



Sustainable Asset Management System in Public Education

Mary Jharlen D. Gerebese

Administrative Officer II, Department of Education, Division of Mandaue City, Philippines
<https://orcid.org/0009-0000-1711-0052> | maryjharlen.diano@deped.gov.ph

Hazel P. Elimanco

Administrative Officer II, Department of Education, Division of Mandaue City, Philippines
<https://orcid.org/0009-0004-9777-1174> | hazel.elimanco@deped.gov.ph

Arlene B. Gomez

Administrative Assistant III, Department of Education, Schools Division of Mandaue City, Philippines
<https://orcid.org/0009-0009-0327-9741> | gomarlz143@gmail.com

Abstract:

This research assessed the level of implementation of the asset management system in the Supply and Property Unit at the Department of Education Mandaue City Division for calendar year 2022. The research questions included the relevant information of respondents which were composed of school heads and school property custodians. The study employed a descriptive quantitative survey research design in adherence to DepEd Order No. 042 s.2018 and DepEd Order No. 41, s. 2021. Findings of the study showed that as to the profile of the school heads, majority of them have an age bracket of 51 and above, mostly females and married. Most of them have plantilla positions of Principal I and IV. Their years of experience as custodians are at least 7 years and most of them have attended related trainings and seminars. For property custodians, most of them comes from the age bracket of 46-50, mostly females and married. Their years of experience as custodians ranges from 1-5 years and most of them have attended related trainings and seminars. The study was delimited to the following areas of implementation: delivery, inspection, receipts of materials and equipment, recording and updating of asset registry, and relief from accountability. All of the levels of implementation were interpreted as well implemented. The number of years' experience of the respondents and the number of trainings and seminars attended were not significant as to the correlation with the level of implementation. Both the respondent groups are all knowledgeable with the asset management process and procedures.

Keywords: Discipline, Asset Management System, Design, Quantitative, Geography-Mandaue City.

Introduction

Sustainability management has become increasingly crucial due to the various challenges faced by organizations over time. Factors such as climate change, pandemics, and resource scarcity have put a strain on systems across departments. To develop a sustainable system capable of effectively monitoring transactions, property custodians must be equipped with the necessary skills. However, the implementation of sustainable development initiatives faces challenges in offering clear guidance for decisions, strategies, plans, and activities (Govindan, 2013). For sustainable development to be effective, it requires the active participation of various actors at different levels of society, including individuals, companies, regions, states, and societies (Baumgautner, 2017).

The Philippine Department of Education plays a significant role in managing and governing the country's basic education system. Ensuring the effectiveness and meaningfulness of the educational system involves various departments working together to meet the needs of students, who represent the nation's future. The availability of equipment, supplies, properties, or resources, which are considered assets, is crucial in fulfilling the Department of Education's responsibilities (Samson, 2020).

To improve their organizational structures and become more sustainability-oriented, departments must develop a sustainability strategy (Whiteman, 2017). The Property and Supply Unit is one such department within the Department of Education responsible for procuring supplies efficiently, implementing internal controls, and providing technical assistance related to property and supply management. Proper and timely updating of the asset registry, inspection, and acceptance of supplies and equipment in accordance with approved specifications are vital for effective service delivery (Department of Education, 2021).

Asset management is a critical area of concern in this study. It involves viewing physical assets as objects and systems that respond to their environment, deteriorate with use, and have a limited lifespan. Effective asset management aims to maximize the benefits derived from assets for the organization and its stakeholders while managing associated risks (Davis, 2015).

Enhancing property and asset management leads to improved organizational operations. The Department of Education Mandaue City Division seeks to follow all guidelines, procedures, and policies outlined in DepEd Order No. 042 s.2018 and DepEd Order No. 41, s. 2021, as well as in the Handbook on Property and Supply Management. These guidelines cover delivery, inspection, acceptance, and resource management of procured assets, ensuring transparency and accountability in the process (Department of Education, 2018; Department of Education, 2021).

