

ENHANCING ADMINISTRATIVE EFFICIENCY: A VALIDATED CONCEPTUAL FRAMEWORK FOR AUTOMATED DOCUMENT, EVENT, AND FACILITY APPROVALS**Febb Kimberly Joy B. Edaño**<https://orcid.org/0009-0009-6171-6348>**ORCID ID - 0009-0009-6171-6348**Faculty, College of Information and Communication Technology
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ABSTRACT

Higher education institutions (HEIs) continue to face inefficiencies in managing document approval, event scheduling, and facility reservation due to reliance on manual workflows. These processes often result in delays, lack of transparency, scheduling conflicts, and human errors. This study proposes and validates a conceptual framework for an integrated automated system that unifies document management, event approval, and facility reservation into a centralized platform with real-time tracking and automated workflows. A mixed-methods developmental design was employed, involving process analysis, literature review, framework development, and validation. Data were gathered from administrative staff and key personnel to evaluate usability, feasibility, and perceived efficiency. Results showed high perceived usability, feasibility, and efficiency, with a Cronbach's Alpha of 0.928 indicating excellent reliability. Findings revealed that the proposed framework improves coordination, reduces processing time, minimizes errors, and enhances transparency across administrative offices. While implementation challenges such as staff resistance and training needs were identified, respondents expressed strong acceptance of the system. Overall, the study concludes that integrating these administrative processes into a unified digital platform can significantly improve institutional efficiency and supports digital transformation and positions HEIs as compliant institutions under Republic Act No. 11032 on anti-red tape and efficient service delivery.

Keywords:

Institutional Efficiency, Centralized Dashboard, Workflow Integration, Transparency.

INTRODUCTION

Academic administrations have made it a common goal to improve efficiency and enhance document handling and processes. With the increasing amount of paper data accumulated from different offices and for different purposes, a major problem has emerged regarding how to monitor, track, and retrieve these documents effectively [3], [1], [7]. Hence, technological solutions are needed to improve service delivery, as electronic data management plays a crucial role in a university's operational quality and productivity [16], [12], [9].

Most HEIs rely on manual process especially on logging document updates. This has been proven to be unreliable in terms of accuracy and transparency [9]. Employees spend an average of 2.5 hours searching for related information [5], resulting in wasted time and reduced efficiency. According to Jr. et al. [9], manual document management is prone to human error and inconsistencies, especially in recording information. Processes such as reservation and event handling usually comes together making the integration of the two process complex. The absence of automated updates in document approval processes affects real-time facility reservations and limits transparency across institutional offices, causing delays in event planning and scheduling [8], [6]. German et al. [8] developed an integrated room reservation system for higher education institutions that

improved real-time information exchange and minimized scheduling conflicts. Upon further study of these research, it observed that most of them focuses on either document tracking or event-scheduling and not focuses on combing the two processes. For most HEIs it is observed that both these processes are usually linked in the approval in between offices. The presence of the signatories is one of the factors that causes delays as well as the possible document revisions [14]. As the Study on the Balance between Efficiency and Effectiveness in Tertiary Education Administration Management [15] emphasized, these manual workflows disrupts time management leading to common errors that affects reliability and timely communication of information. During the approval of these documents, manual update on the institutions' calendar raises concerns about reliability [13]. Delays on the updates leads to conflicts and overlapping of reservations. According to German et al. [8], to enhance and to give solution to this inefficiency, a real-time and automated scheduling system needs to be developed to improve office's coordination. Given the improvement of technology, many offices are still reluctant to rely on automated processes or systems and stays with physical routing and manual spreadsheets, hindering proper time management. The continued dependence on manually driven workflows creates compliance issues with Republic Act No. 11032 or EODB (Ease of Doing Business and Efficient Government Service Delivery Act), which necessitates government agencies to eliminate bureaucracy, incorporate efficiency, and make service procedures more transparent. This positions the proposed framework as a strategic tool for Higher Education Institutions (HEIs) to ensure compliance with EODB thereby strengthening its policy relevance in addition to its operational value.

