The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement

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Abstract

Purpose - This research aimed to analyze the causality between the four perspectives in the Balanced Scorecard performance and to analyze the different performance of the four perspectives for the two group schools studied. Data were collected using closed and open questionnaires distributed to teachers, staff, and parents.

Design/Methodology/Approach - Quantitative data were processed using Smart PLS 3.0 and an independent sample t-test. Qualitative data collected using open questionnaires on performance achievement strategies and constraints were analyzed using the Leximancer 4.51.

Findings - Results showed that innovation and learning performance influenced financial performance and internal business performance. However, innovation and learning performance did not affect customer satisfaction performance. Internal business performance affected financial performance. However, internal business performance did not influence customer satisfaction performance. Customer satisfaction performance did not influence financial performance. Customer satisfaction performance did not mediate the relationship between innovation and learning performance and financial performance. Internal business performance mediated the relationship between innovation and learning performance and financial performance. The two school groups exhibited differing innovation and learning performance, with no difference for the other three perspectives.

Originality - The originality of this study is the use of the four perspectives in the Balanced Scorecard performance since public schools in Indonesia have never implemented it.

Practical Implications - The implication of the study is the necessity to create synergy between all parties (school and authorities) to optimize school performance. Improvement in financial performance, especially related to transparency and accountability, will help to improve stakeholders' trust in schools. The government can use the Balanced Scorecard to evaluate public school performance to achieve comprehensive assessment results.

Keywords: Finance, Customers, Internal Processes, Growth, and Learning

1. Introduction

Companies and government organizations face continuous environmental changes. Innovation and good management are necessary for companies and government organizations to survive and obtain an opportunity to develop. Management strives to achieve a long-term competitive advantage in the marketplace (Park and Gagnon, 2006). The way organizations respond to environmental change may be by changing organizational procedures and principles to improve management. The performance and compliance dimensions are essential milestones for organizational management (Aly and Mansour, 2017). Therefore, one of the managerial priorities is organizational control activities (Wake, 2015) to balance two dimensions: compliance and performance. The first dimension aims to achieve reliability and accountability; it refers to organizational regulations and legal commitment. The performance dimension refers to assessing efficient and effective use of resources and the achievement of organizational targets. Strategic planning,

strategic decision-making, performance measurement and evaluation, strategic risk management, and continuous improvement are crucial to the later dimension (Aly and Mansour, 2017). Sustainable administrative control requires institutional performance evaluation and measurement. Effective evaluation requires translating organizational strategic objective and mission into financial and non-financial performance indicator and dimension. (Al-Dahiyat, 2020).

Performance measurement is crucial for non-profit managerial organizations, public and private services—for instance, human service programs (Hatry and Bryant, 2009) such as schools. School is one of the public institutions that undergo performance assessment. The community requires information related to school performance. Due to globalization and continuous changes, students require more knowledge and skills to succeed in changing society (Stewart, 2012, pp. 11). Students also need to develop 21st-century skills—for instance, critical thinking, collaboration, and creativity (Stewart, 2012, pp. 16). New knowledge, ideas, and technologies are essential in driving the future of society and humanity (Javed *et al.,* 2020). Appropriate school decisions, best performing schools, and desirable schools in a particular community are highly relevant and valuable variables to reflect important school features and characteristics (Brown *et al.,* 2009). Education is crucial for economic growth and success (Stewart, 2012, pp. 17). Therefore, it is necessary to improve school performance and accountability.

There is strong public demand for accountability of public institutions (Dewi *et al.*, 2019). Most school accountability systems limit data elements to student achievement (Brown *et al.,* 2009), for instance, standardized test scores. Performance information is minimal and only provides some of the information needed for decision-making (Hatry and Bryant, 2009). In addition, some elements are difficult to quantify.

There is little research on school financial management in Indonesia (Rahayu, 2020, pp. 28). Research at Indonesian educational institutions focused on academic aspects, such as curriculum and learning process. However, financial management is a critical aspect of achieving high-quality education. Optimizing financial management may improve education services quality (Rahayu, 2020, pp. 277). Finance influences and is interrelated with education quality (Bastian, 2007, pp. 178).

The Balanced Scorecard (BSC) model guides educational strategy. BSC discusses each perspective and uses educational resources. BSC model provides multiple measures of school performance by combining academic and financial data to assess student learning, program effectiveness, and school operations (Brown *et al*., 2009). Performance indicators allow evaluation, improvement, and innovation of actions to achieve key objectives, such as providing quality educational services and technology (Burgos *et al*., 2019) and aligning performance indicators, stakeholder analysis, and organizational function (Matherly and El-Saidi, 2010).

BSC was introduced in 1992. Private and public organizations have adopted BSC as a strategic tool for systematic performance improvement. In the service industry, organizations such as banks, airlines, and hospitals adopted BSC (Park and Gagnon, 2006). BSC has been widely used to measure performance in various fields, such as public sector organizations (Greatbanks and Tapp, 2007; Northcott and Taulapapa, 2012), non-profit organizations (Lawrence and Sharma, 2002), armed forces (Kankaraš *et al.,* 2014) and education (Papenhausen and Einstein, 2006; Chen *et al.*, 2006; Beard, 2009; Wu *et al*., 2011; Rompho, 2020). BSC is suitable to measure school performance, especially in developing countries (Rompho, 2020). School

leaders in developing countries do not have sufficient skills to manage schools at the organizational level due to a lack of training. School operations are carried out adhering to government rules and regulations.

Indonesian schools underwent significant management changes when Law Number 20 of 2003 was issued. Before that, schools did not conduct financial management. Nowadays, schools get a pretty considerable amount of budget, and they have to calculate operational funds independently based on the number of students. Measuring school performance may be conducted by evaluating school funds.

