

Designing an Integrated BSC and IPMS Model Performance Optimization

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Article Information	ABSTRACT
Article History Received : January 04, 2025 Revised : January 18, 2025 Published : January 24, 2025	This study aims to design a performance measurement model by integrating two performance measurement methods, namely the Balanced Scorecard (BSC) and Integrated Performance Measurement Systems (IPMS), to optimize the company's performance. This approach is expected to provide a comprehensive view of the company's performance by combining financial and non-financial indicators and ensuring strategic alignment. The research approach used is descriptive-analytical (literature review), which aims to provide an overview of the performance measurement model design by integrating the Balanced Scorecard (BSC) and Integrated Performance Measurement Systems (IPMS). The study will identify how the integration of these two systems can improve productivity and operational effectiveness. The expected outcome is sustainable performance improvement and productivity enhancement through the implementation of a holistic and integrated performance measurement framework. The novelty of this research lies in the absence of a performance measurement model that combines both methods to measure company performance. The research results in a performance measurement model design that can be implemented to optimize performance in an industry.
Keywords: <i>BSC;</i> <i>IPMS;</i> <i>Model Integration;</i> <i>Performance Optimization;</i> <i>Performance Measurement.</i>	

INTRODUCTION

Performance measurement is a key component in strategic management that helps organizations evaluate operational effectiveness and efficiency. Many companies face challenges in implementing comprehensive performance measurement systems. Common issues include the misalignment of performance indicators with corporate strategy, a lack of integration between departments, and an excessive focus on financial aspects while neglecting important non-financial indicators.

The primary objective of performance measurement is to motivate employees to achieve goals and adhere to established behavioral standards to achieve desired outcomes (Arista & Nurlaila, 2022). Various factors, such as a lack of understanding of tasks, low motivation, ineffective team communication, and limited resources, are often considered causes of performance issues. The impact of these issues is felt in the form of decreased productivity, failure to achieve organizational targets, and dissatisfaction among team members (Robbins & Judge, 2017).

Therefore, it is necessary to measure company performance using effective, efficient, proven methods that cover all aspects of the company to remain competitive with other companies. One recommended method is the Integrated Performance Measurement System (Mas'idah et al., 2018). IPMS is a corporate performance measurement method that considers the needs of all stakeholders and continuously monitors the company's position against its competitors (external

monitoring). IPMS can be applied to both profit-oriented companies and non-profit organizations. It combines various performance measurement tools to provide a comprehensive picture of organizational performance. IPMS emphasizes the importance of integration between different functions and processes within the organization, as well as alignment between long-term strategies and daily operations.

The Balanced Scorecard (BSC) is a corporate performance measurement method that not only focuses on financial aspects but also considers non-financial aspects, such as customer perspective, internal business processes, and learning and growth. BSC helps companies translate their vision and mission into strategic objectives and integrated, balanced performance indicators. It also serves as a tool for communication, coordination, and evaluation to achieve optimal performance. The Balanced Scorecard measures company performance through four main perspectives: financial, customer, internal business processes, and learning and growth. BSC aims to address the limitations of traditional performance measurement by introducing non-financial indicators essential for a company's long-term success (Balanced Scorecard Institute).

This research is supported by a literature study that examines performance measurement methods such as the Balanced Scorecard (BSC) and Integrated Performance Measurement Systems (IPMS). BSC, developed by Kaplan and Norton, integrates financial and non-financial indicators to provide a balanced view of organizational performance. Meanwhile, IPMS is a more comprehensive approach that combines various tools and measurement techniques to ensure integration and alignment between strategy and operations (Creately) (Balanced Scorecard Institute).

Integrating BSC and IPMS is expected to provide a comprehensive solution to performance measurement issues at Company XYZ. This integration allows companies to leverage BSC's strength in aligning performance indicators with corporate strategy and IPMS's strength in integrating various measurement tools to provide a more complete and detailed picture of organizational performance. Therefore, companies can enhance the effectiveness of performance measurement, facilitate better decision-making, and ultimately optimize overall company performance (Balanced Scorecard Institute).