At Surigao del Norte State University, Jr. et al. identified that manual record storage through logbooks led to misplaced documents and poor reliability. They developed a QR-integrated record tracking system that improved administrative efficiency. Similarly, Angala et al. [3] created a Document Management System for Ilocos Sur Polytechnic State College to streamline document processing and retrieval. Acedo et. al [1], developed a document tracking system for their university in compliance for the Republic Act No. 11032. In their system, the integrated QR technology for improving reliability for the document workflows. In the study of Salleh et al. [14], they implemented a document tracking system for accreditation purposes in their university using Scrum Methodology, ensuring systematic document handling. Castro et al. [5] also developed the DocTrack which is a web-based tracking for documents. This is a system that minimized the time of retrieval which also improved time utilization.

For government perspective on document workflows, Dayrit et al. [7], [2] assessed the Philippine Statistics Authority's digital tracking process, assessing its efficiency, their strategies for accountability and human error. Continued studies on event management is also showed through the literature of German et al., [8] and Clariz et al. [6] by integrating reservation systems that can lessen booking conflicts. Bhardwaj and Kumar [4], elaborates the importance of automations for HEIs using Robotic Process Automation (RPA) as it saves time up to 99.9%, although challenges in security and staff adaptation remain. Same as the other studies, although they are alike in studying automation of each process but they haven't combined both processes. There remains a gap in developing a unified and integrated framework that connects document approval workflows, event scheduling, and facility reservations within one automated platform.

Therefore, this study aims to propose and validate a conceptual framework for an automated document, event, and facility management system designed to enhance administrative efficiency. Specifically, it aims to: (1) analyze the current administrative processes for document approval, event scheduling, and facility reservations to spot major inefficiencies, bottlenecks, and gather user, defined needs; (2) invent a conceptual model for a single platform that would automate the approval chains, offer status updates in real, time, and harmonize the document, event, and facility management calendars; and (3) measure the proposed model's usability, feasibility, and efficiency, improving potential by getting quantitative and qualitative feedback from key administrators and staff. The combination of document tracking and event approval workflows results in a hybrid method that maintains openness in the approval processes while facilitating scheduling and facility management. Educational institutions, through this proposed model, can realize increased efficiency, dependability, and accountability in their administrative tasks. Despite technological advancements and the availability of digital tools HEIs continues to rely on manual processes for document approval and event scheduling. This dependence on physical routing and shared spreadsheets results in delays, human errors, lack of transparency, and scheduling conflicts among offices. The current manual workflows hinder productivity and reduce accuracy in administrative operations. Therefore, this study aims to (1) analyze the existing administrative workflows for document approval, event scheduling, and facility reservations to identify critical inefficiencies, bottlenecks, and user-defined requirements; (2) design a conceptual framework for a unified platform that automates approval chains, provides real-time status tracking, and integrates document, event, and

facility management calendars; and (3) validate the proposed framework's perceived usability, feasibility, and potential to enhance efficiency by soliciting quantitative and qualitative feedback from key administrators and staff. This approach will integrate the processes of document, event and facility approval to help and improve the efficiency and reliability of workflows.

CONCEPTUAL FRAMEWORK

Shown below in Figure 1 is the conceptual framework of this study. The framework illustrates the Automated Document, Event, and Facility Approval System, designed to streamline administrative workflows by integrating three core modules — Document Management, Event Approval, and Facility Reservation — into a Central Dashboard.

For the control hub of the framework, the dashboard provides the real-time tracking of document status, data analysis, and real-time notifications. All modules work together with the central dashboard to ensure timely display of document updates and approvals.

- 1) Document Management Module –This is responsible for handling the submission, review, approval, and archiving the institution's documents.
- 2) Event Approval Module –When event requests are made it checks the institution's calendar of activities to prevent possible schedule conflicts before approving or rejecting the request. The document associated with the event is then linked with the approved event.
- 3) Facility Reservation Module – Manages booking request by checking the availability of the institutions facilities and confirming the reservations. This makes sure that the event can be held in the venue as no conflicts are traced.

