

The Development of Analytical Hierarchy Process (AHP) Model for Optimization of School Operational Assistance (BOS)

Salman Alfariy Totalia¹, Trisno Martono², Khresna Bayu Sangka³, Winny Swastike⁴, Sigit Wahyudi⁵, Suhadi⁶

^{1,2,3,4,5,6}Universitas Sebelas Maret, Indonesia

salmanalfarsytalia@staff.uns.ac.id

Abstract

Since its implementation in 2005, the School Operational Assistance (BOS) program has encountered several obstacles. The problems that often arise are the lack of planning and the lack of participation of the school ecosystem, especially in determining plans, planning documents and project priorities. The Analytical Hierarchy Process (AHP) model is a prioritization approach based on the determination of the priority scale on the comparison of one option with another. This approach is widely used to make decisions in various sectors, business, government, management, and education. It is very important to have a solution optimization tool in place to deal with the main problems that arise in allocating these funds. In this research, The AHP model is used to determine the priority scale on the criteria for BOS funds in the current year so that BOS funds can be optimally absorbed and can be utilized properly in its implementation for Vocational High School (SMK) activities. The results showed that the use of AHP made it easier for school residents to prioritize the use of funds for school activities. AHP can also be used for various stakeholders in schools (principals, treasurers, teachers, and committees, parents/guardians) to participate in making decisions about the use of BOS funds to improve school performance and quality.

Keywords

school operational assistance (BOS), analytical hierarchy process (AHP); model for optimization



I. Introduction

The education budget allocation of 20 percent of the State Revenue and Expenditure Budget (APBN) has not had a significant impact on improving the quality of education in Indonesia (Ministry of Finance, 2019). This is evident from Indonesia's Program for International Student Assessment (PISA) score which is still below Vietnam. Indonesia and Vietnam are two countries that both allocate 20 percent of their APBN for the education sector. Another problem is related to the impact of the allocation of education funds on the increase in Indonesia's Gross Domestic Product (GDP). Based on data (Summary of Indonesia's Education Sector Assessment, 2017) that in 2012 investment spending in education only had an impact of 3.6% on GDP. According to international standards, the minimum contribution of investment spending in education to GDP is six percent. Some of these problems indicate that the utilization of education funds in Indonesia is less than optimal.

Education Financing allocated by the central government consists of components of personal costs, investment costs, and operating costs. Personal costs are educational costs that must be incurred by students to be able to follow the learning process regularly and continuously. Investment costs are costs incurred by education providers for the provision

of facilities and infrastructure, development of educators and education personnel, and fixed working capital. Tuition fees in this standard only cover non-personnel operating costs. Standard operating costs are standards that regulate the components and the amount of operating costs for educational units that are valid for one year, in order to provide educational services in accordance with the National Education Standards (SNP).

Personal costs for schools are educational costs that must be incurred by students to be able to follow the learning process at school regularly and continuously. Investment costs are costs incurred by education providers for the provision of facilities and infrastructure, development of educators and education personnel, and fixed working capital. Operational costs are part of the educational costs needed to finance school operations so that educational activities can take place in accordance with the National Education Standards (SNP) on a regular and continuous basis. Furthermore, personnel operating costs include salaries of educators and education personnel as well as all allowances attached to salaries. Non-personnel operating costs include operating costs other than salaries and allowances for educators and education personnel.

School Operational Assistance (BOS) is a government program which is basically to provide funding for non-personnel operating costs for basic education units as the implementation of compulsory education programs. One of the factors that influence the success of the BOS program is the management of funds and all available resources in the BOS program. The importance of managing BOS funds is that, with good management, they will be able to help achieve the objectives of the BOS program effectively and efficiently. Good management of BOS funds is a school's success in managing BOS funds, through a systematic collaborative process starting from planning, implementation, to evaluation.

Syarief Oebaidillah, (2019) explained that the management of School Operational Assistance (BOS) funds in many areas was generally still poor. Misappropriation and embezzlement of BOS funds were carried out by school personnel, the education office, or school working groups. The findings of the Supreme Audit Agency (BPK) in several regions regarding the use of 2019 BOS funds indicate this. Furthermore, Bahri., Sumaryana, A., Karnaesih., & Karlina, (2019) through his study entitled "The Implementation of the Allocation and Distribution of School Operational Assistance Program for Compulsory Education Units in Kuningan Regency, West Java Province" shows the results show that SOAP (School Operational Assistance Program aka School Operational Assistance / BOS) has been implemented in accordance with provisions are contained in the SOAP handbook. However, weaknesses must be overcome by the principal as the recipient and manager of SOAP funds, including: the incompatibility of the implementation of spending with the regulated targets, the dominance of the principal in determining the planning and spending of SOAP/BOS funds, the weakness of the planning due to the minimal contribution of committee elements and related parties.

