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Optimizing Budget Request Flow Through Wup Automate: Developing an Efficient Tracking and Approval System for Wesleyan University- Philippines Using Addie Model

Phase 1 – Analysis and Design

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Abstract

The study analyzed the existing budget request flow of the Wesleyan University-Philippines (WU-P). WU-P budget request and approval process is a critical function that directly affects the operational efficiency. Traditionally, this process conducted manually, requires paper works through disjointed systems, leading to delays, lack of transparency, and lack of tracking and monitoring of the requests. To address these challenges, this project aims to develop a system design that will be integrated to the existing WU-P Automate, which may optimize the entire budget request and approval system. The system was designed to reduce processing time, error frequency, and increase visibility across departments ensuring a functional trail of requests. With user-friendly features and functions from submissions to approval, WU-P Automate will increase the integrity of the transactions and support the university's goal of improving institutional growth and sustainability.

Keywords: Wesleyan University-Philippines (WU-P), WU-P Automate, budget request, approval system, processing speed, transparency, transactions, submissions

1. Introduction

1.1 Background of the Study

Budget request and approval processes are essential for effective and efficient financial management of an institution. It is also a management tool that allows the different levels of authority to oversee financial or operational transactions. When your business has an efficient financial management system, there is an undeniable impact on the institution's success. Budget setting and management are more challenging when there are multiple colleges and offices in an institution. Every start of the academic year in Wesleyan University Philippines, offices and departments must submit their proposed budget based on their projected income and anticipated

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expenditures. The approved proposed budget will be the guide for review by upper-level administrative officials and leadership teams. However, traditional budget and approval request processes often require manual documentation, back-and-forth pathing of communication, and multiple approvals, which lead to delays. It is also prone to data errors and inconsistencies due to manual control. Tracking a specific request in the approval process is also difficult, leading to congestion. Paper-based budget requests can be misplaced resulting in time-consuming since you need to repeat it from the top. Traditional budget request and approval processes reports are manually compiled for historical data and archiving. Considering this, the project aims to develop a system design of an efficient Tracking and Approval System (TAS) by integrating the existing WU-P Automate, which will be helpful in eliminating major pain points in the traditional budget request and approval processes. This project also aims to utilize the use of WU-P Automate and its features and make the WU-P paperless university. Significant improvement in operational efficiency, accountability, timeliness, and user satisfaction. This approach aligns with Wesleyan's commitment to maximize technological advancement to improve administrative processes and support institutional growth.

1.2 Review of Related Literature

The Wesleyan University-Philippines is one of leading institutions of higher education in the Philippines, known for its commitment to delivering academic excellence and innovative approach in administration. To expand and improve the administrative processes, (Kumar, Deepak, 2024) suggested "launch initiatives to bridge the digital divide, providing affordable access to digital devices and internet connectivity to ensure broader participation in AI-driven administrative systems". Nowadays, universities seek to improve not only their academic performances but also their administrative workflow in order to serve their stakeholders the best. (Farea et al., 2024) "Intelligent automation technologies, such as robotic process automation (RPA), artificial intelligence (AI), and machine learning (ML), offer opportunities to automate repetitive tasks, improve data accuracy, and generate valuable insights for decision-making in the finance and accounting domain". Unlike traditional budget request workflow, automation will resolve bottlenecks that prolonged the processes.

As discussed by Syakurnia et al. (2023), "in a world full of digitalization, of course, many companies, education and health are immediately competing in presenting the most efficient and effective processes to do". Financial management is vital for achieving the institution's vision, mission, and goals. Maximizing the existing IT systems will result in being cost-efficient. Exploring the use of cloud-based systems in automating budget approvals which allow for better access and faster processing of requests unlike the traditional application. Similarly, (Li (2020) discussed that "budgeting processes in higher education consist of the timeline, mechanisms, and activities that take place to determine an institution's annual budget". Relatively, "Today's technologies allow an improvement in the quality of professional or work experiences, but the main key is the decision factors from all institutions." (Brown et al., 2015). According to Redwood, 2024), "Education workflow automation refers to implementing automated systems and technologies in higher education institutions to streamline and optimize various

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administrative processes. It uses software, tools and intelligent systems to automate repetitive tasks, improve efficiency and enhance the student experience. According to Adedapo et al. (2023), "the growing complexity of academic and administrative processes in educational institutions necessitates an efficient and streamlined approach to managing workflows effectively".

