

Cost Effective and Efficient Resources Management: Basis for Austerity Scheme

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Abstract - *The aimed to evaluate the cost effective and efficient resources management of MAPSA Antipolo schools. The findings of the study served as basis for the austerity scheme to enhance cost efficiency and effectiveness of schools. A set of questions focusing on the common practices on cost effective and efficient resources management of schools was employed. This study used quantitative approach and descriptive-survey as a method. It was found out that employees and school generally they gave importance with material resources especially educational resources that were very necessary for the assurance of quality teaching and learning which are match up to financial, physical and human resources. It also revealed that the schools which their employees work to achieve a common goal, shows a good sign in achieving cost minimization, resources maximization and cost reduction. If a school is to be managed effectively, it must be well organized, and this applies to every part of the school system.*

Keywords: *Human Resources, Financial Resources, Material Resources, Physical Resources*

INTRODUCTION

The costs of education have spiraled over the years, while the general quality of schooling has been subject to mounting criticism. As education becomes more expensive, there is going pressure on schools to perform efficiently and to be more accountable to the parents paying fees. At the same time, budget freezes and cutbacks have become the norm. To reduce costs, schools have employed increases in class size, slashes in interscholastic sports and other extracurricular activities, decreases in staff through attrition and reductions in hiring and rehiring, and cuts in student's transportation. At the extreme, some school systems have actually had to close down entirely. Although budgets are diminishing, however, demands for higher quality education and greater opportunity for the disadvantage remain.

According to Msgr. Gerardo Santos (2010) , president of the Catholic Educational Association of the Philippines (CEAP) and the Manila Archdiocesan Parochial Schools Association (MAPSA), said the low enrolment turn-out in Catholic schools may be traced "on the economic difficulties and financial woes faced by Filipino families." "When Catholic schools increase their tuition and other school fees, many parents consider transferring their children to public schools," he said as he called on the government to address the problem. Parochial and mission schools reported the biggest decline in enrolment. Other problems faced by Catholic schools, said Msgr. Santos, include the increasing number of school drop outs and the

lack of teachers, many of whom have opted to work abroad or have transferred to public schools [1].

The success of any organization rests on the optimum utilization of its key resources such as human, material and financial resources. According to Durbin as cited by Abera [2], resources are the only means through which organizational activities production, service and satisfactory ends are attainable. For the achievement of organizational objectives, resources play the crucial roles. Due to this fact, the emphasis on educational resources management and utilization in the educational institution is unquestionable.

Moreover, the quality and access to education is mainly determined by the availability of material resources in the sector. As pointed out by Hallack which is stressed by Afework [3] that when setting up a map of priorities for investment in education and training, policy makers must, at the same time, take in to consideration the need for increasing efficiency in the use of resources. The attainment of educational objectives through teaching learning process is more dependent up on how educational institutions are capable of managing and utilizing their material resources efficiently and effectively. Educational materials are scarce and costly resources, thus knowledge of how these resources are properly managed and utilized in the educational system is very importance.

Quality, relevance and access to education can be attained if and only if educational materials are properly managed and utilized in an educational institution. Even

though schools allocate large amount of money to alleviate the problems of educational materials both the academic staffs and the administrative/supportive staffs are not satisfied from the existing material resources. In contrast, it seems that the existing resources are not properly managed and utilized. Therefore, it is crucial to assess the real problems behind the educational material resources management and utilization in schools.

In Our Lady of Peace School, they are ensuring that the maximum amount of funding possible goes straight into schools' budgets where it can make the most difference, but the actual allocation each school receives will vary, depending on its circumstances. All schools should be working to make savings, spending their funds prudently and looking to maximize their resources to invest in teaching and learning.

The availability of educational resources is very important because of its role in the achievement of educational objectives and goals. The extent to which an organization like educational institution attains her objectives is directly proportional to the educational resources available and their utilization. Educational resources can be categorized into human, material, physical and financial resources. With these annotations, the researcher was driven to investigate this research and focused on determining the cost effective and efficient resources management of MAPSA Antipolo member schools especially on the aspects of physical, material, financial and human resources and identify guides for an austerity scheme.