Study conducted by Martono, T., Baedhowi, B., Wardani, DK, Triyanto, Totalia, SA, Oktorina, D., & Laksono, (2016) explained that the success of the quality or quality of learning is influenced by the standard of financing, including the School Operational Assistance (BOS). Furthermore, (Baedhowi, Martono, T., Wardani, DK, Totalia, SA, Laksono, PW, Triyanto, & Octaria, (2017) explained that the School Operational Assistance (BOS) provided to schools had a significant impact in improving the quality of student learning in SMK. However, on the other hand, inefficiencies in the use of BOS funds were also found, broadly speaking, schools were oriented to how to achieve budget

absorption, this also resulted in the potential for fraud in implementation and accountability. Furthermore, Baedhowi et.al (2017) found that the potential use of BOS funds in SMK is dominated by the purchase of practicum materials and consumables, this has the potential to tend to spend the budget, so the potential for fraud is large.

Preliminary study conducted by Totalia, (2020) Getting to the general problems and difficulties faced by schools in the use of BOS funds is starting from the planning process or BOS fund proposals from the school's internal parties. The main problem is the weakness of planning and the lack of participation of the school ecosystem in determining plans, planning documents and the priority scale of program and activity plans based on the school's BOS ceiling. Second, the implementation or expenditure of BOS often encounters obstacles related to the governance of the use of state finances, which have very detailed rules. Third, there are various BOS applications that refer to shopping details, In addition, the system has a different format from one system to another which refers to the 8 SNPs (Kemdikbud) and refers to the spending format (Kemdagri) which must adjust the 12 BOS targets to these systems. Fourth, the lack of supervision that is mentoring, the existing supervision is felt by the school to tend to find fault and blame the school.

The Analytic Hierachy Process (AHP) method is a general theory of measurement. Four kinds of measurement scales are usually used sequentially, namely nominal, original, interval, and ratio scales. A higher scale can be categorized into a lower scale, but not vice versa. Income per month on a ratio scale can be categorized into income levels on an ordinal scale or categories (high, medium, low) on a nominal scale. On the other hand, if at the time of measurement the data obtained were categorical or ordinal, data with a higher scale could not be obtained. The Analytic Hierachy Process (AHP) addresses some of these problems. (Saaty, T, 1993) Analytic Hierachy Process (AHP) is used to derive the ratio scale from several discrete or continuous pairwise comparisons. Pairwise comparisons can be obtained through actual measurements or relative measurements of the degree of liking, or interests or feelings.

Thus this method is very useful to help get the ratio scale of things that were originally difficult to measure such as opinions, feelings, behaviors and beliefs (Saaty, 2004). The use of the Analytic Hierachy Process (AHP) begins with creating a hierarchical structure or network of the problems to be investigated. In the hierarchy there are main objectives, criteria, sub-criteria and alternatives that will be discussed. Pairwise comparisons are used to establish relationships within the structure. The result of this pairwise comparison will form a matrix where the ratio scale is derived in terms of the main vector eigenvalues or eigenfunctions. The matrix has positive and inverse characteristics, namely $a_{ij} = 1/a_{ji}$. (Saaty, T, 1993).

Analytic Hierachy Process (AHP) is a framework for making effective decisions on a problem by simplifying and accelerating the decision-making process by breaking the problem into parts and arranging these parts in a hierarchical form, assigning a numerical value to subjective judgments about the importance of variables and synthesizes these considerations to determine which variable chooses the highest priority and acts to influence the outcome of the situation.

In its development, the Analytic Hierachy Process (AHP) can solve complex or unframed problems with quite a lot of aspects or criteria. This complexity is caused by the unclear problem structure, uncertainty in the perception of decision making and the uncertainty of the availability or even the absence of accurate statistical data. Sometimes there are perceived and observed decision problems that need to be taken as soon as possible, but the variations are complicated so that the data cannot be recorded numerically, only qualitatively that can be measured, namely based on perception, experience and intuition.

The use of the AHP model allows BOS SMK managers to capture strategic targets using weight criteria as a basis for prioritizing the use of BOS funds. AHP is also able to collaborate between various stakeholders in the school (Principals, Treasurers, Teachers, Committees, Parents/Guardians) to participate in making decisions on the use of SMK BOS funds as an effort to improve the quality and form of support for decisions made taken by the school. The AHP model allows schools and stakeholders as managers of BOS SMK to make a priority scale which is manifested in the form of ranking or ranking for each BOS SMK target so that the allocation of BOS funds will be better in accordance with the expected goals of the school. The progress of a nation can only be achieved through structuring good education. (Nurjanah, 2020). The school needs to be given trust to organize and take care of itself according to environmental conditions (Musdiani, 2019).

Therefore, the formulation of the problem proposed in this study is: "Is the Analytical Hierarchy Process (AHP) Model effective for determining the priority scale of BOS SMK targets and budget priorities?" This study aims to determine the effectiveness of the Analytical Hierarchy Process (AHP) model that is feasible to use to determine the priority scale of targets and budget priorities of BOS SMK. The targets of this research are all stakeholders involved in planning the use of BOS funds received by schools, especially Vocational High Schools (SMK), namely the Principal, School Treasurer, Teachers, School Committees and Parents/Guardians.

