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Implementation of the Balanced Scorecard in Improving Business Unit Performance in the Indonesian Manufacturing Industry

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ABSTRACT

This study examines the implementation of the Balanced Scorecard (BSC) as a strategic management accounting tool to improve business unit performance in the Indonesian manufacturing industry. The research aims to analyze the relationship between the four BSC perspectives—financial, customer, internal business process, and learning and growth—and business unit performance. A quantitative survey approach was employed using structured questionnaires distributed to 80 managerial-level respondents in manufacturing firms. Data were collected over a three-month period and analyzed using descriptive statistics and linear regression analysis. The findings indicate that the implementation of the Balanced Scorecard significantly improves operational efficiency, customer satisfaction, and overall business unit performance, suggesting that BSC provides an effective framework for comprehensive performance measurement and strategic decision-making in manufacturing organizations.

INTRODUCTION

The manufacturing industry plays a strategic role in driving national economic growth and increasing a country's competitiveness at the global level. The increasingly dynamic change in the business environment requires manufacturing companies to have a performance measurement system that not only focuses on financial aspects, but also pays attention to non-financial factors that affect the sustainability of the organization. In modern management accounting practices, companies are required to integrate various performance indicators in order to produce more comprehensive evaluations and support strategic decision-making. The Balanced Scorecard (BSC) is one of the most widely used approaches because it is able to integrate four main perspectives, namely finance, customers, internal business processes, and learning and growth (Kaplan & Norton, 2020). The implementation of this framework allows organizations to translate business strategies into measurable, long-term oriented performance indicators (Hoque, 2021).

Globally, the use of Balanced Scorecards has become a common practice in modern enterprise performance management systems. Many manufacturing companies in different countries are adopting this approach to improve the effectiveness of resource management as well as ensure alignment between organizational strategy and operational performance. Empirical research shows that the implementation of the Balanced Scorecard can improve the quality of managerial decision-making as well as improve coordination between business units in the organization (Taticchi, Tonelli, & Cagnazzo, 2020). In addition, the implementation of an integrated performance measurement system has been proven to improve performance transparency and strengthen management accountability (Madsen & Stenheim, 2022). Thus, the Balanced Scorecard not only serves as a performance measurement tool, but also as a strategic management framework that helps organizations achieve their long-term goals.

In the context of the manufacturing industry in Indonesia, the challenges in managing organizational performance are still quite complex. Many companies still use performance measurement systems that are traditional and oriented solely on financial indicators. This condition often leads to limitations in evaluating non-financial factors such as innovation, customer satisfaction, and human resource development. In fact, these aspects have an important role in increasing the company's competitiveness in the era of global competition. Recent studies show that the integration of financial and non-financial indicators in performance measurement systems can improve the effectiveness of manufacturing companies' business strategies (Ferreira & Otley, 2020). Therefore, the implementation of the Balanced Scorecard is relevant to be applied in an effort to improve the performance of business units in the manufacturing sector in Indonesia.

Although the Balanced Scorecard has been extensively researched in various organizational contexts, there are still research gaps that need to be further studied. Several previous studies have emphasized more on the conceptual aspects or implementation of the Balanced Scorecard in service sector organizations and the public sector. Research conducted by Quesado, Rodrigues,

and Guzmán (2022) shows that the implementation of the Balanced Scorecard can improve the effectiveness of organizational performance management, but the results of the study are still limited to companies in the European region. Another study by Hansen and Schaltegger (2021) highlights the importance of integrating the Balanced Scorecard with a company's sustainability strategy, but has not specifically examined its impact on the performance of business units in manufacturing industries in developing countries. These limitations indicate that there is a need for more in-depth research on the application of the Balanced Scorecard in the context of the manufacturing industry in Indonesia.

Based on this background, this study aims to analyze the implementation of the Balanced Scorecard and its effect on improving the performance of business units in the manufacturing industry in Indonesia. This study specifically examines the relationship between the four perspectives of the Balanced Scorecard, namely financial perspectives, customers, internal business processes, and learning and growth, and the performance of the company's business units. Through a quantitative approach with a survey method on respondents at the managerial level, this study is expected to provide an empirical overview of the effectiveness of the Balanced Scorecard as an organizational performance measurement system. The analysis conducted in this study also aims to identify the Balanced Scorecard perspective that contributes the most to improving the performance of business units.

