The Effect of Education Expenditure Accountability by Schools, Education Expenditure from Society, and Education Expenditure from Government to the Benefits of Education of Senior High Schools

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Abstract—This research was conducted to find out the effect of education expenditure accountability from schools, education expenditure from society, and education expenditure from government on the benefit of education for the society in Bukittinggi and Solok municipalities of West Sumatera Province. The sample was taken through multistage simple random sampling. The sample consisted of 99 participants of 13 schools. The data were collected through questionnaires and observation. The data were described and analyzed by using partial least square analysis (PLS). The results of the descriptive analysis showed that the benefit of education for the society was good (87%), and the expenditure accountability was also good (70%). The result of PLS analysis showed the effect of exogenous variable on the endogenous variable was 0.266 (26.6%) of contribution ($R^2$). After being trimmed, the result showed a significant influence of education expenditure accountability on the benefit of education for the society, the education expenditure from the society on the education expenditure from the government and the education expenditure from the government on the benefit of education for the society.

Keywords: Expenditure Accountability, Education Expenditure, Benefit of Education

I. INTRODUCTION

The national education aims at developing students’ potential in order to be a knowledgeable, skillful, creative, independent as well as responsible civil so that a better life for its society can be gained (UU no.20/2003). Education institutions are required to perform its roles so that the demands of the national education to improve human capital resources can be fully obtained.

Society may experience the benefit of education, if there are (1) an improvement in the quality of education (2) an improvement in the social economy (3) graduate admission, and (4) an improvement in work performance [1]. To do so, schools have to provide the students with cognitive, affective, psychomotor knowledge [2] as well as living skill [3]. Many economic experts believe that the society may experience the benefit of education if there is improvement in their knowledge, skills, proficiency, attitude, and productivity in the course of conducting their economic activity [1].

It is stated that the benefit of education can be grouped into two; personal benefit, and social benefit [1] and [4]. It is explained that the educational benefit is obtained from the accomplishment of education felt by the students as personal and social benefits [5]. Those benefits are for the students themselves and the society such as family and friends.

In economics, benefit is often known as outcome or return which is gained by the society once they exert such human resources [6] and [7]. Return is a benefit obtained by the owner for payment for its production expenditures. It is stated that the costs that society should provide in order to get education services are compatible with the benefit that they expect from that education [8].

Government and society’s expenditures for improving education return in form of private returns and social returns[1] and [4]. Private returns are realized in form of improvement of lifetime earnings. While social returns can be improvement in aggregate productivities, including external benefits which enhances society’s income, which leads to a better economic growth. The value of private returns can be measured by cost and benefit technique (C-B), or analysis of costs and benefit [9] and [10].

The benefits tend to be in line with costs. If the private benefit and society is higher or equal with the costs, the government and society will pay for the cost to get education services [11] and [12]. However, often such anomaly occurs, where the priority is no longer the costs to pay for, but the benefit to be obtained. Therefore, government and society plan education expenditure without a cost-benefit analysis since the consideration is only given to what benefit the students and the society may obtain from education programs.

If the education is intended for the improvement of efficiency, the majority cost should be under government’s responsibility, since the demand of education is aimed at improving society quality [1] and [4]. Meanwhile, if education is oriented to the improvement of effectiveness, the main expenditure will be from the society. Therefore, in order to improve both private and social quality, education expenditure should be under the responsibility of government and society.
Society expenditure can be categorized into direct and indirect expenditure [1]. Direct expenditure is directly supports education costs such as school fee. Indirect expenditure indirectly supports the process of education such as the costs transportation and uniform.

Meanwhile, the expenditure by the government can be used for teachers and school staff’s expense, and for school facilities (Government regulation 19/2005, Presidential decree 80/2003 and Presidential Rule 54/2010). Education expenditure from the government should be allocated based on the Indonesian budget (APBN) and arranged in budget planning of related ministry (RKAKL). Education expenditure by the government is also known as social costs or finance. It is obtained through the payment by the society such as taxes and other government incomes [4].

