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Forms Completion submitted (24-Jan-2022) - <a href="#">view</a>	ED: Huaccho Huatun, Luisa AE: Huaccho Huatun, Luisa GE: Not Assigned EA: Webster, Jeri	IJPPM-05-2021-0308.R1	The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement	26-Nov-2021	23-Jan-2022
Accept (22-Jan-2022)					
<a href="#">view decision letter</a> <a href="#">Contact Journal</a>					
a revision has been submitted (IJPPM-05-2021-0308.R1)	ED: Huaccho Huatun, Luisa AE: Kusubalan, Berk GE: Not Assigned EA: Webster, Jeri	IJPPM-05-2021-0308	The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement	08-Jul-2021	29-Aug-2021
Major Revision (29-Aug-2021)					
a revision has been submitted					
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Remove	22-Jan-2022	International Journal of Productivity and Performance Management - Author update
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Subha, me 8 Inbox IJPPM-05-2021-0308 | 680751 - Confirmation on tables - Re: IJPPM-05-2021-0308 ... Feb 2

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Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308

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**International Journal of Productivity and Performance Management**

Sat, May 29, 2021 at

&lt;onbehalf@manuscriptcentral.com&gt;

9:03 PM

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

29-May-2021

Dear Dr. Rahayu,

Your manuscript entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" has been successfully submitted online and is presently being given full consideration for publication in the International Journal of Productivity and Performance Management.

Your manuscript ID is IJPPM-05-2021-0308.

Please be aware that due to the current pandemic the editorial team are experiencing a significant rise in submissions, whilst also accommodating additional work from their respective institutions. We kindly request your patience with the review process at this time. Thank you.

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Thank you for submitting your manuscript to the International Journal of Productivity and Performance Management.

Yours sincerely,  
Jennifer Webster  
International Journal of Productivity and Performance Management

<https://orcid.org/0000-0002-9508-378X>



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308 has been unsubmitted

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id

Sat, Jun 26, 2021 at

3:40 PM

26-Jun-2021

Dear Dr. Rahayu,

Your manuscript, IJPPM-05-2021-0308, entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" has been unsubmitted to the International Journal of Productivity and Performance Management. It may either have been unsubmitted at your request or because you did not complete all necessary parts of the submission.

Your references are not presented correctly, in particular your journal ones. See example below of how they should be laid out:

Tierney, P. and Farmer, S. M. (2011), "Creative self-efficacy development and creative performance over time", Journal of Applied Psychology, Vol. 96 No. 2, pp. 277-293.

Your Author Biographies file needs: • Brief professional biography for each contributing author (no more than 100 words)

Remove your tables from the main article and re-submit as a separate file. The position of each table should be clearly labelled in the body text of the article with corresponding labels clearly shown in the separate file.

Please amend your headings to be presented in bold format and the subsequent sub-headings to be presented in medium italics. Your headings and sub-headings need to be numbered, e.g headings 1, 2, 3 and subheadings 1.1, 1.2 etc

Please visit the instructions to authors to complete your submission and re-submit the manuscript for consideration of publication. You may contact the Editorial Office if you have further questions.

Yours sincerely,

International Journal of Productivity and Performance Management Editorial Office



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308

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**International Journal of Productivity and Performance Management**

Fri, Jul 9, 2021 at

&lt;onbehalf@manuscriptcentral.com&gt;

7:09 AM

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

08-Jul-2021

Dear Dr. Rahayu,

Your manuscript entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" has been successfully submitted online and is presently being given full consideration for publication in the International Journal of Productivity and Performance Management.

Your manuscript ID is IJPPM-05-2021-0308.

Please be aware that due to the current pandemic the editorial team are experiencing a significant rise in submissions, whilst also accommodating additional work from their respective institutions. We kindly request your patience with the review process at this time. Thank you.

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Thank you for submitting your manuscript to the International Journal of Productivity and Performance Management.

Yours sincerely,  
Jennifer Webster  
International Journal of Productivity and Performance Management

<https://orcid.org/0000-0002-9508-378X>



Sri Rahayu <sri\_rahayu@unja.ac.id>

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308

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Sri Rahayu <sri\_rahayu@unja.ac.id>  
To: jeniwebster123@gmail.com

Fri, Jul 9, 2021 at 8:38 AM

Dear Jennifer...

Thank you for your email.. We really hope our article can be published in Journal of Productivity and Performance Management

Thank you  
Best Regard  
Sri Rahayu  
Universitas Jambi  
[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - Author update

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

Tue, Jul 27, 2021 at

2:11 AM

26-Jul-2021

Dear Author(s)

It is a pleasure to inform you that your manuscript titled The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement (IJPPM-05-2021-0308) has passed Editorial Assistant screening and is now awaiting desk-review by the Editor.

The manuscript was submitted by Dr. Sri Rahayu with you listed as a co-author. As you are listed as a co-author please log in to <https://mc.manuscriptcentral.com/ijppm> and check that your account details are complete and correct, these details will be used should the paper be accepted for publication.

Yours sincerely,

Jennifer Webster

Editorial Assistant, International Journal of Productivity and Performance Management

[jeniwebster123@gmail.com](mailto:jeniwebster123@gmail.com)





Sri Rahayu <sri\_rahayu@unja.ac.id>

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## International Journal of Productivity and Performance Management - Author update

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**Sri Rahayu** <sri\_rahayu@unja.ac.id>

Tue, Jul 27, 2021 at 10:41 AM

To: jeniwebster123@gmail.com

Dear Jennifer Webster

Editorial Assistant, International Journal of Productivity and Performance Management

Thank You for you information.

Best regards

Sri Rahayu

[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## Decision on IJPPM-05-2021-0308

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Reply-To: luisa.huatuco@york.ac.uk

To: sri\_rahayu@unja.ac.id

Mon, Aug 30, 2021 at

12:56 AM

29-Aug-2021

Dear Dr. Sri Rahayu,

Manuscript ID IJPPM-05-2021-0308 entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" which you submitted to the International Journal of Productivity and Performance Management, has been reviewed. The comments of the reviewer(s) are included at the bottom of this letter.

The reviewer(s) have recommended publication, but also suggest some revisions to your manuscript. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

To revise your manuscript, log into <https://mc.manuscriptcentral.com/ijppm> and enter your Author Centre, where you will find your manuscript title listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number has been appended to denote a revision.

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When submitting your revised manuscript, you will be able to respond to the comments made by the reviewer(s) in the space provided. You can use this space to document any changes you make to the original manuscript. In order to expedite the processing of the revised manuscript, please be as specific as possible in your response to the reviewer(s).

**IMPORTANT:** Your original files are available to you when you upload your revised manuscript. Please delete any redundant files before completing the submission.

Because we are trying to facilitate timely publication of manuscripts submitted to the International Journal of Productivity and Performance Management, your revised manuscript should be uploaded as soon as possible. If it is not possible for you to submit your revision in a reasonable amount of time, we may have to consider your paper as a new submission.

To help support you on your publishing journey we have partnered with Editage, a leading global science communication platform, to offer expert editorial support including language editing and translation.

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Once again, thank you for submitting your manuscript to the International Journal of Productivity and Performance Management and I look forward to receiving your revision.

Yours sincerely,

Dr Luisa Huaccho Huatuco

Co-Editor, International Journal of Productivity and Performance Management

[luisa.huatuco@york.ac.uk](mailto:luisa.huatuco@york.ac.uk)

DEADLINE: 27-Nov-2021

Associate Editor and Reviewer(s)' Comments to Author:

Associate Editor

Comments to the Author:

Dear Author(s);

Your manuscript has been reviewed and the comments of the reviewer(s) are included. You will see that, although the reviewer(s) found some merit in the paper, it is required that substantial revisions be done before we can consider it further. Please also check some other similar BSC-related papers to justify your rationale (e.g. Kucukaltan, B., Irani, Z., & Aktas, E. (2016). A decision support model for identification and prioritization of key performance indicators in the logistics industry. *Computers in Human Behavior*, 65, 346-358.).

We do hope you will be able to undertake the additional work on the paper and look forward to receiving re-submission of a revised manuscript in due course.

Sincerely,

Associate Editor

Reviewer: 1

Recommendation: Minor Revision

Comments:

The study is well presented, has an appropriate language and is easy to follow.

The results presented are clearly explained, however, they are not discussed based on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions.

Discussion and conclusions must be improved.

There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.

Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: Yes. The study contains aspects that somehow bring innovation and make the study relevant.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Yes. Considering the aspects addressed in this study, the literature review is adequate and sufficient.

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Yes. The methods employed are appropriated and the study is is correctly designed.

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results presented are clearly explained, however, they are not discussed based on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions.

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The article does not explain well the extent of the results obtained, nor does it link to the literature review. Discussion and conclusions must be improved.

There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The study is well presented, has an appropriate language and is easy to follow.

Reviewer: 2

Recommendation: Major Revision

Comments:

This paper is well written, well organized, and provides the necessary background for the new approach. Furthermore, the methodology needs some technical interventions

- 1) It is unfortunate that the authors have not mentioned how the sample (qualitative approach) was collected to make this a much stronger paper. Further, the authors didn't quote any statements of the interviewers in order to strengthen their work.
- 2) Additionally, the authors didn't use the SWOT theory in order to carry out strategies and strategic objectives. Then BSC perspectives can be used in order to demonstrate the school's performance.
- 3) In-text, references in the manuscript must be formatted using one of the recognized Harvard styles. I think the authors have to see all of them again and make the necessary changes.
- 4) Few additional references may be included in the text. ( mentioned above)

Regardless, it is probably still worthwhile for publication as it does demonstrate the four perspectives in BSC performance and analyzed them for the two group schools. I would recommend major revisions to this paper prior to publication.

#### Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: This paper is intriguing because it adds to the existing engagement literature in a significant way.

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: To further up their claims, the authors cited relevant literature.

However, few additional references which may be included are:

- a) Dimitropoulos, P., Kosmas, I. and Douvis, I. (2017), "Implementing the balanced scorecard in a local government sport organization: Evidence from Greece", International Journal of Productivity and Performance Management Vol. 66 No. 3, 2017 pp. 1-20.
- b) Hawke, L. (2012), "Australian public sector performance management: success or stagnation?", International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 310-328.
- c) Conaty, F.J. (2012), "Performance management challenges in hybrid NPO/public sector setting: an Irish case", International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 290-309.
- d) Quezada, L., Reinaldo, E., Palominos, P. and Oddershede, A. (2019), Measuring Performance Using SWOT Analysis and Balanced Scorecard, Procedia Manufacturing 39 786–793.
- e) Quezada, L., Cordova, M., Palominos, P., Godoy, K. and Ross, J. (2009), Method for identifying strategic objectives in strategy maps, International, Journal of Production Economics, 122 (1) 492-500
- f) Lee, S., and Lo, K. (2003), e-Enterprise and management course development using strategy formulation framework for vocational, Journal of Materials Processing Technology, 139 604-612.

All, in text, references in manuscript must be formatted using one of the recognized Harvard styles. [https://www.emeraldgroupublishing.com/journal/ijppm?\\_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines](https://www.emeraldgroupublishing.com/journal/ijppm?_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines).

The below references are examples that made me confused.

Some lines in parenthesis "and" some others "&"

The authors have to replace (in all manuscript) "&" in parenthesis, to "and". Additionally have to replace "and" in text, to "&"

Example: (Kaplan and Norton, 1992) but Papenhausen & Einstein (2006)

Line 33 (Kaplan and Norton, 1992)

Line 23 (Park & Gagnon, 2006)

Line 15 Papenhausen and Einstein (2006)

Line 11 Park & Gagnon (2006)

Line 18 (Jensen and Meckling, 1976)

Line 52 (Lawrence and Sharma, 2002)

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: 3) The methodology adopted for this work is appropriate. The design is appropriate to fulfill the author's research hypotheses. Methods employed to prove hypotheses and the research model are well fitted.

However, few concerns remain.

1) What about the SWOT analysis?

There are plethora of manuscripts (Quezada et al. 2019) in which both tools (SWOT and BSC) are combined conceptually. Some of them are authored by Quezada et al. 2009, who created a SWOT matrix from the strategic objectives of a BSC, and (Lee and Lo, 2003) who produced a framework for formulating a strategy for vocational education.

The core element of the proposed method is an ANP (Analytical Network Process) model that includes SWOT factors and sub-factors,

Strategies, BSC perspectives and strategic objectives. It means that the schools have to undertake a strategy formulation process, in which a SWOT matrix is carried out and strategies and strategic objectives are defined. ANP is used to estimate the priority of the strategic objectives, which are combined with an assessment of the level of their achievement in order to get a measurement of the school's performance.

2) Why the qualitative approach is the most appropriate methodology for this part of the study? (line 14-15 authors tried to explain, but there is no research question and we have no information about that kind of methodological approach)

more information about the utility of the approach and open questions(semi-structure?) write some statements in order to support the findings.(line 48 ."The teachers admitted...." How do we know that?

3) What about the sample for the qualitative approach according to the theory?

More information added

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results are well presented and clearly establish and thoroughly analyzed. Finally, conclusions tie together the elements of the paper even though they are concise and do not address important aspects as to the road that must be followed, or the implications of the research

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The paper establishes new research avenues, or implications for research, and practice. The last paragraph mentions that this research has value because it has implications for scholars, and institutions but it does not establish which are those implications. Nevertheless, the tested model is in itself a contribution

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: While the paper remains potentially strong, it requires substantial revision(major) before acceptance for publication

Reviewer: 3

Recommendation: Major Revision

Comments:

Your effort is worthwhile and encouraging, especially in the context of school performance evaluation. For a country like Indonesia, it can provide much useful inputs.

However, there are some serious flaws in your approach. Firstly, Kaplan and Norton emphasize that the four perspectives are tools in the hands of a management to help improve their achievement of their Vision and implementation of their Strategy. This assumes, therefore, that the management is aware of the four perspectives and can use them to properly prioritize them in their Strategy Map. So, before emb ing on collecting a lot of quantitative data, it would be necessary to first do a qualitative study of the school principals (and perhaps some school regulators) to understand their awareness of their vision, their strategy and their knowledge of the four perspectives. As per Kaplan and Norton, these four perspectives have to be drawn out from their ongoing activities. This exercise would help in identifying subsequent the right variables and indicators for the subsequent quantitative study.

Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: Original? Yes, to the extent that there has been no similar study done to evaluate school performance at primary level.

Significant? Depends on whether the research done fulfills the requirements of the academic rigor required.?

2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The paper does give references of many other studies, covering the areas of applying Balanced Scorecard to non-profit sectors, including education.

However, in two instances, one has seen some disturbing evidence of the reference material not applied correctly. First

deviation is when they repeatedly refer to one of the 4 perspectives of the Balanced Scorecard as Innovation and Learning, quoting Kaplan and Norton (1996) whereas K & N have termed it Learning and Growth (pages 9, 28 and many more).

Secondly, their description of the 4 perspectives, derived from Aly and Mansour (2017) is also at variant with the description provided by Kaplan and Norton, in two of the perspectives, customer and financial. According to them, customer perspective involves "how customers see us" whereas K&N state: To achieve our vision, how should we appear to our customers? Similarly, in financial perspective the difference is between "how we look to shareholders" and "to succeed financially, how should we appear to our shareholders?"

The difference is not only one of semantics or incomplete understanding of the language. It is a problem of perception about what K & N wanted to emphasize. According to K & N, the Balanced Scorecard is an important device in the hands of the management to be proactively deployed to improve their performance by a more balanced measurement whereas the author's interpretation runs the risk of converting the effort into a passive measurement activity with no interactive link between the management's efforts and the outcome.

3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The methodology is also on shaky grounds. Apart from the misgivings arising from the misinterpretations listed above, a few other areas of weaknesses identified are:

a) They refer to Griggs, Blackburn & Smith (2012) as proving 'the use of four BSC perspectives to assess education services performances', albeit at tertiary level education and using their BSC variable with some modifications. However, a look at Griggs et. al. (2012) shows that it is itself an exploratory study, with a very small sample and is more theoretical rather than an empirical study of the concepts. And nowhere does it discuss or expand on the use of the four perspectives or lists the variables to be studied therein. Rather, it's correct referencing would have been to acknowledge that this study shows how a proper assessment exercise of educational services needs to go beyond the financial outcomes to also involve other stakeholders.

b) This argument leads to the other weakness in their research approach. K & N outline the four perspectives as the indicators of the different activities that an organization engages in its pursuit of its goals. The link between the Vision and the Strategy to achieve it is then explored through these perspectives. There is

a) no attempt to identify the vision or the goals of the government organizations studied here.

b) the four perspectives are taken for study as variables that interact with each other but nowhere is their link with the vision explored or examined.

These oversights convert the study into a mechanical application of the PLS-SEM 3 to a set of data, without any proper theoretical justification.

c) The hypothesis list is not properly backed by literature references but appears to be expanded into 12 numbers for creating an impression. Hypothesis 7 & 8 try to examine a mediating influence, but end up only endorsing the outcome of other parallel hypotheses. Thus, hypothesis 7 flows from a combination of Hypotheses 2 and 5, while hypothesis 8 flows from the combination of hypotheses 3 and 4. In the absence of clarity on how their data was analysed, whether from within the same structural model or different models, specific to each case examining mediation, one is left to conclude that there was no clarity on this aspect. (since the data analysis gives data of only one Structural Model, one is safe to conclude that separate Structural Models were not used).

Finally, the justification for using the PLS-SEM and not SEM is also not provided.

Other incomplete aspects include:

a) no discussion or details of the questionnaire design.

b) no proper listing of the different indicators used in the study or the justification why there are such large differences in their numbers within the four perspectives (11 in financial to 6 in customer).

c) After applying the cut off of <0.7 in outer loading, the model is left with 4 indicators in customer perspective and 2 indicators in Internal Business perspective. Are they adequate? There is no discussion.

d) The Measurement Model is not discussed at all. It is not clear whether the use of all the indicators as reflective indicators, as shown in the Figure 1, is justified.

4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The data is collected by both quantitative and qualitative methods.

For quantitative data, the results are presented following the guidelines for a PLS SEM study with the construct reliability and validity discussed and the data analysis properly shared, within the limitations noted above regarding exploring mediating variables.

For qualitative data, there is only one outcome shown, arising from the use of Leximancer 4.51 The discussion on the other points emerging from the data analysis are misleadingly covered as 'Strategies to improve .....'. One would expect before a discussion on strategies for improvement, the qualitative findings are properly enumerated under each perspective, or school set, as necessary and then discussed for their veracity or applicability. A qualitative data is expected to generate insights into the phenomena which may not have been possible while analysing the quantitative data. In the absence of this information or informed discussion, one is left to accept their statements at face value or reject it instinctively.

Thus, the conclusions drawn do not appear as a convincing outcome of the research carried out. The data collection is adequate, the data analysis is half done (adequate for quantitative data, inadequate for qualitative data), so the data conclusions appear subjective.

5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The research identifies a clear area of concern: how to improve the assessment of the delivery of educational services? There is a lot of theoretical work on this but not enough empirical work. This study tries to contribute to the empirical work. To that extent, it is an effort to bridge the gap between theory and practice.

However, as pointed out earlier, the research design is faulty and the discussions on findings is inadequate. As a result, the conclusions appear to be very general, derived from a general perspective and not a research perspective.

Significantly, the paper does not enter into any discussion on limitations, though it is captioned in Section 5 heading.

6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The weaknesses in the way the four perspectives are discussed have been already highlighted. It is not clear whether it is due to a miscommunication or a misinterpretation of the perspectives, as provided by Kaplan and Norton.

Similarly, the lacuna in the discussion of the qualitative data has been highlighted.

Otherwise, the language used has clarity.

Reviewer: 4

Recommendation: Major Revision

Comments:

Below I present the reviews that should be carried out in my opinion.

Abstract

1. In abstract it is needed to change Smart PLS 0.3 to Smart PLS 3.0.

Introduction:

2. It needs to be further developed to show how this study adds new knowledge.

3. In the last paragraph of introduction should be spelled out the sections that compose the article.

Literature Review

4. The literature review must be updated. For example:

AL-Dahiyat, M. A. (2020). Measuring the strategic performance of higher education institutions: A balance scorecard approach. *Academy of Accounting and Financial Studies Journal*, 24(1), 1–14.

Camilleri, M. A. (2021). Using the balanced scorecard as a performance management tool in higher education. *Management in Education*, 35(1), 10–21. <https://doi.org/10.1177/0892020620921412>

Gusnardi, & Muda, I. (2019). Educational institution performance measurement based on miles and huberman models using balanced scorecard approach. *Quality - Access to Success*, 20(170), 32–41.

Oliveira, C., Oliveira, A., Fijałkowska, J., & Silva, R. (2021). Implementation of balanced scorecard: Case study of a portuguese higher education institution. *Management : Journal of Contemporary Management Issues*, 26(1), 169–188.

<https://doi.org/10.30924/MJCM.26.1.10>

Peris-Ortiz, M., García-Hurtado, D., & Devece, C. (2019). Influence of the balanced scorecard on the science and innovation performance of Latin American universities. *Knowledge Management Research and Practice*, 17(4), 373–383. <https://doi.org/10.1080/14778238.2019.1569488>

5. Hypothesis H9, H10, H11 and H12 must be better supported.

Research Method

6. In Table 1 (Construct Reliability and Validity) should be added the correlations between constructs.

7. You need to add an Appendix with all items included in each construct.

Findings and discussion

8. In Figure 1 (Path Model) the values presented must be standardized coefficients. These coefficients are more informative.
9. To check H7 it is needed to do Sobel test.
10. I don't understand Table 4 (Comparative Test). It is an independent t test and it is necessary to have the average of each group of schools for all constructs. Perhaps it would be better to do a multigroup analysis to compare the structural relationships between the variables between the two groups.
11. The Figures needs to be renumbered. In paper missing Figure 3.

#### Conclusion, Limitations, and Implications

12. The conclusions and discussion should include the theoretical and practical implications, limitations, and future lines of investigation.

#### Additional Questions:

1. Originality: Does the paper contain new and significant information adequate to justify publication?: See comments.
2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: See comments.
3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: See comments.
4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: See comments.
5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: See comments.
6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: See comments.





Sri Rahayu <sri\_rahayu@unja.ac.id>

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## Decision on IJPPM-05-2021-0308

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**Sri Rahayu** <sri\_rahayu@unja.ac.id>  
To: luisa.huatuco@york.ac.uk

Wed, Sep 1, 2021 at 10:32 AM

Dear Dr Luisa Huaccho Huatuco,

Thank you for your information about the results of our article review. We will try to revise our articles according to suggestions from reviewers.

Thank you

Best Regards  
Sri Rahayu  
[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## Reminder: International Journal of Productivity and Performance Management

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Reply-To: luisa.huatuco@york.ac.uk

To: sri\_rahayu@unja.ac.id

Sun, Nov 14, 2021 at

12:49 PM

14-Nov-2021

Dear Dr. Rahayu,

Recently, you received a decision on Manuscript ID IJPPM-05-2021-0308, entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement." The manuscript and decision letter are located in your Author Centre at <https://mc.manuscriptcentral.com/ijppm>.

This e-mail is simply a reminder that your revision is due in two weeks. If it is not possible for you to submit your revision within two weeks, we will consider your paper as a new submission.

Yours sincerely,

Dr. Luisa Huaccho Huatuco

Editor, International Journal of Productivity and Performance Management

[luisa.huatuco@york.ac.uk](mailto:luisa.huatuco@york.ac.uk)



Sri Rahayu <sri\_rahayu@unja.ac.id>

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## Reminder: International Journal of Productivity and Performance Management

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**Sri Rahayu** <sri\_rahayu@unja.ac.id>

Mon, Nov 15, 2021 at 8:58 PM

To: luisa.huatuco@york.ac.uk

Dear Luisa..

Thanks for the information, I'm trying to complete the revision of the article before the deadline.  
Thank You

Best Regards  
Sri Rahayu

[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308.R1

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**International Journal of Productivity and Performance Management**

Fri, Nov 26, 2021 at

&lt;onbehalf@manuscriptcentral.com&gt;

8:57 PM

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

26-Nov-2021

Dear Dr. Rahayu,

Your revised manuscript entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" has been successfully submitted online and is presently being given full consideration for publication in the International Journal of Productivity and Performance Management.

Your manuscript ID is IJPPM-05-2021-0308.R1.

Please be aware that due to the current pandemic the editorial team are experiencing a significant rise in submissions, whilst also accommodating additional work from their respective institutions. We kindly request your patience with the review process at this time. Thank you.

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Thank you for submitting your manuscript to the International Journal of Productivity and Performance Management.

Yours sincerely,  
Jennifer Webster  
International Journal of Productivity and Performance Management

<https://orcid.org/0000-0002-9508-378X>



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308.R1

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**International Journal of Productivity and Performance Management**

Fri, Nov 26, 2021 at

&lt;onbehalf@manuscriptcentral.com&gt;

8:57 PM

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

26-Nov-2021

Dear Dr. Rahayu,

Your revised manuscript entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" has been successfully submitted online and is presently being given full consideration for publication in the International Journal of Productivity and Performance Management.

Your manuscript ID is IJPPM-05-2021-0308.R1.

Please be aware that due to the current pandemic the editorial team are experiencing a significant rise in submissions, whilst also accommodating additional work from their respective institutions. We kindly request your patience with the review process at this time. Thank you.

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Thank you for submitting your manuscript to the International Journal of Productivity and Performance Management.

Yours sincerely,  
Jennifer Webster  
International Journal of Productivity and Performance Management

<https://orcid.org/0000-0002-9508-378X>



Sri Rahayu <sri\_rahayu@unja.ac.id>

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## International Journal of Productivity and Performance Management - IJPPM-05-2021-0308.R1

---

**Sri Rahayu** <sri\_rahayu@unja.ac.id>  
To: jeniwebster123@gmail.com

Fri, Nov 26, 2021 at 9:07 PM

Dear Jennifer,  
Thank You for your information  
Best Regards  
Sri Rahayu  
[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - Author update

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Reply-To: jeniwebster123@gmail.com

To: sri\_rahayu@unja.ac.id, yudi.telanai@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

Fri, Jan 14, 2022 at

2:56 AM

13-Jan-2022

Dear Author(s),

It is a pleasure to inform you that your manuscript titled The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement (IJPPM-05-2021-0308.R1) has passed initial screening and is now awaiting reviewer invitation.

The manuscript was submitted by Dr. Sri Rahayu with you listed as a co-author.

As you are listed as a co-author, if you have not already done so please log in to <https://mc.manuscriptcentral.com/ijppm> and check that your account details are complete and correct, these details will be used should the paper be accepted for publication.

Yours sincerely,

Editor, International Journal of Productivity and Performance Management



Sri Rahayu <sri\_rahayu@unja.ac.id>

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## International Journal of Productivity and Performance Management - Author update

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**Sri Rahayu** <sri\_rahayu@unja.ac.id>  
To: jeniwebster123@gmail.com

Mon, Jan 17, 2022 at 11:48 AM

Dear International Journal of Productivity and Performance Management Editor,

Thank You for your information..

Best Regards  
Sri Rahayu  
[Quoted text hidden]





Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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## International Journal of Productivity and Performance Management - Decision on Manuscript ID IJPPM-05-2021-0308.R1

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**International Journal of Productivity and Performance Management**

&lt;onbehalf@manuscriptcentral.com&gt;

Sat, Jan 22, 2022 at

10:53 PM

Reply-To: luisa.huatuco@york.ac.uk

To: sri\_rahayu@unja.ac.id, yudi.telana@gmail.com, rahayu-fe@unja.ac.id, luthfijambi19@gmail.com

22-Jan-2022

Dear Rahayu, Sri; Yudi, Yudi; Rahayu, Rahayu; Luthfi, Musthafa

It is a pleasure to accept your manuscript IJPPM-05-2021-0308.R1, entitled "The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement" in its current form for publication in International Journal of Productivity and Performance Management. Please note, no further changes can be made to your manuscript.