The integration of the WUP Automate System within university financial planning and control is recognized as essential for enhancing efficiency, accountability and accuracy in financial management. "Digitization in the budgetary sphere can be considered from two points of view. First, it is a method of managing budget funds where information about the budget system is presented in electronic format. Secondly, digitalization can be considered as a change in the way budget activities are carried out which aims to ensure greater transparency in decision-making" (Huliieva and Korzh, 2024). Wesleyan University-Philippines' traditional budget request and approval system is sometimes ineffective because of redundancy of request pathing and lack of transparency. As per (Bogoslavtseva et al. (2020) discussed, "substantiate the application of digital platforms as the key factor of increasing the effectiveness of managerial decisions by bodies of executive power for achievement of the criteria of efficiency of the financed programs". By the help of WU-P Automate, the institution will maximize its features and assist the employee to finish their job timely. All of the requests will have real-time updates where the requesting department will trail its route. (Galkaduwa and Kosale, 2024) discussed "that automation reduces resource consumption and leakage, increases transparency of operations, and leads to considerable cost efficiency". "The goals of digitalization typically revolve around improving operational efficiency, promoting sustainability, mitigating risks, and providing end-user experiences, especially considering a generation that grew up with the digital world". (Franklin et al., 2024). Overall, this project may help Wesleyan University - Philippines to achieve its mission. Integrating the existing WUP Automate is vital for the university to excel not only in the academic field but also to administrative management.

1.3 Statement of the Problem

This study focused on addressing the following key issues in the traditional budget request and approval system at WU-P:

1. To evaluate the traditional tracking and approval system in terms of:
1.1. processing time;
1.2. error frequency; and
1.3. usability.
2. To enhance the traditional tracking and approval system in terms of:
2.1. features; and
2.2. functions.
3. To evaluate the propose enhancement of the tracking and approval system in terms of:
3.1. processing speed;
3.2. system uptime; and
3.3. user satisfaction.

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2. Methodology

2.1 Project Description

The study focused on developing system design for an efficient tracking and approval system for budget requests with the integration of WU-P Automate at Wesleyan University Philippines to address the gap on processing time and tracking system.

2.2 Questionnaire Design

- The researchers designed a questionnaire in line with the statement of the problem and goal of the capstone project.
- Since the instrument was self-made, the researcher went to pilot-testing to validate the instrument and got 0.8962 Cronbach's Alpha for reliability testing.
- The researchers administered the questionnaire using hybrid methods (printed materials and Google Form) to 10 respondents (5 Dean/Heads and 5 Secretary/Program Heads) for pilot-testing.

2.3 Survey Distribution

- The researchers sought the approval of the administration to distribute the instrument.
- The researchers administered the questionnaires to obtain necessary data from the selected respondents.
- The researchers administered the questionnaire using hybrid methods (printed materials and Google Form) to 60 respondents (11 Academic Heads, 10 Administrative Heads, and 9 Academic Support Heads with 1 secretary/program head respectively) within the university as per requirement of statistician.
- The topics to be addressed in the questionnaire were based on the current practices, challenges, and suggestions for improvement in the proposed Tracking and Approval System.

2.4 Data Gathering and Analysis

- The researchers collected all the responses from the selected respondents and treated each response confidential.
- The researchers forwarded the data to the statistician to recognize patterns and the tendencies and other similarities to develop an efficient tracking and approval system.

2.5 Ethical Considerations

- The researchers ensured all participants provide informed consent, understanding the purpose of the survey and how their data were used.
- The researchers were maintained confidentiality of respondents' identities and responses. The researcher also aggregated data to prevent identification of individuals.
- The researchers communicated the objectives and methodology of the study to participants.