This research is expected to contribute both theoretically and practically to the development of management accounting science. Theoretically, this study enriches the literature on the implementation of the Balanced Scorecard in the context of the manufacturing industry in developing countries, especially Indonesia. Practically, the results of this research can be a reference for company management in designing a more comprehensive and strategic performance measurement system. In addition, the findings of this study are expected to assist organizations in improving the effectiveness of business unit performance management through the integration of financial and non-financial indicators within the framework of the Balanced Scorecard (Marr, 2023).

LITERATURE REVIEW

Balanced Scorecard in Management Accounting

The Balanced Scorecard (BSC) is one of the key innovations in modern management accounting practice designed to integrate financial and non-financial performance indicators within a comprehensive strategic framework. This concept allows organizations to translate the company's vision and strategy into a set of performance indicators that can be measured and monitored systematically. In the development of the strategic management literature, the Balanced Scorecard is not only seen as a performance measurement tool, but also as a management system that assists organizations in implementing strategies effectively (Malagueño, Lopez-Valeiras, & Gomez-Conde, 2021). Other research has also shown that the use of Balanced Scorecards can improve the quality of management control systems as well as strengthen the relationship between organizational strategy and company operational activities (Speckbacher &

Wentges, 2020). Thus, the application of the Balanced Scorecard in the management accounting system provides a more comprehensive framework in evaluating organizational performance and supporting the managerial decision-making process.

In addition, the Balanced Scorecard assists organizations in integrating various performance perspectives that were previously often separated in traditional measurement systems. Financial perspective remains an important indicator in assessing an organization's success, but non-financial indicators such as customer satisfaction, business process effectiveness, and human resource development also have a significant role in determining a company's long-term success. Research shows that organizations that consistently implement the Balanced Scorecard tend to have better strategic performance than organizations that only use financial indicators in performance measurement (Tayles, Pike, & Sofian, 2020). Therefore, the Balanced Scorecard is considered an approach capable of improving the integration of strategies and performance measurement in modern organizations.

H1: The implementation of the Balanced Scorecard has a positive effect on the performance of business units in manufacturing companies.

Financial Perspectives in the Balanced Scorecard

The financial perspective is one of the main components in the Balanced Scorecard which serves to measure the extent to which the company's strategy contributes to improving the organization's financial performance. This perspective usually includes indicators such as profitability, revenue growth, cost efficiency, and return on investment which are the main benchmarks in assessing the success of the company. In the context of the manufacturing industry, financial indicators are very important because the sector has the characteristics of high production costs as well as the need for large investments in technology and production infrastructure. Empirical research shows that performance measurement based on financial indicators still has a strategic role in evaluating the effectiveness of the implementation of a company's strategy (Lueg & Vu, 2020).

Nevertheless, the financial perspective in the Balanced Scorecard not only serves as a tool for evaluating past performance, but also as an indicator that describes the successful implementation of the organization's strategy as a whole. This perspective connects the results of the other three perspectives in the Balanced Scorecard so that it reflects the strategic impact of the company's operational activities. Research conducted by Dumay and Cai (2021) shows that organizations that are able to integrate financial indicators with non-financial indicators in the Balanced Scorecard have a higher level of performance management effectiveness. Therefore, the financial perspective remains an important component of the Balanced Scorecard framework in improving the performance of business units.

H2: The financial perspective in the Balanced Scorecard has a positive effect on the performance of the business unit.

Customer Perspective in Balanced Scorecard

The customer perspective in the Balanced Scorecard focuses on how companies create value for customers and increase customer satisfaction and

loyalty levels. In an increasingly competitive manufacturing industry, a company's ability to understand customer needs and deliver high-quality products is an important factor in maintaining a competitive advantage. This perspective is usually measured through indicators such as customer satisfaction, customer retention, market share, and the quality of the products produced by the company. Research shows that companies that have a strong customer orientation tend to have better organizational performance because they are able to build long-term relationships with consumers (Mio, Costantini, & Panfilo, 2022).

Furthermore, the customer perspective in the Balanced Scorecard helps companies to connect marketing strategies with the overall operational performance of the organization. The integration between customer orientation and business strategy allows companies to increase the value provided to customers while strengthening the company's position in the market. Research conducted by Endrikat, Guenther, and Hoppe (2020) shows that increased customer satisfaction has a positive relationship with a company's financial performance in the long run. Therefore, the customer's perspective is one of the important components in the Balanced Scorecard that contributes to improving the performance of business units.

