

Full Length Research Paper

Development of an effective school-based financial management profile in Malaysia: The Delphi method application

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The agenda for national development requires a persistent improvement in education as a tool for creating knowledgeable human capital, highly skilled labour, a high technology society and ultimately a highly civilized nation for the future challenging world. It requires considerable financial and technical investment as well as effective and efficient public administration to realize these aims. The persistent actions by the Federal Government and the Ministry of Education in Malaysia throughout the past decades to enhance the quality of school financial management were portrayed in the country's national master plans such as the Education Development Master Plan (PIPP) 2006-2010, the Tenth Malaysia Plan 2010-2015 and the Malaysia Education Blueprint (PPPM) 2013-2025. Among the strategies focused on upgrading education and curriculum delivery is to improve the effectiveness and efficiency of educational financial management as a vital part of educational administration. The latest Tenth Malaysia Plan 2010-2015 was formed with the objective of revamping the education system in order to significantly raise student outcomes. As an innovative approach to realize the effectiveness of knowledge delivery, public-private partnerships have been established for pre-school and primary and secondary education which allow for significant autonomy for school managers.

Key words: Financial management, education, student outcomes, Malaysia.

INTRODUCTION

The financial decentralization reform in Malaysia began within the public sectors, specifically the Government's departments and agencies, with the introduction of the Responsibility Centre or the so-called Pusat Tanggungjawab (PTj) in 1989. It was intended as an effort to bring autonomy to lower level management in managing the allocated financial resources from the traditional style of bureaucracy in the government's

department. Starting in 2001, the Ministry of Education formally directed approximately 200 schools annually (primary and secondary) to be upgraded to PTj schools with 230 schools recognized as PTj schools in 2003 (Kementerian Pelajaran Malaysia, 2003). In general, the PTj schools in Malaysia have autonomy over their financial resources allocated within certain boundaries of regulation imposed on them by the government. They are

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required to utilize the money in accordance with the Guidelines for School Financial Management and Accounting book produced by the Ministry of Education, Education (Accounts and Audit Rules) 1962, which was produced under the Education Act of 1996, the Financial Act of 1957 and the Treasury Directive.

The school financial decentralization reform in Malaysia was then further enhanced through the Education Development Master Plan, also called *Pelan Induk Pembangunan Pendidikan (PIPP) 2006-2010* (Kementerian Pelajaran Malaysia, 2006). In line with Chapter 9 of PIPP 2006-2010, Cluster Schools of Excellence were first established in Malaysia. This designation was granted to a group of High Achieving schools. Cluster school is a brand given to schools identified as being excellent in its cluster for various aspect of performance including school administration, academic, sports and extra-curricular activities. Among the main purposes of the establishment of Cluster schools was to accelerate the excellence of schools in the Malaysian education system. The concept of decentralization has led Cluster schools to better empowerment through the provision of guided autonomy in five main areas, which are school management, human resource management, financial resource and physical resource management, curriculum management and co-curriculum management and implementation.

For over a decade of the implementation of school-based financial management (SBFM) of much development in the education sector in Malaysia, there are still significant weaknesses that require development and quality improvement at the school level. Even though financial autonomy was granted to selected schools that have shown excellent financial performance, research shows that certain schools still suffer non-compliance audit reports, problems of misallocation of money and unskilled principals and teachers in organizing the school financial management (Saiman, 2004; Marzuki, 2006; Idris, 2002; Zu Che Soh, 2008). Another issue was the failure of some principals to allocate resources based on school objectives and priorities. The Malaysian School Audit Division has reported that some principals failed to list their school objectives based on priorities and provide a proper strategic plan (Kementerian Pelajaran Malaysia, 2007). Thus, this study will be significant in terms of providing guidance to all school leaders experiencing the financial decentralization reform. It proposes the strategic and effective financial management practices as complementary to other existing references. The Ministry of Education and the State Educational Department could use the recommendations of this study to upgrade the necessary modules in the provision of management training to school leaders. Therefore, the aim of this study is to develop a profile of effective school-based

financial management in Malaysia based on the Delphi method. The profile consists of both the elements and practices as described in the following research objectives:

- a) To design lists of elements of effective school-based financial management in Malaysia in agreement with the highest consensus among experts; and
- b) To design lists of practices of effective school-based financial management in Malaysia in agreement with the highest consensus among experts.

RESEARCH FRAMEWORK

The framework of this study is based on two models, which are the Financial and Resource Management Cycle in an Open System of Educational Organization by Levacic (2000), and the Dick et al. (2009). A Financial and Resource Management Cycle model mainly reflects the nature of an open system organization which includes the rational and natural system perspective as well (Levacic, 2000). In this system of education organization, four key processes identified in the financial and resource management were (i) obtaining resources; (ii) allocating resources; (iii) using resources; and (iv) evaluating the past use of resources and feedback of this information for future decision making. The process of obtaining resources frequently involves money received from government and also donations, fund raising, fees charged for educational services and any other minor sources. The money received will be used to provide for necessary resources for the educational environment in the form of direct payment for teaching activities or supporting tools for education to take place (Anderson et al., 2001; Levacic, 2000).

Initially, planning and budgeting will determine the way schools allocate their financial and physical resources. It is considered an important part in the school-based management process as the leaders are responsible for utilizing their financial autonomy to reach effective management. Then, the money and resources will be used to produce the intermediate output such as the physical environment, administrative services and other services directly for the educational output and outcomes through educational activities (Levacic, 2000). The last concept in the process is the evaluation and feedback on the past use of financial and physical resources. This process will determine the ability of schools to achieve educational goals either in measurable or intangible outputs. In addition, the evaluation process also determines the schools' effectiveness, efficiency, equity and value for money in order for them to have better planning for the next financial and resource

management cycle. All four of these concepts then become a sequential cycle which is repeated throughout the school life and process (Levacic, 2000).