The stated modules are linked to communicate through automated workflows. The document process ensures transparency, clarity and accuracy in approval tracking. The status updates enables administrators and staff to be informed in real time. The booking link joins event timetables with room use - it blocks double bookings and places each request in the best slot. In place of paper forms, one joined, self-running system gives every office a clear, shared view of who needs what plus when. It supports NMSCST's goal of improving administrative productivity and institutional readiness through digital transformation.

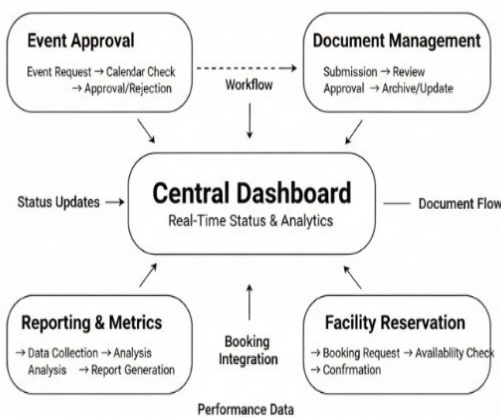


Figure 1 Conceptual Framework of the Study

METHODOLOGY

In order to analyze and evaluate the document approval workflows, event scheduling, and facility reservations these have been performed throughout the conduct of this study.

Design. This study employs a mixed-methods developmental design, combining both quantitative and qualitative techniques to design and validate a conceptual framework for an automated document, event, and facility approval system. The study follows four main phases: process analysis, review of literature, framework development, and validation.

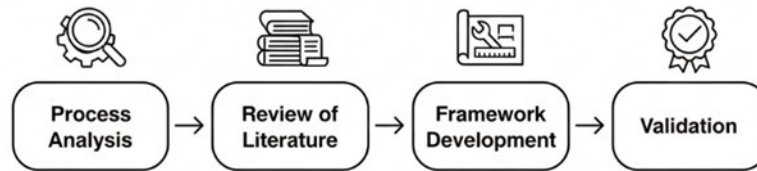


Figure 2 Developmental Design

Process Mapping and Bottleneck Analysis. Figures 3a and 3b show a side-by-side comparison of the current manual admin process flow and the envisioned automated process framework. In the current process flow depicted in figure 3a, the flow of documents through approval, scheduling events, and reserving facilities including the execution of each step through physical routing, manual follow-ups, and different calendar applications leads to bottlenecks such delays in approvals, lack of transparency, and scheduling conflicts resultant of late communications of updated schedule and calendar.

On the other hand, Figure 3b shows the proposed automated workflow which encapsulates these process flows into a single virtually unified facility by means of digital submission, automated distribution, and real-time status monitoring and synchronized scheduling. By doing this, the manual handoff is reduced and visibility in all offices is increased. Thus, document flow and facilities utilization are better coordinated.

