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Development and Acceptability of a School-Based Technology Management System for Public Senior High Schools

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ABSTRACT

This study focused on the development and acceptability of a School-Based Technology Management System for public senior high schools in Pasig City District 2, Schools Division Office of Pasig, during School Year 2026–2027. It used developmental research and a descriptive-evaluative design. The respondents were 128 teachers selected through simple random sampling from a population of 256 teachers across eight public senior high schools. Data were gathered using a researcher-made questionnaire-checklist and analyzed through frequency, percentage, rank distribution, weighted mean, and one-way analysis of variance (ANOVA). The system was developed using Microsoft Power Apps and Microsoft SharePoint as its cloud repository, with role-specific access, school documents and forms, announcements, grade-level folders, and a search function. The system was rated very highly acceptable in content (WM = 4.57), organization and presentation (WM = 4.56), user-friendliness (WM = 4.59), and security (WM = 4.61), while functionality (WM = 4.35) and efficiency (WM = 4.36) were rated highly acceptable. The study reported differences in evaluations by age, educational attainment, length of service, and ICT-related trainings attended, but no significant differences by sex, civil status, and position title. Respondents recommended improving mobile access, system speed, offline availability, maintenance notifications, reporting dashboards, user-role permissions, data protection, backups, and regular system updates. The findings indicate that the developed system is acceptable to teacher-respondents, with further technical refinement recommended.

Keywords: *school-based technology management system, acceptability, public senior high schools, educational technology, system development*

INTRODUCTION

Educational institutions increasingly rely on digital tools to support instruction, communication, record management, and administrative operations. Technology can help schools organize documents, distribute announcements, and support more efficient administrative processes. These goals are consistent with the Department of Education's emphasis on providing public schools with appropriate technology to improve teaching, learning, governance, and operations (Department of Education [DepEd], 2023). Related literature also discusses the role of digital tools and school management systems in streamlining educational administration and improving access to information (Lancrin, 2023; Ralasic, 2025).

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The study's background situates technology integration within the broader importance of science and technology for national development, as expressed in Article XIV, Section 10 of the 1987 Philippine Constitution (Nolledo, 2020). The source manuscript also identifies practical challenges associated with fragmented files, manual processes, and delayed communication, reinforcing the need for a more centralized digital platform. Literature cited in the manuscript similarly highlights the role of technology management and institutional support in improving school operations (Francisco, 2024; Nicolas & Santos, 2024).

To address the need for a more structured and secure platform, the researcher developed a School-Based Technology Management System for public senior high schools in Pasig City District 2. The system was designed to centralize access to administrative documents, guidance forms, ICT resources, grade-level folders, school announcements, and downloadable forms. It uses role-based interfaces and administrator-controlled account provisioning to limit access to authorized users.

The study aimed to develop the system and determine its acceptability as evaluated by teachers in terms of content, organization and presentation, functionality, efficiency, user-friendliness, and security. It also examined whether evaluations differed according to respondents' profiles and gathered comments and suggestions for further improvement.

METHODS

Research Design

The study employed developmental research and a descriptive-evaluative design. The developmental approach was used to design and build the technology management system, while the descriptive-evaluative approach was used to describe and assess its acceptability.

Respondents and Sampling

The respondents were 128 teachers from public senior high schools in Pasig City District 2, Schools Division Office of Pasig. They represented 50% of the total population of 256 teachers and were selected through simple random sampling. The participating schools were Eusebio High School, Nagpayong High School, Pasig City Science High School, Pinagbuhatan High School, Rizal Experimental Station and Pilot School of Cottage Industries, San Lorenzo Ruiz High School, Santolan High School, and Sta. Lucia High School.

Table 1. *Distribution of the Respondents*

School	Population	Sample
Eusebio High School	41	21
Nagpayong High School	53	26
Pasig City Science High School	20	10
Pinagbuhatan High School	41	21
Rizal Experimental Station and Pilot School of Cottage Industries	13	7
San Lorenzo Ruiz High School	35	17
Santolan High School	17	8
Sta. Lucia High School	36	18
Total	**256**	**128**

Research Instrument

A researcher-made questionnaire-checklist was used. Part I gathered profile information, including age, sex, civil status, educational attainment, position title, length of service, and ICT-related trainings attended. Part II assessed acceptability through six aspects—content, organization and presentation, functionality, efficiency, user-friendliness, and security—with five items per aspect. Part III solicited

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comments and suggestions. The instrument was reviewed by relevant education and technology professionals and revised based on their feedback.

System Development and Data Collection

The system was developed using Microsoft Power Apps and Microsoft SharePoint as its cloud repository. User accounts were provisioned by the system administrator or ICT coordinator. Teachers were provided access to administrative documents, guidance forms, ICT resources, and grade-level folders, while learners could access announcements and downloadable forms. After permission to conduct the study was secured, the system was presented to respondents for evaluation and the questionnaire-checklists were administered in accordance with the study's stated data privacy procedures.

