance with teaching-learning deliverables. This study addresses these gaps by integrating real-time monitoring, automated alerts, and decision-support capabilities to ensure both instructional quality and administrative accountability, thereby overcoming the inefficiencies of earlier approaches.

2.2 Faculty Deliverables

Academic personnel in higher education institutions carry numerous responsibilities, one of which is the submission of required deliverables (Jaquilmo & Sarmiento, 2023). Faculty deliverables refer to essential documents, reports, and outputs that academic staff must produce and submit as part of their teaching and administrative duties. These typically include course syllabi, lesson plans, grade sheets, examination papers, instructional materials, and other documentation that demonstrate compliance with institutional standards, support academic quality assurance, contribute to program accreditation, and reflect institutional performance. Monitoring these deliverables is therefore critical, as it ensures accountability, facilitates evidence-based decision-making, and promotes continuous improvement in teaching and administrative processes (Guanzon et al., 2025).

Effective monitoring of faculty deliverables is vital for institutional success, accreditation, and accountability. Core responsibilities such as course syllabi, grade sheets, and examination papers must be systematically tracked to sustain continuous improvement. Guanzon et al. (2025) identified fourteen categories of faculty deliverables and reported that 70% of academic personnel experienced difficulties managing multiple document types, often leading to frustration and reduced productivity. While semi-automated systems that allow both digital and hard-copy submissions were generally welcomed, their reliance on physical storage underscores the necessity of fully automated, web-based systems.

Challenges in records management further complicate the monitoring of faculty deliverables. Silwamba and Matela (2025) emphasized issues such as improper handling, weak security, inadequately trained personnel, absence of retention policies, and the loss or misplacement of vital records. Addressing these challenges is essential to maximize the benefits of records management for institutional efficiency and accountability. In response, digital office data tracking systems have emerged as an effective solution. By providing a centralized repository for faculty deliverables, enabling real-time tracking, and streamlining workflows, these systems reduce costs, strengthen collaboration, and enhance operational efficiency (Dada & Taiwo, 2024). Integrating such systems also supports continuous improvement, ensures compliance with institutional standards, and enables timely, evidence-based decision-making in academic administration. This study directly addresses these gaps by proposing a centralized digital repository with built-in analytics. The system incorporates deadline alerts, real-time submission tracking, and performance dashboards to streamline

compliance monitoring and strengthen instructional quality. A progress-tracking system that integrates automated features with the flexibility to monitor diverse faculty deliverables can therefore play a pivotal role in improving educational quality by ensuring faculty compliance and fostering institutional accountability.

2.3 Syllabus Implementation

The syllabus, or course plan, serves as a structured guide for instruction, outlining topics, learning activities, and objectives within a defined timeframe (Gauthier et al., 2025). Beyond guiding classroom interaction, a well-organized syllabus promotes transparency and accountability, thereby enhancing both teaching effectiveness and student learning outcomes (Golib & Muhabbat, 2025). However, ensuring strict adherence to the prescribed syllabus can be challenging. Hossni and Abouelanein (2024) noted that classroom observation alone is insufficient, emphasizing the need for standardized monitoring tools and clear evaluation policies to ensure effective curriculum implementation. Effective syllabus implementation therefore requires systematic, real-time monitoring. Traditional methods are no longer sufficient, highlighting the relevance of digital systems such as SIMS. By integrating real-time tracking, centralized repositories, and automated alerts, such systems ensure that syllabi are not only archived but actively followed throughout the semester, directly supporting teaching quality, compliance, and accountability.

2.4 Faculty Monitoring

Evaluating faculty performance is essential to maintaining and improving the quality of educational processes (Ajmal et al., 2024). Classroom observation remains a fundamental component of this evaluation and is typically conducted throughout a teacher’s career as part of supervision or administrative monitoring (Barrogo, 2020). Observation serves not only as a performance assessment tool but also as a professional development strategy, encouraging teachers to reflect on their methods, recognize strengths, and adopt innovative practices to improve student learning (Pacursa et al., 2024; Sugot et al., 2024). Systematic observation also informs targeted professional development, enabling educators to address specific areas of improvement and enhance overall teaching effectiveness (Suparto, 2020).

Despite its importance, challenges in faculty monitoring persist. Balancing supervisory responsibilities with administrative duties often limits the quality and timeliness of observation

and feedback (Ramos & Anonuevo, 2024). These challenges highlight the need for structured, technology-assisted monitoring systems that streamline evaluation processes, provide real-time data, and support timely feedback and professional growth.

Integrating classroom observation with digital tracking tools, such as progress-tracking systems, offers an opportunity to enhance faculty monitoring. Linking deliverables, teaching performance, and analytics within one platform can strengthen accountability, improve feedback quality, and foster continuous professional improvement.

2.5 Student Feedback

Student feedback is a fundamental component of professional teaching practice, distinct from faculty evaluations that often serve administrative functions such as promotion or selection. While traditional student evaluations typically assess faculty performance, feedback more broadly captures learners' perspectives on course activities, engagement, and instructional effectiveness. It supports teachers' professional development, fosters instructional improvement, and contributes to course enhancement (Wisniewski et al., 2021). Feedback also promotes self-reflection, helps identify blind spots, aligns teaching practices with intended learning goals, and enhances educators' self-efficacy by allowing them to compare student perceptions with their own assessments.

The value of student feedback lies in its ability to provide direct insights into engagement, comprehension, and learning experiences. By systematically collecting and analyzing feedback, instructors can adjust teaching strategies in real time, improve course design, and foster collaborative learning environments that encourage active participation, problem-solving, and ownership of learning outcomes (Morris et al., 2021; Messier, 2022). Constructive feedback not only enriches student learning but also supports the professional growth of educators (Mamoon et al., 2020).

Formative feedback, particularly mid-term or ongoing feedback, is especially useful in identifying learning gaps and implementing targeted interventions. Ajmal (2024) emphasized that timely student feedback can guide lecturers' short-term professional development, improve instructional clarity, optimize course design, and promote active student engagement. Framing feedback as a tool for improvement rather than judgment encourages honest student responses and increases participation, ensuring feedback contributes meaningfully to instructional quality and student satisfaction (Donlan & Byrne, 2020; Happel et al., 2024).

This study addresses gaps in traditional feedback mechanisms by integrating student input directly into course activities and capturing their perspectives in real time. By collecting feedback immediately after class sessions, quizzes, or assignments, and analyzing it through actionable dashboards with automated alerts, the system enables instructors to respond promptly to issues of engagement or satisfaction. This approach transforms student feedback into a continuous, evidence-based tool that enhances instructional effectiveness, supports ongoing professional development, and fosters a more engaging and responsive learning environment.

2.6 Decision Support System

Decision Support Systems (DSS) are information systems designed to assist organizations in making informed decisions by managing complex data and generating actionable insights (Fernando & Baldevor, 2022). In education, DSS support administrators and educators in improving institutional efficiency, enabling data-driven decisions, and enhancing teaching and learning outcomes. Studies highlight diverse applications of DSS in educational contexts. Adeyemi and Alotaibi (2025) introduced a Feedback-Driven DSS that integrates real-time student performance data and employs machine learning to adapt to new information, enabling timely interventions and improving student support. Similarly, AI-enhanced DSS provide instructors with real-time guidance, facilitating evidence-based decisions that strengthen instructional effectiveness and student outcomes.

Beyond teaching, DSS also streamline operational processes. For example, Adoga et al. (2023) developed a system for course material production, inventory, and distribution at the National Open University of Nigeria, ensuring resource availability and curriculum compliance. Lestari (2023) further emphasized the role of DSS in institutional strategic planning, enabling administrators to develop data-informed initiatives across multiple organizational levels.

DSS also support personalized learning by analyzing individual student data to tailor instructional strategies, materials, and pacing to each learner’s needs, thereby enhancing engagement and achievement (Burstein et al., 2024). Despite these advancements, the broader integration of AI into DSS remains necessary to maximize its educational potential. DSS, particularly when enhanced with AI, facilitate efficient decision-making, operational management, strategic planning, and personalized learning in higher education. More

specifically, integrating a DSS into the management of faculty deliverables, syllabus tracking, and student feedback fosters continuous improvement by providing real-time insights into institutional strengths and weaknesses. By consolidating these key elements, DSS help institutions enhance decision-making processes and deliver more effective, responsive learning environments.