Previous studies have demonstrated the importance of hybrid approaches to performance measurement. Franco-Santos & Bourne (2019) emphasized the need for systems that combine various methods to achieve more comprehensive results. Additionally, Taticchi et al. (2020) highlighted the evolution of performance measurement systems and the importance of adapting to changing business environments. Studies by Garengo & Biazzo (2018) showed how BSC implementation can help reveal strategies in SMEs. This research builds on these findings by applying an integrated framework at Company XYZ, combining BSC's strength in articulating vision and strategy with IPMS's flexibility in accommodating various performance indicators. Research by Mura et al. (2018) can support the analysis of the impact of performance measurement systems on company performance in the introduction or expected results section. Research by Papalexandris et al. (2017) can be used to demonstrate the application of the Balanced Scorecard in various types of organizations. Research by Banchieri et al. (2020) supports discussions on performance measurement that is not only efficient but also sustainable. Research by Raut et al. (2019) highlights success factors in sustainable performance management. Research by Kozlovská et al. (2020) explores sustainable performance measurement in the context of the construction industry.

RESEARCH METHODS

This study employs a qualitative approach. In general, the qualitative method aims to understand reality through an inductive reasoning process (Nina Adlini et al., 2022). Data is obtained through a literature review, a method involving the examination of various literature by collecting, comprehending, and studying theories relevant to the research (Siregar et al., 2023). The research approach used is descriptive-analytical, which aims to provide an overview of the

performance measurement model design by integrating the Balanced Scorecard (BSC) and Integrated Performance Measurement Systems (IPMS).

The following are the stages of the research method: Data collection is conducted through a literature review of various sources, which is then summarized into conclusions that can be used in the discussion. The researcher uses literature as the primary data source because the data generated is in the form of words or descriptions. This study utilizes relevant or similar studies related to the research theme. The main characteristic of a literature review is that the researcher interacts directly with the data without conducting fieldwork.

RESULTS AND DISCUSSION

The results and discussion sections contain the results of data analysis Balanced Scorecard Method, Integrated Performance Measurement Method,

Balanced Scorecard Method

The Balanced Scorecard (BSC) is a strategic management tool used to measure and manage organizational performance through four main perspectives: financial, customer, internal processes, and learning and growth. BSC enables organizations to translate their vision and strategy into actionable steps by integrating various performance indicators. A study by Frederico et al. (2021) shows that BSC is highly relevant in the context of Industry 4.0, as it allows organizations to combine traditional metrics with more modern indicators that are relevant to technology and innovation.

The Balanced Scorecard is a performance measurement tool that provides a comprehensive view of organizational performance. This approach combines financial and operational measures, enabling managers to understand the relationships between internal processes, customer satisfaction, innovation, organizational learning, and financial outcomes. With the Balanced Scorecard, managers can address four key questions: how do customers perceive the organization (customer perspective), what must the organization excel at (internal perspective), how can the organization continue to innovate and create value (innovation and learning perspective), and how does the organization appear to shareholders (financial perspective).

The Balanced Scorecard minimizes information overload by focusing on a few critical measures that are essential for the organization's success. For example, the semiconductor company Electronic Circuits Inc. uses this approach to align its strategic vision with specific measures such as delivery time, product quality, and innovation contribution. The Balanced Scorecard helps prevent suboptimization by integrating measures from various perspectives, allowing managers to monitor the balance across business processes. This approach emphasizes that organizational strategy must be translated into operational actions to ensure long-term success (Kaplan and Norton, 1992).

The following are the steps for performance measurement using the Balanced Scorecard (BSC) method:

1. Identify Vision, Mission, and Strategy
Clearly define the organization's vision, mission, and strategy to ensure that strategic goals encompass long-term dimensions and add value to the organization (Mekari, Editorial Journal, 2024).
2. Determine BSC Perspectives
Establish the four main perspectives (Aksaragama, 2019):
 - Financial: Measure the financial outcomes to be achieved.
 - Customer: Focus on customer satisfaction and market needs.
 - Internal Processes: Assess the efficiency and effectiveness of internal processes.