Data Analysis

Frequency, percentage, and rank distribution were used to describe respondents' profiles. Weighted mean was used to determine acceptability ratings. One-way analysis of variance (ANOVA) was used to examine differences in evaluations according to profile variables. Comments and suggestions were analyzed qualitatively. The study used the following interpretation ranges: 4.50–5.00, Very Highly Acceptable; 3.50–4.49, Highly Acceptable; 2.50–3.49, Moderately Acceptable; 1.50–2.49, Less Acceptable; and 1.00–1.49, Least Acceptable.

RESULTS AND DISCUSSIONS

Development of School-Based Technology Management System

The system was developed using Microsoft Power Apps and integrated with Microsoft SharePoint as a cloud repository. It provides customized interfaces for different user groups. Teachers can access administrative documents, guidance forms, ICT resources, and grade-level folders, while learners can access school announcements and downloadable forms. An integrated search function supports document and announcement retrieval. Access is restricted to authorized personnel and learners whose accounts are provisioned by the system administrator or ICT coordinator.

Profile of the Respondents

The respondents were predominantly 31–40 years old (34.4%), female (79.7%), and married (54.7%). The summary of findings in the source manuscript further identifies the typical respondent as pursuing graduate studies, holding a Teacher II position, having 1–10 years of service, and having attended division-level ICT training. These characteristics describe the teacher-evaluators who assessed the system.

Acceptability of the Developed System

The overall evaluation showed that the developed School-Based Technology Management System was Very Highly Acceptable, with a composite weighted mean of 4.51. Four aspects received Very Highly Acceptable ratings, while functionality and efficiency received Highly Acceptable ratings.

Security received the highest rating (WM = 4.61). The item on secure login access received a weighted mean of 4.73, suggesting that respondents valued access control. User-friendliness ranked second (WM = 4.59); convenient uploading, downloading, and accessing of documents received the highest item rating in this aspect (WM = 4.68). Content (WM = 4.57) and organization and presentation (WM = 4.56) were also Very Highly Acceptable, indicating that users considered the information relevant and the system's layout easy to navigate.

Functionality (WM = 4.35) and efficiency (WM = 4.36) were rated Highly Acceptable. For functionality, support for efficient record management ranked highest (WM = 4.47), while functioning according to its intended purpose received the lowest item mean (WM = 4.22). For efficiency, quick

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response to user commands ranked highest (WM = 4.46), whereas effective resource use received the lowest item mean (WM = 4.27). These results indicate that the system was positively evaluated overall, while performance, resource utilization, and some functional features remain areas for improvement.

Aspect	Weighted Mean	Verbal Interpretation	Rank
Security	4.61	Very Highly Acceptable	1
User-friendliness	4.59	Very Highly Acceptable	2
Content	4.57	Very Highly Acceptable	3
Organization and presentation	4.56	Very Highly Acceptable	4
Efficiency	4.36	Highly Acceptable	5
Functionality	4.35	Highly Acceptable	6
Composite mean	**4.51**	**Very Highly Acceptable**	

Differences in Acceptability Ratings by Respondent Profile

The results reported in the source manuscript indicate significant differences in the respondents' evaluations across the six acceptability aspects when grouped according to age, educational attainment, length of service, and ICT-related trainings attended. No significant differences were reported according to sex, civil status, and position title. The findings suggest that technology exposure, educational background, length of professional experience, and ICT training may be associated with how teachers evaluate a school-based digital system. The results do not, by themselves, establish that these profile variables cause differences in acceptability.

Comments and Suggestions for Improvement

Respondents generally described the system as useful, organized, and user-friendly. Their suggestions included adding notifications for maintenance schedules and equipment updates, providing a reporting dashboard, establishing user-role permissions, enabling offline access where feasible, improving the interface for first-time users, ensuring access across computers, tablets, and mobile phones, and conducting regular maintenance and updates. Respondents also recommended stronger privacy and security measures, regular backups, and improvements to system speed and accessibility when many users access the platform simultaneously.

CONCLUSION

The study concluded that the evaluation of teachers on the acceptability of the system is influenced by age, educational attainment, length of service, and ICT-related trainings attended. This implies that technological competence and professional growth affect system evaluation. Sex, civil status, and position title do not affect their evaluation.

Recommendations

Based on the findings and conclusion drawn, the following recommendations are offered:

1. The Department of Education may conduct continuous and higher-level ICT trainings for all teachers regardless of age and length of service, since ICT training was found to significantly affect system acceptability.
2. Senior high schools may adopt and implement the developed School-Based Technology Management System and provide stable internet connectivity and adequate devices to maximize its efficiency and functionality.
3. Schools may provide orientation, training, and accessible technical support so that teachers and staff can effectively use and maximize the system.
4. Teachers may continuously utilize the system for managing school forms, documents, and resources

to reduce manual workload and improve workflow.

5. Further enhancement of the system's functionality and efficiency may be done by optimizing system speed, minimizing errors in data processing, and improving resource utilization. Adding backup and recovery features and data encryption will further strengthen security.
6. The developed school-based technology management system may be utilized for implementation.
7. Further studies may be conducted considering the effectiveness of the system after one year of implementation and include other variables such as learners, parents, and school heads as respondents.

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