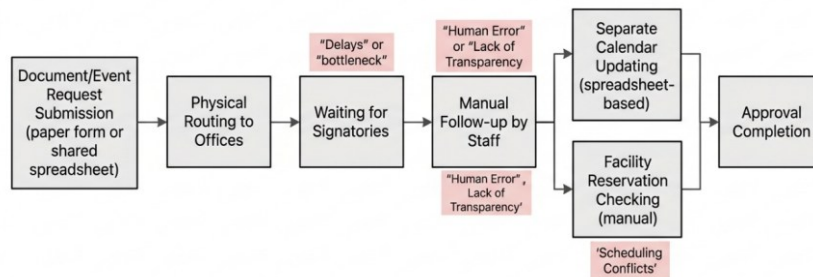


Figure 3a Manual Administrative Workflow with Bottlenecks

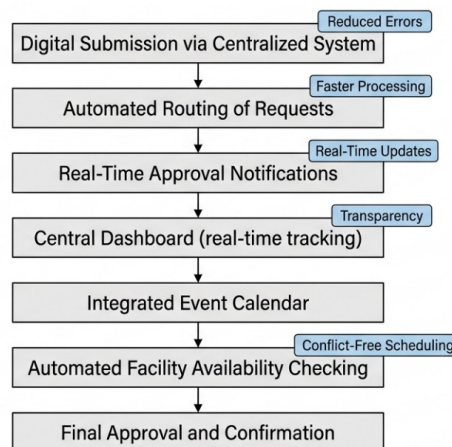


Figure 3b Proposed Automated Workflow Framework

Subject/Participants. The quantitative phase asks administrative staff and office personnel to answer a survey. During the quantitative phase, a purposive sample of n=10 administrative staff and office personnel, who are the primary users of document routing, event scheduling, and facility booking, were selected to complete the survey. This sample represents the main users of the proposed framework and is therefore appropriate for preliminary framework validation studies. For the qualitative aspect, 10 key staff members who

play major roles in the approval process are interviewed. They are selected based on their involvement in decision-making, document approval, or facility management within the institution.

Measures/Instruments. Quantitative. A structured questionnaire are used to assess perceptions of the proposed framework in terms of usability to measure its ease of use and user-friendliness. To measure the applicability within existing institutional processes it also assesses feasibility and efficiency potential.



Figure 4 Framework Validation Process

Responses will be measured using a 5-point Likert Scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Range of the Weighted Mean	Scale	Interpretation
4.1 – 5.0	5	Strongly Agree (The functionalities of the proposed framework are clearly understood and highly applicable to institutional workflows.)
3.1 – 4.0	4	Agree (The functionalities are generally understood and considered useful for improving document, event, and facility processes.)
2.1 – 3.0	3	Neutral (The functionalities of the system are moderately acceptable to the user.)
1.1 – 2.0	2	Disagree (The functionalities are difficult to understand or appear less applicable to existing institutional processes.)
1.0 and below	1	Strongly Disagree (The functionalities are not understood and do not appear useful for improving administrative workflows.)
4.1 – 5.0	5	Strongly Agree (The functionalities of the proposed framework are clearly understood and highly applicable to institutional workflows.)
3.1 – 4.0	4	Agree (The functionalities are generally understood and considered useful for improving document, event, and facility processes.)
2.1 – 3.0	3	Neutral (The functionalities of the system are moderately acceptable to the user.)

Table 1 Framework Evaluation

One of the ways to make sure that the instrument is reliable is to check the internal consistency by means of Cronbach's Alpha. Cronbach's Alpha tells us how closely related a group of items are, and this, in turn, reflects the level of consistency of the questionnaire in measuring the construct it is designed to measure [11]. A reliability test was done with the answers of $n = 10$ participants on all the 15 items of the questionnaire. The quantitative sample was quite small, however, the main concern at this stage was the reliability of the instrument and validity of the framework rather than making a population generalization. Shown in Table 2 are general guidelines that were used for interpreting the values of Cronbach's Alpha:

Cronbach's α	Interpretation
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Table 2 Interpretation of Cronbach's Alpha Coefficient

This procedure ensures that the instrument provides reliable data before further quantitative analysis.

Qualitative. A semi-structured questionnaire guide will be used to gather deeper insights into administrative challenges, system expectations, and feedback on the proposed framework. Questions will focus on the current workflow issues, potential system improvements and expected benefits and challenges of automation. All responses will be analyzed thematically and triangulated with survey findings for validation.

RESULTS AND DISCUSSION

Data for the quantitative study were collected from ten ($n=10$) end-users including administrators and office clerks who are directly involved in document approval, appointment scheduling and facility reservation. Meanwhile, valuable qualitative information were also obtained from ten ($n=10$) key informants via semi structured interview. Although the sample size was not large, it was reasonable for a study of expert review (i.e. initial framework validation), where the purpose is not to generalize findings from sample population but to understand whether the implementation of system, in the eyes of potential current users, is perceived to be usable, feasible and accepted by others in a natural setting.