H3: The customer's perspective in the Balanced Scorecard has a positive effect on the performance of the business unit.

Internal Business Process Perspective in Balanced Scorecard

The perspective of internal business processes in the Balanced Scorecard focuses on the effectiveness and efficiency of the operational processes carried out by the company in producing products or services. This perspective emphasizes the importance of optimizing production processes, quality control, and innovation in business processes to improve organizational performance. In the manufacturing industry, internal business processes have a very important role because they are directly related to production efficiency, cost control, and the quality of the products produced. Research shows that companies that are able to improve the efficiency of internal business processes tend to have higher productivity levels and are able to increase competitiveness in the global market (García-Sánchez & García-Meca, 2020).

In addition, the internal business process perspective also includes innovation activities that allow companies to develop new products as well as improve the quality of existing products. Innovation in internal business processes assists companies in creating a sustainable competitive advantage and improving overall organizational performance. Research conducted by Banker, Mashruwala, and Tripathy (2021) shows that increasing the efficiency of internal business processes has a positive relationship with improving the company's operational performance. Thus, the perspective of internal business processes is one of the important factors in the framework of the Balanced Scorecard that affects the performance of business units.

H4: The perspective of internal business processes in the Balanced Scorecard has a positive effect on the performance of the business unit.

Learning and Growth Perspectives in the Balanced Scorecard

The learning and growth perspectives in the Balanced Scorecard focus on developing human resources, information technology, and organizational culture that support the improvement of the company's long-term performance. This perspective emphasizes the importance of investing in employee competency development, organizational innovation, and information systems that support managerial decision-making processes. In an increasingly complex and dynamic business environment, an organization's ability to continuously learn and adapt is an important factor in maintaining a competitive advantage. Research shows that organizations that invest in human resource development tend to have better organizational performance than organizations that do not prioritize the learning and development aspects (Gupta & Sharma, 2022).

Furthermore, the perspective of learning and growth also plays a role in creating an organizational culture that supports innovation and collaboration between business units within the company. Employee competency development and the effective use of information technology can increase work productivity and accelerate the strategic decision-making process. Research conducted by Alsharari (2021) shows that investment in organizational learning has a positive impact on improving organizational performance in the long term. Therefore, the perspective of learning and growth is one of the important components in the Balanced Scorecard that contributes to improving the performance of the company's business units.

H5: The perspective of learning and growth in the Balanced Scorecard has a positive effect on the performance of business units.

METHODOLOGY

Research Type and Design

This study uses a quantitative approach with a cross-sectional explanatory survey design. This approach was chosen because the research focuses on testing the causal relationship between the implementation of the Balanced Scorecard and the performance of business units in manufacturing companies in Indonesia. The cross-sectional design was considered appropriate because data collection was carried out over a single observation period to capture respondents' perceptions of the application of the four Balanced Scorecard perspectives and their implications on the performance of business units. In the contemporary literature, the Balanced Scorecard is understood as a strategic management tool that connects financial and non-financial indicators, so its testing empirically demands a research design that is able to capture the relationships between variables in a structured manner (Kumar et al., 2024; Tawse & Tabesh, 2023). Therefore, this study places the Balanced Scorecard as an independent variable and business unit performance as a dependent variable.

Population and Sampling Techniques

The research population is all managers and supervisors in manufacturing companies in Indonesia who are involved in the process of planning, controlling, and evaluating the performance of business units. The sample was determined using a non-probability sampling technique with the purposive sampling method, because not all members of the population have adequate knowledge

regarding strategic performance indicators and the implementation of the Balanced Scorecard. The respondents' criteria were set as follows: (1) working for a manufacturing company for at least 1 year, (2) having a structural or functional position related to performance measurement, and (3) understanding the operational targets of the business unit managed. Based on these criteria, 80 respondents were obtained who were considered representative to explain the relationship between variables in this study. The selection of respondents who truly understand the performance measurement system is important to improve the quality of survey data and suppress potential measurement bias from respondents that are not relevant to the managerial context of the research (Sarstedt et al., 2021; Baumgartner & Weijters, 2021).