This is study focused on determining the cost effective and efficient resources management of MAPSA Antipolo member schools in the aspects of financial, material, physical and human resources. Specifically, the research aimed to determine the significant difference on the extent of practice of the cost effective and efficient resources management by MAPSA member schools in terms of years in operation, school location, classification of administration, teacher-pupil ratio, failure and drop-out rates, promotion rate, enrolment size, number of personnel and work designation.

METHODOLOGY

The study used quantitative-descriptive survey research as an approach and utilized in this undertaking. The quantitative approach is concerned with the collection and analysis of data in numeric form. It tends to emphasize relatively large-scale and representative sets of data, and is often, falsely in our view, presented or perceived as being about the gathering of facts as defined by Blaxter, Hughes and Tight [4].

According to Glass and Hopkins [5] descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection. Descriptive studies are aimed at finding out

"what is," so observational and survey methods are frequently used to collect descriptive data. Calderon and Gonzales [6] defined descriptive research as purposive process of gathering, analyzing, classifying, and tabulating data about prevailing condition, processes, trends, practices, beliefs, and cause-effect relationship and then making adequate and accurate interpretation about such data.

Survey research commonly includes that type of measurement, but often goes beyond the descriptive statistics in order to draw inferences. This design is deemed appropriate because the study is aimed at determining the cost efficiency and effectiveness measures of MAPSA – Antipolo and their best practices in terms of resources management.

The researcher used cluster sampling to identify the school participants among the fifteen MAPSA Antipolo member schools and chose two schools in each of the three clusters based on the enrolment size; Large, Medium and Small schools. The choice of the schools to be included in the study was deliberately done by the researcher in consultation with the MAPSA Antipolo Superintendent and his adviser to see to it that the reliability and validity of the results as well as the quality of the output will not be compromised. Furthermore, the researcher included all the employees of the schools as its participants but only some responded on the request, the reasons were not identified. The participants are from the administrators, teaching faculty, non-teaching faculty (Guidance Counsellors and Librarians) and the non-teaching non-faculty (Staff and Maintenance).

A researcher-made questionnaire was employed in this study to gather data. The questionnaires consist of four parts: Part I will gather the profile of the school participants; Part II will gather the information about the profile of the participants; Part III consisted of the Common Practices on Cost Efficiency and Effectiveness Measures. This part determined the extent of practice of the schools on cost efficiency and effectiveness measures. The fourth part was their practices and best features as regards cost efficiency and effectiveness and their comments and suggestions to improve it.

In preparing the questionnaire, the researcher underwent several readings of books related to cost efficiency and effectiveness measures and searched from the internet other practices and austerity measures done by other schools. Some experts were asked to evaluate the validity and reliability of the said instrument.

After a thorough revision and validation of the researcher-made questionnaire, it was administered to all employees of the six clustered schools. Prior to the administration of the questionnaire, the researcher prepared the requirement necessary for use on the collection of data which included the letter of permission and approval to conduct the study from the MAPSA – Antipolo Superintendent and the School Directors through a formal

letter. Another letter was prepared for the School Principal and included the approved request letter in answering the questionnaires by the participants of the study. After the time given by the Heads, the questionnaires were then collected and the results were tallied, tabulated and analyzed.

To present the profile of the school participants such as: years in operation; school location; classification of administration; teacher-pupil ratio; failure and drop-out rates; promotion rates; programs / levels of education offered; enrolment size; number of personnel; and work designation frequency count and percentage distribution were utilized. To determine the extent of practice cost efficiency and effectiveness measures as regards; financial resources, material resources, physical resources and human resources mean and standard deviations were employed. To establish the homogeneity of the variance in the responses of the participants before using the higher statistical analysis the Analysis of Variance (ANOVA) was used.

RESULTS AND DISCUSSIONS

The following tables present the extent of practice of the cost effective and efficient resources management of MAPSA Antipolo member schools in the aspects of financial, material, physical and human resources. It can be gleaned in Table 1 that the highest mean (M=3.49, SD=0.65) is “Our school encourages teachers to help collect payables from student by reminding them of their standing obligations.”, it is described as very high and it is true because the teachers especially the teacher-adviser has close encounter with the students.