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3. Results and Discussion

Table 1: Traditional Tracking and Approval System

Processing Time	**Mean**	**SD**	**Verbal Interpretation**
1. The current system allows requesting departments to submit requests without delays.	3.07	0.78	Agree
2. The current process is well-blended among approving departments.	3.00	0.66	Agree
3. The current process does not need a frequent follow-up to ensure approval.	2.48	0.98	Disagree
4. The current system ensures timely releases of requested budgets.	2.47	0.96	Disagree
5. Employees are satisfied with the overall efficiency of the existing WU-P budget request and approval system.	2.53	0.77	Agree
Overall Weighted Mean	**2.71**	**0.83**	**Agree**
Error Frequency	**Mean**	**SD**	**Verbal Interpretation**
6. There are small discrepancies in amount between requested budgets to approved budgets.	2.75	0.70	Agree
7. Errors in requests are quickly found and corrected.	3.05	0.65	Agree
8. The traditional system encodes precise data.	3.02	0.72	Agree
9. Budget requests' attachments are properly checked and audited.	3.32	0.62	Strongly Agree
10. Employees have not experienced minimal issues related to budget requests, approvals or rejections.	2.43	0.72	Disagree
Overall Weighted Mean	**2.91**	**0.68**	**Agree**
Usability	**Mean**	**SD**	**Verbal Interpretation**
11. The traditional system is transparent.	2.98	0.75	Agree
12. The traditional system provides clear guidelines for submission.	2.93	0.73	Agree
13. Reasons for budget request rejections are reasonable and clearly communicated to the requesting department.	2.65	0.80	Agree
14. The traditional system process tracking system is convenient.	2.67	0.95	Agree
15. Employees experienced satisfaction with the usability of the traditional system.	2.72	0.69	Agree
Overall Weighted Mean	**2.79**	**0.78**	**Agree**

Legend: 4.00 to 3.26 – Strongly Agree, 3.25 to 2.51 – Agree, 2.50 to 1.76 - Disagree, 1.75 to 1.00 – Strongly Disagree

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3.1.1 Processing Time

It shows that the Question 1 scored the highest that reveals that the current system allows requesting departments to submit requests without delays with a mean of 3.07 (SD=0.78) with the verbal description of “Agree”. In contrast, Question 4 highlights the system’s key weaknesses with a mean of 2.47 (SD=0.96) with the verbal description of “Disagree”. It shows that delays are common in actual release of funds. According to (Shawe, 2023), “the management of business organizations leverages budgets in evaluating the employers and performance of departments within the respective organizations”. (Pham et al., 2024 discussed that “delays in disbursing public investment capital refer to situations where the payment of allocated funds from the state budget does not meet the planned schedule for each project.”.

3.1.2 Error Frequency

It shows that Question 9 scored highest that reveals that the budget requests' attachments are properly checked and audited, which indicates strong confidence with the verification and validation of the current system with a mean of 3.32 (SD=0.62) with the verbal description of "Strongly Agree". In contrast, Question 10 scored lowest, meaning that employees have experienced minimal issues related to budget requests that may still need for improvement with a mean of 2.43 (SD=0.72), with the verbal description of "Disagree". According to (Placido, 2024), "Audit findings from a modified opinion report do not only cover material misstatements from error, but they may also include findings related to misstatements from fraud such as misstatements resulting from fraudulent financial reporting or misstatements resulting from misappropriation of assets". "One of the main factors claimed to be necessary for a budgetary system to succeed is the support from various levels in the organization, so as to ensure their commitment and contributions towards the goal and strategy set in the budgetary document" (Amirul et al., 2017).

3.1.3 Usability

It shows that the Question 11 scored highest that reveals that the traditional system is transparent, which suggests a relatively strong level of trust in the current system operations with a mean of 2.98 (SD=0.75) with the verbal description of “Agree”. In contrast, Question 13 scored lowest indicating that requesting departments see a gap in how well rejection reasons are communicated, with a mean of 2.65 (SD=0.80) with the verbal description of “Agree”. (Nikias et al., 2021) “suggest that while information sharing may improve decision making in many settings, it may also come at a cost when privately informed subordinates have access to information on other subordinates’ projects”. (Glenn & Sampson, 2011) discuss “developing a strong study tracking and work fulfillment infrastructure that ties directly into the request and budget development system is multifunctional and will enable study team members to track work performed on a discrete study”.