II. Research Methods

This research is a research and development (R&D) which aims to develop the Analytical Hierarchy Process (AHP) Model to determine the priority scale of BOS SMK targets and budget priorities. Sukmadinata, (2013) defines R&D as a research and development method to develop a new product or improve an existing product and can be accounted for. Data collection is done by Analytical Hierarchy Process (AHP) Method (Saaty in Tobing, 2021). Data analysis using observation/ direct observation and literature.

The stages in this R&D research are preliminary studies aimed at finding the problems experienced by the research subjects so far. Based on the information obtained from the research subject, the researcher will prepare a product draft which is expected to be able to solve problems for the research subject. In addition, it was stated that R&D as a research method that is purposeful/directed to find, formulate, improve, develop, produce, test the effectiveness of products, models/methods/strategies/methods/services/procedures that are superior, new, effective, efficient. , productive and meaningful(Kusumaningrum, Sumarsono, & Gunawan, 2017).

After that the researchers entered the second stage, namely Limited Trial which tested the product to several expert validators and research samples (principals, treasurers, teachers, committees, parents/guardians) in SMK in Surakarta in order to find out whether the product was feasible. to use or not. From the input of expert validators and research samples, the research will improve the product so that the product is ready to be carried out in the third stage, namely the testing stage. The framework for this research in detail can be seen in Figure 1 as follows:

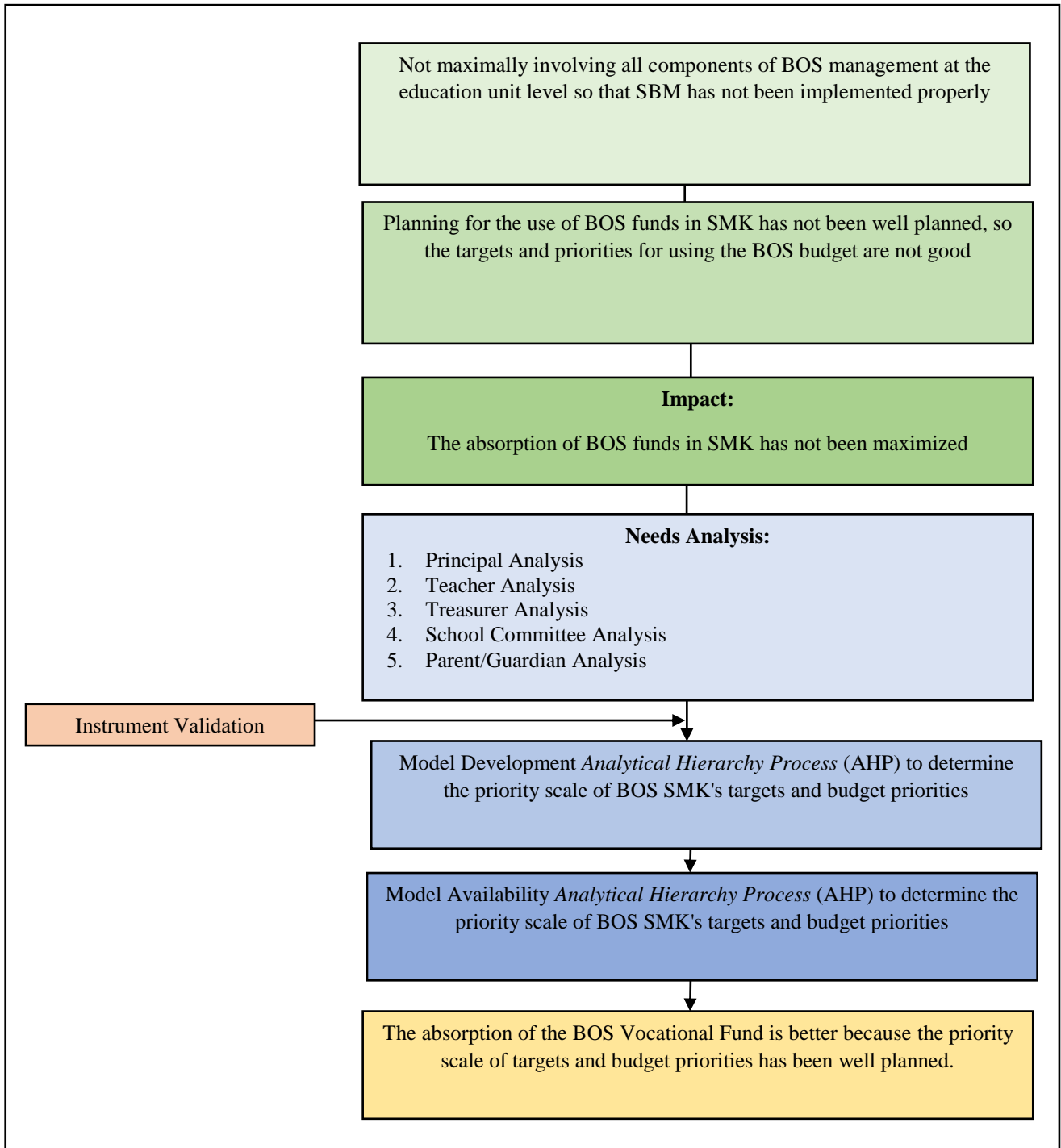


Figure 1. Thinking Framework

The development of the Analytical Hierarchy Process (AHP) model that will be examined is all components of expenditure including the target use of Regular BOS funds in accordance with existing regulations which include library development, new student admissions/PPDB activities, learning and extracurricular activities, learning evaluation activities, management schools, teacher professional development, industrial practice activities, Field Work Practices (PKL), Competency Testing & Vocational Certification Activities, Purchase or maintenance of learning multimedia tools, Payment of Honors, School Maintenance, Subscriptions for Power & Services.(Education, Culture, & Indonesia, 2020; Education et al., 2020)

For needs analysis, the data used is a survey questionnaire given to stakeholders with an interest in the management of the Regular BOS of SMK including the Principal, Treasurer, Teachers, Committees, Parents/Guardians. This questionnaire contains several Planning, Utilization, Evaluation/Reporting questions. The measurement of the questionnaire to stakeholders is measured by a Likert scale with a value between 1-9.

The population of this research is all Vocational High Schools (SMK) in Indonesia which are divided into 13,710 Public and Private Vocational Schools throughout Indonesia, and are grouped by cluster. The SMK cluster refers to a cluster based on the 2020 Regular BOS disbursement data, consisting of three clusters. The determination of this cluster is based on the amount of Regular BOS funds received by each SMK. The division of clusters is based on the absorption and distribution capacity of Regular BOS in each SMK. Cluster 1 category means that the Vocational High School has a distribution and absorption capacity for BOS costs below the average, while cluster 2 has a smaller difference to the average than cluster 3.

Samples were taken proportionally Central Java, East Java, South Kalimantan, Bali, NTB representing the western, central and eastern parts of Indonesia based on clusters and their management for each cluster.

The data collection techniques used to collect the required data and the data sources of each technique used in this study are as follows.

1. Interviews, which are used in the early stages of a preliminary study to determine the initial conditions of the planning process for the management of Regular BOS funds in SMK. At the development stage, namely (1) preliminary field testing, interviews were conducted to find out the responses, criticisms, and suggestions given by the validator to the product being developed, (2) in the main field testing, namely interviews were conducted at several vocational schools that were the target of the trial. to find out the general response to the use of the Analytical Hierarchy Process (AHP) System, while at the testing stage, interviews were conducted after the trial stage took place, so that it could be seen how the Vocational High School's positive response related to the Analytical Hierarchy Process (AHP) model was.
2. Observation, which is used to record important events and respond to students in the product testing process. In addition, the observation technique is used to collect data directly according to the activities of SMK when using the Analytical Hierarchy Process (AHP) Model which was developed so that it can strengthen the information that can be obtained, including being able to overcome obstacles that occur in the field. The type of observation is participatory observation, which means being involved in the learning process as an observer.
3. Document analysis, namely in the process of extracting data is also needed by digging up the documents available at the research site. The data used in this study are the name of the school, the name of the regular BOS fund management team at the school and several documents that can be used as additional information to develop the Analytical Hierarchy Process (AHP) Model.
4. Questionnaire, is a number of written questions that are used to obtain information from respondents about things that are known or about the respondent's personality (Arikunto, 2013). In this study, the type of questionnaire used is a closed questionnaire in which respondents choose the answers that have been provided by the researcher.

III. Discussion

Based on the procedure in the research method above, it appears that the main advantage of AHP is the ability of AHP to sort options based on their effectiveness in meeting conflicting goals. (Jusoh, Y., Chamili, K., Pa, N., 2014) In addition, AHP is suitable for people who work with problems involving human perception and judgment that will have long-term impacts later (Jusoh, Y., Chamili, K., Pa, N., 2014) and allows for some minor inconsistencies in judgment because it must be recognized that human perception is not always consistent.

In addition, the application of AHP is based on the experience and knowledge of experts or users to determine the factors that influence the decision process (Velmurugan, R., Selvamut Hukumar. S., 2001). In this study, after the priority scale criteria were identified based on qualitative data analysis, the weight of each criterion was determined by comparing the two criteria at once. AHP requires decision makers to perform simple pairwise comparison assessments (Yadav, 2013).

The data obtained from the survey is then managed, processed and then analyzed. This data management includes: descriptive statistical analysis and inferential statistical analysis. After the data is well organized, then data processing using SPSS software includes: validity test, reliability test, and analysis requirements test. Test requirements analysis includes classical assumption test (normality test, homogeneity test and effectiveness test).

