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## Digitalization Of Student Activity Approval: A Microsoft 365 - Powered Solution for Cost-Effective & Sustainable Campus Operation

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### ABSTRACT

The "Digitalization of Student Activity Approval" represents a groundbreaking advancement in academic administrative processes, developed using Microsoft Form and Microsoft Flow within the Microsoft 365 suite. The main objective of the project is to implement a cost-effective, sustainable, and efficient solution, aligning with the ministry's vision for a technologically advanced, environmentally conscious, and financially responsible educational ecosystem. In terms of practicality and sustainability, the system aligns with environmental sustainability goals by significantly reducing the reliance on paper. The system utilizes Microsoft Automate, a feature integrated within Microsoft 365, to facilitate the submission of student proposals. Using Artificial Intelligence, the system enhances data extraction from submitted proposals for efficient processing. This innovative system, provided for free by the Ministry of Education to all universities, is designed to significantly reduce the costs associated with system development while simultaneously contributing to the institution's commitment to sustainability through the reduction of paper usage. The results show that the system is convenient, time efficient and integrated seamlessly with existing workflows.

**Keywords:** Digitilization; Microsoft 365 Integration; Cost-Effective Development; Green Campus Initiative; Streamlined Proposal Workflow; Enhanced Collaboration.

### 1. INTRODUCTION

In today's modern era, digitalization has become an essential aspect of various sectors, including education. With the increasing integration of technology in education, it is crucial to streamline administrative processes such as student program approval. By digitizing the student program approval system, educational institutions can effectively manage the complex task of approving and monitoring student programs. Through digital submission and storage of program proposals, the Online Students Program Proposal System contributes to the university's Green Campus Initiative, minimizing the environmental impact of traditional paper-based processes.

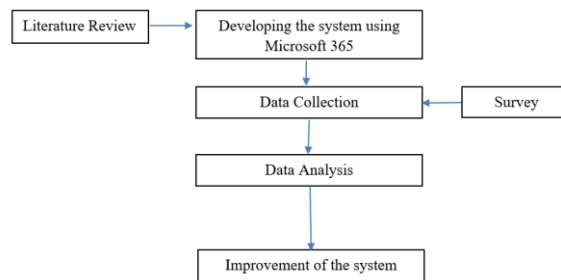
Research Questions

1. How can a digital approval system be designed and implemented to effectively manage the approval process for student activities?
2. What are the perceptions and feedback of key stakeholders, including students, administrators, and other relevant parties regarding the digitalization of approval system for

student activities?

3. Does the digitalization of the approval system for student activities offer a cost-effective, sustainable, and efficient solution as compared to traditional manual processes?

The research follows the following framework:



**Figure 1.** Research Framework

### 1.1 Literature Review

The interplay between digital investments and reforms in education is crucial for the successful approval of student programs (Shenglin, 2017). By leveraging digital technologies, such as online platforms and digital tools, the approval process can be streamlined and made more efficient (Zhao et al., 2020). This not only saves time and resources, but also ensures that the approval process is more transparent and accessible to all stakeholders involved. Digitalization in approving student programs also allows for the integration of data analytics and artificial intelligence, which can provide valuable insights and recommendations to improve the program approval process (Bican & Brem, 2020). This can lead to more informed decision-making and continuous improvement in student programs. Digitalization plays a vital role in bridging the digital divide, promoting sustainable development, and enhancing student learning experiences in approving student programs (Yun, 2023). By equipping students and teachers with digital competencies, digitalization enables active participation in the digital society and contributes to sustainable development. Furthermore, digitalization in approving student programs can enhance the management process by applying digital technology in teaching and learning (Le & Bui, 2020). This includes using digital libraries and digital knowledge to ensure easy access to information, data resources, and connectivity among learners, teachers, researchers, and other related people (Bednarčíková & Repiská, 2021)

The development and use of digital technologies have greatly impacted schools and society, providing new opportunities for teaching and learning. Digitalization has revolutionized the way educational institutions approve student programs (Pettersson, 2020). Digital innovation and transformation have brought about significant changes in both education and workplace environments. In an increasingly digitalized world, it is crucial for students to possess digital competencies in order to succeed (Zhao et al., 2020). One of the key benefits of digitalization in approving student programs is the ability to streamline the approval process. Digitalization allows for quick and efficient communication between students, faculty members, and administrators involved in the program approval process.