2.7 Descriptive Analytics

Descriptive analytics involves collecting, cleaning, and summarizing historical data to provide a clear understanding of past events, trends, and patterns, thereby enabling informed decision-making (Peter et al., 2023). As the first stage in the data analytics process, it identifies strengths, weaknesses, and areas for improvement by examining historical performance. Visual tools such as charts, tables, and graphs are commonly employed to present data in an accessible format (Wolniak, 2023). In education, descriptive analytics provides insight into student performance, resource utilization, and institutional processes, answering the question: "What has happened?" (Romero & Ventura, 2024). Educational data mining and learning analytics allow institutions to analyze large datasets, uncover patterns, and make evidence-based decisions (Charles et al., 2023).

The integration of descriptive analytics into school management enhances both decision-making and operational efficiency. By transforming historical data into actionable knowledge, administrators can identify trends, monitor progress, and support data-driven strategies that improve teaching, learning, and institutional performance (Kashaka, 2024). Furthermore, descriptive analytics forms the foundation for advanced approaches, such as predictive and prescriptive analytics, which extend beyond past performance to forecast outcomes and recommend optimal actions. When integrated into a structured progress-tracking platform, descriptive analytics aligns specifically with teaching-learning benchmarks. Through real-time dashboards, it translates historical data into actionable insights, supporting accountability, institutional compliance, and continuous improvement.

2.8 Existing Systems

As shown in Table 1, the developed system, EduComply, demonstrates a comprehensive and integrative approach to academic management, distinguishing it from existing platforms such as S1–Faculty Deliverables Monitoring System, S2–EduCloud

Syllabus Management, S3–ClicData Student Dashboard, S4–AcadArena FacultyHub, and S5–WeXL Syllabus Tracker. Unlike these systems, EduComply provides a centralized platform that integrates program and faculty management, scheduling, class handling, student performance monitoring, descriptive analytics, and a decision support system. Among the compared systems, only EduComply features a DSS that evaluates parameters such as faculty deliverables submission, student performance, and student feedback to generate automated, actionable recommendations for academic administrators.

Table 1

Comparison of existing systems

Features	EduComply	S1	S2	S3	S4	S5
College Management Module	✓	✓	✗	✗	✓	✓
Date Setting (calendar, deadlines)	✓	✗	✓	✗	✗	✓
Scheduling	✓	✗	✓	✗	✓	✓
Deliverables Management	✓	✓	✗	✗	✓	✗
Syllabus Tracker	✓	✗	✓	✗	✓	✓
Class Management	✓	✗	✗	✗	✓	✓
Student Dashboard	✓	✗	✗	✓	✓	✓
Student Feedback	✓	✗	✗	✓	✓	✓
Descriptive Analytics	✓	✗	✗	✓	✓	✗
Progress Tracking	✓	✗	✓	✓	✗	✓
Decision Support System (DSS)	✓	✗	✗	✗	✗	✗

***Legend**:* S1-Faculty Deliverables Monitoring System, S2-EduCloud Syllabus Management, S3-ClicData Student Dashboard, S4-AcadArena Faculty Hub, S5-WeXL Syllabus Tracker

In terms of feature coverage, EduComply is the only platform that addresses all ten key domains: college management, date setting, scheduling, deliverables management, syllabus tracking, class management, student dashboard, student feedback, descriptive analytics, and progress tracking. Competing systems show considerable limitations in scope. For example, S1 focuses exclusively on faculty output tracking and lacks both student-facing and analytical features, while S2 is limited to syllabus documentation without addressing broader management needs. Similarly, S3 emphasizes data visualization but provides no support for instructional design or deliverables monitoring. S4 and S5, although offering moderately

broader functionalities, still fall short in delivering integrated analytics and decision-making support.

EduComply's unique strength lies in its capacity to align administrative processes with teaching and learning through features such as class mapping, activity feeds, and performance analytics. These tools establish a direct feedback loop between academic planning and student outcomes. Its centralized calendar and deadline management further streamline institutional workflows, capabilities that are either minimally supported or absent in existing systems. Overall, EduComply's integration of administrative efficiency, instructional planning, performance tracking, and strategic decision support underscores its uniqueness and potential as a holistic academic management platform. This multidimensional functionality positions EduComply not merely as a monitoring tool but as an intelligent academic ecosystem tailored to address the complex needs of modern educational institutions.

3. Methodology

3.1. Research Design

The study employed descriptive research and developmental design to analyze current practices and identify challenges in tracking compliance with syllabi and deliverables management. These insights served as the foundation for designing a system that addresses existing gaps while ensuring alignment with institutional standards and user needs. Descriptive research is a method used to determine the characteristics of a population or phenomenon (Shinija, 2024). It aims to obtain information, explanations, and conditions, and to describe them factually and systematically (Deckert & Wilson, 2023). In this study, descriptive research provided a comprehensive overview of the current situation, enabling data-driven decision-making during system development. This structured approach supported the examination of compliance monitoring processes and faculty deliverables tracking, allowing for a clearer understanding of inefficiencies in the current system.

The study also adopted a developmental research design to guide the systematic design, development, and implementation of the proposed progress tracking system. Developmental research involves analyzing, describing, and evaluating the final software product (Ibrahim, 2016). It focuses on creating practical solutions that meet criteria for internal consistency and effectiveness (Miller, 2017). This approach ensured the system was both functional and user-friendly, addressing the needs of deans, faculty, and students. Combining descriptive and

developmental designs provided a comprehensive strategy, grounded in an understanding of existing challenges while advancing an iterative development process that emphasized usability and effectiveness.

3.2. Participants of the Study

The study involved 124 students and staff from selected college departments at one state university in the Philippines during the Second Semester of Academic Year 2024–2025. Participants included one (1) associate dean/dean, two (2) program coordinators, five (5) faculty members, and twenty-five (25) students from each of four colleges: College of Agriculture (CA), College of Arts and Sciences (CAS), College of Business Administration and Accountancy (CBAA), and College of Computer Studies (CCS).

3.3. Instrumentation and Data Gathering Process

Data collection employed three methods: interviews, internet research, and surveys/questionnaires.

Interviews. Interviews were conducted with selected deans and faculty members to identify challenges with the existing system, such as difficulties in monitoring syllabus implementation and managing faculty deliverables. Insights included issues with manual tracking, the lack of real-time monitoring, and limited alignment between teaching practices and syllabi. These findings informed the system's design, highlighting the need for real-time updates, completion tracking, and improved reporting tools.

Internet research. The researcher utilized online resources to study faculty deliverables submission workflows and syllabus implementation processes, as well as to explore existing software and applications related to the study. This information was carefully filtered to identify relevant functions and features for integration into the system. The researcher also used internet resources to learn the technologies required for development. Ideas from pre-existing systems were adapted and integrated with newly formulated concepts to enhance the proposed progress tracking system.

Surveys/Questionnaires. The Technology Acceptance Model (TAM) Questionnaire was used to evaluate user acceptance of the developed system. The instrument measured key TAM constructs: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude Toward Using, and Behavioral Intention to Use. TAM explains technology adoption by emphasizing

users' perceptions of how it enhances job performance (Alomary & Woollard, 2015; Panergayo & Aliazas, 2023). The questionnaire was distributed via Google Forms, and data were statistically analyzed with the assistance of a statistician. Results provided empirical support for system acceptance, highlighting its viability and relevance to users.

3.4. Data Analysis

Data gathered from the user acceptability tests were analyzed using descriptive statistics, specifically the weighted mean. This method assessed the system's acceptability in terms of perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use, and user experience. Data were collected from selected deans, program coordinators, faculty, and students in one department and validated across five additional colleges within the university. Weighted mean scores, interpreted using a Likert scale ranging from "not acceptable" to "highly acceptable," provided insights into how effectively the system met user needs. These findings also guided refinements to the system's features and interface.

3.5. Research Ethics

The study adhered to established ethical standards for research involving human participants. Informed consent was obtained from all respondents, ensuring voluntary participation and the right to withdraw at any time without penalty. Participant safety, privacy, and well-being were prioritized throughout the study. All collected data were treated with strict confidentiality and managed in compliance with the Data Privacy Act of 2012, ensuring anonymity and protection against unauthorized access or disclosure.

3.6. Decision Support System

It functions as an automated evaluation engine powered by a rule-based algorithm to process key academic data and generate actionable insights. A rule-based algorithm is applied in the DSS because it provides a simple, transparent, and effective method for evaluating structured academic data based on clearly defined institutional policies. In this system, critical parameters such as faculty deliverables, student performance, and student feedback are assessed against specific rules and thresholds. For instance, the algorithm checks whether submissions are complete, whether scores meet the passing standard, or whether feedback

reaches the required satisfaction level. These conditions are encoded as if–then logic, making the system straightforward to understand, maintain, and update.