This study aimed to analyze the relationship between school performance and four BSC perspectives (innovation and learning, internal processes, customers, and finance). The researchers compared the four perspectives between school groups. In addition, they also analyzed strategies and constraints to improve the four perspectives of the balanced scorecard and stakeholder interaction to increase performance.

The research result obtained comprehensive elementary school performance. In addition to academic aspects, it is necessary to evaluate schools through financial management aspects. The balanced scorecard concept is an old concept. However, academics rarely study balanced scorecard implementation in elementary schools. This research was a pioneer study that aimed to develop a performance measurement and evaluation system based on a balanced scorecard perspective for elementary education institutions at the national and regional levels.

This research aimed to describe school performance using four balanced scorecard perspectives using a literature study. Furthermore, this research discussed the data collection and analysis method. The research result showed the influence between the school performance variable and the performance comparison between two school groups. The research result may be used as a basis to analyze school performance. The researcher analyzed obstacles and stakeholder interaction to improve school performance. Furthermore, the researcher presented the conclusion, limitation, and research implication to policies and future research.

2. Theoretical Framework

2.1. School Agency Relationship

Agency problems occur in the relationship between company agents and principals (Jensen and Meckling, 1976). Agents are parties who carry out duties as mandated by the capital owners. The agent is the company management. The principal is the party who gives the mandate and entrusts the capital to the agent. Problems between the two occur due to information asymmetry. Opportunistic behavior potentially encourages agents to take advantage of access to information for their benefit or particular groups.

The school agency relationship refers to the principal as the recipient of the mandate (agent). In addition, parents, students, and the community are the principal. Schools must manage funds accountably and transparently to increase stakeholders' trust. Schools as public sector organization face various problem due to increasing stakeholder demand and maintaining public service quality (Kankaraš *et al.*, 2014). Stakeholder refers to the internal and external aspects of the school environment. Schools are related to the environment because the two influence one another (Rahayu, 2016). Good management practices allow the school to manage resources so that schools can provide high-quality education. Schools having autonomy and the capability to work with stakeholders will be successful (OECD, 2013).

2.2. *Balanced Scorecard*

The Balanced Scorecard (BSC) was formed due to increased dissatisfaction with management accounting practices (Wake, 2015). BSC is a management tool to develop the organizational strategy into concrete actions to achieve goals (Kaplan and Norton, 1992, 1996, 2001). BSC is a comprehensive performance measurement device (Rompho, 2020). In the private sector, traditional performance is measured through the financial aspect. BSC adds three more perspectives: internal business aspect, learning and growth aspect, and customer aspects. For educational institutions, especially public schools, the financial aspect is not an essential part of performance measurement.

Kaplan and Norton (2001) proposed a BSC framework for non-profit organizations where mission setting became part of the organization's strategy map. A strategic map was developed using existing strategic analysis before strategic implementation (Quezada *et al*., 2009). BSC is a strategic measurement system that has become a strategic management system (Quezada *et al*., 2019). Balanced Scorecard correlates the measurement of institution performance and vision, mission, and strategic objectives using a financial and non-financial indicator (Al-Dahiyat, 2020, Quezada *et al*.,2019).

The education system needs to realize community demand and needs. Schools require a system capable of providing a new solution (Ortiz *et al*., 2018). BSC is a helpful tool in educational institutions (Storey, 2002; Yuksel and Coskun, 2013; Alolah *et al*., 2014; Rompho, 2020). Griggs *et al*., (2012), Ali and Mansour (2017), and Rompho (2020) developed BSC for educational institutions. In this study, the researchers used the scorecard from various previous studies for primary education institutions. Adjustments adhering to school regulations set by the Indonesian government were made. Brown *et al*., (2009) proved that BSC might determine organizational performance in a balanced way through multiple perspectives rather than focusing exclusively on a single indicator. In education systems, the evaluative focus is primarily (if not exclusively) student test scores.

BSC measure and evaluate performance by answering four basic questions: (1) how customers see us (customer perspective), (2) what we must excel at (internal processes perspective), (3) how to continue to improve and create value (innovation and learning perspective), and how we look to shareholders (financial perspective) (Aly and Mansour, 2017).

2.3. *Financial Perspective*

Indonesian public primary schools receive budgets from the government. Public primary schools manage the budget independently. In addition, some schools have other financial sources—for instance, primary school income. However, the amount is not set. Schools propose a budget, adjusted to the amount of school expense, to the Office of Education, and they will receive operational assistance funds based on the approved proposal. The funds cover costs on equipment, transportation assistance for needy students, consumables, and so forth.

Financial goals and performance are different for each organization (Kaplan and Norton, 1996) since both are highly dependent on business type and operating cycles. Effective and efficient financial funding and utilization is a financial perspective performance measurement of education institutions (Gusnardi and Muda, 2019). The financial perspective of Indonesian schools, set through budget allocations quality, financial support for academic and extracurricular activities, budget allocation

policies, and completion of school financial accountability reports, determines the effectiveness and efficiency of school financial management. BSC implementation improves educational institution transparency and accountability (Oleivera *et al*., 2021).

2.4. Innovation and Learning Perspective

Education institutions require employees capable of thinking, creating, innovating, and learning independently (Ortiz *et al*., 2018). Innovation and learning perspectives are related to continuous improvement and value creation (Aly and Mansour, 2017). Camileri (2021) stated that organizational capacity refers to the development of sustainable professionalism and innovation. Schools are responsible for improving teacher and staff capability due to crucial basic education (Kasali, 2014, pp. 117). The primary objectives of education develop from year to year. However, the primary objectives generally aim to develop individuals and support individuals' integration into the community. Therefore, the individuals may shape the socioeconomic aspect of the community (*Ortiz et al*., 2018).