- Learning and Growth: Measure innovation, training, and human resource development.
- 3. Determine Strategic Objectives
Set strategic objectives for each perspective, ensuring their relevance and support for achieving the vision and mission (MPS Training, 2023).
- 4. Establish Key Performance Indicators (KPIs)
Select performance indicators for each strategic objective that are specific, measurable, relevant, achievable, and time-bound (SMART) (Kledo, 2020).
- 5. Set Targets
Define clear targets for each KPI, which are realistic yet challenging enough to drive improvement (Associe.co.id, 2024).
- 6. Develop Strategic Initiatives
Identify the initiatives or projects necessary to achieve the targets and allocate the required resources to support implementation (Proxis HR, 2024).
- 7. Implementation and Monitoring
Implement a system to regularly collect performance data, using technology or software that facilitates performance tracking (ToffeeDev, 2023).
- 8. Performance Evaluation and Analysis
Analyze performance results based on the collected data, comparing actual performance with the established targets (Majoo.id, 2023).
- 9. Continuous Improvement
Identify deficiencies or areas for improvement and update strategies, targets, or initiatives based on the evaluation results (LocalStartupFest, 2023).
- 10. Communication and Reporting
Communicate performance results to all stakeholders through easily understood and informative reports.

This process is cyclical and must be continuously repeated to ensure alignment between strategy and the achievement of organizational goals.

Integrated Performance Measurement Systems

The Integrated Performance Measurement System (IPMS) is a system designed to measure performance holistically by integrating various methods and performance indicators. IPMS aims to provide a more comprehensive overview of organizational performance by considering various perspectives and influencing factors. According to Hasegan et al. (2020), IPMS is highly effective in dynamic and complex environments as it allows for quick adjustments and better decision-making based on real-time data.

The Integrated Performance Measurement System (IPMS) is a method that measures performance in an integrated manner based on stakeholder requirements. The importance of an integrated performance measurement system lies in its role in supporting effective performance management processes in manufacturing organizations. Performance measurement should not only reflect the company's strategic goals but also facilitate continuous improvement and strategic orientation. Therefore, a best-practice-based reference model has been developed at the University of Strathclyde, integrating elements such as policy integrity and distribution. This measurement system serves as the core information for performance management processes to control and evaluate the achievement of organizational objectives at all levels. The Viable Systems Model (VSM) framework is used to evaluate the integrity of performance measurement systems. An audit process was developed to assess the extent to which the performance measurement system supports the company's strategic objectives and whether the measurements are consistently applied across the organization. Integrity, relevance, and consistency in implementation are key to creating a truly effective performance measurement system (Bititci, 1997).

The following are the steps in performance measurement using the Integrated Performance Measurement Systems (IPMS) method, supplemented with the latest references:

1. **Identify Organizational Levels**
Determine the organizational structure into several levels, such as (Maulidia et al., 2014):
 - Corporate Level
 - Business Unit Level
 - Business Process Level
 - Activity Level This division helps to understand the flow of processes and responsibilities at each level.
2. **Identify Stakeholders and Their Needs**
Identify all stakeholders related to the organization, such as customers, employees, suppliers, and shareholders. Understand their needs and expectations to ensure that the performance measurement system reflects the interests of all parties (Siswono et al., 2009).
3. **Develop External Monitor**
Conduct an analysis of the external environment, including competitors and market trends, to understand the organization's position in the industry and identify potential opportunities and threats (Hendrastuti et al., 2011).
4. **Set Strategic Objectives**
Based on stakeholder needs and external analysis, establish the strategic objectives the organization aims to achieve. These objectives should be specific, measurable, achievable, relevant, and time-bound (SMART) (Aisyati et al., 2012).
5. **Identify Key Performance Indicators (KPIs)**
Determine the key performance indicators to be used in measuring the achievement of each strategic objective. Ensure that the KPIs cover both financial and non-financial aspects and are relevant to stakeholder needs (Aisyati et al., 2012).
6. **Data Collection and Performance Monitoring**
Collect data periodically according to the established KPIs. Monitor organizational performance to ensure that strategic objectives are achieved and make adjustments as needed (Khoirunnisa et al., 2020).
7. **Performance Evaluation and Analysis**
Analyze the collected data to assess organizational performance. Identify areas that require improvement and determine the necessary corrective actions (Siswono et al., 2009).
8. **Continuous Improvement**
Implement continuous improvement based on evaluation results to enhance overall organizational performance. Ensure that the performance measurement system remains relevant to environmental changes and stakeholder needs (Siswono et al., 2009).

By following the steps above, organizations can effectively implement IPMS to measure and improve their performance according to stakeholder needs and business environment dynamics.