Another model is the Dick et al. instructional design model presented by Walter et al. (2009). This model provides the framework for a model development as reflected in the fundamental design process used in business, government and military training. The model begins with the analysis of the ultimate goals of developing the instruction and the final aim that we want the learners or users of the instruction to be able to do. After that, instructional analysis and analysis of learners and contexts could be done simultaneously as the designer determines the step-by-step process in order to reach the previous goals stated. Then, the designer will develop assessment instruments and continue with the next step of developing the instructional strategy. Development of instructional strategy could be based on current theories, research, and characteristics of the medium that will be used to deliver the instructions, users and also the content of instruction of the profile that will be developed (Dick et al., 2009). Following the completion of design and development of the instructions, a series of evaluations will be conducted to provide information useful for improving the instructions.

METHOD

The Delphi method has been applied in this research, which involved several rounds of study to gain a consensus from the expert group. Generally, Linstone and Turoff (1975) have described Delphi as a method for structuring a group communication process that will become an effective process in allowing a group of individuals to deal with a complex problem. It involves several rounds of data collection through questionnaires in order to find the consensus among the participants or experts who are selected based on specific criteria. The Delphi method has been chosen due to its strength and compatibility in terms of validity and reliability. It is known to be a powerful technique when being used to seek answers for the appropriate questions that require in depth explanation and judgements from the experts (Gordon, 2008). Furthermore, this method also has its validity and reliability provided that is applied with the necessary methodological rigor and with a good knowledge of the social medium in which it is being applied (Landeta, 2006).

The application of the Delphi method involved three rounds of data collection to reach the final content of an effective school-based financial management profile. The first round involved an interview session with fifteen people who were selected as a group of experts for this study. They were expected to answer the semi-structured interview questions which then provided input for the development of an effective school-based financial management profile in Malaysia. Basically, the data in the first round session were analysed qualitatively to provide findings that became constructs for the questionnaire in the second round of study. Then, questionnaires were prepared and distributed to the same participants in the first round with the aim of obtaining consensus among them on the content of the profile. In addition to the items listed by the researcher in the questionnaire, participants were

given opportunity to suggest any additional items to improve the content of the profile. It gave them chances to add any extra items that they may have missed during the previous interview session. These additional items then appeared in the third round of this study in addition to the initial items that had been analysed. At this stage, participants typically gave their agreement on the analysed items from the previous round of questionnaire. Thus, the Delphi method was completed and the items finalized from these three rounds became content for the effective school-based financial management profile in Malaysia.

In terms of validity and reliability, the interview protocol was initially validated by an expert in the area of school finance and qualitative study. Then, a pilot study was conducted to check the reliability of the questions in the interview protocol. This was to ensure that the interview reflected the main research questions and was able to generate accurate data for the research findings. Furthermore, the transcripts produced in the transcription process were also verified by the participants. The participants had to examine the contents of the transcripts and corrected any mistakes that could change the meaning of statements in the original interview that had been conducted. In the second round, questionnaires containing the practices of effective school-based financial management were distributed to all participants to gauge their approval on each item. It was then followed by the third round survey in order to get the highest consensus from all experts on the contents of the profile. Based on three rounds of studies, the Delphi method managed to achieve reliability in its findings. All the experts were given the opportunity to improve the profile before reaching the highest consensus for the final answers in the third round of study.

The decision on the number of participants was made based on review of past literature as suggested by several prominent researchers of the Delphi method. Linstone and Turoff (1975) suggested between 5 to 10 experts in order to reach the specific objectives of the study. However, Gordon (2008) stated that the usual numbers of experts selected are between 15 to 35 people to comprehensive and reliable research findings. Considering the related factors, the researcher decided to select 15 experts in the area of school finance in Malaysia. The 15 experts consisted of 2 academicians from public higher learning institutions (IPTA) who have expertise in the area of school finance, 2 academicians from Institut Aminuddin Baki (IAB), Genting Highland, which is the training institute for management and educational leadership in Malaysia, 3 auditors from the Internal Audit Division, Ministry of Education, 5 excellent principals, 2 excellent head teachers from schools with high performance in school financial management and 1 school inspectorate who specializes in monitoring the subject of Accounting.

This study has used the purposeful sampling procedure with a combination of both theorists and practitioners to ensure comprehensive and meaningful research findings. Careful consideration also has been taken in the selection of the experts. Skulmoski et al. (2007) have suggested participants with wide knowledge and experience in the area being researched, capacity and willingness to participate, sufficient time for the study and also communication skills. Hence, 15 individuals from various jobs that consist of both theorists and practitioners have been identified. They were believed to have ability in providing credible data and information. The selection of the experts in this study was made based on the following criteria:

- (i) The individual has experience, knowledge and skill in the area of school finance of more than 10 years;
- (ii) The individual has been working in school and involved in the school financial management for more than 10 years; and

Table 1. Table for inter quartile range score.

Consensus level	Inter quartile range (IQR)
High consensus	0.00 – 1.00
Moderate consensus	1.01 – 1.99
No consensus	2.00 and above

(iii) The individual is ready and capable to join 2 or more rounds of the Delphi method.