Data analysis in this study was used to test the effectiveness of the Analytical Hierarchy Process (AHP) model which was used to determine the priority scale of the BOS SMK targets and budget priorities. The subjects in this study were Vocational High Schools (SMK) referring to clusters based on the 2020 Regular BOS disbursement data, consisting of three clusters. The determination of this cluster is based on the amount of Regular BOS funds received by each SMK. The analysis of the results obtained are as follows:

1. Research Instrument Development

This research instrument was made in the form of a questionnaire containing open and closed questions/statements given to school principals, regular BOS treasurers, teachers, committees and parents/guardians, to obtain information about the effectiveness of the Analytical Hierarchy Process (AHP) model suitable to be used to determine the scale priority targets and budget priorities of the BOS SMK. The information extracted in this research instrument includes: General Knowledge related to SMK BOS targets, good school governance which includes: Participation, Transparency, Accountability and Value for Money which includes: Economic, Effective, Efficient.

To ensure that the instrument that has been made can measure what should be measured, content validity is carried out which includes readability, adequacy, and suitability of the aspects to be measured. Content validity has been carried out by 5 experts, namely 3 lecturers and 2 principals of SMK. The results of the analysis of the experts stated that the instrument could be used with several revisions and additional question items so that it could accommodate all aspects to be measured.

2. Data Description

The research on the Development of the Analytical Hierarchy Process (AHP) Model to Determine the Priority Scale of Targets and Budget Ceilings for the BOS SMK was carried out from August-November 2021. The research instrument was prepared in September 2021 and has gone through the validation and testing stages of the instrument, so October is used to retrieve data. Data retrieval is done by 2

methods, namely online and offline. The offline method was used for the limited trial and the online method was used for the wide trial. As of October 7, 2021, data on the number of respondents from state vocational schools has been obtained as many as 30 vocational schools with the respondents filling in the principals, BOS treasurers, teachers, committees and parents/guardians.

3. Data Analysis

Several issues that have caught the attention of many people in Indonesia are the education allocation funds from the APBN and APBD which have been included in Law No. 48 of 2008. The allocation of 20% of funds for education is still being fought for. This includes education subsidies in the form of School Operational Assistance (BOS) or others, and improving teacher welfare. The theory of education financing often contradicts the policy practice applied in Indonesia. After being studied with a macro approach, this education financing is very inappropriate and far from ideal in the world of education. However, this social gap can be done by management who are competent in managing finances in the education sector in this country (Halik, A., Hidayati, N. and Amin, 2018).

School Operational Assistance (BOS) for SMK is a government program in the form of direct funding to SMKs, both public and private, to assist non-personnel school operational costs. The program is distributed to SMK in the form of IDR 1,600,000 per student annually which aims to 1) create strong vocational high school education actors; (2) Realizing access to vocational high schools that is widespread, equitable, and just; and (3) Realizing quality learning.

In developed countries, such as the UK, the financial assistance provided by the government has a positive and significant impact on children's participation in school (Dearden, 1996). Likewise, funds provided to children from poor families in Australia increased their enrollment in school by three percent (Dearden, 1996). In developing countries such as Mexico, Ekuador, Colombia, Honduras and Nicaragua found that there is a significant difference in school enrollment where there is an increase in enrollment and a decrease in dropout due to direct funding to children. (Attanasio, O., Fitzsimons, E. and Gomez, nd; Glewwe, P. and Olinto, 2004; Maluccio, JA and Flores, 2005; Schady, N. and Araujo, 2008; Schultz, 2004).

The success of the BOS program is influenced by the management of funds and all available resources in the BOS program. Good management of the SMK BOS Fund will be able to help achieve the objectives of the SMK BOS program effectively and efficiently. Schools occupy an important position in determining the use of SMK BOS funds, because schools are agencies directly related to the management of BOS funds. Errors by the management can cause obstacles in the implementation of the Management of the Vocational High School BOS Fund.

The lack of specificity in the instructions contained in the technical instructions for BOS SMK has led to different interpretations by the SMK BOS Fund Management. This is a problem and can lead to allegations of fraud. Several results of previous research conducted in various regions and regions in Indonesia show that the implementation of the distribution of school operational assistance funds (BOS) has not run optimally due to various limitations and obstacles. The results of the study indicate that there are three aspects that have not been implemented properly in the implementation of the distribution of BOS funds, namely the communication aspect, the disposition aspect and the bureaucratic structure aspect. (Anas, 2016).

Other research also shows that the planning, allocation, and use of BOS funds are not in accordance with the Technical Guidelines for BOS and reporting of BOS funds is not carried out transparently. (Silele, E., Sabijono, H. and Pusung, 2017). Eka Anggraini

and Mayarn also conducted research on the Evaluation of the BOS Program on improving elementary school facilities and infrastructure in Tampan District, Pekanbaru City. (Anggraini, 2013).

The problem that occurs in the BOS fund program in general is that there is still a lack of transparency and accountability in the management of school operational assistance funds (BOS), because there are still many schools that do not want the accountability report for the use of BOS funds to be known by the public. (Kaswandi, 2015). For this reason, BOS funds need evaluation, starting from planning, implementing, using up to reporting on financial accountability of BOS funds, so that in the management of BOS funds, whether it is in accordance with the Technical Guidelines in the regulations of the Minister of Education and Culture of the Republic of Indonesia Number 8 of 2010, and Number 19 of 2010. 2020 and there is no leakage or misuse of BOS funds.