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Table 2 Proposed Tracking and Approval System

Features	**Mean**	**SD**	**Verbal Interpretation**
16. The proposed system will be integrated into existing WU-P Automate.	3.40	0.53	Strongly Agree
17. The proposed system will have online request forms with categories (job order form).	3.38	0.58	Strongly Agree
18. The proposed system will have budget requests' attachments for checking and verification (invoices, quotations, request letter).	3.50	0.54	Strongly Agree
19. The proposed system will have status updates regarding the budget requested (pending, for review, rejected, approved).	3.47	0.50	Strongly Agree
20. Reports are customizable for financial review and reports and export choice (to Word, Excel, or PDF).	3.38	0.58	Strongly Agree
Overall Weighted Mean	**3.43**	**0.55**	**Strongly Agree**
Functions	**Mean**	**SD**	**Verbal Interpretation**
21. The proposed system will have a tracking system of budget requests real-time from requisition to approval.	3.43	0.53	Strongly Agree
22. The approving committee may approve urgent requests through WU-P Automate.	3.42	0.50	Strongly Agree
23. The proposed system will have audit log actions for each request.	3.42	0.53	Strongly Agree
24. Budget requests are categorizable per requesting department or office.	3.43	0.53	Strongly Agree
25. Access management to prevent unauthorized changes in the budget requests.	3.38	0.56	Strongly Agree
Overall Weighted Mean	**3.42**	**0.53**	**Strongly Agree**

Legend: 4.00 to 3.26 – Strongly Agree, 3.25 to 2.51 – Agree, 2.50 to 1.76 - Disagree, 1.75 to 1.00 – Strongly Disagree

3.2.1 Features

It shows that the average weighted mean of 3.42 (SD=0.53) with the verbal description of "Strongly Agree" confirms very strong support for the proposed systems' functions. Relatively, the low standard deviation indicates a consensus among respondents who consistently believe in the efficiency, transparency, and accuracy of the proposed system's functionality.

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(Yashina et al., 2024) discussed that "in Russia, a similar information system was developed for the digitalization of the budget system, called the 'Electronic Budget', which contributes to the transparency of information and openness of planning and monitoring of state expenses. This technology implies the transfer of all key stages of the budget process to an electronic format, in addition to servicing budget accounts".

3.2.2 Functions

It shows that the average weighted mean of 3.43 (SD=0.55) with the verbal description of "Strongly Agree" confirms very strong support for the proposed systems' features. Relatively, the low standard deviation indicates a concurrence among respondents, suggesting that the feature set is not only relevant but also widely accepted by future users.

(Küçükaycan, 2020) Said that "the expectation from budgeting systems is to serve both financial transparency and accountability by showing the relationship between public goals and targets and the resources used".

Table 3: Enhanced Tracking and Approval System Evaluation

Processing Speed	**Mean**	**SD**	**Verbal Interpretation**
26. The proposed budget requests system is faster than the traditional system.	3.30	0.56	Strongly Agree
27. The approval workflow in the proposed system is more effective.	3.30	0.56	Strongly Agree
28. The enhanced system presents real-time updates and effective tracking.	3.28	0.56	Strongly Agree
29. The proposed system ensures faster supporting document validation and verification.	3.32	0.57	Strongly Agree
30. Overall, the enhanced system processing speed has improved.	3.43	0.62	Strongly Agree
Overall Weighted Mean	**3.32**	**0.57**	**Strongly Agree**
System Uptime	**Mean**	**SD**	**Verbal Interpretation**
31. Users can access the system from different devices without issues.	3.17	0.55	Strongly Agree
32. The enhanced system remains functional, especially during peak usage time.	3.27	0.52	Strongly Agree
33. The enhanced system does not affect system accessibility during scheduled maintenance and updates.	3.18	0.60	Strongly Agree
34. The enhanced system uptime meets the operational demands of the organization.	3.23	0.53	Strongly Agree
35. Overall, the budget request system’s reliability has	3.37	0.55	Strongly Agree

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improved compared to traditional.			
Overall Weighted Mean	**3.24**	**0.55**	**Strongly Agree**
User Satisfaction	**Mean**	**SD**	**Verbal Interpretation**
36. The enhanced system is user-friendly.	3.33	0.51	Strongly Agree
37. The enhanced system functions and interface are easy to navigate	3.37	0.55	Strongly Agree
38. Communications between departments related to budget request approvals have improved.	3.28	0.58	Strongly Agree
39. The enhanced system is more effective than the traditional system.	3.40	0.56	Strongly Agree
40. Overall, the enhanced system has significantly impacted the workflow and experience.	3.33	0.54	Strongly Agree
Overall Weighted Mean	**3.34**	**0.55**	**Strongly Agree**

Legend: 4.00 to 3.26 – Strongly Agree, 3.25 to 2.51 – Agree, 2.50 to 1.76 - Disagree, 1.75 to 1.00 – Strongly Disagree

3.3.1 Processing Speed

It shows that the average weighted mean of 3.32 (SD=0.57) with the verbal description of "Strongly Agree" evaluation of enhanced tracking and approval system - processing speed indicates a very positive outlook regarding processing speed. Relatively, the low standard deviation indicates that users are optimistic that the proposed system will address key gaps of the traditional budget regarding processing speed.