On the other hand the indicator “Our school encourages bidding culture.” With the lowest mean (M=2.17, SD=0.95) because the school understand that it is not the work of employees especially teachers. Most of the time, the schools consider referrals from other schools and ask who their good suppliers are. Competitive bidding according to Overton and Bockelman [7] is an essential part of every school budgeting process. A choice of purchasing option allows a school to locate the most cost effective supplier. The school can make cost and quality comparison and contrast with those firms which best suit its needs.

Table 1. Extent of Practice of the Cost Efficiency and Effectiveness Measures as regards Financial Resources

Indicators	M	SD	VI
1. Our school business manager helps in making better use of resources and facilities, lever funds from third parties and save head teacher time.	3.20	0.72	P
2. Our school maintains timely/ periodic financial information to employees regarding the financial status of the school to allow them to observe cost-cutting measures.	3.07	0.76	P
3. Our school offers expertise, facilities and services.	3.02	0.92	P
4. Our school encourages bidding culture.	2.71*	0.95	P
5. Our school has finance manager who monitors the budgets through monthly meetings with budget holders to review the current status of spending and to discuss progress and future proposals, linked to the school improvement plan.	3.17	0.81	P
6. Our school has systematic and reasonable procedures for collecting fees.	3.28	0.66	HP
7. Our school has a strategic approach for the distribution of resources to achieve institutional objectives.	3.19	0.69	P
8. Our school has a systematic and a practical approach to manage its financial resources.	3.13	0.66	P
9. Our school has a strategic approach to improve economy, efficiency and effectiveness in the use of financial resources.	3.06	0.64	P
10. Our school rules and regulations governing the financial management of the business operation are followed based on the policies and guideline set by administrators.	3.19	0.69	P
11. Our school encourages teachers to help collect payables from student by reminding them of their standing obligations.	3.49**	0.65	HP
12. Our school’s internal audit is done monthly.	3.07	0.85	P
13. Our school’s collection of accounts receivable is done regularly.	3.28	0.76	HP
14. Our school’s daily cash collections are deposited directly to the bank.	3.44	0.73	HP
15. Our school’s long-term obligations are paid on time.	3.08	0.87	P
Grand Average	3.16	0.48	H

Table 2. Extent of Practice of the Cost Efficiency and Effectiveness Measures as regards Material Resources

Indicators	Overall		
	M	SD	VI
1. Our school has preventive maintenance that are scheduled, performed and monitored.	3.24	0.75	P
2. Our school carefully monitors the use of energy, water and materials.	3.35	0.66	HP
3. Our school monitors stock inventions of materials to avoid long term and/or overdue stocks.	3.19	0.69	P
4. Our school provides various educational aids (films, teaching kits, electronic aids, etc...) and obtaining help from any suitable means.	3.24	0.77	P
5. Our school provides sufficient stores for books and equipment.	3.14	0.75	P
6. Our school provides necessary furniture to meet the natural increase in the number of students.	3.24	0.68	P
7. Our school's emergency facilities are properly labelled and inspected.	3.30	0.72	HP
8. In our school, lights are turned off in areas which are not occupied, paying particularly to cafeterias and gymnasiums that are often vacant during the school day.	3.41	0.67	HP
9. Our school reduces lighting levels where safety and performance would not be adversely affected, such as in hallways.	3.35	0.63	HP
10. Our school checks outdoor security lighting to ensure it is off during daytime hours.	3.39**	0.62	HP
11. Our school checks sink faucets, commodes, and water fountains frequently to ensure they have no leaks.	3.23	0.66	P
12. Our school reuses or recycles rather than dispose of material in the refuse dumpster.	3.04*	0.76	P
13. Our school has a systematic and a practical approach to manage its material resources.	3.14	0.64	P
14. Our school has a strategic approach to improve economy, efficiency and effectiveness in the use of material resources.	3.18	0.69	P
15. Our school has a property custodian who is assigned to manage material resources of the school.	3.38	0.68	HP
Grand Average	3.25	0.46	VH

On Table 2, the indicator, “In our school, lights are turned off in areas which are not occupied, paying particularly to cafeterias and gymnasiums that are often vacant during the school day.”, got the highest mean (\underline{M} =3.41, SD =0.67). The schools consider the practice because they know that the cost of energy consumption is increasing here in the Philippines, so practicing the said indicator would lead minimization of cost.