Next, schools should manage education expenditure accountability in planning, organizing, conducting, and controlling the expenditure in order to improve education quality [13]. Accountability is responsible for managing all human resources in order for the society to get the benefit of education by school. Education expenditure accountability by schools can be considered as activities including: (1) planning the expenditure (2) using the resources and (3) obtaining the out-put of education as an impact of using the resources [10] and [14]. The education expenditure accountability aims at ensuring whether the budget needed is equivalent with the plan. Furthermore, the accountability relates to the measurement of school performance as an effect of allocated expenditure. The measurement of school performance describes the achievement obtained by the school within that year, such as, the improvement in the teaching and learning process, facilities, teachers’ quality and learning outcomes.

School accountability can enhance the roles of society and government in the course of improving the education expenditure as one effort to escalate the quality of graduates in the society. The society will be ready to provide more contribution if the feel that schools can put the children in to a better education for the sake of their improvement in the society.

Some research findings [1], [4], and [15] indirectly show the influence of the education expenditure on the benefit of education. The research discuss the role of education expenditure toward learning outcomes and quality of teaching and learning process in the classroom, which obviously lead to a better education quality. However, none of the research discussed the influence of education benefit and its components.

The main question of this research is the society’s reason in selecting a particular school for their children. Is it because of: (1) school accountability during school activities such as teaching and learning process in the classroom?, (2) the availability of school facility provided by the government?, or (3) the numbers of graduates which influence the quality of education? This phenomenon is quite interesting to be investigated to figure out the expenditure accountability of education institutions in managing the budget contributed by government and society to fulfill the society’s expectation on education. The research was intended to look at issue related to the influence of expenditure accountability by schools, government, and society on the improvement of benefit of education for society, specifically at the cities of West Sumatera.

II. METHOD

This research employed survey method; descriptive expose facto and cause and effect. The research tested the influence of exogenous variable on endogenous variable by using partial least square (PLS).

The population was 174 senior high schools (SMA) and vocational schools (SMK) students of West Sumatera that were grouped into two categories (high and low levels). The sample was selected through multistage simple random sampling. At the first stage, two schools were randomly selected, one from each category. The schools in Bukittinggi (K-KBK) from the first group and those in Solok (K-SLK) from the second group were selected. At the second stage, 13 schools (7 from K-KBK and 6 from K-SLK) were selected based on pre-determined criteria. The total number of the students was 10,674 and the number of the teachers was 1,088. At the third stage, the sample was determined by using Slovin and Taro Yamane (Umar 1999)

\[
\hat{n} = \frac{2n(1+n)}{(1+n)^2 - n} \approx 99.07 \text{ (99 students)}
\]

where 52 samples were taken from K-KBK while 47 from K-SLK.

The data were collected by using questionnaire, interview, and documents. The questionaires was designed in a likert scale with 5 positive and negative multiple choice items. The interview was conducted in order to get a general description about education accountability, expenditures and education benefits from schools’ headmasters, teachers, schools staff and committee. In addition, documents were used to gain data related to education expenditure from school, national education department, BAPPEDA and BKAAD.

In order to obtain appropriate construct and content validity, a pilot testing was executed. The pilot testing was done to 30 teachers from SMA 7 and 8. Product-moment correlation was used to test the validity of the instrument while Cronbach’s Alpha was used to test the reliability. The data collected were described and analyzed by using partial least square (PLS).

III. RESULTS AND DISCUSSION

The data were analyzed descriptively and statistically. The results of the analysis are as follows:

1. The society felt a good benefit achieved by the graduates (SMA) since the average TCR score was 4.34 or 87%. The society felt that education improved living quality, economic and social status. This is in line with the statement of Supriadi (2003)
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and Fattah (2002) that schools have a role to improve human quality. The main benefit of education felt was the enhancement of knowledge, with the score of TCR is 92%.

2. The participants stated that schools had conducted expenditure accountability around 3.79 or around 79% TCR with a good criterion. This result shows that expenditure accountability is good.

3. The total budget allocated by the society in 2005-2009 per student per year was IDR1,226,000 for the highest, and IDR 700,556 for the lowest, and IDR 921,569 per student per year. The highest cost for education paid by the society was at SMK Technique Bukittinggi, that was around IDR 1,226,000 and the lowest was at SMA N 2 Solok, IDR 700,556

4. The expenditure provided by the society for education in Solok was lower than in Bukittinggi. This shows that society in Solok provides lower education expenditure than in Bukittinggi

5. The local government of Bukittinggi improved education by allocating educational expenditure around 35% of local budget. The average expenditure provided by Bukittinggi government within the last 5 years was around 42% for planning 40% for the realization.