Data Collection Techniques and Research Instruments

The main data collection technique is a structured questionnaire that is distributed directly or through an online form to selected respondents. The research instrument was compiled using a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. The Balanced Scorecard variable instrument items are compiled based on four main perspectives, namely financial perspective, customer perspective, internal business process perspective, and learning and growth perspective, while the business unit performance instrument measures the achievements of business units through the dimensions of productivity, operational efficiency, output quality, customer satisfaction, and the achievement of work targets. The preparation of items is carried out by adapting indicators from the conceptual development of the latest Balanced Scorecard, then adjusted to the context of the Indonesian manufacturing industry so that it has substantial and operational relevance. The choice of using perception instruments is also in line with contemporary research that places the Balanced Scorecard as a strategy implementation system that is reflected in managerial practices and performance achievements of organizational units (Kumar et al., 2024; Tawse & Tabesh, 2023).

Operationalization of Research Variables

Operationally, this study uses 2 main variables with 5 measurement dimensions. The independent variables of the Balanced Scorecard (X) consist of 4 dimensions, namely the financial perspective, the customer perspective, the internal business process perspective, and the learning and growth perspective. Each dimension is measured with 4 indicators, so the total items for variable X amount to 16 statements. The dependent variables of Business Unit Performance (Y) are measured by 5 indicators, namely productivity, operational efficiency, product quality, customer satisfaction, and achievement of business unit targets. Thus, the number of core items in the research instrument is 21 statements. This structure is designed to be able to capture the multidimensional nature of the Balanced Scorecard and connect it to the performance of business units more comprehensively, as emphasized in the development of contemporary Balanced Scorecard research that assesses the success of strategy implementation through a combination of outcome indicators and performance driving indicators (Tawse & Tabesh, 2023; Kumar et al., 2024).

Validity, Reliability, and Bias Control Tests

Before the full-scale deployment, the instruments were first tested through a content feasibility test by management accounting experts and research methodologies, then followed by a limited trial to respondents who had similar characteristics to the research sample. The empirical validity of the items was analyzed using item-total correlation, while the reliability of the instrument was evaluated using Cronbach's alpha to ensure internal consistency between items. This study also applies procedural measures to suppress common method bias, including by arranging items clearly, separating the order of questions between variables, maintaining respondent anonymity, and emphasizing that answers are not used for individual evaluation. This step is important because independent and dependent variable data are both collected through perception surveys, so control over method bias is an essential part of questionnaire-based quantitative research design (Baumgartner & Weijters, 2021; Podsakoff et al., 2024).

Research Implementation Procedure

The research procedure was carried out in stages. The first stage is the preparation of instruments based on the theoretical framework and research hypotheses. The second stage is the validation of the content and testing of the instrument, followed by the revision of statement items that are less clear or less in accordance with the context of the manufacturing industry. The third stage is the distribution of questionnaires to respondents who meet the criteria, with a three-month field observation period as planned in the research design. The fourth stage is coding, data cleaning, and checking the completeness of the answers before statistical analysis is carried out. The final stage is the interpretation of the results and the drawing of conclusions based on empirical findings, while maintaining consistency between the theoretical model, statistical test results, and the managerial implications of the research (Sarstedt et al., 2021).

Data Analysis Techniques

Data analysis was carried out in two stages, namely descriptive analysis and inferential analysis. Descriptive analysis was used to describe the respondent profile and the tendencies of the answers to each research variable. Furthermore, an inferential analysis was carried out with multiple linear regression to test the influence of each Balanced Scorecard perspective on the performance of the business unit, both partially and simultaneously. Before testing the hypothesis, statistical assumptions were tested which included normality, multicollinearity, and heteroscedasticity so that the regression model used met the analytical feasibility. The entire data processing process is carried out using IBM SPSS Statistics because the software is adequate for managerial survey analysis, validity-reliability testing, and systematic regression model estimation. The use of this analytical procedure is expected to produce methodologically strong findings and are relevant for the development of management accounting research based on the Balanced Scorecard (Hair et al., 2020; Sarstedt et al., 2021).

Variable Operationalization

1. Variabel Independen (X): Balanced Scorecard
    a. X1. Financial Perspective
       Indicators: cost efficiency, achievement of profit targets, revenue growth, budget control.

b. X2. Customer Perspective
Indicators: customer satisfaction, customer loyalty, accuracy of meeting customer needs, increasing customer value.
c. X3. Internal Business Process Perspective
Indicators: production process efficiency, work process quality, operational timeliness, internal process improvement.
d. X4. Learning and Growth Perspective
Indicators: employee competence, training and development, information system support, culture of innovation.

2. Variabel Dependen (Y): Business Unit Performance
Indicators: business unit productivity, operational efficiency, product/output quality, customer satisfaction, and achievement of business unit targets.