Data analysis in this study involved both qualitative and quantitative data analysis. The data for interview sessions in the first round were analysed using thematic qualitative data analysis. The analysis done in the first round of study was of utmost importance since the results would become the basis for the construction of questionnaires for the subsequent round of studies. In the second and the third round of the Delphi method, quantitative data analysis was applied by using descriptive statistics in the form of Measures of Central Tendency. Mode and median were initially calculated to rate the average scale of answers responded by all experts whereas Inter Quartile Range (IQR) was used to measure the consensus of all experts on the listed items. The results of the IQR were interpreted based on three categories as recommended by Siraj (2008) and Radzi (2014). Table 1 shows the level of consensus based on the Inter Quartile Range score.

Following the analysis of the second round, the items listed in the profile were then reshuffled to reflect the degree of consensus on the items by all experts. The item with the highest consensus, mode and median was listed at the top followed by items with lower measurement of IQR, mode and median. However, all items were maintained in the third round questionnaire to allow an opportunity for the experts to reconsider their opinion and make improvements on the results if necessary.

The questionnaire prepared in the third round consists of additional items recommended by the experts in addition to the original items analysed in the second round. Similar analysis was done including the measurement of mode, median and Inter Quartile Range with the purpose of finding the results. However, additional analysis was carried out which was the analysis of Wilcoxon signed-rank test.

The Wilcoxon signed-rank test analysis is a non-parametric test which does not assume normality in the data. It has a similar aim as the analysis by *t*-test, which is to find any significant differences in the answers of respondents or any change from one time point to another. In this study, the analysis of Wilcoxon signed-rank test was applied for the purpose of identifying the consistency level of the experts' opinion for both the second and third round of study and to identify any significant differences in their opinions. The Wilcoxon signed-rank test was measured by the Z score which would identify whether there was 'no significant difference' or there were 'significant differences' in the results of both rounds by the experts. As suggested by Alias (2010) and Hussein (2008), the Z score between 0 to -1.99 indicated no significant difference on the answers given by the experts between the second round and third round.

Nevertheless, between the two rounds, the Z score of -2.00 and more signalled significant differences in the experts' answers. In other words, the experts were not consistent in their opinions and had significant differences in their answers.

RESULTS

The three rounds of studies undertaken using the Delphi method have resulted in three different findings in accordance with the analysis that has been done. However, the results in the preceding round were incorporated in the subsequent round in order to reach the final content of the profile. For the first round, the analysis done from the interview sessions with all participants has led to 4 main financial management functions and 13 elements incorporated in all the main functions. The main school-based financial management functions are planning, financial acceptance, acquisition and disbursement and finally the control and evaluation process. Furthermore, 126 practices have been listed from the suggestions by all the experts. The findings are described as follows (Table 2).

Data in the second round of the Delphi method were obtained from questionnaires distributed to all 15 members of the group of experts. The questionnaire listed the 126 practices suggested in the profile of effective school-based financial management in Malaysia according to the specific financial management elements and main functions. The experts were required to indicate their level of agreement as measured by a five-point Likert scale, consisting of totally disagree, disagree, somewhat agree, agree and totally agree. From the analysis that has been done, there were 118 items that obtained high consensus from all the experts, with an interquartile range between 0 to 1.99. Of these 118 items, only 8 items received a median of 4 while the rest managed to get 5 indicating the highest level for the median range. In addition, nearly all of these high consensus items also have a mode of 5, with the exception of only two items with mode of 4. Furthermore, the findings show that the 8 items that obtained no consensus from the panel of experts are items 9, 18, 28, 32, 49, 86, 116 and 126. All of these items received an Inter Quartile Range measure of 2, except for item 32 with an interquartile range of 4. No item was considered to fall under the moderate consensus level. The findings for the second round also received a suggestion for one additional item in the elements of the Role of Financial Planner. The item is 'PTA is empowered with authority in planning the PTA fund'. Besides that, 6 items received suggestions for some sentence modification by members of the expert panel, namely item 51, 54, 56, 68, 69 and item 116.

Following the analysis done for the second round, the findings then were used for the preparation of a questionnaire for the third round of the Delphi method. From 127 items listed in the questionnaire, 126 managed to attain a high consensus from all experts and only 1 item received no consensus from them. Item no 33, which stated that 'PTA is empowered with controlled

Table 2. School-Based Financial Management Main Functions, Elements and Practices Identified in the First Round of Delphi Method.

Main functions	Elements	Number of practices
1. Planning	School vision and mission establishment	9
	Financial purposes	9
	School finance organizational structure	10
	Role of financial planner	4
	Budget management procedures	10
2. Financial acceptance	School financial sources	7
	Financial acceptance procedures	8
3. Acquisition and disbursement	Acquisition and disbursement authority	13
	Acquisition and disbursement procedures	8
4. Control and evaluation	School financial reference	8
	Financial control authority	9
	Financial control procedures	21
	Financial management effectiveness measures	10
Total		126

authority in the overall school financial planning process', received no consensus from the experts. Exactly 118 items stated received an Inter Quartile Range of 0 whereas only 8 items received an Inter Quartile Range of 1. Furthermore, measurement for the median also brought a supportive result with 124 items managing to get a median of 5 and only 3 items obtained a median of 4. It was similar for the mode measurement, as 124 items managed to get a mode of 5 and only items no. 9, 42 and 43 had a mode of 4. Overall, the findings for the third round succeeded in reaching the highest consensus among the experts before it ended. All the items then were finalized to become the content for the profile of effective school-based financial management in Malaysia.