As the Department of Education Mandaue City Division strives for continuous improvement and sustainable development, assessing and enhancing asset management policies and procedures is of utmost importance. By integrating sustainability-oriented strategies and promoting transparency and accountability, the department can effectively address challenges and ensure the long-term sustainability of its assets and services. This research study will contribute valuable insights towards achieving the goal of providing quality education and meeting the needs of the nation's future generations.

This study aims to assess the level of implementation of asset management policies and procedures in the Department of Education Mandaue City Division for the calendar year 2022. The findings will serve as the basis for proposing a sustainable strategic activity to effectively monitor all asset transactions, essential for achieving sustainability management within the department. By reinforcing and enhancing processes, the department can ensure transparent and accountable resource management, contributing to the organization's overall performance and the vision of "Quality Education for All" (Department of Education, n.d.).

Research Methodology

This section involves the discussion of the methods used, the flow of the study, research environment, research respondents, research instruments, data gathering procedures, statistical treatment of data, scoring procedures, and definition of terms.

Design

The study employed a descriptive quantitative survey research design to assess the level of implementation of the Asset Management System, as basis of providing sustainable strategic activity. The design is quantitative in nature that required relevant data needed to achieve the goals of this research.

Respondents

The respondents of the study were the School Property Custodians or Supply Officers I and the School Heads assigned in the different Elementary and Secondary Schools in Mandaue City Division as distributed in Table 1.

Table 1
Distribution of Respondents

Weight	Rating Scale	Descriptive Level	Interpretation
4	3.26-4.00	Well Implemented (WI)	Meets the standard requirements.
3	2.51-3.25	Satisfactorily Implemented (SI)	Few improvements needed
2	1.76-2.50	Fairly Implemented (FI)	Some improvements needed
1	1.00-1.75	Poorly Implemented (PI)	Several improvements needed

Table 1 explains the distribution of respondents of this research. A total of 80 respondents were identified. This is based from the data of 27 Elementary Schools and 18 Secondary High Schools (Junior and Senior High Schools) which comprise the 45 schools under Mandaue City Division.

Research Instruments

The instrument used in this research was adapted from DepEd Order No. 42, s. 2018 and DepEd Order No. 41, s. 2021. The first part required the respondents on their basic information. The second part asked the respondents to provide their perceived score corresponding to the indicators on the level of implementation of the asset management system. The third part assesses the issues and concerns encountered by the respondents in implementing the asset management system. The questionnaire involved a 4-Point Likert Scale with options of Well Implemented, Satisfactorily Implemented, Fairly Implemented, and Poorly Implemented.

Procedures for Data Gathering

A letter of request was sent to the Schools Division Superintendent of the Department of Education – Mandaue City Division Office. The letter asked the permission to conduct the study on the different elementary and

secondary public schools focusing on the area of the asset management system. As soon as the researchers received the approval from the Schools Division Superintendent, the questionnaire was administered either through google forms or given as hard copy to the respondents. The details of the questionnaires were comprehensively discussed to the respondent-groups through social media platform or face-to-face before they were made to answer the indicators.

Treatment of Data

For better presentation, analysis and interpretation of results, the data gathered are subjected to the statistical treatment tools:

The Simple percentage. This was used to analyze and interpret gathered data of the profile of the respondent-groups.

The Weighted mean. This was used to determine how the Property Custodians or Supply Officers I and the School Heads implemented or demonstrated the procedures on the different variables given on the questionnaire.

Pearson r. This was used to determine the significant relationship between the profile of the respondents and the level of implementation of the asset management system as depicted in DepEd Order No 42, s. 2018 and DepEd Order No. 41, s. 2021.

p-Value. It is a statistical measurement used to validate a hypothesis against observed data.

Scoring Procedure

The following is the parametric measures which the researchers used in the research to determine the level of implementation of the asset management system.