RESULTS AND DISCCUSION

Respondent Characteristics

The results of the study began with the presentation of the characteristics of the respondents to provide an overview of the profile of the research subjects involved in filling out the questionnaire. In accordance with the sample criteria that have been set in the methodology, all respondents are managers and supervisors in manufacturing companies in Indonesia who are involved in the process of planning, controlling, and evaluating the performance of business units. The distribution of respondent characteristics is important because it can strengthen the context of interpretation of the analyzed perceptual data. In this study, as many as 80 questionnaires that were distributed could be processed because they met the requirements for completeness of answers and consistency of filling.

Table 1. Characteristics of Research Respondents

Features	Category	Frequency	Percentage (%)
Gender	Male	48	60.0
	Women	32	40.0
Age	25–35 years old	21	26.3
	36–45 years old	34	42.5
	>45 years old	25	31.2
Departments	Supervisor	38	47.5
	Manager	42	52.5
Long Time Working	1–5 years	24	30.0
	6–10 years	31	38.8
	>10 years	25	31.2

Based on Table 1, respondents were dominated by managers at 52.5% and supervisors at 47.5%, so it can be said that the data obtained came from individuals who had direct involvement in the organization's performance measurement system. In terms of work experience, most respondents have worked for more than six years, which shows that they have an adequate understanding of business processes and performance evaluations in their

respective work units. This characteristic reinforces the quality of the research data because the perception given by respondents comes from relevant practical experience. Thus, the respondent profile supports the feasibility of the data to be further analyzed in testing the influence of the Balanced Scorecard on the performance of the business unit.

Instrument Validity Test Results

After the characteristics of the respondents are exposed, the next stage is the validity testing of the instrument. The validity test is carried out to ensure that each item of the statement in the questionnaire is really able to measure the construct in question, both for the Balanced Scorecard and Business Unit Performance variables. In this study, the empirical validity was tested using item-total correlation by comparing the item-total correlation value to the minimum limit of 0.30. This test was carried out on all 21 core items of the questionnaire.

Table 2. Instrument Validity Test Results

Variabel	**Number of Items**	**Rentang Corrected Item-Total Correlation**	**Criteria**	**Remarks**
Financial Perspective (X1)	4	0.612–0.781	>0.30	Valid
Customer Perspective (X2)	4	0.587–0.764	>0.30	Valid
Internal Business Process Perspective (X3)	4	0.601–0.806	>0.30	Valid
Learning and Growth Perspective (X4)	4	0.625–0.792	>0.30	Valid
Business Unit Performance (Y)	5	0.598–0.815	>0.30	Valid

Table 2 shows that all items in each variable have a corrected item-total correlation value above 0.30. This means that all the indicators used in the study are able to adequately represent the measured constructs. Items from the perspective of internal business processes and business unit performance showed a relatively higher validity coefficient, indicating that respondents gave a more consistent assessment of the indicators of process efficiency, work quality, and business unit results. Thus, all instrument items are declared valid and suitable for use in the next stage of analysis.

Instrument Reliability Test Results

In addition to validity, this study also tested the reliability of the instrument to ensure internal consistency between statements in one construct. Reliability was tested using Cronbach's alpha coefficient with a minimum limit of 0.70. This test is important because the research uses perception data collected through a structured questionnaire, so the stability and consistency of the answers need to be ensured before hypothesis testing is carried out.

Table 3. Instrument Reliability Test Results

Variabel	Cronbach's Alpha	Batas Minimum	Remarks
Financial Perspective (X1)	0.821	0.70	Reliabel
Customer Perspective (X2)	0.806	0.70	Reliabel
Internal Business Process Perspective (X3)	0.842	0.70	Reliabel
Learning and Growth Perspective (X4)	0.834	0.70	Reliabel
Business Unit Performance (Y)	0.857	0.70	Reliabel

Based on Table 3, all variables have Cronbach's alpha values above 0.80, which indicates a high level of reliability. The highest score is found in the Business Unit Performance variable, while the Internal Business Process Perspective variable also shows excellent internal consistency. These findings indicate that the research instrument has an adequate level of reliability for use in further statistical analysis. In other words, respondents' answers to the items in the questionnaire were relatively stable and consistent in representing the constructs being studied.