Another finding in the third round of the Delphi method is the result of the Wilcoxon matched-pair sign test through the measurement of Z score. Any Z score of less than -1.99 indicated no significant difference between the answers for the second round and third round, whereas a Z score of -2.00 or more signalled a significant difference between these two rounds of studies. Based on the analysis, there were 37 items considered to have significance differences between the answers for the two rounds of studies. The 37 items were derived from all 13 elements included in the questionnaire which had been distributed. The changes and significant differences in the answers for the 37 items were due to the opportunity given to the experts to reconsider their previous answers in the second round of the Delphi method. Furthermore, in the third round, they were also provided with information on the mode of answers from all experts in the previous round for them to improve and reach

consensus on the best answers. Nevertheless, all these significant changes managed to minimize the Inter Quartile Range for most items in the third round, which lead to the final content of the profile of effective school-based financial management in Malaysia. Further descriptions of all the profile's items will be discussed in the following section while the details of results for the second and third round of Delphi method are included in the appendices part of this article.

DISCUSSION

The application of the Delphi method has succeeded in developing the profile for effective school-based financial management in Malaysia with three rounds of studies. The total of fifteen experts consisted of both theorists and practitioners, who had a high consensus on 13 school-based financial management elements and 126 practices in the profile. Obviously, the findings of this research did support and enhance the theoretical concept underlying the model of Financial and Resource Management Cycle in an Open System of Educational Organization by Levacic (2000). List of practices was designed according to several elements classified under four functions of (i) financial planning (ii) financial acceptance (iii) acquisition and disbursement; and (iv) control and evaluation. Furthermore, the findings of this study corresponded to the influence of school financial resources towards educational outcomes. As presented in the profile, school's financial management effectiveness could be measured in several forms of evaluation such as the students' achievement, school's excellent awards and others.

Function of planning

Element of school vision and mission establishment

Among the core elements under the function of financial planning is the school vision and mission establishment in agreement with Cheng (1996). Vision reflects the long-term aspiration of the school whereas mission will identify the necessary strategies to realize the school's long-term vision. Based on these research findings, experts have reached a high consensus that school vision and mission should be based on government aspirations and accompanied with high expectation by all members. Thus, the established vision and mission statements should be easily understood and become guidance for school members in planning for focused school finance. Good school vision and mission will drive school members to improve the school financial plan and direct the school resources toward the achievement of the stated vision and mission.

Element of financial purposes

In order to be effective in school financial planning, a school should be clear on the directions of its flow of money and the purposes of its financial expenditure (Cheng, 1996). Basically, school financial resources should serve the main purpose of education, which is to develop human capital for future preparation of the country's skilled workers. Furthermore, school leaders have to be proactive in using funds for improving various skills and capabilities of school teachers or current staff, particularly in relation to teaching and learning activities. In addition, school finance should be channelled to fulfil the government policy regarding education financial expenses and to realize the school's short-term and long-term goals in accordance with the school's stated vision and mission.

Element of school finance organizational structure

The process of financial planning should be conducted by a well-organized school financial structure or related support committees at the school level. There are several important people who should be included on the financial committees as suggested by the panel of experts, such as principal, assistant principals, senior teachers and several other administrative staff members. In order to ensure more effective school-based financial management, schools should consider establishing a School Asset Disposal Committee, School Asset Management and Inventory Committee, School Development Committee and School Price Quotation Committee. It is

also necessary for schools to form their Key Performance Index (KPI) Committee to manage the financial allocations for achieving the school KPI, especially for Cluster schools or the high performing schools/Sekolah Berprestasi Tinggi (SBT).

Element of role of financial planner

Planning involves the responsibility of the relevant school community to play their role as the school financial planner. The concept of school-based financial management for financial planning considers teachers' view, with the Head of Department as the leader of the team's decision making. Therefore, the responsibility and accountability were shared among the relevant school members instead of sole dependency on the principal or head teacher. It reflects autonomy and empowerment granted at the school level by the higher authority as recommended by Brown (1990) and Swartz (2010). In addition, it was agreed that the members of the Parent Teacher Association (PTA) are empowered with authority in planning the PTA funds only. They are responsible for planning and monitoring any of their children's school activities financed by the PTA fund without interrupting the financial management of other school funds.

Element of budget management procedures

In order to plan for using school funds effectively, there are certain budget management procedures that need to be followed (Jabatan Audit Negara Malaysia, 2008). Basically, the procedures have to meet the agreed standards stipulated by the Ministry of Education and the State Education Department in addition to other approaches to ensure a smooth financial management flow. Primarily, the budget preparation should be based on the expected financial allocation that will be received by school. It includes money derived from government grants, income from public sources and any other expected income obtained from school business activities and so on.

Function of financial acceptance

Element of school financial sources

The concept of school-based financial management highlights the community participation in supporting the school activities and operations. It could be attained from monetary and non-monetary contributions given by the community, including societies, corporate or business entities. Business or corporate firms typically receive

advantages in the form of tax-deductions for financial contributions to public organizations as suggested by Bray (1998) and Burrup et al. (1996). This deduction encourages participation by private entities and supports their involvement in the country's development and welfare. However, parents, through Parent-Teacher Associations (PTA) should take the initiative in supporting their children's education experiences through monetary or non-monetary contributions, as suggested Alam (2008). For well-established schools, alumni participation could be strengthened to increase the school's financial resources or any support activities that could benefit students in the long run. In addition, the growing interest in entrepreneurship culture at schools also enables schools to increase their financial resources. Schools receive income from rental activities, small business and commercialization of goods produced by school members as described in several local studies in Malaysia (Maszuria Adam et al., 2008; Muhammad et al., 2009; Shahril@Charil Marzuki, 2008).