Teacher quality determines performance achievement, which adheres to school customer expectations (Rompho, 2020). Basic education supports the younger generation (Kasali, 2014, pp. 118). Education allows individuals to obtain income (Lanjouw *et al*., 2001). Therefore, innovation and learning perspectives define how schools create and innovate the learning process and self-development for teachers. Changes in curriculum, innovation, teachers' innovation level, staff motivation and self-development, and professional academic activities may be used as indicators of the process. Employees' innovative work behavior is likely to be associated with efforts to prevent service failures and actions for recovery once failure occurs (Zahoor and Sahaf, 2017).

2.5. Customer Perspective

Customer perspective refers to customer satisfaction in obtaining adequate service and compensation. The services and compensation adhere to customer expectations (Park and Gagnon, 2006; Zahoor and Sahaf, 2017). Customer perspective in education refers to satisfaction in achieving academic targets (Griggs *et al*., 2012). Customer satisfaction should become the main focus of non-profit organizations instead of profit (Dimitropoulos *et al*., 2017; Ortiz *et al*., 2018). Rompho (2020) proved that successful students achieved an excellent academic outcomes and showed good behavior. The customer perspective determines how customers, especially parents, assess educational service performance. Customer understanding and satisfaction are vital (Lee and Lo, 2003). The indicators are parent satisfaction with academic achievements, such as knowledge competence, learning models and methods, and the assessment process. In addition, the customer perspective also used non-academic achievement indicators, such as extra-school activities, spiritual competence, and student social competence.

2.6. Internal Business Perspective

The internal business perspective requires a focus on internal process effectiveness. In addition, the internal business perspective uses indicators on activities having the most significant influence on operational activity (Perkins *et al*., 2014). Effective internal business processes provide high-quality products and services. In addition, effective internal business processes can meet customer needs (Park and Gagnon, 2006). In this

study, internal business performance refers to how schools develop services, facilities, and resources for students, teachers, and staff. Furthermore, internal business performance refers to how the school provides response services to customer complaints.

BSC is a widely used performance measurement system (Wake, 2015) and control tool (Alles and Gupta, 2002), especially in companies. BSC is correlated in a cause-and-effect relationship through strategy maps (Kaplan and Norton, 2004; Rompho, 2020). Park and Gagnon (2006) proved a causal relationship between the BSC perspective. A strategy map is a tool that makes the strategy more transparent and tangible. It also helps managers understand the organization's strategy more clearly. Papenhausen and Einstein (2006) applied BSC in universities.

Schools have financial autonomy to manage existing funds. Therefore, performance information is used to manage financial accountability and planning (Hawke, 2012). Schools receive and manage differing amount of funds. In addition, the number of students influences the amount of funds received by the school. The facts mentioned above became the basis of conducting a further assessment. Furthermore, school groups show differing four perspective performance. Systems, mechanisms and processes have an important role to achieve performance. Performance in non-profit organizations is more difficult to understand, therefore we need a set of performance measurements with attributes that have unity, are real and objective such as BSC (Conaty, 2012).

Kaplan and Norton (2004) strategy map was adapted for educational institutions. The financial perspective, customer perspective, internal processes perspective, and learning and growth perspective were included in the map. This study used a similar model. The researcher adapted the model to adhere to the government's educational institution. Aly and Mansour (2017); Griggs *et al.*, (2012); Rahayu *et al.*, (2020); Rompho (2020) developed four BSC perspectives for an educational organization. The use of multiple measures in school evaluation offers a strategy to overcome several problems (Brown *et al*., 2009). The basic premise of BSC is non-financial performance indicators to encourage the achievement of financial performance (Park and Gagnon, 2006). BSC suitability on public organization refers to customers, internal process, innovation, and learning based on financial performance measurement (Dimitropoulos, 2017). The financial perspective is the main focus of several parties (Olievera *et al*., 2021).

Based on the literature review, the researchers constructed the following research hypothesis:

a) H1: Innovation and learning performance have a positive influence on financial performance.
b) H2: Innovation and learning performance have a positive influence on customer performance.
c) H3: Innovation and learning performance have a positive influence on internal business performance.
d) H4: Internal business performance has a positive influence on financial performance.
e) H5: Customer performance has a positive influence on financial performance.
f) H6: Internal Business performance has a positive influence on customer performance.
g) H7: Innovation and learning performance have a positive influence on financial performance mediated by customer performance.

h) H8: Innovation and learning performance have a positive influence on financial performance mediated by internal business performance.
i) H9: There is a different performance of financial perspective between the two school groups.
j) H10: There is a different performance of innovation and learning perspectives between the two school groups.
k) H11: There is a different performance of customer perspective between the two school groups.
l) H12: There is a different performance of internal business perspective between the two school groups.

3. Research Method

This research was conducted through initial coordination and permission from the Jambi City Office of Education. The office supervises elementary and secondary level schools in Jambi. The study started after the Office of Education provided a letter of recommendation to schools, allowing researchers to perform data collection.

This study used a survey design with closed and open questionnaires. The closed questions investigated the four perspectives in BSC performance. The questionnaire used a Likert scale with five alternatives: very dissatisfied (1), dissatisfied (4), fairly satisfied (3), satisfied (4), and very satisfied (5). Open questions investigated strategies and constraints of school performance achievement. The researchers conducted brief observations and interviews with stakeholders in the research site to strengthen analysis and discussion.

Research respondents were students' parents, primary school teachers, and staff. Elementary students' parents helped assess school performance because elementary students could not fill in questionnaires independently. When analyzing school performance, the researchers kept bearing in mind that principals acted as school managers. The principal is responsible for financial management, asset management, and school policy. Therefore, the researchers did not include the principal as a respondent. Stratified random sampling was used. The unit analysis involved six regions in Jambi City: Kotabaru, Jelutung, Jambi Selatan, Jambi Timur, Telanaipura, and Pasar/Seberang Kota. Three schools were selected from each region, and 30 respondents were chosen from each school. About 336 out of 540 distributed questionnaires were filled and returned, so the respondent rate was 62.22%.