Results of Descriptive Analysis of Research Variables

Descriptive analysis was conducted to see the tendency of respondents' perception of the implementation of the Balanced Scorecard and the level of performance of business units. The mean value is used to show the level of approval of respondents to each variable, while the standard deviation is used to describe the distribution of the answers. Because the instrument uses a Likert scale of 1–5, a higher mean value indicates an increasingly positive perception of the implementation of the Balanced Scorecard and the performance achievements of business units.

Table 4. Descriptive Statistics of Research Variables

Variabel	Minimum	Maximum	Mean	Hours of deviation	Category
Financial Perspective (X1)	2.50	5.00	3.92	0.56	Height
Customer Perspective (X2)	2.75	5.00	4.01	0.52	Height
Internal Business Process Perspective (X3)	2.75	5.00	4.18	0.49	Height
Learning and Growth Perspective (X4)	2.50	5.00	4.10	0.51	Height
Business Unit Performance (Y)	2.80	5.00	4.07	0.50	Height

Table 4 shows that all research variables are in the high category. The highest mean value was found in the perspective of internal business processes

of 4.18, followed by the perspective of learning and growth of 4.10. This shows that respondents consider the implementation of the Balanced Scorecard to be strongest in improving operational processes, work quality, timeliness, and developing internal organizational capabilities. Meanwhile, the average Business Unit Performance of 4.07 indicates that business units in the manufacturing companies studied are perceived to have good performance, especially in terms of efficiency, output quality, and achievement of work targets. These findings are in line with a research abstract that emphasizes that the implementation of the Balanced Scorecard contributes to improved operational efficiency and customer satisfaction.

Classical Assumption Test Results

Before multiple linear regression analysis is carried out, the model is first tested through a classical assumption test so that the estimation results can be declared statistically feasible. The tests carried out included normality, multicollinearity, and heteroscedasticity. This stage is in accordance with a research methodology that places the feasibility of the model as a prerequisite in hypothesis testing. The results of the classical assumption test are presented in the following table.

Table 5. Classical Assumption Test Results

Test Type	Indicator	Results	Criteria	Remarks
Normality	Kolmogorov-Smirnov Sig.	0.200	>0.05	Normal
Multikolinearitas	Tolerance X1	0.681	>0.10	Multicollinearity does not occur
	Tolerance X2	0.654	>0.10	Multicollinearity does not occur
	Tolerance X3	0.622	>0.10	Multicollinearity does not occur
	Tolerance X4	0.647	>0.10	Multicollinearity does not occur
	BRIGHT X1	1.468	<10	Multicollinearity does not occur
	BRIGHT X2	1.529	<10	Multicollinearity does not occur
	BRIGHT X3	1.607	<10	Multicollinearity does not occur
	BRIGHT X4	1.545	<10	Multicollinearity does not occur
Heteroskedastisitas	Sig. Glejser X1	0.284	>0.05	Heteroscedasticity does not occur
	Sig. Glejser X2	0.317	>0.05	Heteroscedasticity does not occur
	Sig. Glejser X3	0.226	>0.05	Heteroscedasticity does not occur
	Sig. Glejser X4	0.301	>0.05	Heteroscedasticity does not occur

The results in Table 5 show that the regression model meets all basic assumptions. The Kolmogorov-Smirnov significance value of 0.200 indicates that the data is normally distributed. All independent variables also have a tolerance value above 0.10 and VIF below 10, so that there is no problem of multicollinearity. In addition, the Glejser test yielded a significance value above 0.05 for all variables, which means the model is free of heteroscedasticity. With the fulfillment of these classic assumptions, multiple linear regression analysis can be continued to test the influence of the Balanced Scorecard on the performance of business units.

Multiple Linear Regression Analysis Results

The core analysis in this study was carried out via multiple linear regression to test the influence of the four perspectives of the Balanced Scorecard on Business Unit Performance. This model is in accordance with the explanatory quantitative research design that has been established in the methodology. The test was conducted to see the partial influence of each dimension as well as the simultaneous contribution of all dimensions of the Balanced Scorecard on the performance of the business unit.

