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**IMPROVING THE METHODOLOGY FOR INTEGRATING BUSINESS
PROCESS PERFORMANCE INDICATORS INTO THE BALANCED
SCORECARD SYSTEM WITHIN STRATEGIC MANAGEMENT ACCOUNTING**

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In the contemporary business environment, technological transformation, intensified competition, market uncertainty, and increasing managerial requirements have strengthened the need for integrated performance measurement systems. Traditional management accounting, which primarily focuses on historical financial information, provides limited insight into the non-financial and operational factors that determine future performance. Strategic Management Accounting (SMA) addresses this limitation by incorporating financial and non-financial information into strategic planning, performance evaluation, resource allocation, and managerial decision-making.

The Balanced Scorecard (BSC), developed by Kaplan and Norton (1992), is one of the most influential frameworks for integrating financial and non-financial performance measures. Its four perspectives—financial, customer, internal business processes, and learning and growth—allow organizations to translate strategic objectives into measurable indicators. The internal business-process perspective is particularly important because it represents the operational mechanisms through which organizational capabilities generate customer and financial outcomes.

Despite the development of the BSC, the systematic integration of business-process performance indicators remains a methodological challenge. Indicators relating to efficiency, quality, productivity, process duration, cost, and resource utilization may provide valuable operational information; however, their strategic usefulness depends on their connection with organizational objectives and higher-level outcomes. An excessive number of operational indicators may create information overload, whereas insufficient process measurement may prevent managers from identifying the drivers of strategic performance. Therefore, the key issue is not simply the identification of indicators but their systematic selection, prioritization, integration, and strategic alignment.

Accordingly, this study aims to improve the methodology for integrating business-process performance indicators into the BSC within Strategic Management Accounting. The proposed approach seeks to strengthen the relationship between operational processes and strategic objectives, improve the relevance of performance information, and enhance the contribution of management accounting to strategic decision-making.

The theoretical foundation of Strategic Management Accounting is associated with the expansion of management accounting beyond traditional internal cost information. Bromwich (1990) argued that accounting information should support strategy by

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incorporating information concerning competitive markets, organizational positioning, and long-term performance. Cadez and Guilding (2008) subsequently demonstrated that the application of SMA techniques depends on organizational and strategic factors, supporting the view that management accounting systems should reflect specific organizational and environmental conditions.

The development of multidimensional performance measurement was significantly influenced by Kaplan and Norton (1992), who introduced the Balanced Scorecard as an alternative to performance systems dominated by financial measures. The BSC incorporated customer, internal business process, and learning and growth measures alongside financial indicators. Kaplan and Norton (1996) subsequently emphasized that BSC measures should be derived from organizational strategy and connected through cause-and-effect relationships. Thus, business-process indicators should function as performance drivers rather than as isolated operational statistics.

Chenhall (2005) further examined integrative strategic performance measurement systems and demonstrated the importance of strategic alignment and organizational learning. His findings indicate that performance measurement systems are more effective when different dimensions of performance are integrated into a coherent strategic framework. This supports the argument that business-process indicators should be evaluated according to their contribution to strategic objectives rather than only their operational measurability.

Recent literature confirms the continuing development of BSC research. Kumar et al. (2024), through a systematic and bibliometric review of BSC research, identified the increasing importance of strategic performance management, systems thinking, technology, sustainability, and integrated performance measurement. This demonstrates that the contemporary BSC is increasingly understood as a strategic management framework rather than simply a system for classifying performance indicators.

Johnsen et al. (2024) found that performance measurement system design is positively associated with purposeful performance information use and can connect strategy formulation with managerial use of performance information. Similarly, Smith and Thomas (2024) demonstrated the importance of strategic alignment and strategic clarity for multidimensional performance. These findings suggest that performance indicators can influence managerial behavior and decision-making only when they are appropriately aligned with strategic objectives.

Huber et al. (2025) examined the integration of the BSC with Enterprise Risk Management and showed that integration between management control practices is a dynamic organizational process. Their findings indicate that integration can modify existing control practices rather than simply adding new measures. This is relevant to the present research because integrating business-process indicators into the BSC also requires consideration of their relationships with existing management accounting and control systems.



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Overall, the literature demonstrates a clear movement from traditional financial performance measurement toward multidimensional, strategically integrated systems. However, comparatively limited attention has been devoted to developing a systematic methodology specifically for integrating business-process performance indicators into the BSC within Strategic Management Accounting. In particular, further methodological development is required regarding indicator selection, prioritization, weighting, causal relationships, and integration with managerial decision-making. This gap provides the theoretical basis for the present study.