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Thank you for your contribution. On behalf of the Editors of International Journal of Productivity and Performance Management, we look forward to your continued contributions to the Journal.

Yours sincerely,

Dr. Luisa Huaccho Huatuco

Co-Editor, International Journal of Productivity and Performance Management

[luisa.huatuco@york.ac.uk](mailto:luisa.huatuco@york.ac.uk)



Sri Rahayu <sri\_rahayu@unja.ac.id>

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## International Journal of Productivity and Performance Management - Decision on Manuscript ID IJPPM-05-2021-0308.R1

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Sri Rahayu <sri\_rahayu@unja.ac.id>

Mon, Jan 24, 2022 at 1:23 PM

To: luisa.huatuco@york.ac.uk

Dear International Journal of Productivity and Performance Management Editor,

Thank You for your information..

Best Regards

Sri Rahayu

[Quoted text hidden]



Sri Rahayu &lt;sri\_rahayu@unja.ac.id&gt;

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Reply-To: permissions@emeraldinsight.com

To: sri\_rahayu@unja.ac.id

Sat, Jan 22, 2022 at

10:53 PM

22-Jan-2022

Dear Rahayu, Sri; Yudi, Yudi; Rahayu, Rahayu; Luthfi, Musthafa,

"The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement"

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- Include the article abstract (see below).

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.

Quantitative data were processed using Smart PLS 0.3 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.

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.

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.

The use of the four perspectives in the Balanced Scorecard performance since public schools in Indonesia have never implemented it.

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Laura Wilson  
Head of Rights, Emerald Publishing



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**The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement**

Journal:	<i>International Journal of Productivity and Performance Management</i>
Manuscript ID	IJPPM-05-2021-0308.R1
Manuscript Type:	Standard Paper
Keywords:	Finance, Customers, internal processes, Growth, Learning

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**Table 1. Construct Reliability and Validity**

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial	0.890	1.028	0.914	0.728
Customer	0.944	0.948	0.951	0.641
Innovation, Learning and Growth	0.901	0.902	0.920	0.591
Internal Business	0.788	0.793	0.904	0.825

**Table 2. Respondent Characteristics**

Characteristics	Criteria	Number	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	10	2,98
	Junior high school	29	8,63
	Senior high school	72	21,43
	Bachelor degree	17	5,06
	Undergraduate	188	55,95
	Postgraduate	20	5,95
Total		336	100

Tabel 3. Path Coefficients

Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	Result
Innovation and Learning -> Finance	0.340	0.343	0.068	4.971	0.000	Accepted
Innovation and Learning -> Customers	0.138	0.136	0.082	1.691	0.091	Rejected
Innovation and Learning -> Internal Business	0.364	0.365	0.057	6.351	0.000	Accepted
Internal Business -> Finance	0.139	0.137	0.060	2.313	0.021	Accepted
Customers -> Finance	0.009	0.010	0.051	0.177	0.859	Rejected
Internal Business -> Customers	0.045	0.042	0.071	0.632	0.528	Rejected
Innovation and Learning -> Customers -> Finance	0.001	0.001	0.008	0.167	0.868	Rejected
Innovation and Learning -> Internal Business -> Finance	0.051	0.051	0.024	2.075	0.038	Accepted

Statistical t-value > 1.96 and p-value with a significance level of 0.05



**Table 4. Comparative Test**

Perspective/Dimension	P Values	Mean	Rank	Result
Financial	0.135	3.73	4	Rejected
Customer	0.315	3.99	1	Rejected
Internal Business	0.144	3.91	2	Rejected
Innovation and Learning	0.044	3.89	3	Accepted

P-value with a significance level of 0.05

## The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement

### 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.

**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 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

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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

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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

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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

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

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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).

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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.

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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 a 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.

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- 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.

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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**

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

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

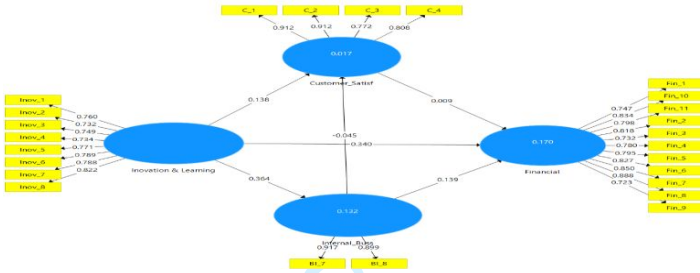


Figure 1. Measurement Model

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	<b>0.853</b>			
Financial	0.051	<b>0.801</b>		
Inovation & Learning	0.122	0.392	<b>0.769</b>	
Internal_Buss	0.006	0.263	0.364	<b>0.908</b>

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

Tabel 3

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

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

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 a 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

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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  $\geq 0.5$ , 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
Total	Postgraduate	20	5,95
		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.

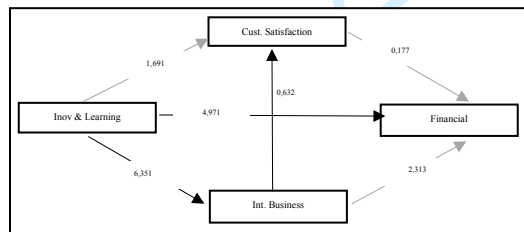


Figure 2. Final Model

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

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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:

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“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<sup>1</sup> 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:

<sup>1</sup> 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.

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“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.

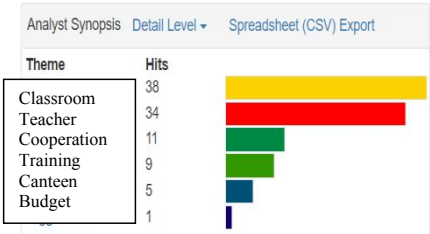


Figure 3. Problems in School Performance Improvement



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.

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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.

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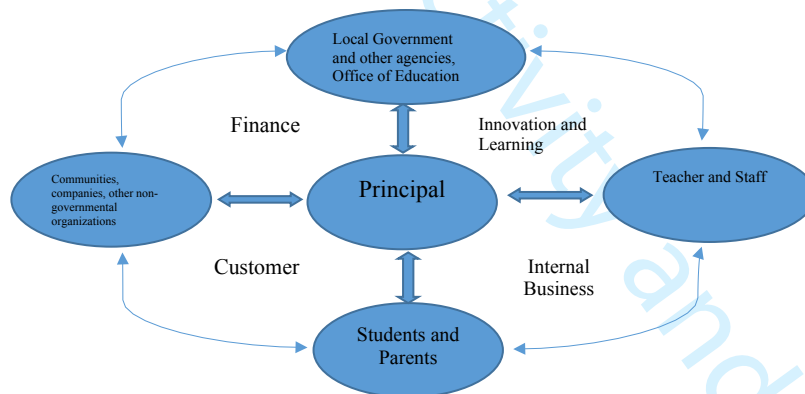


Figure 4. Actor Relationship to Improve School Performance based on BSC Perspective

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

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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.

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No	Reviewer	Reviewer's Comment	Responses
1	<b>Reviewer 1: Comment</b>	<p>The study is well presented, has an appropriate language and is easy to follow.</p> <p>The results presented are clearly explained, however, they are not discussed based on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions.</p> <p>Discussion and conclusions must be improved.</p> <p>There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.</p>	<p>Thank you for your response and comments.</p> <p>Revised, We amended this manuscripts in accordance with the feedbacks you addressed</p>
	<b>Additional Questions</b>	1. Originality: Does the paper contain new and significant information adequate to justify publication?: Yes. The study contains aspects that somehow bring innovation and make the study relevant.	Thank you for your response and appreciation.
		2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Yes. Considering the aspects addressed in this study, the literature review is adequate and sufficient.	Thank you for your response and comments.
		3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Yes. The methods employed are appropriated and the study is is correctly designed	Thank you for your response and comments.
		4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results presented are clearly explained, however, they	<p>Thank you for your response and comments.</p> <p>Revised, We amended this manuscripts in accordance with the feedbacks you addressed</p>

		are not discussed based on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions.	
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The article does not explain well the extent of the results obtained, nor does it link to the literature review. Discussion and conclusions must be improved.</p> <p>There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.</p>	<p>Thank you for your response and comments.</p> <p>Revised, We have added explanation this manuscripts in accordance with the feedbacks you addressed</p>
		6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The study is well presented, has an appropriate language and is easy to follow.	Thank you for your response and appreciation.
2	<b>Reviewer 2: Comment:</b>	<p>This paper is well written, well organized, and provides the necessary background for the new approach. Furthermore, the methodology needs some technical interventions</p> <p>1) It is unfortunate that the authors have not mentioned how the sample (qualitative approach) was collected to make this a much stronger paper. Further, the authors didn't quote any statements of the interviewers in order to strengthen their work.</p> <p>2) Additionally, the authors didn't use the SWOT theory in order to</p>	<p>Thank you for your response and comments.</p> <p>We have added the relevant literature according to your feedback/suggestion in this manuscript</p>

		<p>carry out strategies and strategic objectives. Then BSC perspectives can be used in order to demonstrate the school’s performance.</p> <p>3) In-text, references in the manuscript must be formatted using one of the recognized Harvard styles. I think the authors have to see all of them again and make the necessary changes.</p> <p>4) Few additional references may be included in the text. ( mentioned above)</p> <p>Regardless, it is probably still worthwhile for publication as it does demonstrate the four perspectives in BSC performance and analyzed them for the two group schools. I would recommend major revisions to this paper prior to publication.</p>	
	<b>Additional Questions</b>	<p>1. Originality: Does the paper contain new and significant information adequate to justify publication?: This paper is intriguing because it adds to the existing engagement literature in a significant way.</p>	<p>Thank you for your response and appreciation.</p>
		<p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?:</p> <p>To further up their claims, the authors cited relevant literature. However, few additional references which may be included are:</p> <p>a) Dimitropoulos, P., Kosmas, I. and Douvis, I. (2017),”Implementing the balanced scorecard in a local government sport organization: Evidence from Greece”, International Journal of Productivity and Performance Management Vol. 66 No. 3, 2017 pp. 1-20.</p> <p>b) Hawke, L. (2012), “Australian public sector performance management: success or stagnation?”,</p>	<p>Thank you for your response and comments.</p> <p><b>1. Additional References:</b> Revised. We have added all of these literatures in manuscript.</p> <p><b>2. References format:</b> Revised, We have revised our references formatted according to Harvard Styles.</p> <p><b>3.</b> Revised, for some lines in parenthesis “&amp;” replace to “and”</p>

	<p>International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 310-328.</p> <p>c) Conaty, F.J. (2012), “Performance management challenges in hybrid NPO/public sector setting: an Irish case”, International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 290-309.</p> <p>d) Quezada, L., Reinao, E., Palominos, P. and Oddershede, A. (2019), Measuring Performance Using SWOT Analysis and Balanced Scorecard, Procedia Manufacturing 39 786–793.</p> <p>e) Quezada, L., Cordova, M., Palominos, P., Godoy, K. and Ross, J. (2009), Method for identifying strategic objectives in strategy maps, International, Journal of Production Economics, 122 (1) 492-500</p> <p>f) Lee, S., and Lo, K. (2003), e-Enterprise and management course development using strategy formulation framework for vocational, Journal of Materials Processing Technology, 139 604-612.</p> <p>All, in text, references in manuscript must be formatted using one of the recognized Harvard styles. <a href="https://www.emeraldgrouppublishing.com/journal/ijppm?_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines">https://www.emeraldgrouppublishing.com/journal/ijppm?_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines</a>.</p> <p>The below references are examples that made me confused. Some lines in parenthesis “and” some others “&amp;”. The authors have to replace (in all manuscript ) “&amp;” in parenthesis, to “and”. Additionally have to replace “and” in text, to “&amp;”. Example: (Kaplan and Norton, 1992) but Papenhausen &amp; Einstein (2006)</p> <p>Line 33 (Kaplan and Norton, 1992)</p>	
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		Line 23 (Park & Gagnon, 2006) Line 15 Papenhausen and Einstein (2006) Line 11 Park & Gagnon (2006) Line 18 (Jensen and Meckling, 1976) Line 52 (Lawrence and Sharma, 2002)	
		<p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: 3) The methodology adopted for this work is appropriate. The design is appropriate to fulfill the author's research hypotheses. Methods employed to prove hypotheses and the research model are well fitted. However, few concerns remain.</p> <p>1) What about the SWOT analysis?</p> <p>There are plethora of manuscripts (Quezada et al. 2019) in which both tools (SWOT and BSC) are combined conceptually. Some of them are authored by Quezada et al. 2009, who created a SWOT matrix from the strategic objectives of a BSC, and (Lee and Lo, 2003) who produced a framework for formulating a strategy for vocational education.</p> <p>The core element of the proposed method is an ANP (Analytical Network Process) model that includes SWOT factors and sub-factors, Strategies, BSC perspectives and strategic objectives. It means that the schools have to undertake a strategy formulation process, in which a SWOT matrix is carried out and strategies and strategic objectives are defined. ANP is used to estimate the priority of the strategic objectives, which are combined with an assessment of the level of their achievement in order to get a measurement of the school's performance.</p> <p>2) Why the qualitative approach is the most appropriate methodology for this part of the study? (line 14-15 authors tried to explain, but there is no research question and we have no information</p>	<p>Thank you for your response and comments.</p> <p>1. <b>SWOT Analysis:</b> We apologize, our focus in this research is only to constraint and school strategy to achieve four performance perspectives. We only have limited data for these focus.</p> <p>2. <b>Qualitative Data Analysis:</b> We have added a qualitative data analysis stage to the research method. We have also quote interview result to support the findings</p> <p>3. <b>Sample for qualitative research:</b> Information was added, we refer to Creswell and Cresswell, 2018</p>