Comparative Analysis of the Balanced Scorecard Method and Integrated Performance Measurement Systems

Table 1. Comparative Analysis of BSC Method and IPMS Method

Criteria	BSC	IPMS
Strengths	a. Considering financial aspects, customers, internal processes, learning, and organizational growth. b. Linking long-term strategic objectives with daily operational actions. c. Enhancing transparency and team involvement in strategic planning.	a. Integrating various aspects such as finance, operations, human resources, and sustainability. b. Linking performance indicators with the organization's long-term goals and strategies. c. Providing consistent data for better decision-making.

Criteria	BSC	IPMS
	d. Measuring non-financial performance, such as customer satisfaction, process efficiency, innovation, and human resource development. e. Adaptable to the needs and characteristics of the organization. f. Facilitating communication of the organization's vision, mission, and goals.	d. Measuring current performance while providing insights for improvement and innovation. e. Assisting in standardizing performance measurements and facilitating communication with stakeholders.
Weaknesses	a. Establish relevant and consistent performance indicators across the organization. b. Require accurate and relevant data to measure goals and performance. c. Risk of reducing flexibility by focusing too much on established performance indicators. d. There is potential for excess data that is not all relevant. e. Tends to focus on the internal performance of the organization. f. Risk of losing relevance if framing is not done carefully. g. Implementation is not always effective in motivating directly.	a. Integrating various aspects of performance such as finance, operations, HR, and sustainability. b. Requires accurate and relevant data. c. Requires high costs for IT infrastructure, training, and maintenance. d. Challenges in transforming integrated data into useful insights. e. Difficulty adapting to strategic or structural changes in the organization. f. Risk of triggering negative employee perceptions if implemented inappropriately. g. Potential for excess data that does not provide significant added value.
Implementation	a. Private Companies b. Non-Profit Organizations c. Government and Public Sector d. Financial Industry e. Technology Industry f. Multinational Companies g. Startups and Tech-Based Companies	a. Manufacturing Companies b. Service Companies c. Multinational Companies d. Technology Companies e. Public Sector Organizations f. Fast-Growing Startups g. Sustainability-Oriented Companies
Steps	a. Identify Vision, Mission, and Strategy b. Determine BSC Perspectives • Financial • Customer • Internal Processes • Learning and Growth c. Set Strategic Objectives d. Establish Key Performance Indicators (KPIs) e. Set Targets f. Develop Strategic Initiatives g. Implementation and Monitoring h. Performance Evaluation and Analysis i. Continuous Improvement j. Communication and Reporting	a. Identify Organizational Levels • Corporate Level • Business Unit Level • Business Process Level • Activity Level b. Identify Stakeholders and Their Needs c. Develop External Monitor d. Set Strategic Objectives e. Identify Key Performance Indicators (KPIs) f. Data Collection and Performance Monitoring g. Performance Evaluation and Analysis h. Continuous Improvement

Performance Measurement Model (Integration of BSC and IPMS Methods)

The integration of BSC and IPMS offers a more comprehensive approach to performance measurement and management. BSC provides a structured framework for measuring performance from multiple perspectives, while IPMS allows the integration of multiple indicators and performance measurement methods. This integration can help organizations address the challenges faced in a complex and dynamic business environment. According to Frederico et al. (2021), this integration is particularly relevant in the context of Industry 4.0, where speed, flexibility, and innovation are critical to long-term success (Emerald Insight).

The integration of these two models can improve an organization's ability to identify and respond to change quickly, ensuring that strategy and operations remain aligned with the organization's long-term goals. By combining the advantages of both methods, organizations can achieve more optimal and sustainable performance across a range of business conditions.