While the indicator “Our school reuses or recycles rather than dispose of material in the refuse dumpster.” has the lowest mean (\underline{M} =3.04, SD =0.76). Moczygemba [8] posits that in basic education schools, it could possibly be the most important place to recycle. Students learn best by example and action. It is very important in different aspects, these are as follows; for the environment, for the economy, ethical reasons and it is also a form of patriotism. In the study of Missiaen [9] he emphasized that integrity or integrity of creation refer to us as the rational use of creation, a use that is respectful of its purpose and destiny and is mindful of the needs of future generations.

Among the practices of cost efficiency and effectiveness measures as regards physical resources,

the indicator “Our school facilities are designed to sustain assurance of quality teaching and learning.”, has the highest mean (\underline{M} =3.45, SD =0.61) and it is also common to all clustered schools. This only means that schools would not forgo of the quality of education that the school can cater to students. Oyesola [10] stated that the main objective of school plant planning is to satisfy educational goals which have been predetermined. He emphasized that better school facilities will enhance better programmes and helps the community by providing a place for psychological and physical safety for students and teachers and enhancing the good quality and quantity of instruction – teaching and learning generally.

The lowest mean (\underline{M} =2.18, SD =1.08) is “Our school rents buildings, classrooms and other facilities wherever needed.”, It is low especially to large schools because they already have the facilities needed, actually some of the facilities the catholic schools is offering or open for special activities especially for religious activities like, parish renewal experiences seminar, and catechism for the “patronato” child and poor every Sunday.

Table 3: Extent of Practice of the Cost Efficiency and Effectiveness Measures as regards Physical Resources

Indicators	Overall		
	M	SD	VI
1. Our school has pest prevention measures that include regular inspections and monitoring, sanitation and pest proofing, and modification of environmental conditions leading to pest problems.	3.19	0.78	P
2. Our school has 'save to spend' approach that is adopted as part of the school improvement model.	3.07	0.72	P
3. Our schools class sizes such as teacher-learner ratio are properly analyzed, while continuing to focus on improving standards.	3.20	0.74	P
4. Our schools building codes are strengthened.	3.20	0.71	P
5. Our school improves storage capacity and parking, Air Con, utilities, restrooms, and lighting are some of the obvious components that must be redesigned and improved for additional activities.	3.12	0.72	P
6. Our school facilities are designed to sustain assurance of quality teaching and learning.	3.45**	0.61	HP
7. Our school has routine and renovation cleaning activities related to daily operations and upkeep of facilities, including related supervisory and management activities.	3.34	0.67	HP
8. Our school develops and maintains a cleaning schedule detailing the routine cleaning duties contained therein.	3.34	0.64	HP
9. Our school rents buildings, classrooms and other facilities wherever needed.	2.18*	1.08	MP
10. Our school maintains and follows policies in constructing new classrooms with regard to design and the average number of students per room.	3.19	0.75	P
11. Our school discourages the use of masking, double-sided and packaging tapes in walls.	2.99	0.92	P
12. Our school has a systematic and a practical approach to manage its physical resources.	3.23	0.69	P
13. Our school has a strategic approach to improve economy, efficiency and effectiveness in the use of physical resources.	3.25	0.65	HP
14. Our school has building manager who oversees periodic inspections of buildings' conditions and creates an inventory of buildings' components and equipment.	3.17	0.79	P
15. Our school has complete inventory, periodically updated, offers an information base with which building managers can plan condition assessments and needed preventive maintenance.	3.17	0.77	P
Grand Average	3.14	0.49	H

Table 4: Extent of Practice of the Cost Efficiency and Effectiveness Measures as regards Human Resources