(Sembiyeva et al., 2024) discussed that "technical efficiency reflects the ability of regions to transform budget investments into the results of socio-economic development, namely into gross regional product, employment and private investment".

3.3.2 System Uptime

It shows that the average weighted mean of 3.24 (SD=0.55) with the verbal description of "Strongly Agree" evaluation of enhanced tracking and approval system - system uptime indicates that users perceive the system's availability and reliability. System uptime is key to ensuring smooth flow and user satisfaction.
(Kysilova and Shcheblikina, 2025) discuss "that in order to reliably protect information in systems, data transmission channels, safe operation is provided at the organizational and technical levels". (Zheng et al., 2022) said that "automation is to optimize the comprehensive budget management system, and help the automatic collection of budget data and budget preparation has become a growing concern for enterprises.

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3.3.3 User Satisfaction

It shows that the average weighted mean of 3.24 (SD=0.55) with the verbal description of "Strongly Agree" for the evaluation of enhanced tracking and approval system - user satisfaction indicates all five indicators a high level of satisfaction not just one isolated feature but with the system as a whole. Relatively, the low standard deviation also indicates that the enhanced system will deliver meaningful improvements that may benefit the institution.

(Xing, 2024) "found that the factors influencing user experience are usefulness, accuracy, logical inference, interactivity, growth, anthropomorphism, convenience, credibility, ease of use, creativity, and security".

4. Conclusions

4.1 Recap of Purpose

The purpose of this study was to evaluate the efficiency of the traditional tracking and approval system and to develop a system design aimed at improving processing time, minimizing errors, and enhancing usability.

4.2 Summary of Findings

The survey findings highlight both the strengths and weaknesses of the traditional tracking and approval system, reflecting insights from existing literature. The mean score of 2.71 for processing time signals a need for improvement, particularly in the timeliness of the budget release and approval without frequent follow-up needed. While the mean score of 2.91 regarding error frequency suggests some positive perceptions in the traditional tracking and approval system. It shows that employees agreed that the documents are properly validated and audited. The findings in usability reveal a significant result with a mean score of 2.79 indicating still need for improvement especially on tracking requests. It also indicates a general agreement among respondents but not strongly positive.

In contrast, the findings regarding the proposed system's features and functions received overwhelming support with an average mean of 3.42 and 3.43 respectively which indicates strong expectation for enhanced processing time, minimizing errors, and usability. User's positive in the system's functionalities such as tracking system, audit logs, and real-time updates that align with users' needs and organizational demands. Similarly, the consistent positive scores for the evaluation of enhanced tracking and approval systems underscore the importance of evaluation systems as performance measurement.

In conclusion, the findings consistently show that while the traditional system has some strengths in transparency and proper verification, it suffers from inefficiencies in proper communications, timely fund release, frequent follow-ups, tracking system, and overall usability. The proposed tracking and approval system is positively viewed and evaluated across all aspects. Employees

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strongly believe it will enhance functionality, transparency, accessibility, speed, accuracy, and satisfaction, which also indicates a high level of acceptance towards automation within the university.

4.3 Impact, Limitations, and Learning's

The results of the evaluation reveal impactful insights towards both strengths and weaknesses of the existing system. These results suggest that the proposed system will enhance the functionality, accessibility, speed, accuracy, and user satisfaction in the budget request system.
The limitation of this study is the reliance on self-experienced data, which may be subject to bias. Additionally, the employees' resistance to change from manual methods to digital workflow highlighted the need for more large-scale orientation and support. Financial constraints and limited resources may affect the decision-making and the timeliness of approving requests.
From this study, several learning materialized. First, while traditional systems may offer reliability and structure, it may fall short in speed and timeliness. Second, the positive support of users indicates the possibility of digital transformation and clear demands for innovation. Lastly, whether it is traditional or automated, it will still require human intervention, it means it is the decision of the approving committee to approve a request.

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