Based on the results of the studies that have been carried out, it was found that in planning the use of the BOS budget for SMK there are still SMKs that have not optimally involved the BOS management team in accordance with the applicable Permendikbud. This can be seen in Figure 2 below:

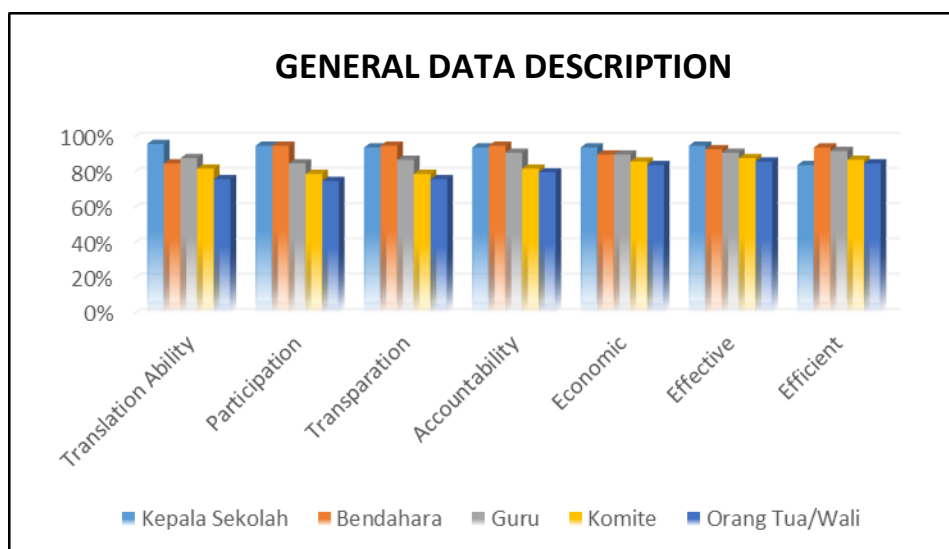


Figure 2. *General Data Description*

The data obtained shows that there are different statements from the Regular BOS Management Team of SMK mainly on indicators of participation between the principal and the committee or parents. In a statement as many as 95% of school principals stated that they had involved the entire BOS management team in planning the School Activity Plan and Budget (RKAS) for the use of SMK BOS funds, but this was different from statements from the committee and parents who felt they had not been optimally involved in RKAS planning schools for the use of SMK BOS funds.

The committee and parents only felt that they were given socialization that schools received BOS funds without being involved in the planning process. This is very interesting to discuss, because the Permendikbud which regulates the Technical Guidelines for BOS has explained that the planning process should involve the entire Regular BOS management team consisting of the Principal, Treasurer, Teachers, Committees, and Parents. This is reinforced by data from the study that 97% of school principals feel they have involved the entire BOS Management Team in planning to

determine the proportion of the use of Regular BOS funds, this is inversely proportional to the side of the committee and parents/guardians, because only 70% of and 67% of parents/guardians who feel involved in the planning to determine the proportion of the use of Regular BOS funds.

From the data analysis above, it can be concluded that there are still obstacles in the planning of determining the proportion of the use of Regular BOS funds, especially at the planning stage which must involve the Principal, BOS Treasurer, Teachers, Committees, and Parents/Guardians. Based on the results of in-depth interviews conducted, the Committee and parents/guardians who filled out the questionnaire were involved only to the extent of being involved in the meeting and were not given a weight composition to determine the amount of planning, the budget ceiling for the Regular BOS, so that the committee and parents/guardians in this case were involved. In the sense of being informed of the total number of Regular BOS in schools without any explanation and without having the weight to participate in determining the details of the use planning, budget priority scale and the Regular BOS budget ceiling.

IV. Conclusion

The AHP model proposed in this study can be used by the school in planning the use of BOSRegular. It is intended that Regular BOS can be used in a flexible, accountable and acceptable manner by all parties involved in the school. Slightly different from BOS SD, SDLB, SMP and SMPLB, and SMA BOS Regular for Vocational High Schools which have more financing components than the others, namely 12 financing components, here are the planning steps for Regular BOS by utilizing the AHP system for General Vocational Schools:

- a. The school, in this case the Principal (in accordance with Permendikbud Number 8 of 2020 regarding the Technical Guidelines for Regular BOS) appoints the manager of the school's Regular BOS which includes:
 - 1) The principal as the person in charge
 - 2) Members consist of:
 - a) treasurer
 - b) 1 (one) person from the teacher element
 - c) 1 (one) person from the elements of the School Committee
 - d) 1 (one) parent/guardian of students outside the School Committee who is selected by the Principal and the School Committee by considering credibility and avoiding conflicts of interest
- b. The Principal appoints one member to be the Regular BOS Management Team (from the teacher or treasurer element) who will be assigned to collect AHP data from each Regular BOS management as a basis for planning the use of Regular BOS.
- c. The Vocational Regular BOS Management Team will have: database AHP processing in one folder.
- d. The Principal and the SMK BOS Management Team determine the Regular BOS Funding Component/target in the current year in accordance with the Technical Guidelines from the Minister of Education and Culture (which applies in 2020 is Permendikbud Number 8 of 2020)
- e. The Vocational Regular BOS Management Team distributes the received excel file to each BOS manager according to the name of the existing excel file, for example: AHP BOS Principal 2020 means the file is for the principal, etc.
- f. The BOS manager receives an excel file in which there is a display of 4 sheets with sub menus Instructions, Priorities, Weights and Ranking.