Weight	Rating Scale	Descriptive Level	Interpretation
4	3.26-4.00	Well Implemented (WI)	Meets the standard requirements.
3	2.51-3.25	Satisfactorily Implemented (SI)	Few improvements needed
2	1.76-2.50	Fairly Implemented (FI)	Some improvements needed
1	1.00-1.75	Poorly Implemented (PI)	Several improvements needed

Results

Table 3
Relationship between the number of years experience as property custodian and the level of implementation

Tested phases at 0.05 level of significance	Pearson r	p-value	Decision	Interpretation
A. Delivery	0.01669	0.85318	Accept Ho	Not Significant
B. Inspection	0.03484	0.759022	Accept Ho	Not Significant
C. Receipts of Materials and Equipment	0.010667	0.9925179	Accept Ho	Not Significant
D. Recording and Updating of Asset Registry	0.153359	0.174417	Accept Ho	Not Significant
E. Relief from Accountability	0.084045	0.458571	Accept Ho	Not Significant

Table 4
Relationship between the number of related trainings and seminars and the level of implementation
Tested phases at 0.05 level of significance

Tested phases at 0.05 level of significance	Pearson r	p-value	Decision	Interpretation
A. Delivery	0.057729	0.611001	Accept Ho	Not Significant
B. Inspection	0.028163	0.804152	Accept Ho	Not Significant
C. Receipts of Materials and Equipment	0.044947	0.692188	Accept Ho	Not Significant
D. Recording and Updating of Asset Registry	0.066511	0.557757	Accept Ho	Not Significant

Tables 3 and 4 revealed that the number of years' experience of the respondents and the number of trainings and seminars attended were not significant as to the correlation with the level of implementation. The respondent groups are all knowledgeable with the asset management process and procedures.

Table 5
Issues and Concerns

ISSUES AND CONCERNS	RANK
Property Custodian and/or Inspectorate Team is not present during the delivery.	1
Items delivered need to be pulled out from the Division Office.	2
Random inspection with respect to the prescribed quantity of items to inspect is not properly implemented.	3
Lack of knowledge as to the charging of funds of the items delivered.	4
Lack of communication between the Property Custodian and the Division Supply Office personnel.	5

The table showed the hierarchy of the issues and concerns dealt by the property custodians in implementing the asset management system, with 1 as the frequently encountered issues and concerns and 5 as the least.

Discussion

The study aimed to explore the relationship between the number of years' experience as property custodians and the level of implementation of asset management processes. Additionally, the study examined the correlation between the number of related trainings and seminars attended by property custodians and the level of asset management implementation. The significance of these factors was tested using Pearson's correlation coefficient and p-values at a 0.05 level of significance.

Table 3 presents the correlation analysis between the number of years of experience as a property custodian and the level of implementation in various asset management phases. The results indicated that the correlation coefficients for all phases were close to zero, suggesting a very weak correlation. Additionally, the p-values were all above the significance level of 0.05, indicating that the relationships were not statistically significant. Thus, it can be concluded that the number of years' experience as property custodians did not significantly influence the level of asset management implementation.

Similarly, Table 4 analyzed the correlation between the number of related trainings and seminars attended by property custodians and the level of asset management implementation. The results showed low correlation coefficients for all phases, indicating a weak relationship. The p-values were all greater than 0.05, signifying that the relationships were not statistically significant. Consequently, the study suggests that the number of trainings and seminars attended by property custodians did not significantly impact the level of asset management implementation.

Overall, Tables 3 and 4 revealed that both the number of years' experience and the number of trainings and seminars attended by property custodians were not significantly correlated with the level of asset management



implementation. These findings may indicate that the respondents, in general, were already well-versed in asset management processes and procedures, irrespective of their experience or training background.