		<p>about that kind of methodological approach) more information about the utility of the approach and open questions(semi-structure?) write some statements in order to support the findings.(line 48 ."The teachers admitted...." How do we know that?</p> <p>3) What about the sample for the qualitative approach according to the theory?</p> <p>More information added</p>	
		<p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results are well presented and clearly establish and thoroughly analyzed. Finally, conclusions tie together the elements of the paper even though they are concise and do not address important aspects as to the road that must be followed, or the implications of the research</p>	<p>Thank you for your response and comments, Revised, We amended the conclusion, limitations and implications of the research in the manuscript.</p>
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The paper establishes new research avenues, or implications for research, and practice. The last paragraph mentions that this research has value because it has implications for scholars, and institutions but it does not establish which are those implications.Nevertheless, the tested model is in itself a contribution</p>	<p>Thank you for your response and comments, Revised as suggested</p>
		<p>6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected</p>	<p>Thank you for your response and comments</p>

		knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: While the paper remains potentially strong, it requires substantial revision(major) before acceptance for publication	
	<b>Reviewer: 3</b>	Your effort is worthwhile and encouraging, especially in the context of school performance evaluation. For a country like Indonesia, it can provide much useful inputs. However, there are some serious flaws in your approach. Firstly, Kaplan and Norton emphasize that the four perspectives are tools in the hands of a management to help improve their achievement of their Vision and implementation of their Strategy. This assumes, therefore, that the management is aware of the four perspectives and can use them to properly prioritize them in their Strategy Map. So, before emb ing on collecting a lot of quantitative data, it would be necessary to first do a qualitative study of the school principals (and perhaps some school regulators) to understand their awareness of their vision, their strategy and their knowledge of the four perspectives. As per Kaplan and Norton, these four perspectives have to be drawn out from their ongoing activities. This exercise would help in identifying subsequent the right variables and indicators for the subsequent quantitative study.	Thank you for your response and comments. We have added explanation this manuscripts in accordance with the feedbacks you addressed
	<b>Additional Questions:</b>	1. Originality: Does the paper contain new and significant information adequate to justify publication?: Original? Yes, to the extent that there has been no similar study done to evaluate school performance at primary level. Significant? Depends on whether the research done fulfills the requirements of the academic rigor required.?	Thank you for your response and comments.
		2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an	Thank you for your response and comments <b>First Deviation:</b>



		<p>appropriate range of literature sources? Is any significant work ignored?: The paper does give references of many other studies, covering the areas of applying Balanced Scorecard to non-profit sectors, including education.</p> <p>However, in two instances, one has seen some disturbing evidence of the reference material not applied correctly. First deviation is when they repeatedly refer to one of the 4 perspectives of the Balanced Scorecard as Innovation and Learning, quoting Kaplan and Norton (1996) whereas K &amp; N have termed it Learning and Growth (pages 9, 28 and many more).</p> <p>Secondly, their description of the 4 perspectives, derived from Aly and Mansour (2017) is also at variant with the description provided by Kaplan and Norton, in two of the perspectives, customer and financial. According to them, customer perspective involves "how customers see us" whereas K&amp;N state: To achieve our vision, how should we appear to our customers? Similarly, in financial perspective the difference is between "how we look to shareholders" and "to succeed financially, how should we appear to our shareholders?"</p> <p>The difference is not only one of semantics or incomplete understanding of the language. It is a problem of perception about what K &amp; N wanted to emphasize. According to K &amp; N, the Balanced Scorecard is an important device in the hands of the management to be proactively deployed to improve their performance by a more balanced measurement whereas the author's interpretation runs the risk of converting the effort into a passive measurement activity with no interactive link between the management's efforts and the outcome.</p>	<p>We agree with your opinion that Kaplan &amp; Norton (1996) and several other studies use the term learning and growth perspective as a BSC perspective. This research refers to Aly &amp; Mansour (2017) and Rahayu <i>et al.</i>, (2020) who developed the terms growth and learning for educational organizations to become innovation &amp; learning. In their research, innovation is used as an indicator for this perspective. These researchers still refer to the initial BSC concept from Kaplan and Norton, with the general concept not being too different. So it can be said that the two perspectives with different terms according to the research team do not have too much difference, but the focus of emphasis is different.</p> <p>We consider that this research was conducted in Indonesia on an educational organization which is a not-for-profit organization with a focus on achieving performance which is assessed as one of the innovations carried out. Expected growth is more focused on innovation. Innovation is very important now, in an effort to improve the quality of services for students. Even on several occasions, for several competitions (such as school innovation, educational innovation and regional innovation), innovation becomes a special focus to be assessed. Therefore, we are more likely to follow the term used by Aly &amp; Mansour (2017)</p> <p><b>Second Deviation:</b>  <b>Customer perspective and financial perspective</b>  We also agree with the reviewer's opinion that the customer perspective according to Kaplan and Norton is how should we appear to our customers? And the</p>
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			<p>financial perspective is how we should look in the eyes of shareholders”</p> <p>We refers to Aly and Mansour (2017) for customer and financial perspectives, namely "how customers see us" and "how we look to shareholders". The difference occurs because the Kaplan and Norton concept is more dominantly used in private organizations. We consider the research to be carried out on public schools with the dominant funding coming from the government and having the task of providing education. As an organization that provides public services, it is very important for schools to set a vision and mission and manage schools in accordance with the goals to be achieved by customers. Public schools are different from private schools. Public schools do not have the burden of seeking funds in order to provide services, because they have received funding from the government. Therefore, the financial aspect is focused on how to see the needs of the shareholders.</p> <p>We sincerely hope that this particular emphasis on the BSC perspective for schools will not turn BSC into a passive measurement activity. The BSC retains an interactive relationship between management efforts and results. As evidenced by Ally and Mansour (2017) that the four perspectives of the balanced scorecard in educational institutions are important not only for performance evaluation but more importantly to help management improve the management of their institutions.</p>
		3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are	<p>Thank you for your response and comments</p> <p><b>Methodology:</b></p>

	<p>the methods employed appropriate?: The methodology is also on shaky grounds. Apart from the misgivings arising from the misinterpretations listed above, a few other areas of weaknesses identified are:</p> <p>a) They refer to Griggs, Blackburn &amp; Smith (2012) as proving 'the use of four BSC perspectives to assess education services performances', albeit at tertiary level education and using their BSC variable with some modifications. However, a look at Griggs et. al. (2012) shows that it is itself an exploratory study, with a very small sample and is more theoretical rather than an empirical study of the concepts. And nowhere does it discuss or expand on the use of the four perspectives or lists the variables to be studied therein. Rather, it's correct referencing would have been to acknowledge that this study shows how a proper assessment exercise of educational services needs to go beyond the financial outcomes to also involve other stakeholders.</p> <p>b) This argument leads to the other weakness in their research approach. K &amp; N outline the four perspectives as the indicators of the different activities that an organization engages in its pursuit of its goals. The link between the Vision and the Strategy to achieve it is then explored through these perspectives. There is</p> <p>a) no attempt to identify the vision or the goals of the government organizations studied here.</p> <p>b) the four perspectives are taken for study as variables that interact with each other but nowhere is their link with the vision explored or examined.</p> <p>These oversights convert the study into a mechanical application of the PLS-SEM 3 to a set of data, without any proper theoretical justification.</p> <p>c) The hypothesis list is not properly backed by literature references but appears to be expanded into 12 numbers for creating an impression. Hypothesis 7 &amp; 8 try to examine a mediating influence, but end up</p>	<p>a). We realize that the research results from Griggs et al., (2012) also still need to be tested for a larger sample so we add references from other research, e.g. Rompo (2020), Aly and Mansour (2017) and Rahayu et al., (2020).</p> <p><b>b.a.). Revised, We have added explanation about the relationship between the organization's mission and strategy with performance evaluation</b></p> <p><b>b.b)</b> Revised as suggested, We refers to Hair et al., (2019) and Shmueli et al., (2019)</p> <p><b>b.c)</b> This research hypothesis testing uses two analytical tools, hypothesis 1 to hypothesis 8 using SEM-PLS with one structural model. Testing Hypothesis 9 to hypothesis 12 using SPSS analysis tool to test the difference between two school groups</p> <p><b>c: Finaly....</b></p> <p><b>c.a)</b> Revised, the questionnaire design has been added to the manuscript,</p> <p><b>c.b)</b> Revised, an explanation of the reasons for the difference in indicators between variables has been added to the manuscript,</p> <p><b>c.c)</b> Revised, explanation has been added in the</p> <p><b>c.d)</b> Revised, The Measurement Model has been added in figure 1 and an explanation for the reflective indicators has also been added, see</p>
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	<p>only endorsing the outcome of other parallel hypotheses. Thus, hypothesis 7 flows from a combination of Hypotheses 2 and 5, while hypothesis 8 flows from the combination of hypotheses 3 and 4. In the absence of clarity on how their data was analysed, whether from within the same structural model or different models, specific to each case examining mediation, one is left to conclude that there was no clarity on this aspect. (since the data analysis gives data of only one Structural Model, one is safe to conclude that separate Structural Models were not used).</p> <p>Finally, the justification for using the PLS-SEM and not SEM is also not provided.</p> <p>Other incomplete aspects include:</p> <ul style="list-style-type: none"><li>a) no discussion or details of the questionnaire design.</li><li>b) no proper listing of the different indicators used in the study or the justification why there are such large differences in their numbers within the four perspectives (11 in financial to 6 in customer).</li><li>c) After applying the cut off of &lt;0.7 in outer loading, the model is left with 4 indicators in customer perspective and 2 indicators in Internal Business perspective. Are they adequate? There is no discussion.</li><li>d) The Measurement Model is not discussed at all. It is not clear whether the use of all the indicators as reflective indicators, as shown in the Figure 1, is justified.</li></ul>	
	<p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The data is collected by both quantitative and qualitative methods.</p> <p>For quantitative data, the results are presented following the guidelines for a PLS SEM study with the construct reliability and validity discussed and the data analysis properly shared, within the limitations noted above regarding exploring mediating variables.</p>	<p>4. Thank you for your response and comments.</p> <p>We have added discussions and quote from interviews for qualitative data analysis in the manuscript. The results of the interviews are in addition to the qualitative data.</p>

		<p><b>For qualitative data, there is only one outcome shown, arising from the use of Leximancer 4.51 The discussion on the other points emerging from the data analysis are misleadingly covered as 'Strategies to improve .....</b> One would expect before a discussion on strategies for improvement, the qualitative findings are properly enumerated under each perspective, or school set, as necessary and then discussed for their veracity or applicability. A qualitative data is expected to generate insights into the phenomena which may not have been possible while analysing the quantitative data. In the absence of this information or informed discussion, one is left to accept their statements at face value or reject it instinctively.</p> <p>Thus, the conclusions drawn do not appear as a convincing outcome of the research carried out. The data collection is adequate, the data analysis is half done ( adequate for quantitative data, inadequate for qualitative data), so the data conclusions appear subjective.</p>	
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The research identifies a clear area of concern: how to improve the assessment of the delivery of educational services? There is a lot of theoretical work on this but not enough empirical work. This study tries to contribute to the empirical work. To that extent, it is an effort to bridge the gap between theory and practice.</p>	<p>Thank you for your response and comments. We have added explanations to the findings and discussions, conclusions and limitations</p>

		<p>However, as pointed out earlier, the researchh design is faulty and the discussions on findings is inadequate. As a result, the conclusions appear to be very general, derived from a general perspective and not a research perspective.</p> <p>Significantly, the paper does not enter into any discussion on limitations, though it is captioned in Section 5 heading.</p>	
		<p>6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The weaknesses in the way the four perspectives are discussed have been already highlighted. It is not clear whether it is due to a miscommunication or a misinterpretation of the perspectives, as provided by Kaplan and Norton.</p> <p>Similarly, the lacuna in the discussion of the qualitative data has been highlighted.</p> <p>Otherwise, the language used has clarity.</p>	<p>Thank you for your response and comments.</p> <p>We have added explanations for the discussion of qualitative data results.</p>
	<b>Reviewer: 4</b>	<p>Comments:</p> <p>Below I present the reviews that should be carried out in my opinion.</p> <p>Abstract</p> <p>1. In abstract it is needed to change Smart PLS 0.3 to Smart PLS 3.0.</p> <p>Introduction:</p> <p>2. It needs to be further developed to show how this study adds new knowledge.</p> <p>3. In the last paragraph of introduction should be spelled out the sections that compose the article.</p> <p>Literature Review</p>	<p>Thank you for your response and comments</p> <ol style="list-style-type: none"><li>1. Revised as suggested.</li><li>2. Revised as suggested,</li><li>3. Revised as suggested,</li><li>4. Revised. We have added all of these literatures in this manuscript.</li><li>5. We have added explanations in this manuscripts in accordance with the feedbacks you addressed for supported H-9, H- 10, H-11 and H-12</li><li>6. Revised, construct validity and reliability have added in manuscript,</li></ol>