The research variables consisted of the four perspectives in BSC performance: financial perspective, customer perspective, internal business perspective, innovation, and learning perspective (Kaplan and Norton, 1992). SEM-PLS 3.0 analysis were used for quantitative data processing. SEM-PLS is widely used by social phenomenon researchers due to its easy application (Hair *et al*., 2019). Due to the small size of the sample, there is no identification problem. Bigger-sized samples increase the precision (consistency) level of PLS-SEM estimation (Shmueli *et al*., 2019). SEM-PLS has bigger statistic strength, is easy to use to process complex models, and easily evaluate mediation (Hair *et al*., 2019). Griggs *et al*., (2012) used the four BSC perspectives to assess education services performance at tertiary level education. The present study also referred the BSC variables to Aly and Mansour (2017) and Rahayu *et al*., (2020), with some modifications to suit the primary education level in Indonesia. Aly and Mansour (2017) and Rahayu *et al*. (2020) four BSC perspectives are adapted by adding elements of new regulations. The correlation between indicators refers to the achievement of the school's vision, mission, and objectives.

Indicators of each variable are different due to differing concepts and dimensions. Financial variables consisted of 11 indicators, customer variables consisted of six (6) indicators, internal business variables consisted of eight (8) indicators, and innovation and learning variables consisted of eight (8) indicators.

Hair *et al*. (2019) argue that the reliability and validity of the variable measures were examined through four approaches measurement; reflective indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. Reflective indicator loading needs to be higher than 0.708. These indicators comprehensively assessed school performance (academic and non-academic). These indicators were tested for validity twice. Complete results of the validity and reliability tests are presented in Table 1.

Table 1. Construct Reliability and Validity

Variable Construct		Loading	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Financial	F_1	0.747	0.890	1,028	0.914	0.7
	F_2	0.818				
	F_3	0.732				
	F_4	0.780				
	F_5	0.795				
	F_6	0.827				
	F_7	0.850				
	F_8	0.888				
	F_9	0.723				
	F_10	0.834				
	F_11	0.798				
Customer	CS_1	0.912	0.944	0.948	0.951	0.6
	CS_2	0.912				
	CS_3	0.772				
	CS_4	0.808				
Innovation&Learning	IL_1	0.760	0.901	0.902	0.920	0.6
	IL_2	0.732				
	IL_3	0.749				
	IL_4	0.734				
	IL_5	0.771				
	IL_6	0.789				
	IL_7	0.788				
	IL_8	0.822				
Internal Business	BI_7	0.917	0.788	0.793	0.904	0.8
	BI_8	0.899				

Two variable indicators of customers (CS_5 and CS_6) and six indicators of internal business variables (BI_1, BI_2, BI_3, BI_4, BI_5, and BI_6.) that obtained lower loading values than 0.708 were subsequently deleted (Hair et al., 2019; Lin et al., 2020). Therefore, the remaining data exceeded the recommended cut-off value; the data's loading values ranged from 0.723 to 0.917.

Table 1 shows that all indicators have a loading factor value > 0.7. Therefore, the indicators are valid (Hair *et al*., 2019). Two Internal Business and Customer Satisfaction variables indicators are significantly reduced. However, the researcher considered that

valid indicators better reflect the variables mentioned above. Figure 1 shows the measurement model.

Figure 1. Measurement Model

The internal consistency reliability was used to evaluate the indicators' consistency. The research result produced Cronbach's alpha and Composite Reliability (CR) value. The alpha and CR values are measured between 0 to 1. The values should be above 0.700 and below 0.950 (Hair *et al*., 2019). Table 1 shows the alpha and CR values. Most variables had good internal consistency reliability and exceeded 0.700.

Average Variance Extraction (AVE) values elaborate convergent validity. Each construct should have a value of > 0.500 or higher that explains 50% or more of each indicator's variance (Hair *et al*.,2019; Lin *et al*., 2020). In this study, each constructs' AVE values exceeded 0.500. Based on Table 1, the Customer Satisfaction and Innovation & Learning variables obtained the lowest value of 0.6. The Internal Business variables obtained the highest value of 0.8.

Discriminant validity issues occur when a construct's indicator loading value is higher than the loading values on other constructs. Cross-loadings issues did not occur (Hair *et al*., 2019). Table 2 shows no cross-loading issue using the Fornell-Larcker criterion.

Tabel.2

Perspective	Customer_Satisf	Financial	Innovation & Learning	Internal_Buss
Customer_Satisf	**0.853**			
Financial	0.051	**0.801**		
Inovation & Learning	0.122	0.392	**0.769**	
Internal_Buss	0.006	0.263	0.364	**0.908**

Table 3 shows no cross-loading issue in this study.

Tabel 3

	Inov&Learn	Cust_Satisf	Int_Buss	Financial
Inov_1	**0.760**	0.113	0.271	0.291
Inov_2	**0.732**	0.098	0.244	0.371
Inov_3	**0.749**	0.046	0.317	0.233
Inov_4	**0.734**	0.120	0.238	0.301
Inov_5	**0.771**	0.053	0.319	0.282
Inov_6	**0.789**	0.094	0.242	0.364