Element of financial acceptance procedures

The acceptance of money should be conducted systematically by following certain rules and regulations imposed by the government through the State Education Department. It is essential for the purpose of subsequent control and evaluation and the financial reporting requirement imposed by the government on any public entities. Acceptance of money from the public should be with the knowledge and permission of the State Education Department. A special authorization letter is granted by the principal/head teacher for teachers or any staff members to collect public money such as tuition fees, additional payments for activities and so on. Then, the acceptance of money should be recorded based on a specific account and group of funds by the authoritative staffs. Every acceptance of money should be followed by the issuance of a receipt as a proof of transaction and future reference for reporting purposes.

Function of acquisition and disbursement

Element of acquisition and disbursement authority

The element of acquisition and disbursement authority describes the way public schools spend their financial funds in accordance to their power and autonomy. To be more specific, schools' acquisition and disbursement processes should in line with the targeted objectives as well as following the regulations imposed by the higher authority of government. The most vital part of this

element is the practice of spending the school financial resources in an optimum way. Optimum is defined as the ability of a school to fully utilize its funds according to the agreed financial plan for the purpose of maximizing benefits to the school community. Thus, the school budget should provide guidance for any expenditure during the period of the school financial year. Alteration of financial allocations shall only be made following the specific important needs within the higher authority's approval and consent such as the State Education Department.

Element of acquisition and disbursement procedures

Acquisition and disbursement procedures in school should primarily in accordance with the book of Guidance on Financial Management and Accounting of School Funds produced by the Ministry of Education, Malaysia. This book provides procedures and rules as required by the School Audit Division and Internal Audit Division, Ministry of Education. Generally, any staff that acquires materials and goods for the school should complete the acquisition note before any procurement. Once the acquisition note has been approved by the Principal or assistants, the school finance administrative assistant will prepare the Local Order (LO) to the specific supplier as a proof of a school purchase instruction. In some situations, the school prepares price quotations for certain acquisition of expensive resources. The payment will be made once the pre-ordered goods are delivered. The process will be settled by the chief clerk or the specific financial administrative assistant within a stipulated time and following specific procedures.

Function of control and evaluation

Element of school financial references

The school-based financial management concept applied at public schools in Malaysia works within the boundaries of government rules and regulations. Therefore, the guided autonomy granted at the school level in the context of Malaysia's education requires schools to adhere to several important references and guidelines in order to operate effectively. Mainly, schools have to refer to the Financial Procedures Act of 1957 as the premier reference for all government sectors in Malaysia. Other than that, there are the Education Rules (Account and Audit) 2002 under the Education Act of 1996 which is specifically enacted for application by all public education institutions including schools in Malaysia. In addition, the financial management of public schools is also bound by

the rules imposed in the Treasury Directive and any financial circulars and circulars letters by the Treasury Department, Ministry of Education and National Audit Department of Malaysia.

Element of financial control authority

School financial control is important to ensure effective school financial management, particularly for public schools granted autonomy by the government (Jabatan Audit Negara Malaysia, 2008; Swartz, 2010). The control mechanism acts as monitoring agent for the whole school financial process involving planning, financial acceptance, acquisition and disbursement. As a school manager, the principal or head teacher acts as a financial controller and leads the school monitoring activities. It is recommended that they monitor the school financial records on both a daily and monthly basis to reduce the possibility of mismanagement and misconduct in school financial management.

Element of financial control procedures

The financial control function at the school level requires the implementation of certain established procedures. This is particularly important for the school-based financial management concept which has a wider scope of tasks and is less dependent on higher authority. The group of experts have a high consensus on the need for schools to establish a systematic internal control system with the participation of related important members. This is important for an organization to reach financial effectiveness, as indicated by Mohd et al. (1999) and Weygandt et al. (1996). Then, schools should also set up their own systematic resource centre to ensure safety and optimization in the use of all public properties and capital assets.

Element of financial management effectiveness measures

The success of schools in applying the effective practices recommended in the profile could lead to excellent management which will be valued through certain effectiveness measures as suggested by Cheng (1996). In addition, excellent financial performance also acts as a means for further increases in other aspects of school performance such as an increase in the school management quality, supportive teaching and learning environment and eventually students' academic and non-academic achievement. Among the direct indicators of financial management effectiveness is the school's

optimum financial expenditures as planned in the yearly budget. In other words, the school is able to fully utilize the financial funds for that particular year for providing maximum benefit to all the school members. As a result of financial optimization, schools will be able to realize the schools' stated objectives and reduce the issue of insufficient money allocation.

CONCLUSION AND IMPLICATIONS

This study has contributed to the development of an effective school-based financial management profile based on the Malaysian context. It was designed with the aim of fulfilling the needs of a school's stakeholders by providing comprehensive references that are tailored to the new management setting. The profile of effective school-based financial management in Malaysia is organized into four main financial functions, namely planning, financial acceptance, acquisition and disbursement, and control and evaluation. The function of planning consists of five elements: school vision and mission establishment, financial purposes, school finance organizational structure, role of financial planner, and budget management procedures. The function of financial acceptance is composed of two elements: school financial sources and school financial acceptance procedures. The third function is acquisition and disbursement and is also derived from two elements that are elements of acquisition and disbursement authority and acquisition and disbursement procedures. The last function is control and evaluation, which consists of four elements: school financial references, financial control authority, financial control procedures and financial management effectiveness measures.