Rule-based algorithms are particularly well suited for educational environments where decisions often follow standardized guidelines. Unlike machine learning models, they do not require extensive training datasets, and they allow administrators to trace each recommendation back to a specific rule, ensuring accountability and interpretability. This approach also enables real-time evaluation, automatic insight generation, and rapid adaptation when institutional criteria are updated. Overall, the rule-based algorithm ensures accurate, consistent, and timely decision-making, critical for maintaining academic quality, compliance, and continuous improvement.

The system is technically designed to evaluate three key parameters: faculty deliverables, student performance, and student feedback. Input data is first gathered from multiple modules: faculty submissions from the monitoring module, performance scores from the student dashboard, and feedback ratings from activity evaluation forms. Once collected, the DSS's rule engine independently evaluates each dataset using predefined if–then conditions. For faculty deliverables, the system verifies whether required documents such as syllabi, self-learning modules (SLMs), examinations, and reports are submitted on time. Missing or delayed submissions are flagged as non-compliant, automatically generating an administrative follow-up insight. For student performance, the system compares scores per topic against a set threshold (e.g., 75%). Scores falling below this benchmark trigger recommendation for academic interventions, such as remediation. For student feedback, the DSS analyzes satisfaction ratings per activity. If ratings fall below the predefined threshold (e.g., 3.5 out of 5), the system flags the activity and recommends pedagogical improvements.

Each triggered rule produces a tagged insight containing metadata such as faculty ID, subject, topic, and priority level. These insights are compiled into a centralized log and displayed through an administrative dashboard. Authorized users, such as deans and program coordinators, can view, filter, and act on these insights to make informed decisions about compliance, instructional strategies, and student support. In this way, the DSS transforms raw academic data into intelligent recommendations, enabling timely interventions and enhancing the overall teaching–learning process.

3.7. System Architecture

Figure 1

System architecture of EduComply

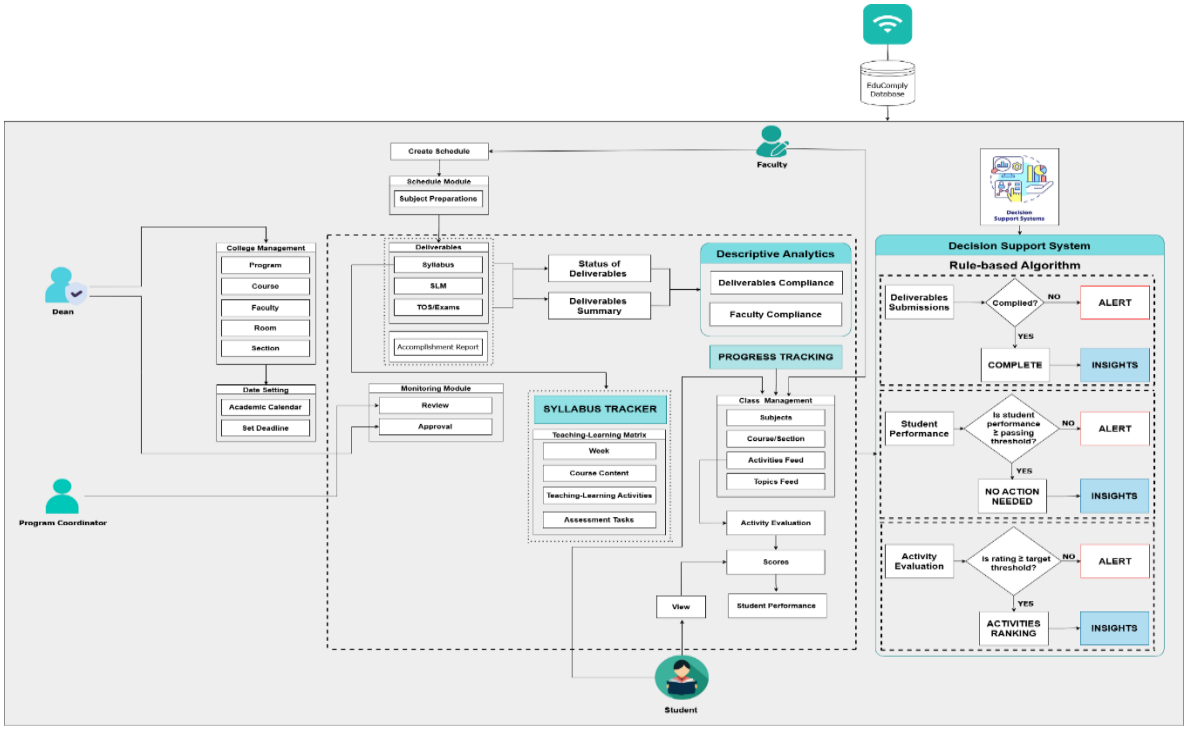


Figure 1 presents the system architecture of EduComply, the progress tracking system for syllabus compliance on teaching–learning deliverables using a DSS. The system aims to enhance the monitoring of syllabus compliance and the implementation of the teaching–learning matrix. It is designed to be accessible via the internet, providing a centralized platform for tracking faculty deliverables and progress based on prescribed teaching–learning activities.

For the Dean, the process begins with the College Management module, where programs, courses, rooms, and sections can be created and organized. The module also includes the academic calendar and submission deadlines, which can be customized according to the current academic process. The Dean is responsible for approving all deliverable submissions and monitoring deliverables summaries. In addition, the Dean can access the syllabus tracker for faculty subject preparations, enabling an evaluation of whether faculty members adhere to the prescribed course content.

For the Faculty, the process begins with creating schedules to generate subject preparations for deliverables and classes. The Faculty Deliverables Management module

provides functionalities such as syllabus creation, submission of learning materials, preparation of the Table of Specifications (TOS), examinations, and accomplishment reports. These submissions are subject to review by the Program Coordinator, followed by approval from the Dean, ensuring compliance with institutional standards. The system also incorporates progress tracking features to monitor topics covered and activities completed according to the teaching–learning matrix. A key feature of the syllabus tracker is its ability to provide real-time monitoring of covered topics, allowing faculty and administrators to identify which topics have been addressed and which remain pending. Faculty may also release scores per activity, which students can only view after submitting their activity evaluations.

For the Students, the system allows account creation to join their respective classes. Students can view their enrolled classes and are required to provide activity evaluation ratings based on teaching–learning activities before they can access their activity scores.

The system also integrates analytics capabilities. Descriptive analytics supports monitoring syllabus compliance and deliverables through an interactive dashboard. The DSS applies a rule-based algorithm to process and evaluate three critical parameters: faculty deliverables submission, student performance, and student feedback on teaching activities. This evaluation is based on predetermined rules aligned with institutional standards. When conditions are unmet, the system automatically generates recommendations to assist administrators and faculty in making timely, evidence-based decisions.

For faculty deliverables submission, the DSS checks whether instructors have submitted essential instructional materials such as syllabi, SLMs, TOS, examinations, and accomplishment reports. If submissions are complete and on time, the system records compliance and may provide positive insights. However, if required deliverables are missing or delayed, the DSS issues alerts and recommends administrative follow-up actions to enforce compliance, ensuring timely preparation and delivery of academic content.

For student performance, the DSS evaluates scores per topic or activity against a defined threshold (e.g., 75%). If student performance meets or exceeds the threshold, the system provides insights. Conversely, if scores fall below the benchmark, alerts are generated recommending academic interventions such as remediation, enabling timely identification and addressing of learning gaps.

For student feedback, the DSS analyzes satisfaction ratings for teaching activities. Ratings are compared to a minimum threshold (e.g., 3.5 out of 5). If results fall below this

level, the system provides insights indicating areas that require pedagogical improvement. If ratings meet or exceed the threshold, the activities are acknowledged and ranked, reinforcing effective teaching strategies. This ensures that teaching practices remain responsive to student learning needs.