## 2. METHODOLOGY

The system utilizes Microsoft Automate, a feature integrated within Microsoft 365, to facilitate the submission of student proposals. Using Artificial Intelligence, the system enhances data extraction from submitted proposals for efficient processing. Upon submission of the proposals, the system automatically identifies and notifies the next approvers in the workflow. Meanwhile, students receive real-time updates on the status of their proposals, whether they are approved, rejected, or in progress, ensuring transparency and accountability throughout the approval process. To ensure that the system meets the needs and expectations of all stakeholders, a comprehensive feedback mechanism was implemented. This mechanism involved the creation and dissemination of survey questions tailored to 50 respondents: including students, advisors, administrators, and support staff. The survey questions were carefully crafted to assess various aspects of the system's performance, including satisfactory, usability, functionality, and reliability.

## 3. RESULTS AND DISCUSSION

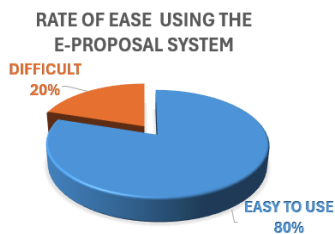


Figure 2. Rate of ease

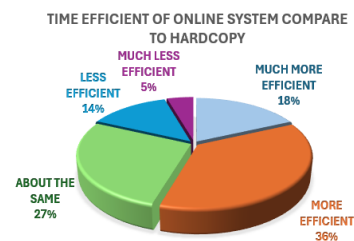


Figure 3. Time efficient

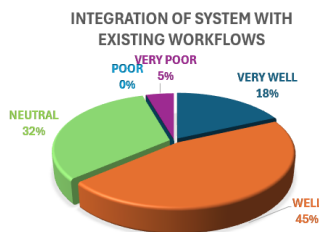


Figure 4. Integration with existing workflows

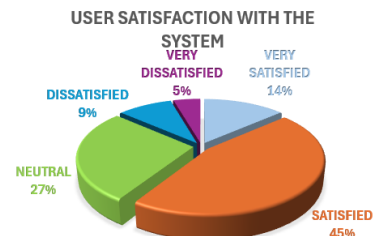


Figure 5. User satisfaction



Figure 6. Recommend to others

From Figure 2, the result shows that 80% found the e-proposal system is easy to use while 20% found it difficult while referring to Figure 3, the result shows that 81% found the system is time-efficient. Figure 4 shows 95% found the system integrated seamlessly with existing workflows.

Figure 5 shows 86% expressed general satisfaction with the system. Finally, Figure 56 demonstrates that 85% would recommend the system to others. By utilizing the Microsoft 365 suite, universities benefit from a cost-effective development approach, as the tools are provided for free by the Ministry of Education. This strategic use of available resources enables institutions to implement a sophisticated program proposal system without incurring additional financial burdens. The system contributes to the institution's commitment to sustainability through the reduction of paper usage. Leveraging the robust capabilities of Microsoft 365, the Online Students Program Proposal System seamlessly integrates Microsoft Form and Microsoft Flow. This integration not only ensures a user-friendly experience but also facilitates efficient data flow and process automation, streamlining the program proposal submission and review. The automated processes facilitated by Microsoft Flow ensure a streamlined proposal workflow. From submission to review and decision-making, the system accelerates the entire proposal lifecycle, reducing administrative overhead and enhancing the efficiency of academic program management. Apart from this, it enables students to store and access their proposal drafts securely on cloud-based platforms, facilitating easy sharing and version control. In addition, it implements data analytics tools to track and analyze trends in proposal submissions. This can assist administrators in identifying patterns, strengths, and areas for improvement in the proposals received. Implement automated feedback systems to provide instant feedback on proposal submissions, guiding students in improving their proposals promptly.

#### 4. CONCLUSION

Automated systems can easily scale to handle an increasing number of proposal submissions and evaluations, supporting program expansion without a proportional increase in administrative burden. The systems create audit trails, allowing administrators to track changes, reviews, and approvals, promoting accountability and transparency. It also ensures compliance with institutional policies and standards through automated checks and monitoring features. This ultimately minimizes the risk of human errors in data entry, evaluation, and record-keeping. Concerning potential and commercialization, universities, colleges, and research institutions are potential clients seeking efficient and streamlined processes for student proposal submissions, evaluations, and approvals. Besides, specific interest from research-focused departments looking to enhance their proposal management processes could be good potential. The systems can be tailored to meet the unique needs and workflows of different institutions or departments. The ability to integrate with existing academic systems, learning management systems, and other relevant platforms would be a great advantage for commercialization.

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