Table 2. Performance Measurement Model Integration of BSC and IPMS

Steps to Performance Measurement Integration Model BSC and IPMS
1. Identify Vision, Mission, and Strategy
2. Identify Organizational Level
3. Identify Stakeholders and Their Needs
4. Establish Strategic Objectives
5. Determine Perspectives
6. Establish KPIs
7. Data Collection and Performance Monitoring
8. Performance Evaluation and Analysis
9. Continuous Improvement

Table 3. Comparison Analysis of Indicators BSC and IPMS Model in Previous Research

	BSC	IPMS	Integration BSC and IPMS
Susetyo and Sabakula (2014)	Determine Perspectives:	Establish KPIs	Financial:
	Financial:	Customers:	a. Gross Margin
	a. Gross Margin	a. On-time product delivery ratio	b. Net Profit Margin
	b. Net Profit Margin	Customers	c. ROA
	c. ROA	b. Delivery quantity error ratio	d. ROE
	d. ROE	c. Number of new customers	e. WCTO
	e. WCTO	d. Sales growth rate	f. Current Ratio
	f. Current Ratio		g. TDTA
	g. TDTA	Investors	h. TDER
	h. TDER	a. Total Asset Turn Over	i. ROCE
	i. ROCE	b. Timely financial report completion ratio	
	Customer:	c. Current Ratio	Customer:
	a. Market Share	d. Revenue growth rate	a. Market Share
	b. Customer Profitability	e. Gross Profit Margin on Sales	b. Customer Profitability
	c. Customer Retention & Acquisition	f. Debt to Equity	c. Customer Retention & Acquisition
	Internal Process:	Workforce	d. On-time product delivery ratio
	a. R&D Cost Ratio	a. 1 KPI.9 Number of machine breakdowns	Customers
	b. Cost Productivity	b. Labor turnover rate	e. Delivery quantity error ratio
	c. Production		f. Number of new customers
			g. Sales growth rate
			Internal Process:
			a. R&D Cost Ratio
			b. Cost Productivity
			c. Production

BSC	IPMS	Integration BSC and IPMS
d. Prosentase Product	c. Ratio of number of damages to company facilities & infrastructure	d. Prosentase Product e. growth rate and demand ratio
e. growth rate and demand ratio	d. Number of work accidents	Learning&Growth: Employee relative productivity
Learning&Growth: a. Employee relative productivity	e. Job satisfaction level	Investors
	f. Ratio of resolved labor complaints	a. Total Asset Turn Over
	g. Level of labor productivity in the production process	b. Timely financial report completion ratio
	h. Worker absenteeism rate	c. Current Ratio
	i. Ratio of defective products	d. Revenue growth rate
	j. Number of trainings conducted	e. Gross Profit Margin on Sales
	k. Ratio of number of available computers	f. Debt to Equity
	Investors	Workforce
	a. Ratio of number of on-time payments	a. Number of machine breakdowns
	b. Ratio of last-minute orders	b. Labor turnover rate
	c. Ratio of number of order cancellations	c. Ratio of number of damages to company facilities & infrastructure
	Community	d. Number of work accidents
	a. Level of waste processing	e. Job satisfaction level
	b. Number of workers accepted	f. Ratio of resolved labor complaints
	c. Number of social activities held	g. Level of labor productivity in the production process
	d. Number of vocational high school students doing internships	h. Worker absenteeism rate
	e. Number of students doing research	i. Ratio of defective products
	f. Number of tourists visiting	j. Number of trainings conducted
		k. Ratio of number of available computers
		Investors
		a. Ratio of number of on-time payments
		b. Ratio of last-minute orders
		c. Ratio of number of order cancellations
		Community
		a. Level of waste processing
		b. Number of workers accepted
		c. Number of social activities held
		d. Number of vocational high school students doing internships
		e. Number of students doing research
		f. Number of tourists visiting

CONCLUSION

A performance measurement model design has been carried out by integrating two performance measurement methods, namely the Balanced Scorecard (BSC) and Integrated Performance Measurement Systems (IPMS) to optimize the Company's performance. The results

of this performance measurement model are made to be a reference for the company to optimize performance so that various key performance indicators can be achieved. The integration of these two methods provides deeper and more comprehensive insights, which support the overall performance improvement strategy. However, there are several areas that still require further attention to ensure the sustainability of performance improvements in the future. Practical steps for implementing the integration of the BSC and IPMS models in the agricultural industry sector include ensuring that relevant Key Performance Indicators (KPIs) are formulated with the involvement of management and key stakeholders, supported by a technology-based data collection system for real-time monitoring. Conduct employee training to ensure understanding of the concepts and performance measurement, and periodically review the indicators to ensure their relevance and strategy refinement. The involvement of farmers and distribution partners is also essential to foster collaboration that supports operational sustainability.

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