Framework Validation and Efficiency Gains. With a view to guaranteeing the reliability of the survey instrument, a Cronbach's Alpha analysis was performed. The 15, item questionnaire distributed among 10 respondents produced a Cronbach's Alpha of 0.928, which means that the questionnaire had excellent internal consistency when compared to the reliability standards. Although the number of samples was small, the result indicates that, the usability, feasibility, and efficiency perception measuring tool has strong preliminary reliability.

Scale Reliability Statistics	
	Cronbach's α
scale	0.928

Item Reliability Statistics	
	Item-rest correlation
Q1	0.603
Q2	0.824
Q3	0.635
Q4	0.891
Q5	0.546
Q6	0.891
Q7	0.336
Q8	0.723
Q9	0.797
Q10	0.336
Q11	0.680
Q12	0.896
Q13	0.531
Q14	0.639
Q15	0.546

Table 3 Reliability Analysis Results Using Cronbach's Alpha

Most of the items in the questionnaire had a significant correlation between the item and the total score indicating that they are good representatives of the overall instrument (Table 3). Hence, the instrument measuring tool is reliable. Respondents are indicated to agree that the conceptual framework proposed is capable of automating document, event, and facility approvals which yield time savings and minimum errors from teacher, school, and district, level. The survey numbers show that users found the system easy to use, practical and faster - every item averaged above 4.4. This aligns with prior studies emphasizing the benefits of automation in administrative workflows [10], [4].

Putting document tracking, event scheduling and room booking into one system removes multiple problems that appear when people handle the work by hand - staff no longer walk to the office many times for the same matter, they stop depending on one spreadsheet that everyone edits plus papers no longer wait because the required signatory is away. Employees and managers stated that the single system shortens the time needed for routine approvals, raises accuracy but also shows every step openly. These findings are consistent with the studies of German et al. [8] and Salleh et al. [14], which highlight the advantages of digital systems in minimizing administrative delays and preventing scheduling conflicts.

Improved Coordination and Transparency. Interviews showed that users want to see the up-to-date status of every document and reservation. They expect that automatic alerts plus a single shared calendar will let offices work together without double booking rooms and will let staff finish event paperwork on time. This marks a clear advance over the present method, in which papers move by hand but also everyone updates the same Google Sheet - delays and mix-ups occur often [13].

Evaluation	Weighted Mean	Verbal Interpretation
1. The proposed framework is easy to understand.	4.5	Strongly Agree
2. The workflow and features of the framework are intuitive for staff use.	4.4	Strongly Agree
3. The framework can reduce time spent checking document and event statuses.	4.5	Strongly Agree
4. The framework could simplify the current approval processes.	4.5	Strongly Agree
5. The framework clearly shows the status of documents, events, and facility reservations.	4.7	Strongly Agree
6. The framework can be implemented with the current administrative resources.	4.5	Strongly Agree
7. Staff training required for the framework is manageable.	4.8	Strongly Agree
8. Integration of document, event, and facility approvals into one platform is feasible	4.7	Strongly Agree
9. The framework aligns with the institution's policies and procedures.	4.6	Strongly Agree
10. The proposed framework could improve coordination among offices.	4.8	Strongly Agree

Table 4 Framework Evaluation

The high weighted mean scores (all above 4.4) should be interpreted within the context of the study's purposive sample size. The respondents were selected based on their direct involvement in administrative workflows, ensuring that the feedback reflects informed and experience-based evaluations of the proposed framework. The framework also deals with the lack of transparency in current workflows. Staff now monitor the status of approvals in real time, which supports better planning and decisions. This result aligns with earlier studies on the importance of system transparency for administrative efficiency [5], [6].