	<p>4. The literature review must be updated. For example:  AL-Dahiyat, M. A. (2020). Measuring the strategic performance of higher education institutions: A balance scorecard approach. <i>Academy of Accounting and Financial Studies Journal</i>, 24(1), 1–14.  Camilleri, M. A. (2021). Using the balanced scorecard as a performance management tool in higher education. <i>Management in Education</i>, 35(1), 10–21. <a href="https://doi.org/10.1177/0892020620921412">https://doi.org/10.1177/0892020620921412</a>  Gusnardi, &amp; Muda, I. (2019). Educational institution performance measurement based on miles and huberman models using balanced scorecard approach. <i>Quality - Access to Success</i>, 20(170), 32–41.  Oliveira, C., Oliveira, A., Fijałkowska, J., &amp; Silva, R. (2021). Implementation of balanced scorecard: Case study of a portuguese higher education institution. <i>Management : Journal of Contemporary Management Issues</i>, 26(1), 169–188. <a href="https://doi.org/10.30924/MJCMI.26.1.10">https://doi.org/10.30924/MJCMI.26.1.10</a>  Peris-Ortiz, M., García-Hurtado, D., &amp; Devece, C. (2019). Influence of the balanced scorecard on the science and innovation performance of Latin American universities. <i>Knowledge Management Research and Practice</i>, 17(4), 373–383. <a href="https://doi.org/10.1080/14778238.2019.1569488">https://doi.org/10.1080/14778238.2019.1569488</a></p> <p>5. Hypothesis H9, H10, H11 and H12 must be better supported.</p> <p>Research Method</p> <p>6. In Table 1 (Construct Reliability and Validity) should be added the correlations between constructs.</p> <p>7. You need to add an Appendix with all items included in each construct.</p> <p>Findings and discussion</p> <p>8. In Figure 1 (Path Model) the values presented must be standardized coefficients. These coefficients are more informative.</p>	<p>7. Revised, the results have been presented in the manuscript so they are no longer attached to the appendix (p....)</p> <p>8. Revised, measurement and final model figures have been added in the manuscript (p.....)</p> <p>9. Revised, sobel test added for H.7 (p.....)</p> <p>10. This article only compares the performance between the constructs of the two school groups without comparing the structural models. The average of each group of schools for all constructs has been added to the manuscript.</p> <p>11. Revised as suggested</p> <p>12. Revised as suggested</p>
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	<p>9. To check H7 it is needed to do Sobel test.</p> <p>10. I don't understand Table 4 (Comparative Test). It is an independent t test and it is necessary to have the average of each group of schools for all constructs. Perhaps it would be better to do a multigroup analysis to compare the structural relationships between the variables between the two groups.</p> <p>11. The Figures needs to be renumbered. In paper missing Figure 3.</p> <p>Conclusion, Limitations, and Implications</p> <p>12. The conclusions and discussion should include the theoretical and practical implications, limitations, and future lines of investigation.</p>	
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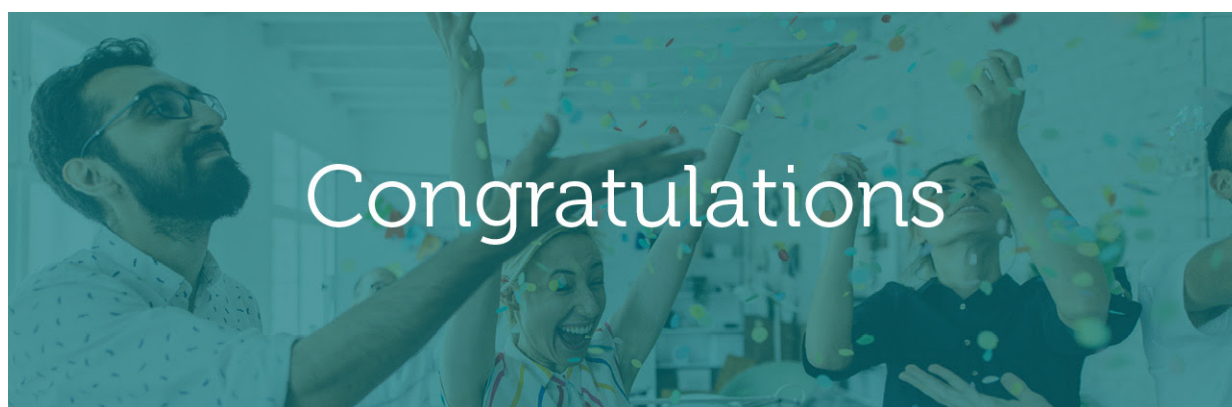
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# **The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement**

## **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 0.3 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 & 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 & 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 & Mansour, 2017).

Performance measurement is crucial for non-profit managerial organizations, public and private services—for instance, human service programs (Hatry & 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). Students also need to develop 21st-century skills—for instance, critical thinking, collaboration, and creativity (Stewart, 2012). New knowledge, ideas, and technologies are essential in driving the future of society and humanity (Javed, Akhmad, & Khahro, 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, Wohlsetter, & Liu, 2009). Education is crucial for economic growth and success (Stewart, 2012). Therefore, it is necessary to improve school performance and accountability.

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

There is little research on school financial management in Indonesia (Rahayu, 2020). 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). Finance influences and is interrelated with education quality (Bastian, 2007).

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, Wohlsetter, & Liu, 2009). Performance indicators allow evaluation, improvement, and innovation of actions to achieve key objectives, such as providing quality educational services and technology (Burgos, Munoz, & Sanchez, 2019) and aligning performance indicators, stakeholder analysis, and organizational function (Matherly & 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 & Gagnon, 2006). BSC has been widely used to measure performance in various fields, such as public sector organizations (Greatbanks & Tapp, 2007; Northcott & Taulapapa, 2012), non-profit organizations (Lawrence and Sharma, 2002), 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.

## **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. 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 & 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.

BSC is a helpful tool in educational institutions (Storey, 2002; Yuksel & Coskun, 2013; Alolah et al., 2014; Rompho, 2020). Griggs, Bluckburn, & Smith (2012) 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, Wohlsetter, & Liu (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 & 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 & Norton 1996) since both are highly dependent on business type and operating cycles. 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.

### 2.4. *Innovation and Learning Perspective*

Teacher quality determines performance achievement, which adheres to school customer expectations (Rompho, 2020). 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 & 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 & Gagnon, 2006; Zahoor & Sahaf, 2017). Customer perspective in education refers to satisfaction in achieving academic targets (Griggs, Blackburn & Smith, 2012). Rompho (2020) proved that successful students achieved an excellent academic outcome and showed good behavior. The customer perspective determines how customers, especially parents, assess educational services performance. The indicators are parent satisfaction with academic achievements, such as knowledge competence, learning models and methods, and 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 & 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 a control tool (Alles & Gupta, 2002), especially in companies. BSC is correlated in a cause-and-effect relationship through strategy maps (Kaplan & Norton, 2004; Rompho, 2020). Park & 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.

Kaplan & Norton's (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 use of multiple measures in school evaluation offers a strategy to overcome several problems (Brown, Wohlsetter & Liu, 2009). The basic premise of BSC is non-financial performance indicators to encourage the achievement of financial performance (Park & Gagnon, 2006).

Schools receive and manage the 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.

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 analysis and PLS 3.0 were used for quantitative data processing. Griggs, Bluckburn, & Smith (2012) used the four BSC perspectives to assess education services performance at tertiary level education. The present study also referred the BSC variables to Griggs, Bluckburn, & Smith (2012), with some modifications to suit the primary education level in Indonesia.

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. These indicators comprehensively assessed school performance (academic and non-academic). These indicators were tested for validity twice. The first data processing showed indicators with an outer loading value below 0.7, which were two customer variable indicators (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). These invalid variables were eliminated from further data processing. The results of the validity and reliability tests are presented in Table 1.

**Table 1. Construct Reliability and Validity**

The discriminant validity test used the Fornell-Larcker criterion and cross-loading. The result of the discriminant validity test met the requirements. 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 interconnection between the four BSC perspectives was assessed, and the two school groups were compared. 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 a different amount of funds and had different facilities, infrastructure, and 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. The questions used the BSC perspective to assess strategies and constraints of school achievement and school performance improvement. Leximancer 4.51 application was used for qualitative data processing used. Leximancer provides automated analysis based on text properties (John & 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  $\geq 0.5$ , and the data validity used triangulation. Triangulation is the easiest qualitative data assessment method (Merriam, 2002) that consists of sources, methods, investigators, and theories. Source triangulation was chosen for this study.

#### 4. Findings and Discussion

Respondent characteristics consist of gender, age, and education, as shown in Table 2.

**Table 2. Respondent Characteristics**

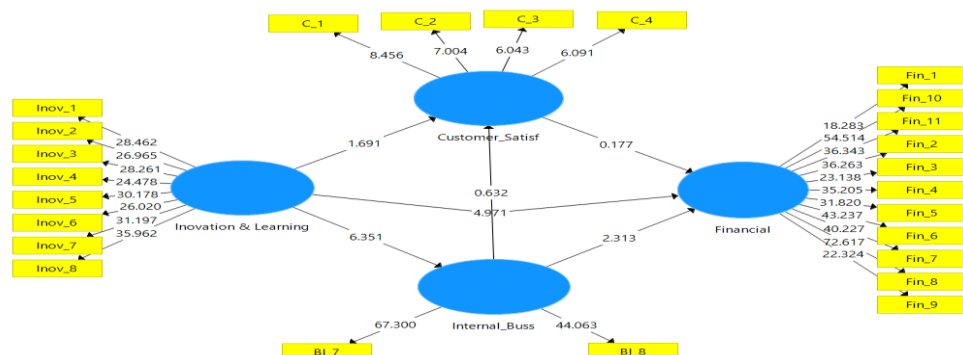
Table 2 informs us that most respondents are female (72.62%), age 31-40 years old (50.30%), and have graduated university (55.95 %).

Results of hypothesis testing (hypothesis 1 to 8) are presented in Table 3 based on the output of the Smart PLS version 3.0 in the form of a path coefficient value.

**Tabel 3. Path Coefficients**

Table 3 confirms that four hypotheses (H1, H3, H4, and H8) were accepted, while the other four hypotheses (H2, H5, H6, and H7) were rejected.

Figure 1 presents the overall path model.



**Figure 1. Path Model**

Findings indicated that innovation and learning positively affected financial performance and internal business performance. 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 characters when it comes to customer satisfaction. In fact, all performance perspectives are crucial. The research result indicated that the schools needed to optimize school information accountability and transparency. Schools are suggested to be transparent to parents, teachers, staff, and other stakeholders in addition to authorized institutions or officials. The school supervisors should actively improve and optimize the four perspectives of performance.

The performance comparison between the school groups can be seen in hypothesis testing (H9 to H12). The summary is presented in Table 4.

#### **Table 4. Comparative Test**

Table 4 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. The Ministry of Education and Culture regulated the financial management of school funds. 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. Jambi City Government gives the Adiwiyata Award<sup>1</sup> to several schools in the two school groups that promote green school programs by utilizing and processing waste into valuable items. 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.

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. The two school groups worked around the limited availability of classrooms by conducting afternoon classes. Parents understood the

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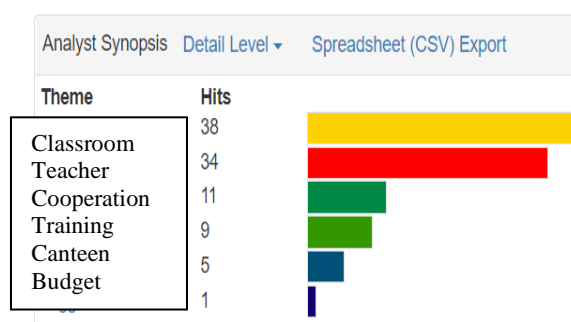
<sup>1</sup> Adiwiyata Mandiri is an award given for school which is considered able to realize environment culture in all school aspects and has succeeded in fostering school to participate in environmental cultivation and preserve school environment as a safe, comfortable, and fun place to study.

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. 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.

#### 4.1. *Strategies and Constraints to Improve School Performance*

The open question data analysis, based on respondents' perception of school performance improvement, showed several problems. Figure 2 presents the data analysis result.



**Figure 2. 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.

Respondents, supported by documents and interviews with authorities, considered teachers as another constraint. 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. The teachers admitted that it was necessary to improve self-competence for optimal educational activities.

According to parents, teachers, and staff, the availability of classrooms (infrastructure) became the primary constraint. However, based on an interview with school principals, it was not. The school conducted morning and afternoon classes to overcome the lack of classrooms. 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.

#### 4.2. *Strategies to Improve Customer Perspective Performance*

Parents as primary school customers expect improvement in children's knowledge and skills. 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. Providing a comfortable and clean public space allows students to interact while playing, group work, or local curriculum activities. Schools need to increase the quantity and quality of extracurricular activities since parents showed low satisfaction. Extracurricular activities help to improve students' competencies. Furthermore, training and seminars will improve teachers' competence and ability to develop methods and models and use instructional media.

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. 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. *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. 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.

#### 4.4. *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. 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.

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

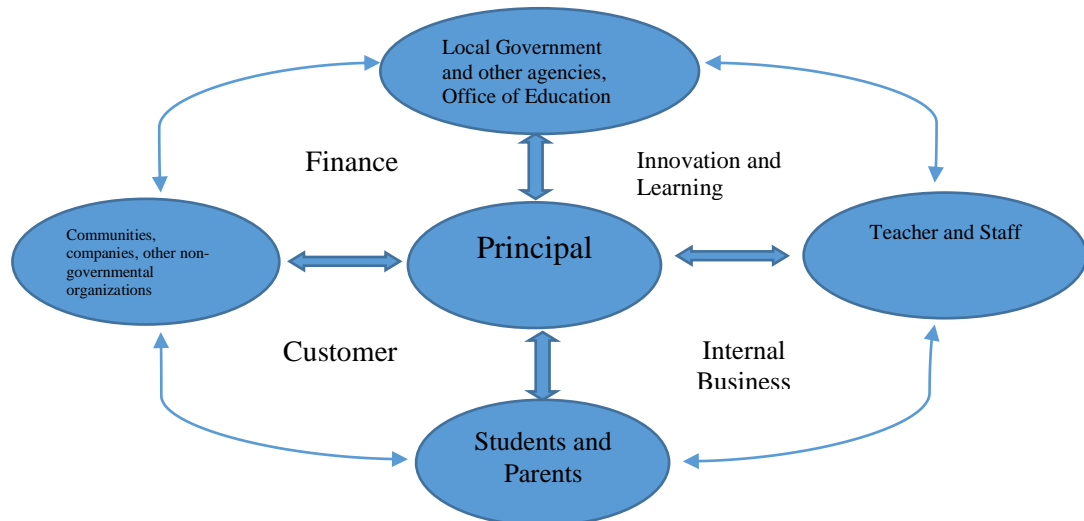


Figure 4 shows that improving school performance through the BSC approach requires cooperation between all parties.

## 5. Conclusion, Limitations, and Implications

Based on the innovation and learning perspective, the teachers, staff, and principals had very high satisfaction with the availability and ease of access to educational information related to their duty and responsibility. There was high satisfaction of organizational structure and authority. However, the availability of administrative facilities for teachers and staff received a low level of satisfaction.

completion of the fund source and use. However, submission to the site [bos.kemdikbud](http://bos.kemdikbud) or the higher agency was delayed due to the late provision of the funds under the school Operational Assistance Program<sup>2</sup>. The teachers and staff had very low satisfaction with school funds allocated for training, technical guidance, or other activities related to self-competence improvement.

1. 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.
2. 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.