6. Allocated local budget for education from local government of Solok from 2005 up to 2009 was more than 30% of local income. The average expenditure done by the government within the last 5 years was 45% for planning and 37% for realization.

7. Solok allocated more budget than Bukittinggi from 2005-2009 per student per year. Besides, Solok used more education expenditure provided by the government more than Bukittinggi did.

Deductive analysis was done in order to see the influence of research variables by using statistic and quantitative approach. The analysis used model of partial least square (PLS) with loading factor more than 0.500 for validity indicator, composite reliability (CR) ≥ 0.60 and AVE ≥ 0.50 or for the reliability. The result of loading factor, CR and AVE was used to explain the influence between indicators with construct variable and a construct variable with another construct variable. As the pre-requirement of PLS was fulfilled, the analysis was continued by using bootstrapping. The result can be seen in the figure below.

![Fig. 1The structure and measurement model of PLS](image)

The analysis of figure 1 can be described as:

1. The result of R square (R²) from PLS is 0.013 or 13% where the contribution of X₁ (APP) toward X₂ (PPM). This shows that there was a contribution around 1.3% from exogenous variable X₁ toward endogenous variable X₂ (PPM), meanwhile the rest was (99.8%) caused by other variables.

2. The result of R² from PLS is 0.204 or 20.4% for the contribution of APP, PPM. This shows that there was a contribution (around 27.6%) from exogenous APP variable and PPP toward endogenous PPP variable, while the rest (79.6) was caused by other variables.

3. The result of R² from PLS is 0.276 or 27.6% for the contribution of APP, PPM and PPP while the rest (72.4%) was caused by other variables.

Based on the PLS analysis, it was found that all exogenous variables contributed toward endogenous variable; that was around 27.6%, while the rest 72.4% was contributed by other variables which were not observed in this research.

Then, the hypothesis was tested in order to compare t_{lab} and t_{tab} The analysis can be seen as follows:

1. The coefficient path between X₁ toward Y was 0.451 or the regression without standard. This means that there was a good relation between X₁ and Y since the value of coefficient path was higher than the standard 0.35. Meanwhile the result of t_{lab} 2.948 was higher than t_{tab} 1.292 (the level of significance was 10%). This means that null hypothesis is rejected and the alternative hypothesis is accepted.
2. The influence of \( X_2 \) on \( Y \) where the value of coefficient path was 0.021 was around 0.00-0.15. It indicates that there is a low effect of the expenditure provided by the society on the benefit of education for the society. If it is seen from the result of \( t_{0.120} \) which was lower than \( t_{0.1.292} \). It means that the null hypothesis is accepted while the alternative is rejected. In other words, there was no significant influence of \( X_2 \) on \( Y \).

3. The effect of \( X_1 \) toward \( Y \) show the value of coefficient path -0.183 where it is below the standard 0.00-0.15 which means there is low effect between \( X_1 \) toward \( Y \). Thus, the result of \( t_{0.903} \) is lower than \( t_{0.1.292} \) which means the null hypothesis is accepted while the alternative is rejected. Shortly, there is no significant effect between \( X_1 \) toward \( Y \).

4. The effect of \( X_1 \) toward \( X_3 \) shows the coefficient path is 0.113 and the result of \( t_{0.538} \) is lower than \( t_{0.1.292} \). It means that there is no significant effect between variable \( X_1 \) toward \( X_3 \) since \( t_{0.538} < t_{0.1.292} \). Thus the null hypothesis is accepted while the alternative hypothesis is rejected.

5. The effect of \( X_1 \) on \( X_3 \) shows that the value of coefficient path was -0.153; it was below the standard 0.15-0.35. The result of \( t_{0.599} \) was lower than \( t_{0.1.292} \). This means the null hypothesis is accepted while the alternative is rejected. Thus, there was no significant effect between \( X_1 \) toward \( X_3 \).