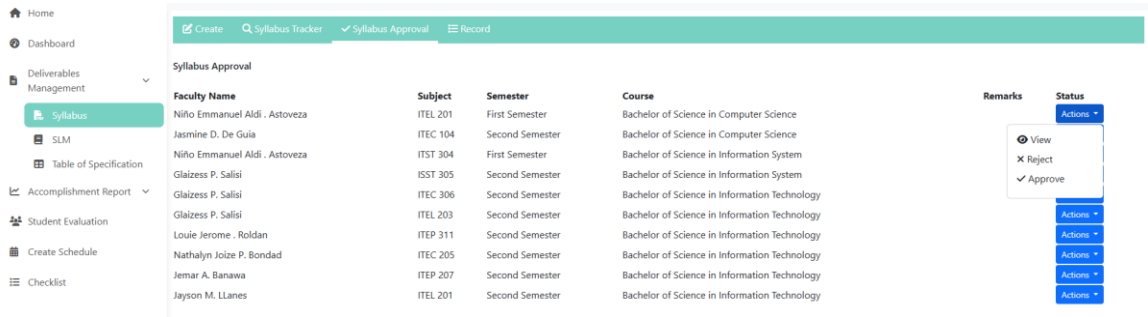
After independently evaluating each parameter, the system consolidates all triggered recommendations and presents them to decision-makers such as deans, program coordinators, and faculty members. These actionable insights support continuous instructional improvement, reinforce accountability, and enhance the overall quality of educational delivery.

4. Findings and Discussion

The primary aim of this study was to design and develop to enhance the monitoring and compliance processes related to teaching-learning deliverables in an academic setting.

Figure 2

Management of deliverable submission



The development of the EduComply system addresses the persistent challenge of managing and monitoring faculty deliverables in higher education institutions. It was designed as a centralized repository and workflow tool, enabling a structured submission–review–approval process for instructional materials. These include the syllabus, SLMs, TOS, examinations, and activity reports.

As illustrated in Figure 2, EduComply manages the submission of teaching–learning deliverables, allowing administrators to efficiently review faculty submissions, monitor compliance timelines, and uphold quality assurance protocols. Approved deliverables also serve as a repository for future instructional reference, audit compliance, and performance

evaluation, ensuring standardized academic outputs are systematically archived and readily accessible.

Automating tracking and deadline monitoring helps reduce faculty delays and non-compliant submissions. Manual approaches often result in inconsistent monitoring and weak accountability (Dada & Taiwo, 2024). EduComply mitigates these issues by integrating role-based access and notification systems, fostering proactive compliance. Beyond administrative monitoring, the repository of approved deliverables supports longitudinal analysis, accreditation preparation, and instructional benchmarking. By embedding compliance mechanisms within day-to-day academic processes, the system aligns with the principles of Total Quality Management and CHED's ISA framework (Kayyali, 2023; Marina et al., 2024). Moreover, standardized submission workflows contribute to process efficiency and documentation readiness for external audits.

The deliverable management module of EduComply functions not only as a technical solution but also as a strategic tool for strengthening institutional governance in academic delivery. Its design illustrates how digital systems can enforce academic policies, streamline reporting, and enhance faculty accountability in higher education.

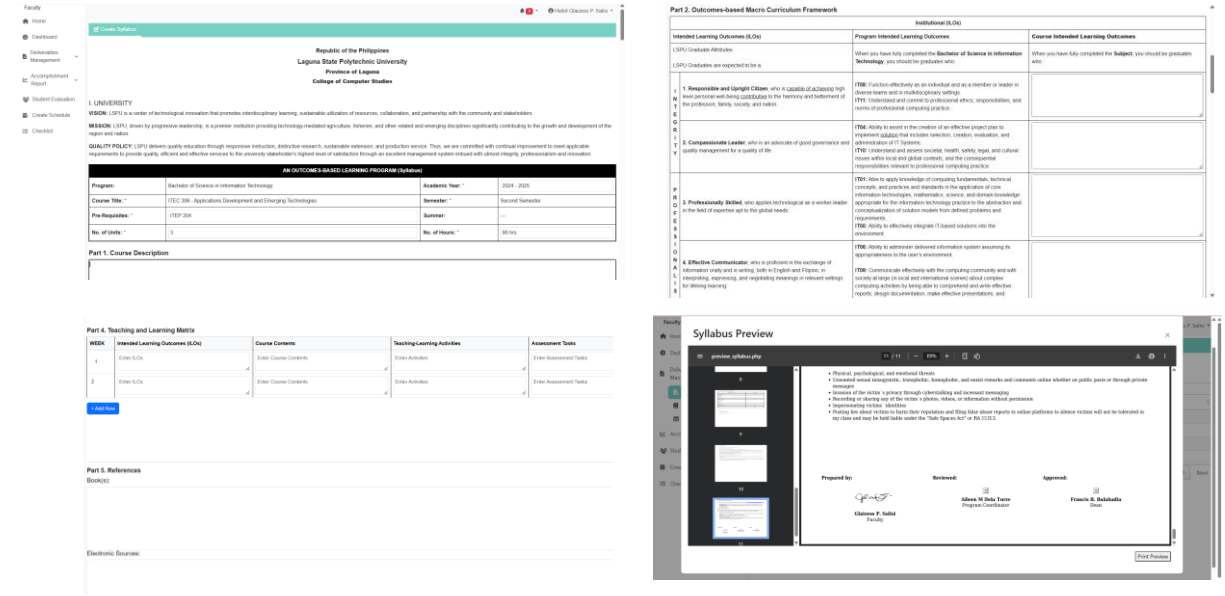
A key feature of EduComply is its syllabus creation tool, which helps faculty members prepare and submit syllabi more effectively. Preparing the syllabus is one of the most critical academic tasks, as delays or incomplete submissions can compromise teaching quality and course planning. Integrating syllabus creation into the system allows faculty to create, update, and save syllabi directly on the platform, ensuring they are complete, timely, and aligned with institutional standards. This digital process also enables academic heads, such as deans and program coordinators, to monitor compliance and track faculty progress in real time through the syllabus tracker.

The syllabus creation feature in the system is shown in Figure 3. Syllabi are essential tools that help university instructors communicate course goals and direction to students. Traditional methods of syllabus creation and storage can be tedious and time-consuming (Aboorva et al., 2022). In EduComply, faculty members can create and submit syllabi directly within the platform, which includes all required sections. Specifically, faculty are prompted to input the teaching–learning matrix on a weekly basis, intended learning outcomes, course content, teaching–learning activities, and assessment tasks. If the syllabus is not yet finalized, it can be saved as a draft. Once completed, faculty can forward it to the Program Coordinator

and Dean, who can easily monitor the progress and status of each submission. If a syllabus is rejected, faculty must revise it according to feedback from the academic heads. Once approved, the finalized syllabus serves as the foundation for the syllabus tracker.

Figure 3

Syllabus creation



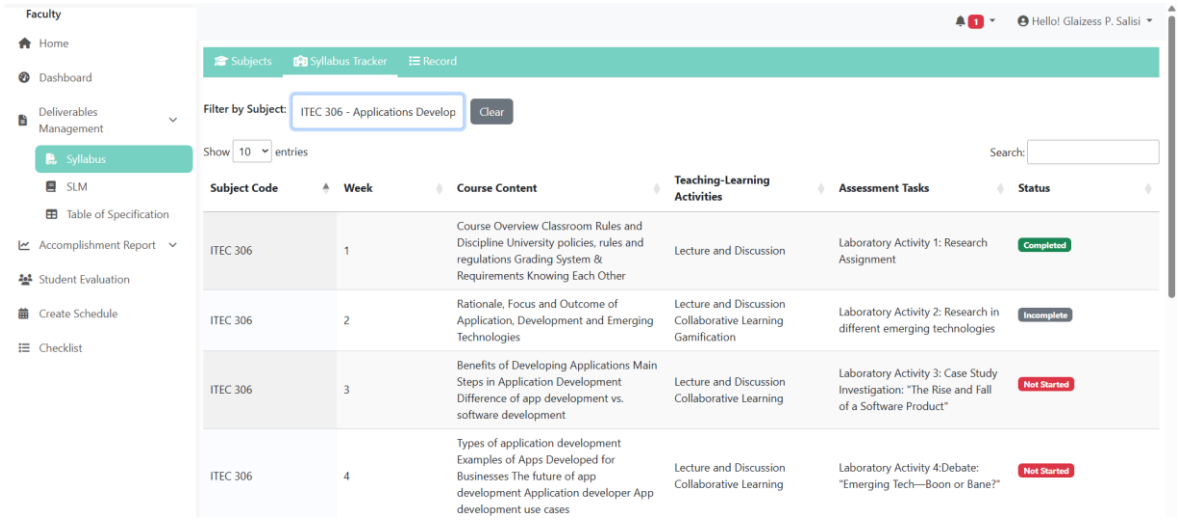
By replacing manual methods, digital integration in syllabus creation and submission ensures that faculty comply with institutional requirements while reducing administrative workload. Digital platforms enhance monitoring by improving accuracy and timeliness, guiding faculty to include all required syllabus components (OECD, 2021). This strengthens compliance and supports quality assurance, enabling institutions to ensure alignment with teaching plans. Beyond immediate tracking, the system generates data that can inform future evaluations and decision-making, ultimately benefiting both administrators and students.