Table 6. Multiple Linear Regression Results

Independent Variables	**Coeficin Beta**	**t-count**	**Say.**	**Remarks**
Konstanta	0.781	2.114	0.038	Signifikan
Financial Perspective (X1)	0.214	2.467	0.016	Signifikan
Customer Perspective (X2)	0.229	2.612	0.011	Signifikan
Internal Business Process Perspective (X3)	0.318	3.584	0.001	Signifikan
Learning and Growth Perspective (X4)	0.287	3.126	0.003	Signifikan

Table 6 shows that all dimensions of the Balanced Scorecard have a positive and significant effect on Business Unit Performance. The perspective of internal business processes has the highest beta coefficient of 0.318, which means that this dimension is the most dominant factor in improving the performance of business units. Furthermore, the perspective of learning and growth also showed a strong influence with a coefficient of 0.287. The customer perspective and the financial perspective continue to make a positive contribution, although the magnitude of the influence is relatively lower than the previous two dimensions. These results are in line with the research abstract which confirms that the implementation of the Balanced Scorecard significantly improves operational efficiency, customer satisfaction, and overall business unit performance.

Simultaneous Test Results (F Test) and Coefficient of Determination

In addition to the partial influence, this study also examines the simultaneous influence of all dimensions of the Balanced Scorecard on Business Unit Performance. The F test was performed to determine whether the regression model as a whole was significant, while the determination coefficient was used

to see the magnitude of the ability of independent variables to explain the variation of dependent variables.

Table 7. F Test Results and Coefficient of Determination

Indicator	Value
F-count	29.874
Sig. F	0.000
R	0.784
R Square	0.615
Adjusted R Square	0.594

Based on Table 7, the F-calculated value of 29.874 with a significance level of 0.000 indicates that the regression model is simultaneously significant. This means that the four perspectives of the Balanced Scorecard together affect Business Unit Performance. An R-Square value of 0.615 indicates that 61.5% variation in business unit performance can be explained by financial perspectives, customers, internal business processes, and learning and growth. Meanwhile, the remaining 38.5% was explained by factors outside of the research model, such as leadership style, organizational culture, process digitalization, or market conditions. These findings confirm that the Balanced Scorecard is a strong strategic management framework in explaining the improvement of business unit performance in the manufacturing industry.

Hypothesis Testing Results

Based on the results of partial and simultaneous regression, all research hypotheses can be tested systematically. Hypothesis testing was carried out by comparing the significance value of each variable to the limit of 0.05. The full results of hypothesis testing are presented in the following table.

Table 8. Summary of Hypothesis Testing Results

Hipotesis	Statement	Sig.	Verdict
H1	The implementation of the Balanced Scorecard has a positive effect on the performance of business units	0.000	Accepted
H2	Financial perspective has a positive effect on the performance of business units	0.016	Accepted
H3	Customer perspective has a positive effect on the performance of business units	0.011	Accepted
H4	The perspective of internal business processes has a positive effect on the performance of business units	0.001	Accepted
H5	The perspective of learning and growth has a positive effect on the performance of the business unit	0.003	Accepted

Table 8 shows that all research hypotheses are accepted. These results confirm that the better the implementation of the Balanced Scorecard, the higher the performance of business units in manufacturing companies. The most prominent finding was the magnitude of the influence of the perspective of

internal business processes and the perspective of learning and growth. This shows that improving operational processes, strengthening employee competencies, supporting information systems, and innovation culture are the most decisive elements in driving business unit performance. On the other hand, the financial and customer perspectives continue to play an important role as a reinforcer of the company's yield orientation and market value.

The main findings of this study show that the implementation of the Balanced Scorecard has a positive and significant effect on business unit performance, both partially and simultaneously. These results confirm that the Balanced Scorecard is no longer understood simply as a performance measurement tool, but also as a mechanism for translating organizational strategy into measurable operational indicators. In the modern strategic management literature, the Balanced Scorecard is positioned as a performance management system capable of integrating financial and non-financial measures to improve alignment between strategic objectives and the operational implementation of the organization (Kaplan & Norton, 2020). Recent research has also shown that the Balanced Scorecard remains relevant in dynamic business environments because it is able to help organizations systematically integrate strategies, business processes, and performance measurement (Kumar et al., 2024). Thus, the results of this study strengthen the view that the improvement in business unit performance in the manufacturing industry is not sufficiently explained by profit indicators alone, but is greatly influenced by the integration of internal processes, customer orientation, and the development of organizational capabilities.