The research implication is that schools should optimize the use of school assets. Developing cooperation with various parties may solve school problems, like facilities and infrastructure constraints. Schools should pay attention to improving teachers and staff competence by allocating more budget for training, seminar, technical guidance, and such the like. Schools must improve the accountability and transparency of their management, including finance, to increase the trust of various parties. In addition, local and central governments must determine various aspects of school performance, such as academic achievement, asset, and financial management.

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<sup>2</sup> Bantuan Operasional Sekolah is a program supported by the Government to help schools throughout Indonesia. Educational assistance in the form of funds is provided based on the number of students registered



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No	Reviewer	Reviewer's Comment (29 August 2021)	Aurhor's Responses (26 November 2021)
1	<b>Reviewer 1: Comment Minor Revision</b>	<p>The study is well presented, has an appropriate language and is easy to follow.</p> <p>The results presented are clearly explained, however, they are not discussed based on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions. Discussion and conclusions must be improved.</p> <p>There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.</p>	<p>Thank you for your response and comments.</p> <p>Revised, We amended this manuscripts in accordance with the feedbacks you addressed</p>
	<b>Additional Questions</b>	<p>1. Originality: Does the paper contain new and significant information adequate to justify publication?: Yes. The study contains aspects that somehow bring innovation and make the study relevant.</p>	<p>Thank you for your response and appreciation.</p>
		<p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Yes. Considering the aspects addressed in this study, the literature review is adequate and sufficient.</p>	<p>Thank you for your response and comments.</p>
		<p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Yes. The methods employed are appropriated and the study is is correctly designed</p>	<p>Thank you for your response and comments.</p>
		<p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results presented are clearly explained, however, they are not discussed based</p>	<p>Thank you for your response and comments.</p> <p>Revised, We amended this manuscripts in accordance with the feedbacks you addressed</p>

		on the literature review and the conclusions do not close the article either. There is a deficient connection between objectives, methodology, results and conclusions.	
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The article does not explain well the extent of the results obtained, nor does it link to the literature review. Discussion and conclusions must be improved.</p> <p>There is a gap between what is referred to in theory and what is obtained in practice. The explanation is lacking.</p>	<p>Thank you for your response and comments.</p> <p>Revised, We have added explanation this manuscripts in accordance with the feedbacks you addressed (pp. 12-19)</p>
		6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The study is well presented, has an appropriate language and is easy to follow.	<p>Thank you for your response and appreciation.</p>
2	<b>Reviewer 2: Comment: Mayor Revision</b>	<p>This paper is well written, well organized, and provides the necessary background for the new approach. Furthermore, the methodology needs some technical interventions</p> <p>1) It is unfortunate that the authors have not mentioned how the sample (qualitative approach) was collected to make this a much stronger paper. Further, the authors didn't quote any statements of the interviewers in order to strengthen</p>	<p>Thank you for your response and comments.</p> <p>We have added the relevant literature according to your feedback/suggestion in this manuscript</p>

		<p>their work.</p> <p>2) Additionally, the authors didn't use the SWOT theory in order to carry out strategies and strategic objectives. Then BSC perspectives can be used in order to demonstrate the school's performance.</p> <p>3) In-text, references in the manuscript must be formatted using one of the recognized Harvard styles. I think the authors have to see all of them again and make the necessary changes.</p> <p>4) Few additional references may be included in the text. ( mentioned above) Regardless, it is probably still worthwhile for publication as it does demonstrate the four perspectives in BSC performance and analyzed them for the two group schools. I would recommend major revisions to this paper prior to publication.</p>	
	<b>Additional Questions</b>	<p>1. Originality: Does the paper contain new and significant information adequate to justify publication?: This paper is intriguing because it adds to the existing engagement literature in a significant way.</p>	Thank you for your response and appreciation.
		<p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?:</p> <p>To further up their claims, the authors cited relevant literature.</p> <p>However, few additional references which may be included are:</p> <p>a) Dimitropoulos, P., Kosmas, I. and Douvis, I. (2017), "Implementing the balanced scorecard in a local government sport organization: Evidence from Greece", International Journal of Productivity and Performance Management Vol. 66 No. 3, 2017 pp. 1-20.</p>	<p>Thank you for your response and comments.</p> <p><b>1. Additional References:</b> Revised. We have added all of these literatures in manuscript.</p> <p><b>2. References format:</b> Revised, We have revised our references formatted according to Harvard Styles.</p> <p><b>3.</b> Revised, for some lines in parenthesis "&amp;" replace to "and"</p>

	<p>b) Hawke, L. (2012), “Australian public sector performance management: success or stagnation?”, International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 310-328.</p> <p>c) Conaty, F.J. (2012), “Performance management challenges in hybrid NPO/public sector setting: an Irish case”, International Journal of Productivity and Performance Management, Vol. 61 No. 3, pp. 290-309.</p> <p>d) Quezada, L., Reinao, E., Palominos, P. and Oddershede, A. (2019), Measuring Performance Using SWOT Analysis and Balanced Scorecard, Procedia Manufacturing 39 786–793.</p> <p>e) Quezada, L., Cordova, M., Palominos, P., Godoy, K. and Ross, J. (2009), Method for identifying strategic objectives in strategy maps, International, Journal of Production Economics, 122 (1) 492-500</p> <p>f) Lee, S., and Lo, K. (2003), e-Enterprise and management course development using strategy formulation framework for vocational, Journal of Materials Processing Technology, 139 604-612.</p> <p>All, in text, references in manuscript must be formatted using one of the recognized Harvard styles.  <a href="https://www.emeraldgrouppublishing.com/journal/ijppm?_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines">https://www.emeraldgrouppublishing.com/journal/ijppm?_ga=2.61429295.245920342.1628336150-874850614.1628156033#author-guidelines</a>.</p> <p>The below references are examples that made me confused.  Some lines in parenthesis “and” some others “&amp;”.  The authors have to replace (in all manuscript ) “&amp;”in parenthesis, to “and”.  Additionally have to replace “and” in text, to “&amp;”.  Example: (Kaplan and Norton, 1992) but Papenhausen &amp; Einstein (2006)</p>	
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		<p>Line 33 (Kaplan and Norton, 1992)  Line 23 (Park &amp; Gagnon, 2006)  Line 15 Papenhausen and Einstein (2006)  Line 11 Park &amp; Gagnon (2006)  Line 18 (Jensen and Meckling, 1976)  Line 52 (Lawrence and Sharma, 2002)</p>	
		<p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?:  3) The methodology adopted for this work is appropriate. The design is appropriate to fulfill the author's research hypotheses. Methods employed to prove hypotheses and the research model are well fitted. However, few concerns remain.  1) What about the SWOT analysis? There are plethora of manuscripts (Quezada et al. 2019) in which both tools (SWOT and BSC) are combined conceptually. Some of them are authored by Quezada et al. 2009, who created a SWOT matrix from the strategic objectives of a BSC, and (Lee and Lo, 2003) who produced a framework for formulating a strategy for vocational education.  The core element of the proposed method is an ANP (Analytical Network Process) model that includes SWOT factors and sub-factors, Strategies, BSC perspectives and strategic objectives. It means that the schools have to undertake a strategy formulation process, in which a SWOT matrix is carried out and strategies and strategic objectives are defined. ANP is used to estimate the priority of the strategic objectives, which are combined with an assessment of the level of their achievement in order to get a measurement of the school's performance.  2) Why the qualitative approach is the most appropriate methodology for this part of the study? (line 14-15 authors tried to explain, but there is no research</p>	<p>Thank you for your response and comments.</p> <ol style="list-style-type: none"> <li>1. <b>SWOT Analysis:</b> We apologize, our focus in this research is only to constraint and school strategy to achieve four performance perspectives. We only have limited data for these focus.</li> <li>2. <b>Qualitative Data Analysis:</b> We have added a qualitative data analysis stage to the research method. We have also quote interview result to support the findings</li> <li>3. <b>Sample for qualitative research:</b> Information was added (p.10), we refer to Creswell and Cresswell, 2018</li> </ol>

		<p>question and we have no information about that kind of methodological approach) more information about the utility of the approach and open questions(semi-structure?) write some statements in order to support the findings.(line 48 ."The teachers admitted...." How do we know that?</p> <p>3) What about the sample for the qualitative approach according to the theory?</p> <p>More information added</p>	
		<p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The results are well presented and clearly establish and thoroughly analyzed. Finally, conclusions tie together the elements of the paper even though they are concise and do not address important aspects as to the road that must be followed, or the implications of the research</p>	<p>Thank you for your response and comments, Revised, We amended the conclusion, limitations and implications of the research in the manuscript (pp. 19-20)</p>
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The paper establishes new research avenues, or implications for research, and practice. The last paragraph mentions that this research has value because it has implications for scholars, and institutions but it does not establish which are those implications.Nevertheless, the tested model is in itself a contribution</p>	<p>Thank you for your response and comments, Revised as suggested</p>



		<p>6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.:</p> <p>While the paper remains potentially strong, it requires substantial revision(major) before acceptance for publication</p>	Thank you for your response and comments
	<b>Reviewer: 3 Mayor Revision</b>	<p>Your effort is worthwhile and encouraging, especially in the context of school performance evaluation. For a country like Indonesia, it can provide much useful inputs.</p> <p>However, there are some serious flaws in your approach. Firstly, Kaplan and Norton emphasize that the four perspectives are tools in the hands of a management to help improve their achievement of their Vision and implementation of their Strategy. This assumes, therefore, that the management is aware of the four perspectives and can use them to properly prioritize them in their Strategy Map. So, before emb ing on collecting a lot of quantitative data, it would be necessary to first do a qualitative study of the school principals (and perhaps some school regulators) to understand their awareness of their vision, their strategy and their knowledge of the four perspectives. As per Kaplan and Norton, these four perspectives have to be drawn out from their ongoing activities. This exercise would help in identifying subsequent the right variables and indicators for the subsequent quantitative study.</p>	<p>Thank you for your response and comments.</p> <p>We have added explanation this manuscripts in accordance with the feedbacks you addressed</p>
	<b>Additional Questions:</b>	<p>1. Originality: Does the paper contain new and significant information adequate to justify publication?: Original? Yes, to the extent that there has been no similar study done to evaluate school performance at primary level.</p>	Thank you for your response and comments.

		Significant? Depends on whether the research done fulfills the requirements of the academic rigor required.?	
		<p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: The paper does give references of many other studies, covering the areas of applying Balanced Scorecard to non-profit sectors, including education.</p> <p>However, in two instances, one has seen some disturbing evidence of the reference material not applied correctly. First deviation is when they repeatedly refer to one of the 4 perspectives of the Balanced Scorecard as Innovation and Learning, quoting Kaplan and Norton (1996) whereas K &amp; N have termed it Learning and Growth (pages 9, 28 and many more).</p> <p>Secondly, their description of the 4 perspectives, derived from Aly and Mansour (2017) is also at variant with the description provided by Kaplan and Norton, in two of the perspectives, customer and financial. According to them, customer perspective involves "how customers see us" whereas K&amp;N state: To achieve our vision, how should we appear to our customers? Similarly, in financial perspective the difference is between "how we look to shareholders" and "to succeed financially, how should we appear to our shareholders?"</p> <p>The difference is not only one of semantics or incomplete understanding of the language. It is a problem of perception about what K &amp; N wanted to emphasize. According to K &amp; N, the Balanced Scorecard is an important device in the hands of the management to be proactively deployed to improve their performance by a more balanced measurement whereas the author's interpretation runs the risk of converting the effort into a passive measurement</p>	<p>Thank you for your response and comments</p> <p><b>First Deviation:</b> We agree with your opinion that Kaplan &amp; Norton (1996) and several other studies use the term learning and growth perspective as a BSC perspective. This research refers to Aly &amp; Mansour (2017) and Rahayu <i>et. al.</i>, (2020) who developed the terms growth and learning for educational organizations to become innovation &amp; learning. In their research, innovation is used as an indicator for this perspective. These researchers still refer to the initial BSC concept from Kaplan and Norton, with the general concept not being too different. So it can be said that the two perspectives with different terms according to the research team do not have too much difference, but the focus of emphasis is different.</p> <p>We consider that this research was conducted in Indonesia on an educational organization which is a not-for-profit organization with a focus on achieving performance which is assessed as one of the innovations carried out. Expected growth is more focused on innovation. Innovation is very important now, in an effort to improve the quality of services for students. Even on several occasions, for several competitions (such as school innovation, educational innovation and regional innovation), innovation becomes a special focus to be assessed. Therefore, we are more likely to follow the term used by Aly &amp; Mansour (2017)</p> <p><b>Second Deviation:</b> <b>Customer perspective and financial perspective</b> We also agree with the reviewer's opinion that the customer perspective according to Kaplan and Norton is how should we appear to our customers? And the financial perspective is how we should look in the eyes of shareholders"</p>

		activity with no interactive link between the management's efforts and the outcome.	<p>We refers to Aly and Mansour (2017) for customer and financial perspectives, namely "how customers see us" and "how we look to shareholders". The difference occurs because the Kaplan and Norton concept is more dominantly used in private organizations. We consider the research to be carried out on public schools with the dominant funding coming from the government and having the task of providing education. As an organization that provides public services, it is very important for schools to set a vision and mission and manage schools in accordance with the goals to be achieved by customers. Public schools are different from private schools or private organizations. Public schools do not have the burden of seeking funds in order to provide services, because they have received funding from the government. Therefore, the financial aspect is focused on how to see the needs of the shareholders.</p> <p>We sincerely hope that this particular emphasis on the BSC perspective for schools will not turn BSC into a passive measurement activity. The BSC retains an interactive relationship between management efforts and results. As evidenced by Ally and Mansour (2017) that the four perspectives of the balanced scorecard in educational institutions are important not only for performance evaluation but more importantly to help management improve the management of their institutions.</p>
		<p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: The methodology is also on shaky grounds. Apart from the misgivings arising from the misinterpretations listed above, a few other areas of weaknesses identified are:</p> <p>a) They refer to Griggs, Blackburn &amp; Smith (2012) as proving 'the use of four</p>	<p>Thank you for your response and comments</p> <p><b>Methodology:</b></p> <p>a). We realize that the research results from Griggs et al., (2012) also still need to be tested for a larger sample so we add references from other research, e.g. Rompo (2020), Aly and Mansour (2017) and Rahayu et al., (2020).</p> <p><b>b.a.). Revised, We have added explanation about the relationship between the organization's mission and</b></p>