6. The effect of \( X_2 \) on \( X_3 \) shows that the coefficient path was 0.408; it was higher than standard 0.35, meaning that there was an influence of \( X_2 \) on \( X_3 \). The result of \( t_{0.3.625} \) was higher than \( t_{0.1.292} \), which means the null hypothesis is rejected while the alternative is accepted. Thus, there was a significant influence of \( X_2 \) on \( X_3 \) where \( R^2 \) is 0.1665 or 16.65%.

Since the result of PLS measurement shows such effect of exogenous variable and endogenous variable (i.e. not all of them were significant), trimming was necessary. Trimming is used to improve the path structural analysis model [16] and [17].

The first trimming was done by removing the effect of variable \( X_1 \) on \( X_2 \). The result of trimming was used to measure the indicators and the construct variable with loading factor, CR and AVE. The result was good, yet in the hypothesis testing, there were some insignificancies. Thus, the second trimming was conducted.

The second trimming was done by removing the effect of variable \( X_2 \) toward \( Y \) since it had the lowest influence and insignificance. The testing of indicators and construct variable with loading factor, CR and AVE showed a good result. However, there were variables that had insignificant effect. Thus, third trimming was executed.

The third trimming was done by removing the effect of \( X_1 \) on \( X_3 \) since it had the lowest influence and insignificance. The testing of indicators and construct variables with loading factor, CR and AVE showed good results as well as the relationship between variables.

The result of this third trimming indicated that all indicators were statistically applicable for explaining the influence of each indicator on construct variables. Meanwhile, after it was analyzed from CR calculated, all construct variables were higher than the standard (0.60). The AVE calculated was also higher than the standard(0.50). These results indicated that all construct variables had representative validity. Since the requirement of using the partial least square (PLS) on the third trimming was met, the analysis was continued by conducting bootstrapping. The result of bootstrapping showed the relation among significant variables because the result of \( T \) calculated was higher than \( T \) table. Thus, the trimming of the influence among the variables was not conducted. The final result from the trimming process was described in the Figure 2.

![Fig. 2 Structural and measurement model of SEM-PLS after trimming](image-url)
The results of PLS analysis after the process of trimming for variable $X_1$ with $Y$ and the influence of $X_2$ and $X_3$ with $Y$ are as follows:

1. There was a very good influence of $X_1$ on $Y$ because the calculated value of path coefficient was higher than the standard value (0.35). The result of $T$ calculated 2.285 was higher than the $T$ table 1.292. Meanwhile, the contribution ($R^2$) of variable $X_1$ toward $Y$ was 0.1998 (19.98% was rounded to 20%). It means that the null hypothesis is rejected and the alternative hypothesis is accepted.

2. There was a very good influence of $X_2$ on $X_1$ while the contribution of $X_2$ toward $X_3$ ($R^2$) was 0.1697 or 16.97% (rounded into 17%). This result indicates that the null hypothesis is rejected and the alternative hypothesis is accepted. Thus, there was a significant influence of $X_2$ on $X_1$ with the contribution of $R^2$ which was 17%.

3. The influence of $X_3$ on $Y$ after the trimming processes showed the path coefficient value that was 0.201 and this path coefficient value was in the standard classification of 0.15-0.35. The result of $T$ calculated 1.487 was higher than the $T$ table 1.292. It means that the alternative hypothesis is accepted and null hypothesis is rejected. Meanwhile, the amount of contribution ($R^2$) was 0.0404 or 4.04% (rounded to 4%). From these results, it can be concluded that there was a significant influence of $X_3$ on $Y$ with the contribution for about 4%.

Based on the test of the hypothesis, there were only three variables that could be used to develop a model. They were the influence of $X_1$ on $Y$, $X_2$ on $X_3$, and $X_3$ on $Y$. The contribution of those variables was 0.266 or 26.6%. From the result of the analysis, it can be concluded that all exogenous variables influenced the endogenous variables with the contribution for about 26.6%. Thus, about 73.4% was contributed by other variables which were not observed.