The development of this profile absolutely enriches the current body of knowledge with regards to the school-based financial management literature. It widens the scope of the four main concepts existing in the profile based on the Malaysia's school context. Based on the findings, the effective uses of school funds could bring certain impact on schools conditions, which will eventually improve students' performance. This relationship revealed the importance of school financial planning and decision-making inherent in the autonomy granted at school level. Furthermore, this research brings direct and indirect practical implications to all school members. It is primarily important for school leaders, especially the principal or head teacher managing schools with guided autonomy in Malaysia. It could assist principals on school-based financial management matters that involve the important functions of financial planning, financial acceptance, acquisition and disbursement and also the control and evaluation process. This profile serves as additional important reference for schools such as PTj

schools, Cluster schools and also Sekolah Berprestasi Tinggi (SBT) or high performing schools. It works in parallel with other main references such as Acts, Treasury Directives, circulars and circulars letters and also the book of Guidance on Financial Management and Accounting of School Funds produced by Ministry of Education for all public schools in Malaysia.

This profile highlights the teachers' role in school-based financial management and empowers them with some authority over school financial management. Thus, teachers will have a clear picture of their responsibilities to manage school funds effectively and be accountable to all their duties. This profile could also assist school leaders to improve the quality of their school administration and the overall school performance. Teachers will have better understanding of the need for collaboration and teamwork in the management of school funds in addition to their primary role in the teaching and learning process. The roles of parents have never been stated in any school's action plan except for the policy on the functions of Persatuan Ibu Bapa dan Guru (PIBG) or the Parent Teacher Association (PTA). Thus, this profile is accessible for them and serves as a stimulus for them to bring commitment as school stakeholders.

In addition, parents will have an opportunity to understand the transactions involved in school financial operations to make them more alert about their children's learning needs. This in turn will make them more responsible in committing themselves to school improvement matters to ensure their children's good performance. In addition to parents, this profile could become a blueprint for the community on their commitment to assisting in the public schools' operation. Community participation includes support from the school's surrounding community, societies or non-government organizations, businesses or universities in the form of financial contributions or academic/non-academic collaborations. The community will be alert to the school's expectations for them to improve school performance and the government aspiration to have more participation from private entities. Therefore, effective school-based financial management will be realized with the full understanding, support and participation from all related stakeholders.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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Appendices

Table 3. Findings for the Second and Third Round of Delphi Method. Function of Planning.

		ROUND 2			ROUND 3				NO SIGN.
		M O D	M E D	I Q R	M O D	M E D	I Q R	Z	
A. PLANNING									
I. School vision and mission establishment									
1.	School vision and mission are based on government aspiration	5	5	0	5	5	0	- 1.000	Yes
2.	School vision and mission establishment are accompanied with high expectation	5	5	0	5	5	0	- 1.414	Yes
3.	Vision and mission statements are easily understood	5	5	1	5	5	0	- 1.732	Yes
4.	School vision and mission are collectively executed	5	5	1	5	5	0	- 1.732	Yes
5.	School vision and mission become guidance for planning a focused school finance	5	5	1	5	5	0	- 2.000	No
6.	School vision and missions drive school members to improve the school financial plan	5	5	1	5	5	0	- 2.000	No
7.	School vision and mission correspond with stakeholders desires	5	5	1	5	5	0	- 1.732	Yes
8.	School vision and mission receive conformity by all school members	5	5	1	5	5	0	- 2.720	No
9.	School vision and mission are established based on school financial position	4	4	2	4	4	1	0.000	Yes
II. Financial purposes									
10.	School finance is used to develop human capital among school members	5	5	0	5	5	0	- 1.732	Yes
11.	School finance is used to buy teaching aids for the school teaching and learning activities.	5	5	1	5	5	0	- 2.000	No
12.	School finance is used to perform activities to reach for school Key Performance Index	5	5	1	5	5	0	- 1.732	Yes
13.	School finance is used to implement high impact programs with low costs	5	4	1	5	5	0	- 2.271	No
14.	School finance is used to fulfill the government policy regarding the education financial expenses.	5	5	1	5	5	0	- 1.732	Yes
15.	School finance is used to realize the school short term and long term goals	5	5	1	5	5	0	- 2.000	No
16.	School finance is channeled to the creation of conducive school surrounding	5	5	1	5	5	0	- 2.264	No
17.	School finance is used to provide for school facilities	5	4	2	5	5	0	- 2.264	No
18.	School finance is used to increase the school performance in its niche area	5	5	1	5	5	1	- 1.414	Yes
III. School finance organizational structure									
19.	Financial organizational structure is headed by Principal/Head Teacher.	5	5	0	5	5	0	- 1.000	Yes
20.	School forms the School Financial Management and Account Committee which consist of Principal, all Assistant Principals, Head of Department, Subject Senior Teachers, Chief Administrative Assistant, Financial Administrative Assistant and Internal Auditor.	5	5	0	5	5	0	- 1.414	Yes
21.	Appointment of Treasurer in PTA organizational structure.	5	5	0	5	5	0	- 1.414	Yes
22.	School forms Asset Disposal Committee.	5	5	0	5	5	0	- 1.342	Yes
23.	School forms Asset Management and Inventory Committee.	5	5	0	5	5	0	- 1.633	Yes

Table 3. Cont'd.