	<p>BSC perspectives to assess education services performances', albeit at tertiary level education and using their BSC variable with some modifications. However, a look at Griggs et. al. (2012) shows that it is itself an exploratory study, with a very small sample and is more theoretical rather than an empirical study of the concepts. And nowhere does it discuss or expand on the use of the four perspectives or lists the variables to be studied therein. Rather, it's correct referencing would have been to acknowledge that this study shows how a proper assessment exercise of educational services needs to go beyond the financial outcomes to also involve other stakeholders.</p> <p>b) This argument leads to the other weakness in their research approach. K &amp; N outline the four perspectives as the indicators of the different activities that an organization engages in its pursuit of its goals. The link between the Vision and the Strategy to achieve it is then explored through these perspectives. There is a) no attempt to identify the vision or the goals of the government organizations studied here. b) the four perspectives are taken for study as variables that interact with each other but nowhere is their link with the vision explored or examined. These oversights convert the study into a mechanical application of the PLS-SEM 3 to a set of data, without any proper theoretical justification. c) The hypothesis list is not properly backed by literature references but appears to be expanded into 12 numbers for creating an impression. Hypothesis 7 &amp; 8 try to examine a mediating influence, but end up only endorsing the outcome of other parallel hypotheses. Thus, hypothesis 7 flows from a combination of Hypotheses 2 and 5, while hypothesis 8 flows from the combination of hypotheses 3 and 4. In the absence of clarity on how their data was analysed, whether from</p>	<p>strategy with performance evaluation (p. 4)</p> <p><b>b.b)</b> Revised as suggested, We refers to Hair et al., (2019) and Shmueli et al., (2019) (pp. 7-9)</p> <p><b>b.c)</b> This research hypothesis testing uses two analytical tools, hypothesis 1 to hypothesis 8 using SEM-PLS with one structural model. Testing Hypothesis 9 to hypothesis 12 using SPSS analysis tool to test the difference between two school groups</p> <p><b>c: Finaly....</b></p> <p><b>c.a)</b> Revised, the questionnaire design has been added to the manuscript (p. 6). We refer to Aly and Mansour (2017); Griggs <i>et al.</i>, (2012); Rahayu <i>et al.</i>, (2020); Rompho (2020)</p> <p><b>c.b)</b> Revised, an explanation of the reasons for the difference in indicators between variables has been added to the manuscript: p.8.</p> <p><b>c.c)</b> Revised, explanation has been added in the pp. 8-9</p> <p><b>c.d)</b> Revised, The Measurement Model has been added in figure 1 and an explanation for the reflective indicators has also been added, see p. 9</p>
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**Commented [A1]:** Reviewer No. 3 and Add. Question No. 3.a.

		<p>within the same structural model or different models, specific to each case examining mediation, one is left to conclude that there was no clarity on this aspect. (since the data analysis gives data of only one Structural Model, one is safe to conclude that separate Structural Models were not used).</p> <p>Finally, the justification for using the PLS-SEM and not SEM is also not provided.</p> <p>Other incomplete aspects include:</p> <p>a) no discussion or details of the questionnaire design.</p> <p>b) no proper listing of the different indicators used in the study or the justification why there are such large differences in their numbers within the four perspectives (11 in financial to 6 in customer).</p> <p>c) After applying the cut off of <math>&lt;0.7</math> in outer loading, the model is left with 4 indicators in customer perspective and 2 indicators in Internal Business perspective. Are they adequate? There is no discussion.</p> <p>d) The Measurement Model is not discussed at all. It is not clear whether the use of all the indicators as reflective indicators, as shown in the Figure 1, is justified.</p>	
		<p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: The data is collected by both quantitative and qualitative methods.</p> <p>For quantitative data, the results are presented following the guidelines for a PLS SEM study with the construct reliability and validity discussed and the data analysis properly shared, within the limitations noted above regarding exploring mediating variables.</p> <p><b>For qualitative data, there is only one outcome shown, arising from the use of Leximancer 4.51 The discussion on the other points emerging from the data</b></p>	<p>4. Thank you for your response and comments.</p> <p>We have added discussions and quote from interviews for qualitative data analysis in the manuscript. The results of the interviews are in addition to the qualitative data (pp. 13-18)</p>

		<p><b>analysis are misleadingly covered as 'Strategies to improve .....</b>' One would expect before a discussion on strategies for improvement, the qualitative findings are properly enumerated under each perspective, or school set, as necessary and then discussed for their veracity or applicability. A qualitative data is expected to generate insights into the phenomena which may not have been possible while analysing the quantitative data. In the absence of this information or informed discussion, one is left to accept their statements at face value or reject it instinctively.</p> <p>Thus, the conclusions drawn do not appear as a convincing outcome of the research carried out. The data collection is adequate, the data analysis is half done (adequate for quantitative data, inadequate for qualitative data), so the data conclusions appear subjective.</p>	
		<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: The research identifies a clear area of concern: how to improve the assessment of the delivery of educational services? There is a lot of theoretical work on this but not enough empirical work. This study tries to contribute to the empirical work. To that extent, it is an effort to bridge the gap between theory and practice.</p> <p>However, as pointed out earlier, the researchh design is faulty and the discussions on findings is inadequate. As</p>	<p>Thank you for your response and comments.</p> <p>We have added explanations to the findings and discussions, conclusions and limitations (pp. 19-20)</p>

		<p>a result, the conclusions appear to be very general, derived from a general perspective and not a research perspective.</p> <p>Significantly, the paper does not enter into any discussion on limitations, though it is captioned in Section 5 heading.</p>	
		<p>6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: The weaknesses in the way the four perspectives are discussed have been already highlighted. It is not clear whether it is due to a miscommunication or a misinterpretation of the perspectives, as provided by Kaplan and Norton. Similarly, the lacuna in the discussion of the qualitative data has been highlighted. Otherwise, the language used has clarity.</p>	<p>Thank you for your response and comments.</p> <p>We have added explanations for the discussion of qualitative data results (pp.13-18)</p>
	<p><b>Reviewer: 4</b> <b>Mayor</b> <b>Revision</b></p>	<p>Comments: Below I present the reviews that should be carried out in my opinion.</p> <p>Abstract</p> <p>1. In abstract it is needed to change Smart PLS 0.3 to Smart PLS 3.0.</p> <p>Introduction:</p> <p>2. It needs to be further developed to show how this study adds new knowledge.</p> <p>3. In the last paragraph of introduction should be spelled out the sections that compose the article.</p> <p>Literature Review</p> <p>4. The literature review must be updated. For example: AL-Dahiyat, M. A. (2020). Measuring the strategic performance of higher education institutions: A balance scorecard approach. Academy of Accounting and Financial Studies Journal, 24(1), 1–14.</p>	<p>Thank you for your response and comments</p> <ol style="list-style-type: none"> <li>1. Revised as suggested see p.1</li> <li>2. Revised as suggested, see p. 3</li> <li>3. Revised as suggested, see p. 3</li> <li>4. Revised. We have added all of these literatures in this manuscript.</li> <li>5. We have added explanations in this manuscripts in accordance with the feedbacks you addressed for supported H-9, H- 10, H-11 and H-12, p. 13-15</li> <li>6. Revised, construct validity and reliability have added in manuscript, see pp.8-9 (Table 1, Table 2 and Table 3).</li> <li>7. Revised, the results have been presented in the manuscript so they are no longer attached to the appendix</li> <li>8. Revised, measurement and final model figures have been added in the manuscript (p. 9)</li> </ol>

	<p>Camilleri, M. A. (2021). Using the balanced scorecard as a performance management tool in higher education. <i>Management in Education</i>, 35(1), 10–21. <a href="https://doi.org/10.1177/0892020620921412">https://doi.org/10.1177/0892020620921412</a></p> <p>Gusnardi, &amp; Muda, I. (2019). Educational institution performance measurement based on miles and huberman models using balanced scorecard approach. <i>Quality - Access to Success</i>, 20(170), 32–41.</p> <p>Oliveira, C., Oliveira, A., Fijałkowska, J., &amp; Silva, R. (2021). Implementation of balanced scorecard: Case study of a portuguese higher education institution. <i>Management : Journal of Contemporary Management Issues</i>, 26(1), 169–188. <a href="https://doi.org/10.30924/MJCMI.26.1.10">https://doi.org/10.30924/MJCMI.26.1.10</a></p> <p>Peris-Ortiz, M., García-Hurtado, D., &amp; Devece, C. (2019). Influence of the balanced scorecard on the science and innovation performance of Latin American universities. <i>Knowledge Management Research and Practice</i>, 17(4), 373–383. <a href="https://doi.org/10.1080/14778238.2019.1569488">https://doi.org/10.1080/14778238.2019.1569488</a></p> <p>5. Hypothesis H9, H10, H11 and H12 must be better supported.</p> <p>Research Method</p> <p>6. In Table 1 (Construct Reliability and Validity) should be added the correlations between constructs.</p> <p>7. You need to add an Appendix with all items included in each construct.</p> <p>Findings and discussion</p> <p>8. In Figure 1 (Path Model) the values presented must be standardized coefficients. These coefficients are more informative.</p> <p>9. To check H7 it is needed to do Sobel test.</p> <p>10. I don't understand Table 4 (Comparative Test). It is an independent t test and it is necessary to have the average of each group of schools for all</p>	<p>9. Revised, sobel test added for H.7 (p.12)</p> <p>10. This article only compares the performance between the constructs of the two school groups without comparing the structural models. The average of each group of schools for all constructs has been added to the manuscript.</p> <p>11. Revised as suggested</p> <p>12. Revised as suggested (pp. 19-20)</p>
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		<p>constructs. Perhaps it would be better to do a multigroup analysis to compare the structural relationships between the variables between the two groups.</p> <p>11. The Figures needs to be renumbered. In paper missing Figure 3.</p> <p>Conclusion, Limitations, and Implications</p> <p>12. The conclusions and discussion should include the theoretical and practical implications, limitations, and future lines of investigation.</p>	
	<b>Additional Questions:</b>	<p>1. Originality: Does the paper contain new and significant information adequate to justify publication?: <b>See comments.</b></p> <p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?:<b>See comments.</b></p> <p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: <b>See comments.</b></p> <p>4. Results: Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: See comments.</p> <p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these</p>	

		<p>implications consistent with the findings and conclusions of the paper?: <b>See comments.</b></p> <p>6. Quality of Communication: Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: <b>See comments.</b></p>	
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## The Relationship of Balanced Scorecard Perspectives and Government Organization Performance Measurement

### 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,

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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).

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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.

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## 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

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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).

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#### 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).

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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.

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#### 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 a 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.

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- 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 (2), 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.

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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

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

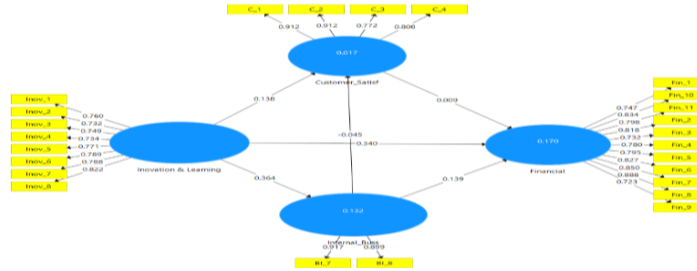


Figure 1. Measurement Model

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	<b>0.853</b>			
Financial	0.051	<b>0.801</b>		
Innovation & Learning	0.122	0.392	<b>0.769</b>	
Internal_Buss	0.006	0.263	0.364	<b>0.908</b>

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

Tabel 3

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

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

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 a 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

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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  $\geq 0.5$ , 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.

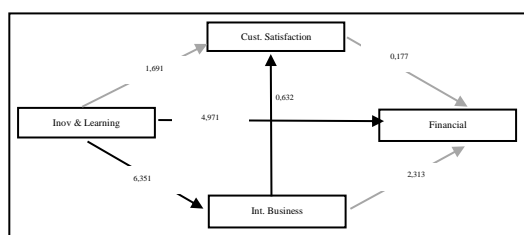
**Table 5. Path Coefficients**

Path	Original	Sample	Standard	T Statistics	P Values	Result
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	Sample (O)	Mean (M)	Deviation (STDEV)	( O/STDEV V )		
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

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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:**

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“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<sup>1</sup> 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:

<sup>1</sup> 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.

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“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.

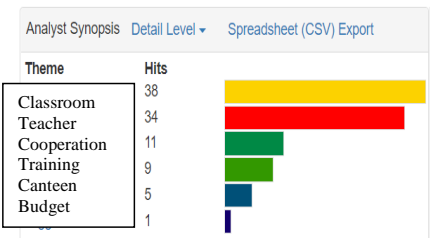


Figure 3. Problems in School Performance Improvement

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.

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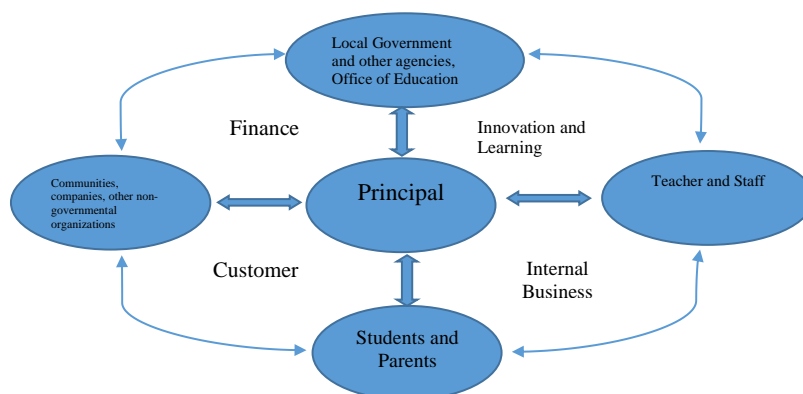
As a result, we could add new classrooms and repair old classrooms. Due to limited school funds, we cooperate with the parents to solve existing problems within our capability”.