Challenges and Implementation Consideration. The transition from deeply ingrained manual workflows to an integrated digital framework involves significant socio-technical shifts that extend beyond mere software deployment. While the proposed framework received high validation scores for usability and efficiency, qualitative feedback from structured interviews identified critical barriers, including initial staff hesitation toward new technology and the perceived difficulty of aligning automated tools with existing office routines. These findings are consistent with the work of Jr. et al. [10] and Bhardwaj & Kumar [4], who emphasize that institutional readiness is often hindered by a lack of technical self-efficacy among administrative personnel.

To mitigate these challenges, a structured Change Management strategy is essential. The high mean rating for the "manageability of staff training" (4.8) suggests that while resistance exists, it can be overcome through a phased rollout and the provision of clear, user-friendly documentation. By starting with pilot offices to gather feedback before full-scale deployment, institutions can foster a sense of ownership among users, reducing

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psychological resistance and ensuring that the system is viewed not as a replacement for human oversight, but as an essential tool for enhancing transparency and reducing individual workload.

Implications for Institutions. In addition, this framework can also be led as a strategic instrument in helping HEIs meet national regulations. Specifically, it promotes compliance to Republic Act No. 11032, as it encourages government and public institutions to streamline their processes, eliminate bureaucratic delays, and improve transparency and service standards.

Automating document routing, allowing status monitoring of request in work progress, and copying scheduling activities directly support several tenets of the Act, such as faster transaction completion transparency accountability, and elimination of manual process. A rigorous system of dashboard reporting guarantees self-managed processing of requests in a predictable window, access to monitoring and updating service is achieved in a transparent manner via system generated alerts, all of this increases the accessibility of the solution to stakeholders. Therefore the implementation of the proposed system would not only be an administrative development within HEIs but also a stepping stone in establishing institutional compliance for anti-red tape policies.

Integration with Existing Literature. The study confirms that automation works in higher education administration - the outcome matches data from other institutions. A project at Surigao del Norte State University raised reliability and tracked documents through QR codes [9]. Further projects embed room reservation platforms in universities - the platforms simplify event scheduling [8] Robotic Process Automation speeds everyday office work [4]. The present project links document control with event and room booking - it supplies one combined system instead of separate tools, thereby widening earlier research.

RECOMMENDATIONS

For future studies, to ensure effective implementation and sustainability of the proposed framework, the system implementation could begin with a phased rollout of the framework, starting with pilot offices to test functionalities and gather feedback before full deployment and to ensure smooth integration with existing administrative tools and shared calendars. For staff training and capacity building, conducting structured training sessions for administrators and staff focusing on system use, troubleshooting, and best practices will provide user with quick reference guides to encourage adoption and confidence. For better management and technical support future researches should promote awareness of the benefits of automation to reduce staff resistance. Assigning IT personnel to assist during the transition and address technical issues promptly will also help a lot in the transition process. The research needs continuous evaluation to observe possible inefficiencies. By following these recommendations, HEIs can fully realize the advantages of automation, ensuring long-term improvements in efficiency, transparency, and organizational coordination.

CONCLUSION

This study focused on analyzing, designing, and preliminarily validating a conceptual framework for the automation of document, event, and facility, approval processes in higher education institutions. Supportive quantitative survey results and qualitative interviews reveal that the proposed framework is highly usable, feasible, and efficient. Respondents perceived a practical method to eliminate the delays, lack of transparency, and scheduling conflicts resulting from manual workflows by integrating document tracking, event scheduling, and facility reservation into a single dashboard. The scope of the validation was limited to a purposive sample within a single institution. However, the findings indicate that the framework is likely to facilitate better administrative coordination and lessen process inefficiencies. To be successful, the adoption of the framework will necessitate gradual implementation, well, organized staff training, and continual system assessment to address change resistance and compatibility with existing processes. In sum, this study offers a harmonized and integrated conceptual framework merging document management, event approval, and facility reservation within one automated platform. The framework serves as a basis for further system development, pilot testing, and wider institutional application in subsequent studies.

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