The Syllabus Tracker in EduComply, as shown in Figure 4, ensures that teaching aligns with the planned syllabus, particularly the teaching–learning matrix. This matrix links course objectives, content, instructional strategies, and assessments to support structured and effective course delivery. The tracker assists administrators and faculty in monitoring weekly syllabus implementation, ensuring alignment with the teaching–learning matrix. Similarly, the Syllabus Tracker developed by WeXL (n.d.) helps teachers mark syllabus coverage with dates,

promoting timely and organized curriculum delivery. This indicates that digital syllabus management tools enhance the efficiency of syllabus tracking and ensure alignment with course objectives.

Figure 4

Syllabus tracker



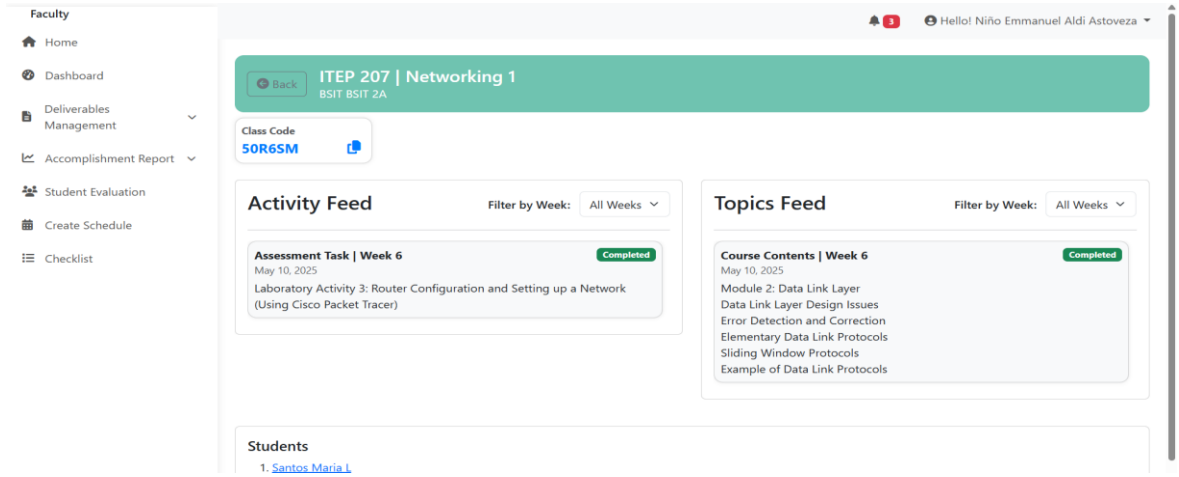
The interface provides a clear overview of subjects, weekly topics, learning activities, assessments, and their current status. Faculty members log into the system to indicate which components of the syllabus have been covered, and the platform records this data in real time. The status column updates automatically: “Completed” indicates that students have received scores for a specific activity, “Pending” represents weeks not yet started, and “Incomplete” flags content or assessments that remain unfinished or undelivered. The Dean can monitor specific faculty members and subjects to ensure syllabus implementation. This real-time tracking allows faculty to track their own progress while providing academic heads with a clear view of whether teaching follows the prescribed content and timeline.

Unlike traditional classroom observations, typically conducted once or twice per semester, the syllabus tracker provides continuous, real-time monitoring of instructional delivery. This addresses a key gap in instructional supervision: the lack of ongoing visibility into syllabus implementation throughout the semester. For example, gaps in weekly topic coverage or delayed assessments become immediately visible, allowing for timely administrative support or intervention.

The integration of a syllabus tracker provides administrators with actionable insights into course delivery, enabling early detection of issues such as slow pacing or skipped topics and facilitating prompt interventions. Digitalization enhances efficiency by automating processes, improving data accuracy, and supporting real-time decision-making (Kuusisto, 2017). Furthermore, Jovanca et al. (2023) emphasize that a syllabus management system with decision-support features increases transparency and ensures systematic alignment between faculty assignments and course documentation. Together, these innovations bridge the gap between episodic classroom evaluations and continuous instructional assessment, reinforcing effective curriculum implementation.

Figure 5

Activities and topics feed



Effective class management in higher education involves not only planning but also consistently monitoring the implementation of lessons, activities, and topics throughout the semester. EduComply integrates an Activities and Topics Feed, which functions as a core component of its LMS-like environment. Figure 5 presents the Activities and Topics Feed for a specific class. This feed allows instructors to view and track weekly teaching activities and topics covered in real time. Each entry is tagged with a date and a status indicator, “Completed,” “Pending,” or “Incomplete”, providing both faculty and administrators with a clear view of instructional progress. By digitizing classroom management, the system enables ongoing supervision of syllabus delivery, replacing inconsistent manual reporting.

From a faculty perspective, this feature supports efficient lesson planning and delivery tracking. Instructors can view scheduled content, update progress, and ensure alignment with the teaching–learning matrix. It also reinforces transparency and accountability, as deans can monitor real-time syllabus implementation without relying solely on infrequent classroom observations. From the student perspective, visibility of activities and topics enhances academic engagement. Learners can track which topics have been taught and which activities have been completed each week, allowing them to catch up on missed lessons and prepare for upcoming assessments. Simelane-Mnisi (2023) emphasized that digital tools in LMS platforms, such as interactive monitoring features, provide students with clear visibility of content and activities, fostering engagement and consistent participation in learning tasks.

The Activities and Topics Feed strengthens EduComply's role as an academic management tool, akin to features in established LMS platforms. It supports instructional planning, enables real-time monitoring, and facilitates data-driven decision-making for both teaching and administrative teams. By integrating this feature, the institution ensures that classroom delivery aligns with planned content and institutional standards for quality teaching. Additionally, the system allows digital submission of SLMs, streamlining the process for both faculty and academic heads. Instead of creating folders in Google Drive and consolidating materials manually each semester, faculty can upload SLMs directly to EduComply. This enables deans to easily preview materials, prevents delays, and ensures that all teaching modules are properly submitted, reviewed, and stored in a centralized location.

Figure 6

Self-paced Learning Module (SLM) submissions

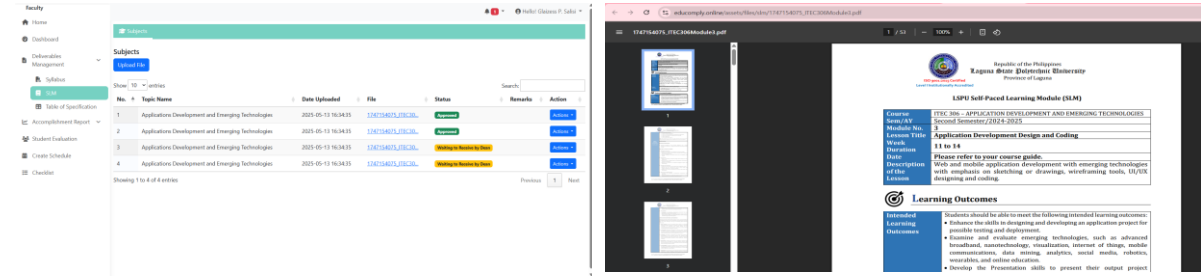


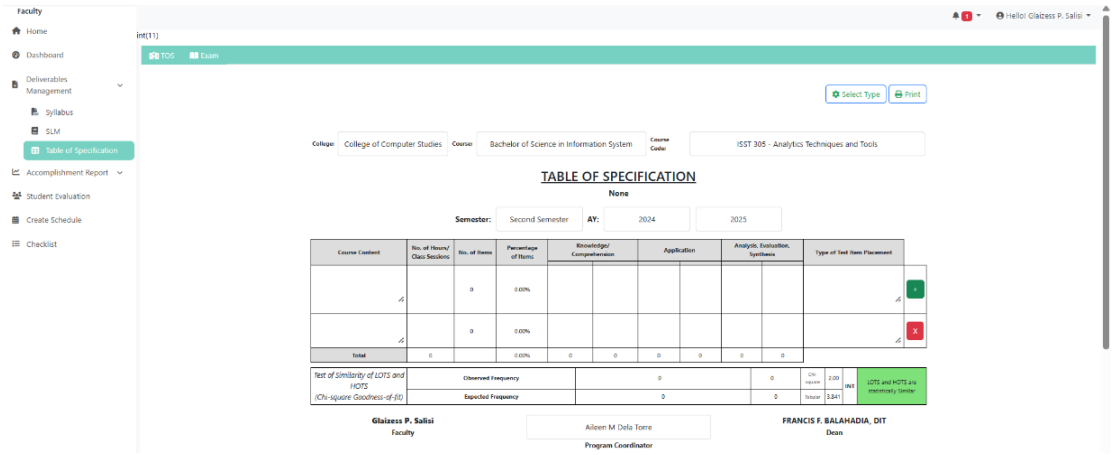
Figure 6 illustrates the real-time monitoring of SLMs submitted by faculty. Instructors can upload their SLMs for each subject preparation, while deans can easily access and review

these submissions. By centralizing the submission process, EduComply provides deans with immediate access to instructional materials, enabling faster review and timely feedback.