24.	School forms Key Performance Index Committee to manage the financial allocation for Cluster schools.	5	5	1	5	5	0	- 0.557	Yes
25.	School forms School Development Committee.	5	5	1	5	5	0	- 2.000	No
26.	Appointment of Quality Controller among teachers for inspection of the procurement process	4	4	2	5	5	0	- 2.264	No
27.	School forms School Price Quotation Committee.	5	5	1	5	5	0	- 0.272	Yes
28.	Appointment of Financial Committee member in every school project/program.	4 & 5	4	1	5	5	1	- 1.000	Yes
	IV. Role of Financial Planner								
29.	The role of committee in planning the school fund is based on their specific duty.	5	5	1	5	5	0	- 2.000	No
30.	Financial planning considers the teachers' view with Head of Department as the leader.	5	5	1	5	5	0	- 2.000	No
31.	PTA is empowered with authority in planning the PTA fund.	-	-	-	5	5	0	-	
32.	Principal/Head Teacher is the ultimate decision maker for the school budget	5	5	1	5	5	0	- 1.732	Yes
33.	PTA is empowered with controlled authority in the overall school financial planning process.	5	4	4	5	5	3	- 2.032	No
	V. Budget Management Procedure								
34.	The budget preparation is based on the expected financial allocation gained by school	5	5	0	5	5	0	- 1.732	Yes
35.	Budget is prepared at the end of the year before.	5	5	1	5	5	0	- 2.000	No
36.	Analyzing strength, weaknesses, opportunity and threat of school finance	5	5	1	5	5	0	- 2.449	No
37.	The budget format is referred to the previous year budget	5	5	1	5	5	0	- 2.000	No
38.	Tactical planning is made at the department level for the yearly financial allocation	5	5	1	5	5	0	- 2.449	No
39.	The budget format is standardized	5	5	1	5	5	0	- 1.732	Yes
40.	Budget is announced at the early period of school financial year	5	5	1	5	5	0	- 2.000	No
41.	School applies the 'down-top' concept in planning the school fund	4 & 5	4	1	5	5	1	- 1.134	Yes
42.	The financial planning considers the component of input, process and outcome in implementing every school program/project	4	4	1	4	4	1	- 1.732	Yes
43.	The financial planning policy is flexible according to the school needs	4	4	1	4	4	1	- 1.732	Yes

Table 4. Findings for the Second and Third Round of Delphi Method (Function of Financial Acceptance).

		ROUND 2			ROUND 3				NO SIGN.
		M O D	M E D	I Q R	M O D	M E D	I Q R	Z	
B. FINANCIAL ACCEPTANCE									
I. School Financial Sources									
44.	Collaboration with potential society/body on school program can reduce the school financial expenses	5	5	1	5	5	0	- 2.530	No
45.	Entrepreneurship culture enable school to increase school financial sources	5	4	1	5	5	0	- 2.640	No
46.	Corporate contribution could increase school financial sources	5	5	1	5	5	0	- 2.000	No
47.	Society's contribution enable school to increase school financial sources	5	5	1	5	5	0	- 2.449	No
48.	PTA's active roles enable school to increase school financial sources	5	5	1	5	5	0	- 2.000	No
49.	Primary school financial sources from Federal Government	5	5	1	5	5	0	- 1.414	Yes
50.	Alumni's active role enables school to increase school financial sources	5	4	2	5	5	0	- 2.060	No
II. School Financial Acceptance Procedures									
51.	School acquires permission from State Education Department in collecting public money	5	5	0	5	5	0	0.000	Yes
52.	Special authorization letter is granted by principal/head teacher for teacher to collect public money	5	5	0	5	5	0	- 1.000	Yes
53.	School records acceptance of money based on specific book category and group of fund	5	5	0	5	5	0	- 1.000	Yes
54.	School issues receipt for every acceptance of money by school	5	5	0	5	5	0	- 1.000	Yes
55.	Total of money accepted from public is banked-in within the same day	5	5	0	5	5	0	- 1.633	Yes
56.	School prepares Bank Payment Slip for acceptance of money through bank	5	5	0	5	5	0	- 1.633	Yes
57.	Acceptance of money from public is forwarded to office within the same day	5	5	1	5	5	0	- 2.000	No
58.	Acceptance of check is credited within one week	5	5	1	5	5	0	- 1.857	Yes

Table 5. Findings for the Second and Third Round of Delphi Method (Function of Acquisition and Disbursement).

	ROUND 2			ROUND 3				NO SIGN.
	M O D	M E D	I Q R	M O D	M E D	I Q R	Z	
C. ACQUISITION AND DISBURSEMENT								
I. Acquisition and Disbursement Authority								
59.								
	School financial allocation is spent in an optimum way							
	5	5	0	5	5	0	- 1.414	Yes
60.								
	School expenditure is based on approved allocation							
	5	5	0	5	5	0	- 1.414	Yes
61.								
	Budget becomes guidance for school expenditure							
	5	5	0	5	5	0	- 1.414	Yes
62.								
	School acquisition transactions adhere to the stated procedures							
	5	5	1	5	5	0	- 2.000	No
63.								
	School contract selections adhere to the stated procedures							
	5	5	0	5	5	0	- 1.414	Yes
64.								
	Alteration on financial allocation is made following higher authority approval							
	5	5	0	5	5	0	- 1.414	Yes
65.								
	Acquisition is done based on the quality of goods and services							
	5	5	0	5	5	0	- 1.414	Yes
66.								
	Acquisition is done based on the school's real needs							
	5	5	0	5	5	0	- 1.414	Yes
67.								
	Acquisition is done by considering the school's priority							
	5	5	0	5	5	0	- 1.414	Yes
68.								
	Acquisition is done based on sufficient school's financial position							
	5	5	0	5	5	0	- 1.414	Yes
69.								
	Acquisition is done based on reasonable price							
	5	5	1	5	5	0	- 1.890	Yes
70.								
	Authority to approve school acquisition is granted to Principal or its assistants (deputy) only							
	5	5	1	5	5	0	- 1.633	Yes
71.								
	Disbursement authority /check approval is granted to Principal and its assistants only (depends on transactions)							
	5	5	1	5	5	0	- 1.414	Yes
II. Acquisition and Disbursement Procedures								
72.								
	School completes the acquisition note before any procurement							
	5	5	0	5	5	0	- 1.342	Yes
73.								
	School prepares Local Order after getting approval to purchase							
	5	5	1	5	5	0	- 1.890	Yes
74.								
	Disbursement is accompanied with complete supporting documents							
	5	5	0	5	5	0	- 1.732	Yes
75.								
	School records every purchase transaction in specific accounts either manually or computerized							
	5	5	0	5	5	0	- 1.414	Yes
76.								
	School records small amount purchases in the Petty Cash account							
	5	5	0	5	5	0	- 1.414	Yes
77.								
	School makes payment within 14 days following the acceptance of invoice/bills							
	5	5	0	5	5	0	- 1.342	Yes
78.								
	Stock, inventory and capital assets are registered within 14 days following its acceptance							
	5	5	0	5	5	0	- 1.342	Yes
79.								
	School prepares price quotation for certain acquisition value							
	5	5	1	5	5	0	- 1.732	Yes