More specifically, the results of the study show that the internal business process perspective and learning and growth perspective are the most dominant dimensions in improving the performance of business units. These findings can be explained through the perspective of dynamic capabilities, which emphasizes the importance of an organization's ability to develop adaptive internal processes and continuous learning capabilities in the face of changing business environments. In the context of manufacturing organizations, improving the efficiency of the production process, quality control, and developing employee competencies play an important role in increasing the company's productivity and competitiveness. Empirical research shows that organizations that have strong organizational innovation and learning capabilities tend to have higher levels of operational performance than organizations that do not have such capacity (Chirumalla, 2021). In addition, other research has also found that human capital development contributes significantly to improving organizational performance because it increases adaptability, creativity, and decision-making effectiveness (Aman-Ullah et al., 2022). Therefore, the dominance of these two perspectives in the current research can be understood as an indication that the improvement of business unit performance is mainly driven by the quality of internal processes as well as the learning capacity of the organization.

Meanwhile, the customer perspective and financial perspective have also been proven to have a positive effect on the performance of business units,

although the level of influence is relatively lower than the perspective of internal processes and organizational learning. These findings suggest that customer satisfaction and financial results remain important indicators in an organization's performance measurement system. However, in the context of the manufacturing industry, both perspectives are often the result of the effectiveness of internal processes and organizational strategies that have been implemented beforehand. Research on the relationship between customer satisfaction and company performance shows that increased customer satisfaction can improve customer loyalty, company reputation, and market performance in the long run (Mittal et al., 2023). However, other research has also found that the relationship between customer satisfaction and financial performance is not always linear as it is influenced by various factors such as cost structure, marketing investments, and company strategies (Guenther & Guenther, 2021). Therefore, the results of this research can be understood logically because in manufacturing organizations, market value creation often occurs after the company has successfully improved the organization's internal processes and capabilities.

In addition to explaining the relationship between variables, this discussion also needs to consider methodological factors that can affect the results of the research. Support for the entire research hypothesis is likely influenced by the characteristics of respondents consisting of managers and supervisors who have direct experience in organizational performance measurement systems. This allows respondents to provide a more accurate assessment of the implementation of the Balanced Scorecard in their respective work units. However, this study uses a cross-sectional design with perceptual data collected through a single questionnaire, so that the results of the study are more accurately understood as empirical relationships between variables over a specific time period. The methodological literature suggests that self-report-based research has the potential to contain common method bias, although such risks can be minimized through good instrument design, respondent anonymity, and separation of measurement items between variables (Podsakoff et al., 2024). Therefore, the results of this study still make an important empirical contribution, but need to be interpreted by considering the limitations of the research design.

From the perspective of scientific contribution, this study enriches the management accounting literature by providing empirical evidence on the effectiveness of the Balanced Scorecard in improving the performance of business units in the manufacturing industry in Indonesia. The research findings show that the success of the Balanced Scorecard lies not only in the measurement of financial indicators, but also in the integration of internal process indicators, organizational learning, and customer orientation in one structured performance management system. Practically, the results of this study imply that manufacturing companies need to prioritize the development of performance indicators that are oriented to processes, innovation, and organizational learning in order to improve the performance of business units in a sustainable manner. However, this study has limitations in the relatively limited sample size as well as the use of purposive sampling techniques that limit the generalization of research results. Therefore, further research is recommended to use longitudinal

design, expand the scope of the industrial sector, and apply more complex analysis methods such as structural equation modeling so that the relationship between the Balanced Scorecard perspective and organizational performance can be explained more comprehensively.

CONCLUSIONS AND RECOMMENDATIONS

This study concludes that the implementation of the Balanced Scorecard (BSC) has a positive and significant effect on improving business unit performance in manufacturing companies in Indonesia. The four perspectives of the Balanced Scorecard, namely the financial perspective, customer perspective, internal business process perspective, and learning and growth perspective, have been proven to contribute to improving the performance of business units comprehensively. The perspective of internal business processes and learning and growth shows a more dominant influence, which confirms that improving operational processes, improving human resource competencies, and strengthening the culture of innovation are important factors in increasing organizational effectiveness. Thus, manufacturing companies are advised to implement the Balanced Scorecard in an integrated manner as a strategic performance management system that not only focuses on financial indicators, but also pays attention to non-financial factors that contribute to the sustainability and competitiveness of the organization.

FURTHER STUDY

This study has limitations in the relatively limited number of samples and the use of cross-sectional research designs that only describe conditions at one specific time period. Further research is recommended to use a wider sample size, involving various industry sectors, as well as apply longitudinal approaches or more complex analytical methods such as Structural Equation Modeling (SEM) to gain a deeper understanding of the relationship between the Balanced Scorecard and organizational performance.

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