Inov_7	**0.788**	0.112	0.316	0.254
Inov_8	**0.822**	0.110	0.295	0.299
C_1	0.106	**0.912**	0.003	0.062
C_2	0.147	**0.912**	-0.004	0.033
C_3	0.029	**0.772**	0.012	0.016
C_4	0.051	**0.808**	0.028	0.057
BI_7	0.327	0.004	**0.917**	0.275
BI_8	0.334	0.007	**0.899**	0.199
Fin_1	0.301	0.076	0.138	**0.747**
Fin_2	0.316	0.121	0.219	**0.818**
Fin_3	0.318	0.017	0.251	**0.732**
Fin_4	0.234	0.020	0.254	**0.780**
Fin_5	0.297	0.048	0.196	**0.795**
Fin_6	0.345	-0.012	0.197	**0.827**
Fin_7	0.343	0.032	0.258	**0.850**
Fin_8	0.328	0.017	0.237	**0.888**
Fin_9	0.235	0.041	0.117	**0.723**
Fin_10	0.379	0.035	0.214	**0.834**
Fin_11	0.311	0.066	0.206	**0.798**

The research result showed that all constructs' outer loadings (bold) were higher than the cross-loadings. The Fornell-Larcker criterion and cross-loading evaluation determined the discriminant validity. The fit model showed an NFI value of 0.810 (81%). The blindfolding test results (Q^2) showed a value of 0.007 to 0.104, none of which were below 0.

The four BSC perspectives was assessed and compared between two school groups. Schools were classified based on the number of students, with a limit of 400 students. Group 1 consisted of schools with 400 students or less, and Group 2 was for schools with more than 400 students. The classification was made based on the assumption that schools received different amount of funds and had different facilities, infrastructure, and the number of teachers, staff, and students. The performance of the two school groups was tested using an independent-sample t-test with a significance level of 0.05.

Qualitative data were collected using open questions and in-depth interviews. The questionnaire uses open and closed questions. Out of 336 participants, 103 answered the open questions. The questions used the BSC perspective to assess strategies and constraints of school achievement and school performance improvement.

The research used the qualitative method and snowball method. The researcher conducted an in-depth interview with key informants. We added key informants according to data requirements (Rahayu, 2020, pp. 65). Cresswell and Creswell (2018, pp. 262-264) explained that qualitative research requires few informants. The appropriateness and competence of informants are crucial to obtaining accurate data. (Rahayu, 2020, pp. 66). We conducted an in-depth interview with 27 informants consisting of 3 representatives of the Office of Education, 7 teachers, 5 staff, 8 representatives of parents, and 4 principals. The total informants adhere to the research's data requirement. Qualitative research provides natural and in-depth

interview results. Therefore, qualitative research can better comprehend a specific phenomenon.

Qualitative data analysis refers to Rahayu (2020, pp. 68-69) consisting of coding, initial theme determination, primary theme determination (correlation between initial theme), analysis, and conclusion. Leximancer 4.51 application was used for qualitative data processing. Leximancer 4.51 application processes data coding. Leximancer provides automated analysis based on text properties (Jones and Diment, 2010). Based on the analysis, the visible concept size level was 100%, and the theme size was 33%. The relevance count limit for the formed concept of the Leximancer output was not set to describe actors' strategies and constraints fully. One of the advantages of Leximancer is good data validity. The data reliability used the prominence concept ≥ 0.5, and the data validity used triangulation. Triangulation is the easiest qualitative data assessment method (Merriam, 2002, pp. 25) that consists of sources, methods, investigators, and theories. Source triangulation was chosen for this study.

4. Findings and Discussion

4.1. Interaction between Variables

Respondent characteristics consist of gender, age, and education, as shown in Table 4.

Table 4. Respondent Characteristics

Characteristics	Criteria	Amount	Percentage (%)
Gender	Male	92	27,38
	Female	244	72,62
Total		336	100
Age (Years)	20 – 30	58	17,26
	31 – 40	169	50,30
	41 – 50	65	19,34
	> 50	44	13,10
Total		336	100
Education Level	Elementary school / equivalent	10	2,98
	Junior high school / equivalent	29	8,63
	Senior High School / equivalent	72	21,43
	Bachelor degree	17	5,06
	Graduate	188	55,95
	Postgraduate	20	5.95
Total		336	100

Table 4 informs us that most respondents are female (72.62%), age 31-40 years old (50.30%), and have graduated university (55.95 %).

Results of hypothesis testing (hypothesis 1 to 8) are presented in Table 5 based on the output of the Smart PLS version 3.0 in the form of a path coefficient value.

Table 5. Path Coefficients

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
Inovasi dan Pembelajaran -> Keuangan	0.340	0.343	0.068	4.971	0.000	Accepted
Inovasi dan Pembelajaran -> Pelanggan	0.138	0.136	0.082	1.691	0.091	Not Accepted
Inovasi dan Pembelajaran -> Internal Bisnis	0.364	0.365	0.057	6.351	0.000	Accepted
Internal Bisnis -> Keuangan	0.139	0.137	0.060	2.313	0.021	Accepted
Pelanggan -> Keuangan	0.009	0.010	0.051	0.177	0.859	Not Accepted
Internal Bisnis -> Pelanggan	0.045	0.042	0.071	0.632	0.528	Not Accepted
Inovasi dan Pembelajaran -> Pelanggan -> Keuangan	0.001	0.001	0.008	0.167	0.868	Not Accepted
Inovasi dan Pembelajaran -> Internal Bisnis -> Keuangan	0.051	0.051	0.024	2.075	0.038	Accepted

Statistical T value> 1.96 and P value with a significant level of 0.05

Table 5 confirms that four hypotheses (H1, H3, H4, and H8) were accepted, while the other four hypotheses (H2, H5, H6, and H7) were rejected. Figure 2 presents final model.