Table 6. Findings for the second and third round of Delphi method (Function of Control and Evaluation).

	ROUND 2			ROUND 3				NO SIGN.
	M O D	M E D	I Q R	M O D	M E D	I Q R	Z	
D. CONTROL AND EVALUATION								
I. School Financial Reference								
80.								
	5	5	0	5	5	0	- 1.000	Yes
81.								
	5	5	0	5	5	0	- 1.000	Yes
82.								
	5	5	0	5	5	0	- 1.000	Yes
83.								
	5	5	0	5	5	0	- 1.000	Yes
84.								
	5	5	0	5	5	0	- 1.342	Yes
85.								
	5	5	0	5	5	0	- 1.342	Yes
86.								
	5	5	1	5	5	0	- 2.449	No
87.								
	5	5	2	5	5	0	- 2.401	No
II. Financial Control Authority								
88.								
	5	5	0	5	5	0	0.000	Yes
89.								
	5	5	0	5	5	0	- 1.000	Yes
90.								
	5	5	0	5	5	0	- 1.000	Yes
91.								
	5	5	0	5	5	0	- 1.732	Yes
92.								
	5	5	0	5	5	0	- 1.342	Yes
93.								
	5	5	1	5	5	0	- 1.732	Yes
94.								
	5	5	0	5	5	0	- 1.342	Yes
95.								
	5	5	1	5	5	0	- 1.890	Yes
96.								
	4 & 5	4	1	5	5	1	- 1.732	Yes
III. Financial Control Procedures								
97.								
	5	5	0	5	5	0	- 1.414	Yes
98.								
	5	5	0	5	5	0	- 1.732	Yes
99.								
	5	5	0	5	5	0	- 1.633	Yes
100.								
	5	5	0	5	5	0	- 1.633	Yes
101.								
	5	5	0	5	5	0	- 1.633	Yes
102.								
	5	5	0	5	5	0	- 1.633	Yes
103.								
	5	5	1	5	5	0	- 1.890	Yes
104.								
	5	5	1	5	5	0	- 2.121	No
105.								
	5	5	1	5	5	0	- 2.264	No
106.								
	5	5	0	5	5	0	- 1.414	Yes
107.								
	5	5	1	5	5	0	- 1.633	Yes

Table 6. Cont'd.

108.	Financial report is prepared following the completion of every school program/project	5	5	1	5	5	0	- 1.633	Yes
109.	School prepares the agreement effectiveness report on the security and cleanliness contract services	5	5	1	5	5	0	- 1.633	Yes
110.	School prepares stock verification report according to the required frequency	5	5	1	5	5	0	- 2.121	No
111.	Internal Audit Division, Ministry of Education monitors the monthly financial transaction on-line	5	5	2	5	5	0	- 2.214	No
112.	School depreciates its assets based on standard procedures	5	5	1	5	5	0	- 1.414	Yes
113.	School registers the financial monitoring activities in the Immediate Inspection Record	5	5	1	5	5	0	- 2.121	No
114.	School sets up a systematic resource center	5	4	1	5	5	0	- 2.333	No
115.	School submits the Monthly Expenditures Performance Report to the Head of Responsibility Centre (PTj)	5	5	1	5	5	0	- 1.732	Yes
116.	Minutes of financial meeting by Financial Committee and quarterly report is submitted to the Head of Responsibility Centre (PTj)	5	5	1	5	5	0	- 1.414	Yes
117.	School submits the Yearly School Financial Statement through the Head of Responsibility Centre (PTj) before 28/29 February of the following year	5	5	1	5	5	0	- 1.633	Yes
	IV. Financial Management Effectiveness Measures								
118.	School receives unqualified audit opinion from School Audit Division	5	5	0	5	5	0	- 1.732	Yes
119.	School has optimum financial expenditures as planned in the yearly budget	5	5	0	5	5	0	- 1.633	Yes
120.	School achievement receives recognition based on excellent award	5	5	0	5	5	0	- 1.414	Yes
121.	School's staffs manage to achieve the Yearly Working Target (SKT)	5	5	1	5	5	0	- 1.633	Yes
122.	School obtains overall excellent results in the public examination	5	5	1	5	5	0	- 1.342	Yes
123.	Students' attainments are excellent as a whole	5	5	1	5	5	0	- 1.732	Yes
124.	School programs/projects manage to realize the stated objectives	5	5	1	5	5	0	- 2.121	No
125.	School manages to achieve the targeted Key Performance Index (KPI)	5	5	1	5	5	0	- 2.121	No
126.	School does not receive charge for any financial mismanagement	5	5	1	5	5	0	- 1.604	Yes
127.	PTA's financial fund is audited by auditor appointed among knowledgeable person	5	4	2	5	5	0	- 1.890	Yes