This centralized approach advances institutional goals for teaching quality and compliance by ensuring that instructional materials are submitted on time and aligned with course outcomes. Each submission is archived and linked to faculty accounts, promoting accountability and providing reliable documentation for internal audits and accreditation processes. Furthermore, the system enhances transparency, strengthens administrative oversight, and ensures instructional readiness. As noted by Ukaogba and Nwankwo (2020), effective record management in academic institutions facilitates well-organized, properly stored, and easily retrievable information. In this context, digitized academic workflows not only improve compliance but also reduce the burden associated with manual monitoring.

Figure 7

TOS creation in the system



The EduComply system includes a feature that allows faculty to create and submit their TOS online. Also known as a test blueprint, the TOS is an essential component of assessment planning, specifying the proportion of questions allocated to each behavioral objective and topic (Anunaobi & Nbame, 2022). The TOS serves as a guide to ensure that exams correspond with the topics and learning objectives outlined in the syllabus. By creating the TOS within the system, faculty can organize assessments effectively, while academic heads can easily verify whether exams are properly aligned.

As shown in Figure 7, faculty members enter key details in the TOS, including the topics covered, question types, and the number of items assigned to each topic across cognitive

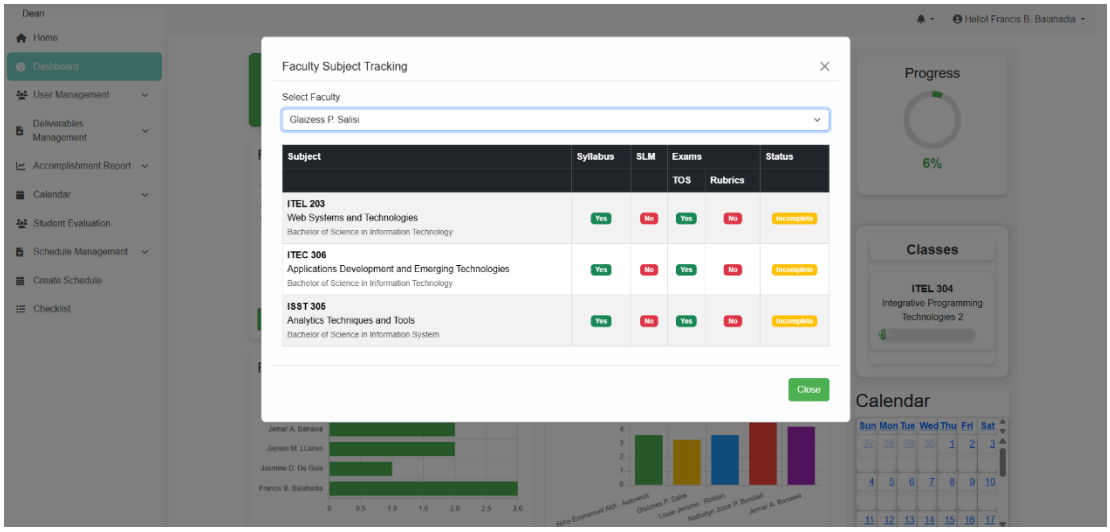
levels. Once submitted, the TOS is first reviewed by the Program Coordinator and then approved by the Dean. Only after approval can faculty upload the corresponding exam file. If the TOS has not been approved, the system restricts exam uploads, ensuring that assessments adhere to the course plan.

This feature improves the management of assessments by addressing common challenges associated with manual systems, such as exams that do not reflect the syllabus or lack proper documentation. Centralizing all documents in one system and enforcing a standardized format allows academic heads to save time while maintaining consistency across submissions. A key element of this functionality is the integration of the TOS creation tool, which provides a structured framework for mapping test items across content areas and cognitive levels. This ensures that assessments are comprehensive and aligned with intended learning outcomes (Danushka & Gamage, 2024).

By incorporating TOS creation, exam generation, and file uploads directly into the platform, the system enhances assessment quality, strengthens curriculum alignment, streamlines review processes, and promotes accountability in academic instruction.

Figure 8

Faculty deliverables summary



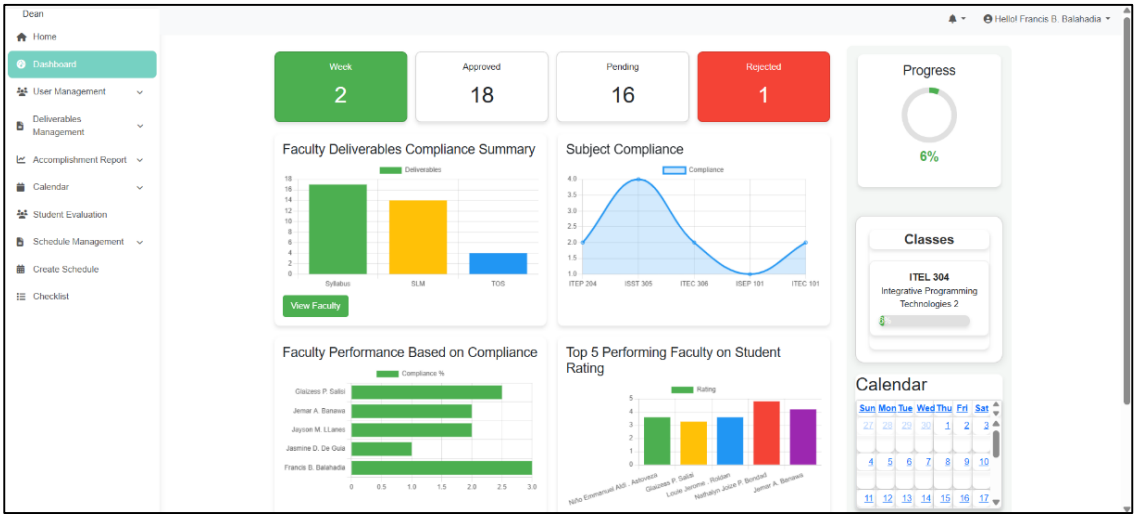
The Faculty Deliverables Summary in EduComply was developed to address the inefficiencies of manually checking multiple hardcopy documents. This dashboard provides a consolidated view of all required submissions, including syllabi, modules, exams, and reports, for each faculty member.

As shown in Figure 8, the centralized dashboard displays the status of all submitted faculty deliverables in real time. Both faculty and academic heads can access this summary, facilitating easier tracking, monitoring, and evaluation of compliance. Faculty members can quickly determine which items have been submitted, approved, or returned for revision. Simultaneously, deans and program coordinators can view submission statuses across all faculty at a glance, enabling faster follow-ups and promoting accountability.

Unlike traditional methods that rely on announcements and reminders, the dashboard strengthens administrative oversight by flagging late or missing submissions, ensuring timely compliance with academic requirements. Electronic document management systems (EDMS) further enhance this process by providing universities with platforms to efficiently store, organize, and retrieve records (Justina et al., 2022; Oladejo & Hadžidedić, 2021). By enabling quick access to accurate data, EDMS reduces administrative workload and improves compliance oversight, allowing faculty and administrators to focus on core academic responsibilities (Höchtl et al., 2016).

Figure 9

Dashboard for faculty deliverables compliance



Integrating real-time monitoring through descriptive analytics allows Deans, Program Coordinators, and faculty to quickly and clearly view compliance with teaching-learning deliverables. This feature ensures that essential academic requirements, such as the submission of syllabi, SLMs, TOS, and examinations, are tracked efficiently and submitted on time. By

making this information visible and easily accessible, the system facilitates informed decision-making and timely follow-ups.