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.

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**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

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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.

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# The relationship of balanced scorecard perspectives and government organization performance measurement

Relationship of  
BSC  
perspectives

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## Abstract

**Purpose** – This research aimed to analyze the causality between the four perspectives in the balanced scorecard (BSC) performance and to analyze the different performance of the four perspectives for the two group schools studied.

**Design/methodology/approach** – Quantitative data were processed using Smart PLS 0.3 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 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.

**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 BSC to evaluate public school performance to achieve comprehensive assessment results.

**Originality/value** – The use of the four perspectives in the BSC performance since public schools in Indonesia have never implemented it.

**Keywords** Finance, Customers, Internal processes, Growth, Learning

**Paper type** Research paper

## 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.

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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 nonfinancial performance indicator and dimension (Al-Dahiyat, 2020).

Performance measurement is crucial for nonprofit 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, p. 11). Students also need to develop 21st-century skills – for instance, critical thinking, collaboration and creativity (Stewart, 2012, p. 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, p. 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, p. 277). Finance influences and is interrelated with education quality (Bastian, 2007, p. 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 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), nonprofit organizations (Lawrence and Sharma, 2002), armed forces (Kankaraš *et al.*, 2014) and education (Papenhause 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 analyzed strategies and constraints to improve the four perspectives of the BSC 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 BSC concept is an old concept. However, academics rarely study BSC implementation in elementary schools. This research was a pioneer study that aimed to develop a performance measurement and evaluation system based on a BSC perspective for elementary education institutions at the national and regional levels.

This research aimed to describe school performance using four BSC 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 problems 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 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.

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Kaplan and Norton (2001) proposed a BSC framework for nonprofit 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). BSC correlates the measurement of institution performance and vision, mission and strategic objectives using a financial and nonfinancial 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.*, 2019). BSC is a helpful tool in educational institutions (Storey, 2002; Yuksel and Coskun, 2013; Alolah *et al.*, 2014; Rompho, 2020). Griggs *et al.* (2012), Aly 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 (Oliveira *et al.*, 2021).

### *2.4 Innovation and learning perspective*

Education institutions require employees capable of thinking, creating, innovating and learning independently (Ortiz *et al.*, 2019). 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, p. 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.*, 2019).

Teacher quality determines performance achievement, which adheres to school customer expectations (Rompho, 2020). Basic education supports the younger generation

(Kasali, 2014, p. 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 nonprofit organizations instead of profit (Dimitropoulos *et al.*, 2017; Ortíz *et al.*, 2019). 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 used nonacademic 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 a 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 perspectives. 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 nonprofit 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.\* \(2020\)](#) and [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 nonfinancial 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 \*et al.\*, 2017](#)). The financial perspective is the main focus of several parties ([Oliveira \*et al.\*, 2021](#)).

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

- H1.* Innovation and learning performance have a positive influence on financial performance.
- H2.* Innovation and learning performance have a positive influence on customer performance.
- H3.* Innovation and learning performance have a positive influence on internal business performance.
- H4.* Internal business performance has a positive influence on financial performance.
- H5.* Customer performance has a positive influence on financial performance.
- H6.* Internal business performance has a positive influence on customer performance.
- H7.* Innovation and learning performance have a positive influence on financial performance mediated by customer performance.
- H8.* Innovation and learning performance have a positive influence on financial performance mediated by internal business performance.
- H9.* There is a different performance of financial perspective between the two school groups.
- H10.* There is a different performance of innovation and learning perspectives between the two school groups.
- H11.* There is a different performance of customer perspective between the two school groups.
- 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 (2), 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 was 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 evaluates 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 indicators, internal business variables consisted of eight indicators and innovation and learning variables consisted of eight 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 nonacademic). These indicators were tested for validity twice. Complete results of the validity and reliability tests are presented in Table 1.

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.

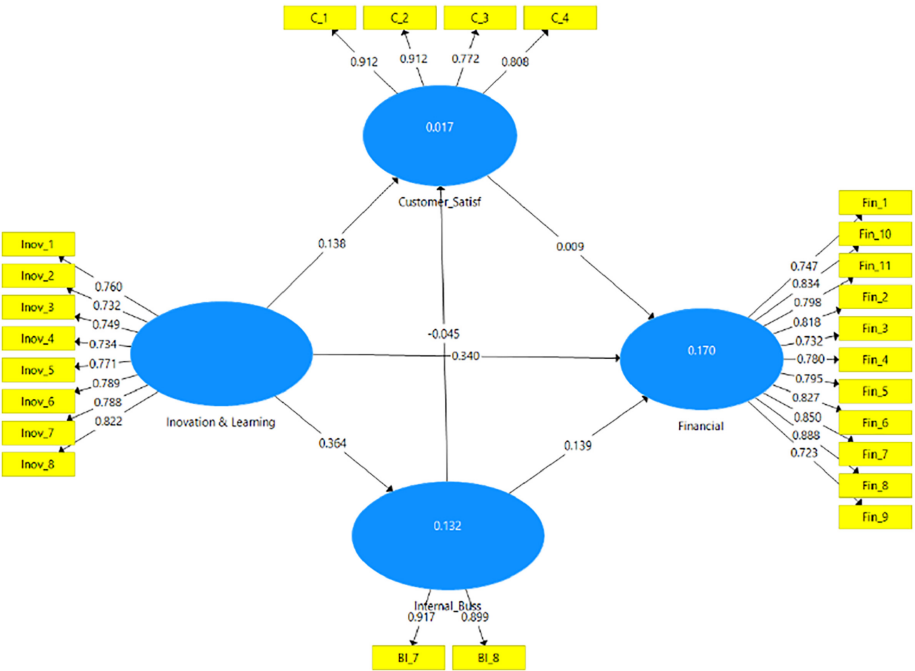
Table 1 shows that all indicators have a loading factor value  $>0.7$ . Therefore, the indicators are valid (Hair *et al.*, 2019). Two internal business and customer satisfaction indicators are significantly reduced. However, the researcher considered that valid indicators better reflect the variables mentioned above. Figure 1 shows the 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 and 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.

**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 and 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				



**Figure 1.**  
Measurement model

Based on Table 1, the customer satisfaction and innovation and 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-loading issues did not occur (Hair *et al.*, 2019). Table 2 shows no cross-loading issue using the Fornell–Larcker criterion.

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

The research result showed that all constructs' outer loadings (italics) 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 0.007–0.104, 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 a 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.

Perspective	Customer_Satisf	Financial	Innovation and learning	Internal_Buss
Customer_Satisf	<i>0.853</i>			
Financial	0.051	<i>0.801</i>		
Innovation and learning	0.122	0.392	<i>0.769</i>	
Internal_Buss	0.006	0.263	0.364	<i>0.908</i>

**Table 2.**  
Fornell-Larcker  
criterion

	Innovation and learning	Cust_Satisf	Int_Buss	Financial
Inov_1	<i>0.760</i>	0.113	0.271	0.291
Inov_2	<i>0.732</i>	0.098	0.244	0.371
Inov_3	<i>0.749</i>	0.046	0.317	0.233
Inov_4	<i>0.734</i>	0.120	0.238	0.301
Inov_5	<i>0.771</i>	0.053	0.319	0.282
Inov_6	<i>0.789</i>	0.094	0.242	0.364
Inov_7	<i>0.788</i>	0.112	0.316	0.254
Inov_8	<i>0.822</i>	0.110	0.295	0.299
C_1	0.106	<i>0.912</i>	0.003	0.062
C_2	0.147	<i>0.912</i>	−0.004	0.033
C_3	0.029	<i>0.772</i>	0.012	0.016
C_4	0.051	<i>0.808</i>	0.028	0.057
BI_7	0.327	0.004	<i>0.917</i>	0.275
BI_8	0.334	0.007	<i>0.899</i>	0.199
Fin_1	0.301	0.076	0.138	<i>0.747</i>
Fin_2	0.316	0.121	0.219	<i>0.818</i>
Fin_3	0.318	0.017	0.251	<i>0.732</i>
Fin_4	0.234	0.020	0.254	<i>0.780</i>
Fin_5	0.297	0.048	0.196	<i>0.795</i>
Fin_6	0.345	−0.012	0.197	<i>0.827</i>
Fin_7	0.343	0.032	0.258	<i>0.850</i>
Fin_8	0.328	0.017	0.237	<i>0.888</i>
Fin_9	0.235	0.041	0.117	<i>0.723</i>
Fin_10	0.379	0.035	0.214	<i>0.834</i>
Fin_11	0.311	0.066	0.206	<i>0.798</i>

**Table 3.**  
Cross-loading

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, p. 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, p. 66). We conducted an in-depth interview with 27 informants consisting of three representatives of the Office of Education, seven teachers, five staff, eight representatives of parents and four 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  $\geq 0.5$ , and the data validity used triangulation. Triangulation is the easiest qualitative data assessment method (Merriam, 2002, p. 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 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 1–8) 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 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.

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.

Characteristics	Criteria	Amount	Percentage (%)	Relationship of BSC perspectives
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	
Total	Postgraduate	20	5.95	Table 4. Respondent characteristics
		336	100	

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

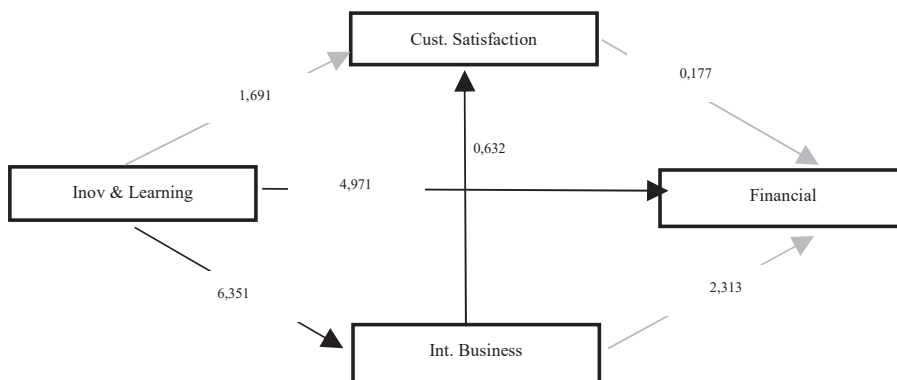
The performance comparison between the school groups can be seen in hypothesis testing (H9–H12). The summary is presented in Table 6.

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

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	<i>T</i> statistics (O/ STDEV)	<i>p</i> values	Result
Inovasi dan pembelajaran → Keuangan	0.340	0.343	0.068	4.971	0.000	Accepted
Inovasi dan pembelajaran → pelangan	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
Pelangan → Keuangan	0.009	0.010	0.051	0.177	0.859	Not accepted
Internal Bisnis → pelangan	0.045	0.042	0.071	0.632	0.528	Not accepted
Inovasi dan pembelajaran → pelangan → 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

**Note(s):** Statistical *t* value > 1.96 and *p* value with a significant level of 0.05



Relationship of  
BSC  
perspectives

**Figure 2.**  
Final model

Perspective/ dimension	Mean of construct		Mean	<i>p</i> values	Rank	Result
	Schools with less than 400 students	Schools with more than 400 students				
Kuangan	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

**Note(s):** *p* value with a significant level of 0.05

**Table 6.**  
Comparative test

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:

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.



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:

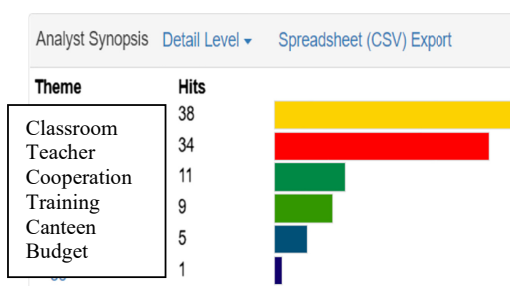
Due to decreasing number of Civil Servant teachers, regional government and school admitted contract teachers (non-Civil Servant teachers). The non-civil servant teachers receive income from regional government funds or school funds. We need to hire non-civil servant teachers due to the lack of available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



**Figure 3.**  
Problems in school  
performance  
improvement

*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:

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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.

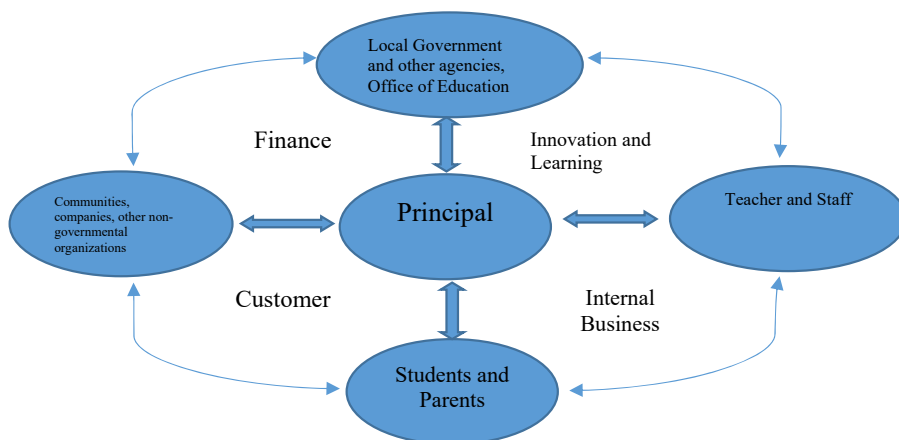
*4.3.4 Strategies to improve financial performance.* Schools cannot ignore financial perspectives and asset management. There is high parent satisfaction with school cost efficiency. However, there is low parent satisfaction with school asset management due to the limited availability of classrooms in 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](#).



Relationship of  
BSC  
perspectives

**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 is currently best applied in modern organizations (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.*, 2019). 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 nongovernmental 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 nongovernment 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 (Strength, Weaknesses, Opportunities, and Threats) analysis. In addition, future research may correlate BSC perspective and performance variables such as good governance, culture, policy changes, etc.

#### Note

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.

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### Further reading

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