g. SheetInstructions are used by BOS SMK managers to understand the table of cost components/target scale of Regular BOS and their definitions, as well as the ratio scale of several pairwise comparisons of cost components/target scale of Regular BOS. With the final result as shown in Figure 3 below:

TABEL SKALA SASARAN BOS DAN DEFINISINYA		
No	Sasaran BOS	SBOS
1	Penerimaan peserta didik baru	SBOS 1
2	Pengembangan Perpustakaan	SBOS 2
3	Kegiatan Pembelajaran dan Ekstrakurikuler	SBOS 3
4	Kegiatan Asesmen dan Evaluasi Pembelajaran	SBOS 4
5	Pelaksanaan administrasi kegiatan sekolah	SBOS 5
6	Pengembangan Profesi Guru dan tenaga kependidikan	SBOS 6
7	Langganan Daya & Jasa	SBOS 7
8	Pemeliharaan sarana dan prasarana sekolah	SBOS 8
9	Penyediaan Alat Multimedia Pembelajaran	SBOS 9
10	Peningkatan kompetensi keahlian	SBOS 10
11	Kegiatan dalam mendukung keteserapan lulusan	SBOS 11
12	Kegiatan Praktek Kerja Industri, Praktek Kerja Lapangan (PKL)	SBOS 12

TABEL SKALA SASARAN BOS DAN DEFINISINYA	
Skala	Definisi dari "Importance"
1	SBOS 1 sama penting dibanding dengan SBOS 2
3	SBOS 1 sedikit lebih penting dibanding dengan SBOS 2
5	SBOS 1 lebih penting dibanding dengan SBOS 2
7	SBOS 1 sangat penting dibanding dengan SBOS 2
9	SBOS 1 jauh sangat penting dibanding dengan SBOS 2
2,4,6,8	*) nilai tengah-tengah

*) Pengertian nilai tengah-tengah adalah jika SBOS 1 sedikit lebih penting dari SBOS 2 maka seharusnya kita memberikan nilai 3, tetapi jika nilai 3 tersebut dianggap masih terlalu besar dan nilai 1 terlalu kecil maka nilai yang tepat diberikan adalah 4.

Figure 3. Sheets Excel for BOS Regular SMK Cost Components/Targets

h. Priority sheet used by the BOS Regular SMK manager to determine the priority of the BOS Regular BOS cost components/targets which should be prioritized over other BOS Regular BOS cost components/targets or in other languages to rank the BOS target priority scale

User responses to the use of the AHP model to plan the BOS Regular SMK budget ceiling can be concluded that by utilizing the AHP model in planning the use of Regular BOS funds to determine the budget ceiling for each BOS Regular target and make it easier for the BOS Regular SMK Management team. This can be seen from the percentage of users' responses to the AHP model where the percentage of usefulness is 91%. In addition, other factors such as simplicity, clarity, convenience and attractiveness also received positive responses from the BOS Regular management team as users. The AHP model for planning the use of Regular BOS funds to determine the budget ceiling for each Regular BOS target is considered easy for the Regular BOS Management Team and the model is easy to learn or user friendly.

References

- Anas, A. (2016). Implementasi program Dana bantuan operasional sekolah SMA Negeri 1 Pasangkayu Kabupaten Mamuju Utara. *Katalogis*, 4(5), 14–23.
- Anggraini, E. (2013). *Evaluasi program Bos dalam peningkatan Sarana Pendidikan*. -.
- Arikunto, S. (2013). *Prosedur Penelitian: Suatu Pendekatan Praktik* (1st ed.). Jakarta: Rineka Cipta.
- Attanasio, O., Fitzsimons, E. and Gomez, A. (n.d.). The impact of a conditional education subsidy on school enrolment in Colombia.
- Baedhowi, Martono, T., Wardani, D. K., Totalia, S. A., Laksono, P. W., Triyanto, & Octaria, D. (2017). Effectiveness of school operational support funds to quality of students learning process and outcomes in vocational high school. *Advanced Science*