The results of research showed that the society experienced the benefit of education benefit with the average of TCR was 87% or 4.34. The benefit was felt through the improvement of knowledge, skill, attitude, and behavior of students of senior high schools or vocational schools once they graduated. The society felt that there was an improvement on the quality of the society after they finished their study in senior high schools. This is in line with the aim of education (UU 20/2003), that is, giving contribution to the development of social and economic life of the society [18].

Next, the result indicated that the number of social and economic life improvement in the society was around 92%. The improvement of social status and economic life of the society also increased the income of the families and job vacancies soon after the students finished their education in senior high schools or vocational schools. Related to this, it is explained that education will reach its mission if its outcome is acceptable in the society and can also improve the social and economic status of the society [12]. The impact of the education occurs if there is an improvement on the income of the families, the social and economic status of the families and also job vacancies in the society [1].

The education benefit is also felt by the society in the improvement of educational institutions performance. The improvement was evident in the number of graduates, final examination scores, and number of graduates who were accepted in state universities in West Sumatera or in Java. The performance of educational institutions such as senior high schools or vocational schools had increased and reached the average TCR of 89% which was classified in a very good criterion.

A positive perception on the benefit of education experienced by the society is inseparable from the accountability of schools. The previous research results indicated that the expenditure accountability had been performed in schools by making use of the available budget that to improve the quality of education, learning facilities, and student-teacher activities in the learning processes. The response of the participants of this research about the expenditure accountability in schools reached TCR of 79%. Some improvement was evident in school performance including the increasing number of learning facilities, teachers’ qualities, and extracurricular activities. The sub-improvement of school performance on expenditure accountability variable showed that schools had enhanced their performance.

However, apart from 79% of the TCR, there was still 21% of the educational expenditure accountability that was not really known by the society. The society needs to be informed about the use of the budget completely, so that they can suppress their suspicion on the use of the educational expenditure. Therefore, schools have to form management that is based on the good corporate governance (GCG). GCG includes the openness, transparency, and accountability principles for all designed plans, so that no information is hidden by the school headmasters [19].

In order to conduct the schools accountability and the benefit of education is obtained, schools should be able to convince parents by providing good and qualified educational services. Schools are also expected to keep the community trust by keep improving performance.

The results also indicated that the better the quality of the schools services, the more expensive the education budget that had to be paid by the parents. This is related to an economic theory that says to get better and more useful services the society has to pay more [8]. Thus, a school will be more prestigious if it can conduct better accountability.

In addition, there was good commitment of the government of Bukittinggi and Solok in developing the educational by allocating more money from their local income. They allocated the educational expenditure more
than 20% as stated in the National Budgetary Plan or Local Budgetary Plan. The government has committed their promise to improve the quality of the society through the educational expenditure which is in line with the commendation of UUD 1945 section 31 of articles 1-2.

The next aspect which should be underlined is the result analysis of this research. The expenditure accountability by schools and the educational expenditure given by the society and the government improve the education benefit experienced by the society. This fact supports the expectation of the standard educational processes. Therefore, the aim of learning can be gained as a good and satisfying result (PP No. 19/2005) and [2]

The discussion of the analysis by using the partial least square (PLS) indicated that:

1. The society felt that there was a significant benefit of education because of the good accountability done at schools even though as it is mentioned that actually the education benefit cannot be proved directly soon after getting the educational services at schools [3], [18], and [12]. The educational benefit can be reached because of the society believes that there would be improvement on their competences once they have graduated from schools.

2. The influence of expenditure accountability done by schools (X₁) toward the educational expenditure done by the society (X₂) was not statistically significant. It means the expenditure provided by the society did not really influence the school accountability. The schools did their jobs because of their responsibility, not because of the expenditure of the society. It is also explained that schools are not profit-oriented but service-oriented [18]

3. The influence of the expenditure accountability (X₁) on the educational expenditure done by the government (X₃) was not significant. It means that every change in the educational expenditure from the government is not affected much by the accountability of educational institutions. On the other hand, the improvement in the educational expenditure accountability did not significantly influence the educational expenditure change designed by the government. It reflects that schools did not do improvement on their performance to get extra fund from the government but to reach their intended aims.