Figure 9 provides a centralized dashboard view of all faculty deliverables. This dashboard enables Deans and Program Coordinators to monitor submissions in real time, reducing the need for manual verification and rapidly identifying gaps or instances of non-compliance. Faculty members also receive status notifications, which encourage timely submission of deliverables. By visualizing deliverables, the dashboard supports effective oversight and offers actionable insights into compliance. As Kashaka (2024) notes, integrating data analytics in school management enhances decision-making by transforming data into actionable knowledge, improving both operational efficiency and compliance monitoring.

The DSS integrates three key parameters, faculty deliverables submissions, student performance, and student evaluation ratings, to provide real-time insights that guide instructional decision-making. This integrated platform enables tracking of faculty deliverable status, teaching performance, student performance, and feedback, thereby supporting Deans and faculty in making data-driven decisions to foster continuous improvement in teaching and learning activities.

Figure 10

Faculty deliverables submissions decision support system

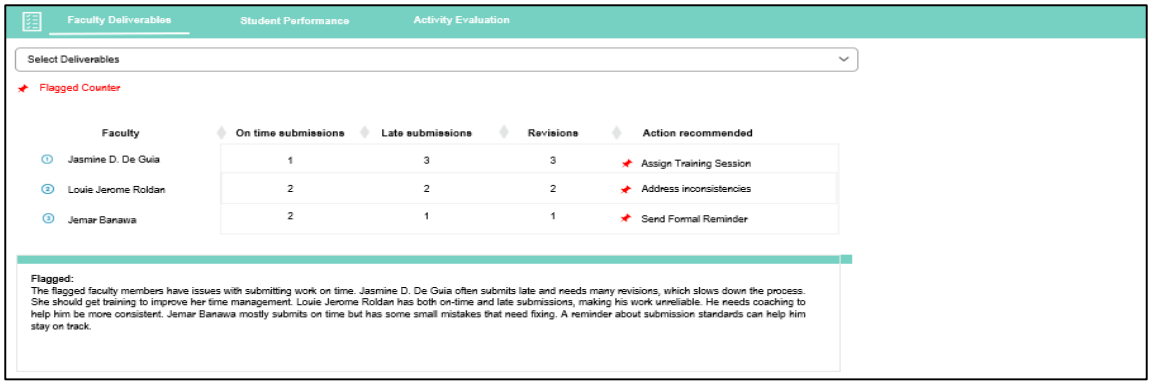


Figure 10 presents one of the key parameters integrated into the DSS: faculty deliverables submissions. This feature tracks the timeliness and completeness of instructional materials, including syllabi, SLMs, TOS, and examinations. Faculty members who fail to comply with submission guidelines are automatically flagged within the system, enabling administrators to identify trends in delayed or incomplete submissions. This automated

flagging mechanism streamlines academic workflows and reduces the administrative burdens associated with manual tracking. Similar to the findings of Hernandez et al. (2025), where a DSS improved faculty profiling efficiency, the EduComply system enhances submission compliance by providing automated alerts, promoting accountability, and supporting evidence-based decision-making.

By delivering timely notifications and actionable insights, the DSS ensures that faculty remain accountable for their instructional responsibilities. This data enables Deans to take appropriate actions, such as offering coaching or initiating targeted training programs, particularly when patterns of non-compliance are observed across multiple faculty members. Tracking faculty deliverables in this way ensures that administrative processes are efficient, transparent, and aligned with institutional standards.

Figure 11

Student performance decision support system

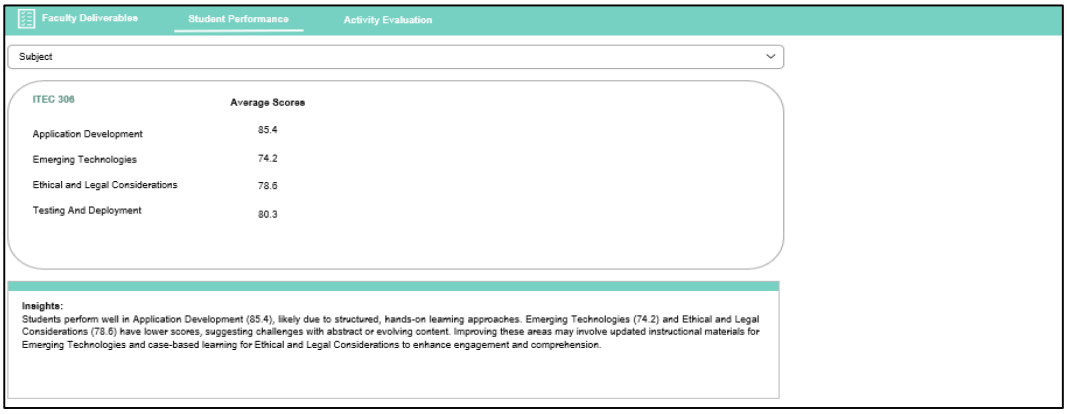


Figure 11 illustrates the monitoring of student performance as a key parameter in the DSS. Student scores are evaluated against predefined thresholds (e.g., 75%). When students underperform in specific topics, the system generates alerts and actionable insights, enabling faculty to adapt content and teaching strategies promptly. The DSS can also support personalized learning by analyzing individual student data, allowing instructors to tailor instructional approaches according to students' learning styles and pace (Burstein et al., 2024). Similarly, Adeyemi and Alotaibi (2025) developed a Feedback-Driven DSS that integrates real-time student performance data with machine learning algorithms to provide dynamic academic interventions, ensuring timely, informed decisions that enhance student outcomes.

This demonstrates the potential of DSS to strengthen evidence-based teaching and promote continuous improvement in learning.

By analyzing performance data per topic, the DSS provides faculty with actionable insights to identify areas requiring improvement, whether in teaching methods, course materials, or content difficulty. This fosters a proactive approach to the teaching-learning process, ensuring that topics with lower student performance are addressed immediately.

Figure 12

Activity-based student feedback decision support system

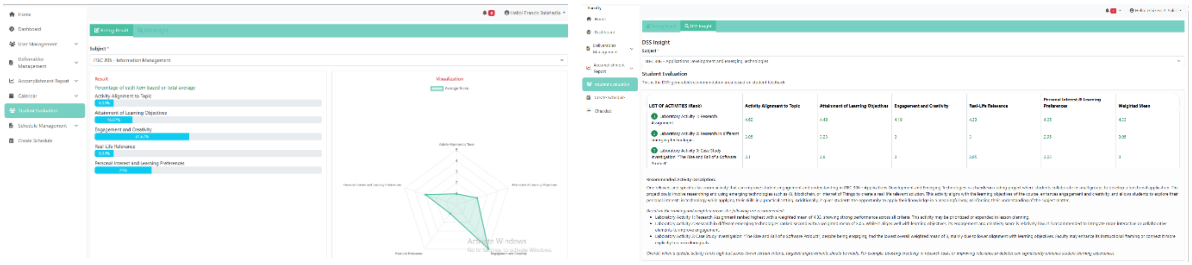


Figure 12 illustrates the DSS insights generated by the EduComply platform based on student feedback. The process begins with the collection of student evaluations on specific teaching activities, covering key areas such as alignment with course topics, achievement of learning objectives, engagement levels, creativity, real-life relevance, and personal interest. This feedback is processed by the DSS to generate actionable insights.

These insights are visually represented through tools like radar charts, which display the performance of each teaching activity across the evaluation criteria. This allows faculty and administrators to quickly identify which aspects of teaching are effective and which require improvement. The DSS calculates weighted mean scores for each activity based on student ratings, providing a comprehensive view of performance across multiple teaching activities. Beyond overall scores, the system generates detailed recommendations to enhance teaching, such as increasing student engagement or better aligning activities with learning objectives. This integration enables instructors to make real-time adjustments to teaching methods, improving learning experiences based on student feedback.

Through the DSS, if a specific activity consistently receives low ratings in areas such as engagement or relevance, the system flags these areas, allowing instructors to refine future activities accordingly. Incorporating student feedback supports targeted instructional

improvements, enhancing student engagement and comprehension (Morris et al., 2021). Feedback-driven DSS tools, like those proposed by Adeyemi and Alotaibi (2025), integrate real-time student performance data to enable dynamic academic interventions. Similarly, Wang (2023) demonstrated that DSS analyzing student feedback effectively supports evidence-based decisions to improve teaching quality.