- Letters, 23(1).
- Bahri., Sumaryana, A., Karnaesih., & Karlina, N. (2019). The Implementation of the Allocation and Distribution of School Operational Assistance Program for Compulsory Education Units in Kuningan Regency, West Java Province. *Journal of Social Studies Education Research*, 10(1).
- Baru, P.M., et.al. (2020). Influence of Sense of Belonging to a School on Learners' Loneliness in Single Gender and Co-Educational Institutions in Murang'a County, Kenya. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal Vol 3 (2)*: 675-683.
- Dearden, L. et al. (1996). Income support and staying in school: What learn from Australia's AUSTUDY experiment? Institute for Fiscal Studies, 17(4).
- Glewwe, P. and Olinto, P. (2004). Evaluating the impact of conditional cash transfers on schooling: An experimental analysis of Honduras's PRAF program. Washington DC: Final Report for USAID.
- Halik, A., Hidayati, N. and Amin, M. (2018). Analisis pengelolaan Dana bantuan operasional sekolah (BOS) tahun 2017 di SMA Islam Dempo Timur Pasean Pamekasan. *E-JRA*, 7(8), 96–108.
- Jusoh, Y., Chamili, K., Pa, N., & Y. J. (2014). Open Source Software Selection Using an Analytical Hierarchy Process (AHP). *American Journal of Software Engineering and Applications*, 3(6), 83–89.
- Kaswandi. (2015). Evaluasi Pengelolaan Dana BOS di SD Negeri 027 Tarakan. *Jurnal Kebijakan Dan*.
- Kementerian Keuangan. (2019). Peraturan Menteri Keuangan Nomor 78 Tahun 2019 tentang Standar Biaya Masukan Tahun Anggaran 2020. Kementerian Hukum HAM, 1–131. Retrieved from www.jdih.kemenkeu.go.id
- Kusumaningrum, D. E., Sumarsono, R. B., & Gunawan, I. (2017). Problematika Pemberdayaan dan Pengembangan Sumber Daya Manusia di Sekolah Menengah Pertama Berbasis Pesantren. *Ilmu Pendidikan: Jurnal Kajian Teori Dan Praktik Kependidikan*, 2(2), 139–150. <https://doi.org/10.17977/um027v2i22017p139>
- Maluccio, J. A. and Flores, R. (2005). Impact evaluation of conditional cash transfer. Washington DC: Research Report 141.
- Martono, T., Baedhowi, B., Wardani, D. K., Triyanto, Totalia, S. A., Octoria, D., & Laksono, P. W. (2016). The development of learning process quality in improving the student's learning outcomes level of referral vocational school in Indonesia. *International Journal of Education Economics and Development*, 7(1–2), 95–111.
- Musdiani, Mardhatillah, and Khaesar. (2019). Analysis the Role of Headmaster in Applying Quality of Education in Primary School Districts, Aceh Barat. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal Vol 2 (3)*: 27-35.
- Nurjanah, S. (2020). The Development of the Assurance Relevance Interest Assessment Satisfaction (Arias) Collaborative Jigsaw Collaborative Learning Model in Writing News Text Class 8 Junior High School State 06 Medan. *Budapest International Research in Linguistics and Education Sciences (BirLE)*.P.583-590.
- Pendidikan, M., Kebudayaan, D. A. N., & Indonesia, R. (2020). jdih.kemdikbud.go.id.
- Saaty, T. L. (1993). *The Analytical Hierarchy Process: Planning, Priority, Setting, Resource Allocation*. Pittsburgh: University of Pittsburgh Pers.
- Saaty, T. L. (2004). Fundamentals of the Analytic Network Process - Dependence and Feedback in Decision-Making with a Single Network. *Journal of System Science and System Engineering*, Vol. 13(No. 2), 129–157.
- Saaty, T. L., & Vargas, L. G. (2012). *Models, Methods, Concepts & Applications of the*

- Analytic Hierarchy Process. US: Springer.
- Schady, N. and Araujo, M. C. (2008). Cash transfer, conditions, and school enrollment in Ecuador. *Economia Journal*, 43–77.
- Schultz, T. P. (2004). School subsidies for the poor: evaluating the Mexican Progresa-poverty program. *Journal of Development Economics*, 74(1), 199–250.
- Silele, E., Sabijono, H. and Pusung, R. J. (2017). Evaluasi pengelolaan Dana bantuan operasional sekolah (BOS) (Studi kasus pada SD Inpres 4 Desa Akediri Kecamatan Jailolo Kabupaten Halmahera Barat). *Manajemen, Bisnis Dan Akuntansi*, 5(2), 1626–1635.
- Sukmadinata, N. S. (2013). *Metode Penelitian Pendidikan*. Bandung: Remaja Rosdakarya.
- Syarief Oebaidillah. (2019). *Pengelolaan Dana BOS Dinilai Masih Lemah*.
- Totalia, S. A. (2020). *Tata Kelola Keuangan BOS SMK dan SMA berdasarkan Prinsip Value for Money*. Unpublished.
- Velmurugan, R., Selvamuthukumar, S., & M. R. (2001). Multi Criteria Decision Making to Select the Suitable Method for the Preparation of Nanoparticles using an Analytical Hierarchy Process. *Educational Action Research*, 8(2), 307–326.
- Yadav, A. & J. S. (2013). Using Geometric Mean Method of Analytical Hierarchy Process for Decision Making in Functional Layout. *International Journal of Engineering Research & Technology*, 2(10), 775–779.