Issues and Concerns:

Table 5 presents the issues and concerns faced by property custodians in implementing the asset management system, ranked in order of frequency. The most frequently encountered issue was the absence of Property Custodians and/or Inspectorate Team during delivery, followed by the need to pull out items delivered from the Division Office. The third concern was the improper implementation of random inspections concerning the prescribed quantity of items to inspect, followed by a lack of knowledge regarding the charging of funds for delivered items. Lastly, the fifth concern was the lack of communication between Property Custodians and Division Supply Office personnel.

The study found that the number of years' experience as property custodians and the number of related trainings and seminars attended were not significantly correlated with the level of asset management implementation. This suggests that the respondents were already well-versed in asset management processes and procedures regardless of their experience or training. The study also highlighted several issues and concerns faced by property custodians during the implementation process, which may warrant attention for smoother and more efficient asset management in the future.

Limitations:

It's essential to acknowledge some limitations of the study. Firstly, the research relied on self-reported data from the respondents, which could introduce bias and may not entirely reflect the actual level of asset management knowledge and implementation. Secondly, the study was conducted within a specific context, and the findings might not be applicable universally. Further research involving a more diverse and larger sample could provide more comprehensive insights into the correlations between experience, training, and asset management implementation.

Conclusion

Based on the findings, it could be concluded that the respondents' years of experience as custodians and their related trainings and seminars have no significant relationship with the level of implementation of the asset management system. They are all capable in handling their tasks as guardians of the school properties. However, the recording and updating of the asset registry should be given more focus and reinforcement to establish sustainable asset management system.

Recommendation

Based from the findings and conclusion of the study, it is recommended that this proposed sustainable strategic activity be adopted.

1. Conduct training-workshop on asset management system strategies.
2. Invite resident auditor of Commission on Audit to discuss guidelines in handling items and properties.
3. Create a web portal where custodians are given account or rights to access their respective asset registry database, view details about deliveries including source of funds of delivered items, and to download supply and property forms.

References

Asset Management and Sustainability. (n.d.). Handbook on Wastewater Management <https://efc.syr.edu/wp-content/uploads/2015/03/Chapter2-web.pdf>

Baumgartner, R.J.; Rauter, R. Strategic perspectives of corporate sustainability management to develop a sustainable organization. *J. Clean. Prod.* 2017, 140, 81–92.

Elkington, J. Partnerships from cannibals with forks: The triple bottom line of 21st century business. *Environ. Qual. Manag.* 1998, 8, 37–51.

Formplus. (2022). The 4,5, and 7 Point Likert Scale + [Questionnaire Examples] <https://www.formpl.us/blog/point-likert-scale>

Govindan, K.; Khodaverdi, R.; Jafarian, A. A fuzzy multi criteria approach for measuring sustainability performance of a supplier based on triple bottom line approach. *J. Clean. Prod.* 2013, 47, 345–354.

Dyussenbayev, A. Age Periods Of Human Life. *Advances in Social Sciences*



Research Journal, 4(6). 2017

Fabula, J.K. How To Make Conceptual Framework (With Examples and Templates), March 2022

Howarth, A. Improving Asset Management in Government Departments. A Report on Improving the Capability and Capacity of Managing Government for the Office of Government Commerce, March 2006

IMD. (n.d). Get the Most out of Asset Management Training. <https://www.imd.org/sf/focused-reflections/asset-management-training/> Mandaue our Home, our Pride, our Future! (n.d). Mandaue City <https://www.mandauecity.gov.ph/>

Ngwira, M.; Manase, D. Asset Management and Organisational Management Theory, November 24, 2015

Order No.41, Inspection and Acceptance Protocols for the Procurement of Goods in the Department of Education. 2021, September 29, https://www.deped.gov.ph/wp-content/uploads/2021/09/DO_s2021_041.pdf

Sherris, M. Asset Management, September 29, 2014

Samson, B. Capacitating New Normal Scheme of Asset Management in Public Schools. Unpublished Masters Thesis. Cebu Technological University. 2020

TUVSUD. (2022). Asset Management System Training. <https://www.tuvsud.com/en-ph/services/training/instructor-led-courses/asset-management-system>