The DSS serves as a comprehensive tool that monitors faculty performance, student performance, and faculty deliverable status, providing a structured and actionable way to enhance the teaching-learning process. By linking these parameters, the system identifies areas for improvement and enables administrators to implement targeted interventions. This approach supports faculty accountability, encourages continuous professional development, and fosters a more responsive and effective learning environment.

Table 3

Summary of user acceptability

USERS	COLLEGE	PEOU	PU	ATU	BIU	EXP	TOTAL	INT
Deans	CA	4.30	4.25	4.22	4.20	4.28	4.25	HA
	CAS	4.00	3.95	3.90	3.88	3.92	3.93	MA
	CBAA	4.50	4.48	4.42	4.40	4.45	4.45	HA
	CCS	4.60	4.58	4.55	4.52	4.57	4.56	HA
Program Coordinators	CA	4.35	4.32	4.30	4.25	4.31	4.31	HA
	CAS	3.90	3.85	3.82	3.80	3.88	3.85	MA
	CBAA	4.10	4.05	4.02	4.00	4.08	4.05	MA
	CCS	4.55	4.50	4.48	4.45	4.52	4.50	HA
Faculty	CA	4.25	4.20	4.18	4.15	4.22	4.20	HA
	CAS	4.00	3.90	3.85	3.82	3.88	3.89	MA
	CBAA	4.40	4.35	4.30	4.28	4.35	4.34	HA
	CCS	4.55	4.50	4.45	4.42	4.48	4.48	HA
Students	CA	4.60	4.55	4.52	4.50	4.58	4.55	HA
	CAS	4.10	4.05	4.00	3.98	4.02	4.03	MA
	CBAA	4.65	4.62	4.58	4.55	4.60	4.60	HA
	CCS	4.70	4.68	4.65	4.62	4.68	4.67	HA
General Weighted Mean							4.29	HA

Legend: PEOU- Perceived Ease of Use, PU-Perceived Usefulness, ATU-Attitude Towards Using, BIU-Behavioral Intention to Use, EXP-Experience, INT-Interpretation, HA- Highly Acceptable, MA- Moderately Acceptable

The acceptability of EduComply was evaluated among selected college deans/associate deans, program coordinators, faculty, and students, as shown in Table 3. The evaluation utilized five key criteria based on the TAM: PEOU, PU, ATU, BIU, and EXP. The overall system rating was 4.29, interpreted as highly acceptable.

Across user roles, Deans from CCS and CBAA provided the highest ratings, with an overall score of 4.45, particularly emphasizing PEU (4.52) and PU (4.48). These findings align with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that technology adoption depends on performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). Performance and effort expectancy correspond closely with TAM's PU and PEU, indicating that users who perceive a system as effective and easy to use are more likely to adopt it. In this study, the high ratings from technically inclined deans suggest that the system met expectations for efficiency, usability, and support in decision-making processes.

In contrast, Deans from CAS and CA provided slightly lower ratings, with an overall score of 4.18, particularly in PU (4.12) and ATU (4.09). This may suggest that the system lacked sufficient flexibility to accommodate the specific academic workflows and administrative contexts of these colleges. According to Malik and Annuar (2021), perceived usefulness reflects a user's expectation that a technology will enhance individual or team performance from an organizational perspective. This indicates that evaluations are influenced by how well the system aligns with users' specific tasks and institutional roles, especially in disciplines with complex or non-standardized workflows.

Program Coordinators from CCS and CA provided positive evaluations, with overall scores of 4.38 and 4.32, particularly in PU (4.40) and EXP (4.35). These results reflect the system's effectiveness in monitoring curricula and tracking faculty deliverables. Their feedback suggests that EduComply facilitates the consolidation of faculty outputs, making program review and reporting more efficient. Additionally, user experience positively influences perceived ease of use, as more experienced users navigate the system more efficiently, while higher system functionality can occasionally increase perceived complexity (Howard & Hair, 2023). Coordinators from CAS and CBAA rated the system slightly lower in ATU (4.11) and BIU (4.08), indicating that standardized system features may not fully align with the diverse workflows in these colleges. This underscores the importance of task-technology fit, where systems that effectively support specific tasks and reduce user effort are

more likely to be adopted (Rai & Selnes, 2019). Overall, these results show that EduComply is well-received when functionality and usability align with user needs, while adoption may be lower in contexts with more varied or complex workflows.

Faculty members generally evaluated EduComply positively, particularly in PEOU, with an overall score of 4.44. Faculty from CCS and CBAA reported higher satisfaction (4.35), reflecting their stronger exposure to and familiarity with technology. In contrast, faculty from CAS and CA gave slightly lower ratings (4.25), indicating some challenges in navigating the system. The higher ease of use among CCS and CBAA faculty demonstrates how technology-oriented environments foster smoother adoption and more effective utilization, consistent with Hizam et al. (2021), who found that users with greater digital competency are more likely to adopt and appreciate digital systems. Moreover, as Task-Technology Fit (TTF) is iterative, users are expected to adapt over time, gradually improving satisfaction and adoption (Ouyang et al., 2017). These findings suggest that the system reduced manual submission burdens, improved accuracy, and enhanced tracking of instructional outputs, aligning with Andhika et al. (2024), who noted that learning management systems streamline teaching materials and promote collaboration. Nonetheless, the slightly lower ratings compared to administrators indicate that faculty may still be in the adjustment stage, emphasizing the need for continuous orientation and support.

Students provided the highest overall evaluation, with a mean rating of 4.62, interpreted as highly acceptable. This reflects their strong acceptance of the system's usability and its positive impact on learning engagement. Students found the system beneficial for tracking academic progress, managing assignments, and interacting within the platform. Such feedback indicates that EduComply enhances the student learning experience by promoting independence, critical thinking, and active participation. As Simelane-Mnisi (2023) emphasized, LMS platforms significantly improve student progress monitoring while offering an integrated environment for engagement and knowledge acquisition.

The system was particularly well-received in technology-oriented colleges, such as CCS and CBAA, where higher digital literacy likely contributed to greater acceptance and integration into academic workflows. This aligns with Kabakus et al. (2023), who demonstrated that digital literacy enhances performance expectancy and effort expectancy, thereby increasing behavioral intention to use digital systems. Conversely, slightly lower ratings from CA and CAS highlight the need to refine the system to better accommodate

diverse academic workflows and practices. Research on TTF indicates that when system capabilities align with user tasks, adoption and satisfaction increase in higher education contexts (Alyoussef, 2021). Additionally, providing targeted user training is critical in improving confidence, digital literacy, and overall acceptance, particularly in less digitally integrated disciplines (Al-Fraihat et al., 2019). Enhancing system customization alongside structured training can further strengthen adoption and long-term integration.

The evaluation results indicate that EduComply performs strongly in usability and usefulness, especially in technology-oriented colleges like CCS and CBAA. These findings underscore the system's potential to facilitate compliance and monitoring across the institution. To achieve equitable effectiveness for all academic units, enhancing customization and adaptability will be essential to ensure broader institutional alignment.

5. Conclusion

The study successfully developed the EduComply system, achieving its objectives of managing faculty deliverables, tracking syllabus progress, and ensuring real-time compliance monitoring. The system automated traditionally manual processes for submitting, reviewing, and approving syllabi, Self-Paced Learning Modules (SLMs), and Tables of Specifications (TOS) with corresponding exams. This automation significantly reduced administrative workload while improving the accuracy and timeliness of compliance monitoring.

The syllabus tracker feature enabled real-time monitoring of topics covered and activities conducted, ensuring alignment with the teaching-learning matrix and promoting accountability among faculty members. Additionally, the real-time dashboard provided administrators with convenient access to faculty compliance data, facilitating informed decision-making and timely interventions. The integration of the Decision Support System (DSS) further strengthened the platform by tracking faculty performance, student performance, and faculty deliverable status in a comprehensive and organized manner. By linking these parameters, the DSS offers actionable insights that guide faculty improvements and enable administrators to implement targeted interventions to enhance the teaching-learning process.

Findings indicate that the system is highly accepted and effective in technology-oriented colleges; however, slightly lower ratings in non-technical colleges highlight the need for greater adaptability and scalability to diverse academic environments. Structured user training and capacity-building programs are recommended to improve system literacy, ensure

effective adoption, and maximize usability across all academic units, thereby enhancing EduComply's overall institutional impact.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was not supported by any funding.

AI Declaration

The author declares the use of Artificial Intelligence (AI) in writing this paper. In particular, the author used ChatGpt in checking and refining the grammar. The author takes full responsibility in ensuring proper review and editing of content generated using AI.

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