Indicators	Overall		
	M	SD	VI
1. Our school has an employee – recognition program.	3.09	0.81	P
2. Our school has cross-trained employees.	2.86*	0.85	P
3. Our school conduct pre-shift meeting for all departments.	2.99	0.86	P
4. Our school develops future leaders through a management –development program.	3.09	0.72	P
5. Our school's employee has involvement and commitment to strategic goals.	3.30	0.62	HP
6. Our school conducts job analysis regularly.	3.08	0.79	P
7. Our school deploys teachers and teaching assistants where they have the greatest impact.	3.18	0.77	P
8. Our school considers new retention strategies to reduce staff turnover, related workload levels and recruitment costs.	2.98	0.77	P
9. Our schools staffing structures and timetabling are key cost drivers and are managed proactively.	2.93	0.74	P
10. Our school has a systematic and a practical approach to manage its human resources.	3.13	0.70	P
11. The school has a strategic approach to improve economy, efficiency and effectiveness in the use of human resources.	3.20	0.69	P
12. Our school has human resource officer who manages the effectiveness of the personnel.	3.22	0.76	P
13. Our school introduces multi-tasking schemes to reduce labor force.	3.15	0.79	P
14. Our school's personnel work as a team to achieve common goal.	3.32**	0.70	HP
15. Our school create new support roles to reduce staff absence costs.	3.13	0.79	P
Grand Average	3.11	0.56	H

The foregoing table revealed that indicators “Our school’s employee has involvement and commitment to strategic goals.”, and “Our school’s personnel work as a team to achieve common goal.”, acquired the highest mean ($M=3.32$, $SD=0.70$). In every institution collaboration is a necessity. Most of all the development of teamwork requires the experience of working together for a considerable period to iron out all the issues between and among different employees from different backgrounds and their work ethics. The common good the researcher is referring to is to achieve the cost efficiency and effectiveness in a school considering the austerity measures understood and performed by all employees and can be learned by students.

On the other hand, the indicator “Our school has cross-trained employees.”, has the lowest mean ($M=2.86$, $SD=0.85$) this means that even if the employees work as team, they seemed to forget to train other employees from where they are good at. One area that takes some of the guess work out of the development is cross-training employees in each other’s jobs. Cross training appeals on many levels. It will benefit individuals, the team, the department and the institution and has results that are immediate and long-term. Some of the positive effects of cross-training are the following: Deeper understanding of the work, Continuity of service, Practical staff development and Restructure proofing (www.helium.com/items/38803).

Table 5: Summary of the Extent of Practice of Cost Efficiency and Effectiveness Measures

Facets	M	Overall	
		SD	VI
Financial Resources	3.16	0.48	P
Material Resources	3.25**	0.46	HP
Physical Resources	3.14	0.49	P
Human Resources	3.11*	0.56	P
Grand Average	3.17	0.45	H

It is displayed on Table 5, that among the four facets the material resources acquired the highest mean ($M=3.25$, $SD=0.46$), this tells that schools give importance and emphasis on the maximization on the use of water, energy and material resources especially educational resources that are very necessary for the assurance of quality teaching and learning and to achieve cost minimization, resources maximization and cost reduction.

Materials management brings together the efforts of different departments whose responsibility is directly or indirectly related with materials activities. That is why materials management is frequently said an integrated approach. Zenz [11] noted that, “Materials management system helps to advocate management of different functions: purchasing, receiving, storage, inventory control and other materials management activities” as cited in the study of Abera [2].

Overstocking yields large some of the educational institutions fund inactivated so that it can do nothing to foster the teaching learning process. On the other hand, lack of needed materials may hinder the teaching learning process [12]. Therefore; there is a need for compartments for efficient storage facilities. The use of compartments enables materials managers to know at all times which items need to be replenished and which already are in sufficient supply.

On the other hand, human resources received the lowest mean ($M=3.11$, $SD=0.56$). Human resources are the key to organizational success or failure. In the study of Burma [15], he cited that the development of any institution is hinged on the development of its human resource. The importance of it can undermine or jeopardize the future of an organization, describe the combination of traditionally administrative personnel function with performance, employee relations and resource planning. Therefore, there is a huge need to ensure the existence of not only highly skilled and experienced human resource, but equally, good material resources in an institution.