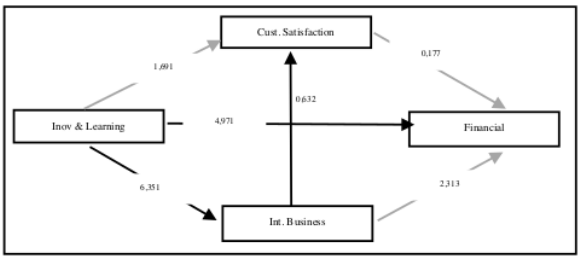

Figure 2. Final Model

The researcher analyzed Hypothesis 7 using Sobel Test. Sobel test assesses customer satisfaction variable as a mediation of innovation performance and financial performance learning. The assessment result showed the coefficient of regression of innovation and learning regression on financial performance was 0.062 with an error standard of 0.44. The coefficient of regression of customer satisfaction was 0.009 with an error standard of 0.102. The Sobel test value was 0.088 < 1.96. The Sobel test result showed that customer satisfaction did not mediate the influence of innovation performance and financial performance learning. Sobel test showed a similar result with PLS.

Findings indicated that innovation and learning positively affected financial performance and internal business performance. Innovation and learning in education and the private sector focus on improving human resources competence (Karathanos and Karathanos, 2005). Improving human resources and skills will increase financial management ability, and therefore increase financial performance. Furthermore, improving human resources and skill increases education services, and therefore increases internal business performance. Schools may use existing resources to develop appropriate and effective programs for stakeholders.

However, innovation and learning performance did not influence customer satisfaction performance. Internal business performance positively affected financial

performance. However, the internal business performance did not directly influence customer satisfaction performance. Schools did not inform parents well regarding innovation and learning performance in addition to increased internal business. Therefore, parents lacked information.

Customer satisfaction performance did not influence financial performance due to a lack of stakeholders' involvement. Parents, teachers, and staff were only involved in the budget preparation process. Therefore, information related to financial performance was not shared properly. The indirect influence showed that customer satisfaction performance could not mediate innovation and learning performance and financial performance. Internal business performance could mediate the relationship between innovation and learning performance and financial performance.

Internal school parties generally understand innovation and learning performance, financial performance, and internal business performance better. Parents, teachers, and staff seem to focus more on academic knowledge and student character when it comes to customer satisfaction. In fact, all performance perspectives are crucial. Four BSC perspectives in education institutions evaluate performance and improve institution management (Aly and Mansour, 2017). The research result indicated that the schools needed to optimize school governance, accountability, and transparency. Schools are suggested to be transparent to parents, teachers, staff, and other stakeholders in addition to authorized institutions or officials. Cooperation and trust among stakeholders will improve school performance. The school supervisors should actively improve and optimize the four perspectives of performance.

4.2. The Performance Comparison between Two School Groups

The performance comparison between the school groups can be seen in hypothesis testing (H9 to H12). The summary is presented in Table 6.

Table 6. Comparative Test

Perspective/Dimension	Mean of Construct		Mean	P Values	Rank	Result
	Schools with less than 400 Students	Schools with more than 400 Students				
Keuangan	3.74	3.72	3.73	0.135	4	Not Accepted
Pelanggan	3.97	3.99	3.99	0.315	1	Not Accepted
Internal Bisnis	3.90	3.91	3.91	0.144	2	Not Accepted
Inovasi dan Pembelajaran	3.79	3.98	3.89	0.044	3	Accepted

P value with a significant level of 0.05

Table 6 depicts that three hypotheses were rejected (H1, H2, and H3), and one hypothesis (H4) was accepted.

There was no different financial perspective performance between medium and large primary school groups in Jambi City. Schools possessing less than 400 students have an average financial perspective performance of 3.74. Schools possessing more than 400 students have an average financial perspective performance of 3.72. Smaller schools manage fewer funds and easily conduct administration processes. The financial administration staff of larger schools stated the following:

> "Schools receive different amounts of funds due to differing numbers of students. However, there is little difference in the financial management process. Larger schools will receive a larger amount of funds. Therefore, there are more administration processes. We use similar guidelines with smaller schools such as planning, accountability, and evaluation."

The Ministry of Education and Culture regulated the financial management of school funds. One of the headmasters explained that:

> "The ministry has regulated the legal basis and format of the fund management system, and all schools use the same guidelines."

The ministry does not discriminate against the school based on the total number of students. Each school receives financial management guidelines adhering to existing regulations. Through the Office of Education and Culture, Jambi City Government regularly conducts training, technical guidance, and socialization related to good school financial management.

There was no different customer perspective performance between medium and large primary schools in Jambi City. The schools possessing more than 400 students have an average customer satisfaction perspective performance of 3.99. The schools possessing less than 400 students have an average customer satisfaction perspective performance of 3.97. Jambi City Government gives the Adiwiyata Award[1] to several schools in the two school groups that promote green school programs by utilizing and processing waste into valuable items. Jambi City Office of Education informant expressed the following:

> "The number of students is no longer relevant to school achievement. Schools performance requires academic and non-academic achievements. The School curriculum needs to focus on character instead of intellect. Schools may improve students' character through local culture and religions. Smaller schools have obtained large achievements. The parents and community appreciate the achievements."

The city government also develops a program to promote local culture and religion through the local curriculum. Religious activities help to build student characters. Local culture such as batik, traditional games, traditional arts, traditional rhymes, and *seloko*, is taught based on the local curriculum. *Seloko* is an expression or word of advice and ethical-moral messages about community norms.

Schools possessing more than 400 students have an average internal business perspective performance of 3.91. Schools possessing less than 400 students have an average internal business perspective performance of 3.90. There was no difference in the internal business perspective between the two school groups. Parents often complained about students' learning schedules due to the limited availability of classrooms. One of the teachers expressed the following:

6

[1] Adiwiyata Mandiri is an award given for school which is considered able to realize environment culture in all school aspects and has succeeded in fostering school to participate in environmental cultivation and preserve school environment as a safe, comfortable, and fun place to study.

> "We often receive parental complaints regarding school schedule due to lack of available classrooms. I initially thought that this only happens to our school, which is considered a large school due to the large number of students. However, smaller schools lack available classrooms as well."