4. The educational expenditure coming from the society shows a weak and insignificant influence toward the education benefit for the society itself. The result of discussion with some teachers at a school describes that “the society does not actually want to pay for the educational expenditure at schools; however, since they are hoping for the education benefit gotten from the schools on the graduates, then they just pay for it”. They are willing to pay the educational expenditure within a reasonable amount of money and hope that the goal of improving the learning quality can be reached.

5. The educational expenditure from the society had significant influence on the educational expenditure from the government. This fact shows us that the society is willing to pay more educational expenses with the hope that the government will also give more expenditure to the schools. The contribution of the society on the educational expenditure is influenced by the contribution of the government on education. It can be concluded that the society wants to have a co-ordination with the government in order to reach the aims of the education and to get the outcome of education for the society itself [20].

6. The educational expenditure from the government did not have a significant influence on the education benefit for the society. However, the educational expenditure from the government in the form of learning facilities was useful and beneficial for the society to improve the students’ competencies. The government also allocated the fund that was paid by the society to enhance the public facilities for the society’s prosperity.

Based on the research findings and discussion above, a correlation model among the educational expenditure accountability, the educational expenditure from the society, and the educational expenditure from the government toward the education benefit for the society is proposed. This model relates those variables by using the partial least square (PLS) as a supporting tool. This model is called as Educational Expenditure Accountability Model and is depicted in Figure 3 below.
The main focus of this model is the aim of a school and the benefit to be obtained by the students in the form of competencies to improve the quality of human beings and economic life. In the government rule No. 20/2003, it is mentioned that learning is conducted in order to enhance the knowledge, change the attitudes (the national character), improve skills, and increase the quality of life.

To reach the aim of national education, the truthful efforts from schools are needed through co-ordination among schools, the government, and the society in managing learning activities (UU Sisdiknas No. 20/2003 section 54 of article 1). The roles of schools, the government, and the society in gaining the education benefit can be seen from Figure 3.

The educational accountability model as seen in the figure above can be described as follows.

1. Education benefit is the main focus of the society in getting the educational services at schools. Schools have to include education benefit as their main aim of learning activities. The competencies to be reached should be in line with the four education pillars designed by UNESCO-learning to know, learning to do, learning to live, and learning to be.

2. School educational accountability is the responsibility of schools themselves toward the educational and learning activities devoted to stakeholders of education; parents, the committee of a school, the society in general, and the government.

3. Expenditure accountability includes designing the plan of budget used, implementing the learning processes by using the budget planned, and evaluating the schools’ performances by comparing the results with the plan.

4. Contribution from government, society, parents and committee of a school is needed in order to run the accountability at schools successfully. This can be manifested by controlling and evaluating the accomplishment of educational activities at schools.

5. Contribution from government is needed to provide expenditure for facilities such as for salary and learning aids.

6. Society has to take part in helping and providing the extra learning sources. The society can provide some contribution on school fee, school facilities, school management, and even give ideas for a better management of the schools.

7. Good educational accountability, contributions from society, and the commitment of government are needed by schools.

IV. CONCLUSION

Based on the research findings and the discussion, some conclusions are drawn. First, the society felt that schools did give benefit since they could increase their competencies as improvement in knowledge, social economic status, society trust and performance. The society got a benefit where the expectation of their children’ education expenditure was equivalent with their education expenditure. Second, the education expenditure accountability by the school had been representative. This condition made the society to provide more contribution toward education. Third, the government provided more education expenditure to a region whose social economic status was low. From the analysis of inductive using PLS, it can be concluded that there was a significant influence of accountability of education expenditure performed by the government and society of Bukittinggi and Solok on the education benefits for the society.

Based on the conclusion and the implication, here are some suggestions:

1. Headmaster as the school manager is suggested to keep doing education accountability so the aims of education can be obtained

2. Schools should conduct education accountability to the government and society as one effort to do their responsibility. Education accountability can be
realized in planning, conducting the activities, and evaluating school performance.

3. Schools should be able to work together with the society (education council and school committee) in order to collect ideas for improving education quality such as in managing the schools, and conducting the learning process.

4. Schools should be able to keep conducting its expenditure accountability candidly in order to raise society trust

5. For future researchers, it is expected to focus the research more on the education expenditure at high school level in West Sumatera or Indonesia so that a more comprehensive finding can be used as the base to determine education policy.

REFERENCES