National College for Leadership of Schools and Children’s Services (2010) suggest, schools need to ensure that teaching staff are not taking on roles and tasks that could be done equally effectively by non-teaching staff. NCLSCS says that this can be very costly as the teacher has to be freed up from teaching to carry out the role, whereas a member of support staff can be fully dedicated to this role. Similarly the supervision of inclusion rooms and other direct student support roles can be carried out by educational support staff. Schools should avoid using teachers as behavior managers.

We cannot disregard the other facets to achieve cost efficiency and effectiveness of schools. We should also consider the physical resources and the financial resources because Dimaano [13] cited the disclosure of The American Institute of Certified Public Accountants (AICPA) Audit Committee (2005)

Table 6: Summary of Analysis of Variance for the Extent of Practice of the Cost Efficiency and Effectiveness Measures with respect to different variables

Variables	SS _b	SS _w	MS _b	MS _w	$\frac{F}{(df=181)}$	p value*
Years in Operation	0.78	35.10	0.26	0.20	1.32	.0002*
School Location	0.11	35.78	0.11	0.20	0.54	.4645
Classification of Administration	0.03	35.86	0.03	0.20	0.13	.7232
Teacher-pupil ratio	1.17	34.71	0.58	0.20	3.00	.0052*
Failure and Drop-out rates	0.73	35.15	0.36	0.20	1.84	.1617
Promotion rate	0.73	35.15	0.36	0.20	1.84	.1617
Enrolment size	0.11	35.78	0.05	0.20	0.27	.0076*
Number of personnel	1.17	34.71	0.58	0.20	3.00	.0043*
Work designation	0.67	35.21	0.22	0.20	1.12	.3408

* p value < .05 = significant

that internal control can be judged as effective in each of these categories if the board of directors and management have reasonable assurance that: 1) they understand the extent to which the entity's operations objectives are being achieved; 2) published financial statements are being prepared reliably; and 3) applicable laws and regulations are being complied with.

Moreover in the Physical resources, it is also important that preventive maintenance requires strategic actions for prolonging the life of building components. As a base line for planning, building managers should prepare and periodically update an inventory of building components and their conditions. Management can then better identify maintenance needs, determine their costs, and set priorities. Well-structured preventive maintenance, incorporated into ongoing maintenance programs, offers the best chance for achieving intended results. School districts have a responsibility to make sure their maintenance employees receive needed training beyond occupational licensure requirements. For cost-effective decisions, district management should include appropriate maintenance personnel in considering long-term maintenance needs in addition to initial project costs [14]. The analysis of variance on Table 6 for the extent of cost efficiency and effectiveness measures with respect to demographic variables. It can be viewed that per result of the conducted analysis of variance that variables years in operation, teacher-pupil ratio, enrolment size and number of personnel shows significant difference for the extent of practice on cost efficiency and effectiveness measures. In terms of years in operation, it can be said that as the school stays longer in

operation there can be more established system. As regards number of personnel it can be supposed that in the process of doing the cost efficiency and effectiveness measures, we consider the people of the institution and these are the employees.

Education - by which we mean real learning and understanding, not merely the operation of schools, or educational policymaking- is an event that has proven extraordinarily difficult to package as a product, though mass schooling has made a valiant attempt. The virtues of small scale may not generally reside in low cost, but in other qualities. The relationship of efficiency (as expenditures controlled for socioeconomic variables) ought to be investigated with respect to such basic characteristics as type of organization, smallness, and rural qualities of school districts.

CONCLUSIONS AND RECOMMENDATIONS

The extent of practice of the cost efficiency and effectiveness measures as regards material resources was Very High while as regards financial, physical and human resources were High. Years in operation, teacher-pupil ratio, enrolment size and number of personnel are predictors to the extent of practice of the cost efficiency and effectiveness measures of the schools.

A proposed austerity scheme to enhance cost efficiency and effectiveness must be adopted and implemented. In support to the measures the school may adopt Finance officers regularly update employees on the financial standing of the school for them to observe cost-cutting measures and to be involved in proper management of it. The school can launch advocacy activities to ensure practical

approach in managing energy water, and materials. The building managers must have systematic approach to guarantee on school building and facilities to sustain assurance of quality teaching and learning and safety. Employ people fit for the job then provide them with correct resources so that they can carry the process out to the best of their standards. Treat employees with care and sensitivity.

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