The two school groups worked around the limited availability of classrooms by conducting afternoon classes. Schools need to admit students as the elementary level is part of compulsory education. Parents understood the workaround since good communication was built between the schools and parents. Parents were also delighted with the educational administrative services, such as the management of school activities, student report cards, and other information for parents—it even included assistance in solving student problems. There was a high level of parent satisfaction with complaint resolution and the school environment, facility, and classroom hygiene. It was found that students started to form awareness towards environmental hygiene. In addition, the schools encouraged cooperation with students. However, the school lacked the availability of toilets and clean water.

There were differences in innovation and learning perspectives between the two school groups. The schools with more than 400 students had better innovation and learning perspective performance than those with less than 400 students. They also had better information technology facilities. Jambi City Office of Education informant expressed the following:

> "Higher number of students increases operational funds. Fund utilization plans need to involve parents, school committees, staff, and teachers. Stakeholders generally request the improvement of information technologies facility and teachers' competency. For example, smaller schools generally have better computer laboratories. School committee generally has similar idea as improving information technology facility, and teachers' competence will increase school performance."

The amount of school funds was proportional to the number of students. The schools having more than 400 students could efficiently optimize facilities for innovation and learning, such as having better learning equipment.

4.3. Strategies and Constraints to Improve School Performance

The open question data analysis, based on respondents' perception of school performance improvement, showed several problems. Figure 3 presents the data analysis result.

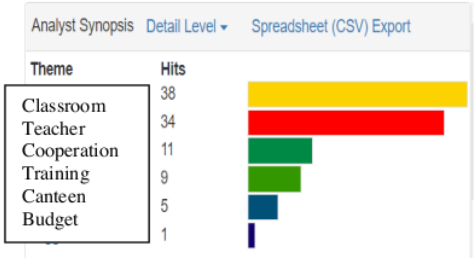

Figure 3. Problems in School Performance Improvement

The most important constraint was facilities and infrastructure, such as limited available classrooms in several schools. Various schools worked around their limited available classrooms by turning teacher rooms into a classroom. According to parents, teachers, and staff, the availability of classrooms (infrastructure) became the primary constraint. One of the staff expressed the following:

> "We're gladly admitting a large number of students. However, our school and several other schools lack available classrooms. The lack of classrooms proved to be a big obstacle. Due to increasing workhour, we have to stay at school longer".

However, based on an interview with school principals, the lack of available classrooms was not an obstacle. The school conducted morning and afternoon classes to overcome the lack of classrooms. Schools have communicated the schedule to parents. The parents subsequently accepted the condition. The principals focused on the shortage of Civil Servant teachers. Jambi City solved the shortage of Civil Servant teachers by recruiting non-Civil Servant teachers. However, discipline and teachers' creativity remain a concern.

Respondents, supported by documents and interviews with authorities, considered teachers as another constraint, as expressed by the principal:

> "Due to decreasing number of Civil Servant teachers, regional government and school admitted contract teachers (non-Civil Servant teachers). The non-civil servant teachers receive income from regional government funds or school funds. We need to hire non-civil servant teachers due to the lack of available teachers."

The number of Civil Servant teachers in Jambi City was declining due to the lack of regeneration, while the older Civil Servant teachers had retired or passed away. Schools improve teachers' competence through training, technical guidance, etc. The teachers admitted that it was necessary to improve self-competence for optimal educational activities based on the interview result. Furthermore, training and seminars also will improve teachers' competence and ability to develop methods and models and use instructional media.

4.3.1. Strategies to Improve Customer Perspective Performance

Parents as primary school customers expect improvement in children's knowledge and skills. One of the parents expressed that:

> "For parents, children need to have good knowledge. However, skills, ethic, and characters are equally important. We hope schools would schedule extracurricular activities for the students".

In addition to intellectual competency, the students require spiritual, social, communication, and other competencies. The schools shall do several strategies, such as optimizing student learning schedules, conducting character-building activities, and improving communication, social, and spiritual competencies. Schools need to increase the quantity and quality of extracurricular activities because parents show low satisfaction. Extracurricular activities help to improve students' competencies.

4.3.2. Strategies to Improve Internal Business Performance

Based on the internal business perspective, the school may improve performance through services—for instance, facilities and infrastructure (availability and hygiene). The school must pay attention to the hygiene and comfort of public facilities, such as toilets, canteens, schoolyards, library, and prayer room. Schools must also pay attention to the provision of comfortable and clean public spaces that allow students to interact while playing, group work, or local curriculum activities.

One of Office of Education Official stated that:

> "School facility hygiene and comfort attract students and parents. We need to make schools the second home of the students. A good atmosphere will improve the learning process."

On the other hand, parents are satisfied with well-maintained school hygiene. Jambi City Government awarded several schools with *Adiwiyata* Award. Schools may increase student involvement to maintain school environment hygiene and comfort through cooperation.

4.3.3. Strategies to Improve Innovation and Learning Performance

Technology and information continue to develop, so the school curriculum needs to develop continuously. However, administrative facilities in schools remain a concern. Schools that do not keep up with development and environmental demand will lose customers. Schools need to innovate and develop learning perspectives such as internal consolidation to increase the quality of the school system and culture. One of the teachers expressed that:

> "As a teacher, I need to adapt to information and technological advances. The parents demand teachers adapt. Children are introduced to information technology early. I need to learn, improve, and innovate continuously. Schools need to support teachers' competence."

Cooperation with parents, communities around the school environment, other schools and institutions (public and private) may be conducted to improve school performance. Schools may create participatory and open school management, in addition to implementing tiered and open evaluation. The follow-up to evaluation results should be carried out continuously.

4.3.4. Strategies to Improve Financial Performance

Schools cannot ignore financial perspectives and asset management. There is high parent satisfaction with school cost efficiency. However, there is low parent satisfaction with school asset management due to the limited availability of classrooms in several schools. Schools may increase financial performance by cooperating with parents and the private sector. One of the principals explained the addition of new classrooms and improvement of school facilities:

> "Due to the limited economic capacity, I cannot expect financial aid from the majority of the parents. There is a limited amount of regional government funds as well. Our school sent proposals to various companies and ministries.

As a result, we could add new classrooms and repair old classrooms. Due to limited school funds, we cooperate with the parents to solve existing problems within our capability".

Schools may increase mutual trust between school elements by performing accountable and transparent school finances management—for instance, budgeting and allocating school funds through joint discussion with parents, teachers, and staff. The collaborative discussion will encourage shared motivation. The use of the budget must be efficient and adhere to existing regulations. Schools must pay attention to compliance with applicable rules in financial management.

4.4. The Model of Actor Relationship to Optimize School Performance Using BSC Approach

Public sector organization governance and performance management need to consider the relationship between stakeholders (Conaty, 2012). The researchers constructed a model that described the relationship between actors involved in school management based on the BSC perspective. The model is presented in Figure 4.

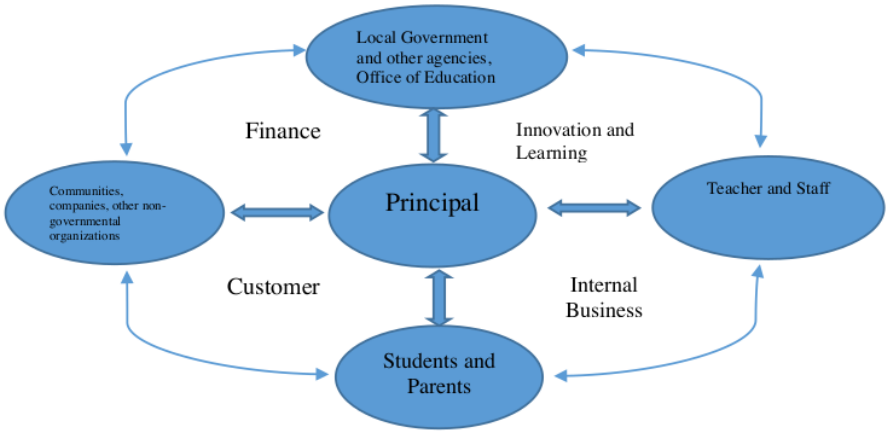

Figure 4. Actor Relationship to Improve School Performance based on BSC Perspective

Figure 4 shows that improving school performance through the BSC approach requires cooperation between all parties.

BSC sangat sesuai diterapkan oleh organisasi modern saat ini ((Kankaraš *et al*., 2014). Schools need to consider five BSC principles: translate strategic objective to operational terms, adapt the organization to strategy, create work strategy for all organizational units, create continuous strategic processes, and create change through managerial leadership (Ortiz *et al*., 2018). The principal, as manager, has a crucial role in initiating changes at school (Rahayu, 2020, pp. 147-150).

The principal is the leading figure who determines the success of a school. The principal leadership and good communication with parents, teachers, and staff are crucial. Schools need to create and maintain partnerships with parents, the community, and businesses. Therefore, the students may face the challenges of the ever-changing world (Karathanos and Karathanos, 2005). Therefore, the principal determines the

achievement of the vision and mission. Schools need to involve stakeholders in determining and developing education performance measurements (Brown *et al*., 2009). Stakeholders' involvement is related to the distribution of rights, obligations, and accountability (Conaty, 2012). Stakeholder involvement is necessary to determine objectives and achievement. Parents are crucial to determining school performance targets and evaluation. Schools as government institutions act under local government's coordination and responsibility, especially the Office of Education. The surrounding community and other non-governmental organizations will support the success of the schools.

5. Conclusion, Limitations, and Implications

Based on the four BSC perspectives, the schools were in good condition. The research result showed that innovation and learning performance positively influenced financial performance and internal business performance. However, innovation and learning performance did not influence customer satisfaction. Internal business performance influenced financial performance. However, internal business performance did not influence customer satisfaction. Customer satisfaction did not influence financial performance. Research results showed that customer performance did not mediate the influence of innovation and learning on financial performance. Internal business performance mediated the influence of innovation and learning on financial performance.

The analysis result showed the difference between innovation and learning performance. The small school has a better performance compared to the large school. The two school groups showed no difference between financial performance, customers, and internal business.

Limited facilities and infrastructure were a dominant constraint, including limited classrooms, unavailable teacher rooms, narrow libraries, small school environments, or yards. Furthermore, there is a lack of parental cooperation and participation in school activities. Schools need to develop several strategies to overcome constraints, such as increasing cooperation with various parties, increasing internal consolidation, and optimizing the use of existing school assets. It is also crucial to improve the trust of various parties by being more transparent in fund management. Schools need to increase and maintain a partnership with stakeholders, especially parents.

The research was limited to the public elementary school that uses government funds. The research result did not fully portray the elementary school performance. There were non-government organizations, such as foundations, that fund elementary schools. This research compared the performance between two school groups based on four perspectives. This research did not perform a structural comparison between two school groups.

The research implication was producing a model to measure public elementary schools comprehensively. We suggested that the regional government pay attention to the innovation and learning performance of smaller schools. Therefore, reducing the service quality difference between schools. Schools need to focus on the lack of infrastructure and facilities. Schools need to develop a strategy to overcome problems. In addition, the research result produced a model of actor interaction. Schools need to maintain a good relationship with all stakeholders, especially parents. For example, schools may conduct partnerships on program and activity implementation and

provide school infrastructure and facilities. Schools need to communicate with parents, encouraging them to contribute to solve problems at school actively.

Future research may use different education levels and broader research scope. Future research may develop performance analysis using SWOT analysis. In addition, future research may correlate BSC perspective and performance variables such as good governance, culture, policy changes, etc.

The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement

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