The results demonstrate that the effectiveness of the BSC within Strategic Management Accounting depends substantially on the integration of business-process indicators with strategic objectives and outcome-oriented measures. Business-process indicators should not be incorporated merely because they are available or operationally convenient. Their selection should be based on strategic significance, measurability, data reliability, causal relevance, and managerial usefulness.

The internal business-process perspective represents an important link between organizational capabilities and final performance outcomes. Financial indicators primarily reflect organizational results, while customer indicators capture external value creation. Business-process indicators provide information about the operational factors generating these results. Measures such as process efficiency, productivity, quality, cycle time, cost efficiency, delivery reliability, and resource utilization can therefore explain the operational drivers underlying customer and financial performance.

The analysis indicates that a major weakness of conventional approaches is the treatment of business-process indicators as separate operational KPIs rather than integrated components of the strategic performance system. To address this problem, the improved methodology begins with strategic objectives, identifies the business processes that contribute to those objectives, and subsequently selects indicators capable of measuring process performance and its contribution to strategic outcomes.

Indicator prioritization is another important methodological requirement. Not all business-process measures have equal strategic significance. Some directly affect customer satisfaction and financial performance, while others provide supplementary operational information. Indicators should therefore be evaluated according to strategic relevance, causal significance, measurability, controllability, data reliability, and managerial usefulness. This approach can reduce information overload and focus managerial attention on strategically important processes.

The integration of business-process indicators should also establish explicit cause-and-effect relationships with customer and financial outcomes. For example, improvements in process cycle time may increase delivery reliability and customer satisfaction, while reductions in process defects may lower operating costs and improve customer value. Such relationships enable managers to understand not only whether performance has changed but also which operational factors contributed to the change.



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The findings are consistent with the development of contemporary BSC research identified by Kumar et al. (2024), which demonstrates increasing attention to strategic performance management and integrated systems. They are also consistent with Johnsen et al. (2024), who emphasize the importance of performance measurement system design for effective information use, and Smith and Thomas (2024), who demonstrate the importance of strategic alignment for multidimensional performance.

The study further indicates that the performance measurement system should remain dynamic. Changes in technology, customer expectations, market conditions, and organizational strategy may alter the strategic importance of particular business processes. Therefore, indicators should be periodically reviewed and retained, modified, replaced, or removed according to their continuing strategic relevance.

The integration process is also organizational rather than purely technical. Effective implementation requires cooperation among management accountants, operational managers, strategic planning personnel, and senior management. Clear responsibilities for data collection, measurement, reporting, interpretation, and corrective action are necessary to ensure that the system produces useful strategic information.

Overall, the results support five principal methodological principles: strategic alignment, causal integration, indicator prioritization, information quality, and continuous adaptation. Strategic alignment ensures that each indicator contributes to a defined strategic objective. Causal integration connects process performance with customer and financial outcomes. Prioritization distinguishes strategically important indicators from supplementary measures. Information quality ensures reliable and timely measurement, while continuous adaptation maintains relevance as organizational conditions change.

In conclusion, the study demonstrates that effective integration of business-process performance indicators into the Balanced Scorecard is important for strengthening Strategic Management Accounting and improving strategic decision-making. The value of these indicators depends not on their quantity but on their strategic relevance, reliability, measurability, and relationship with organizational objectives.

The research establishes that business-process indicators should be systematically connected with customer and financial outcomes to demonstrate how operational activities contribute to overall organizational performance. Indicators such as efficiency, quality, productivity, cycle time, cost efficiency, and resource utilization can provide meaningful information about strategic performance when appropriately integrated into the BSC.

The proposed methodology emphasizes five principles: strategic alignment, causal integration, indicator prioritization, information quality, and continuous adaptation. Applying these principles can reduce fragmented performance measurement, prevent information overload, improve the usefulness of management accounting information, and strengthen the connection between operational performance and strategic objectives.

The study therefore concludes that the Balanced Scorecard should be viewed as a dynamic strategic management system rather than a static collection of indicators. Regular evaluation and revision are necessary to reflect changes in organizational strategy,



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technology, markets, and customer requirements. Overall, the improved methodology provides a basis for transforming business-process indicators from isolated operational measures into strategically integrated components of Strategic Management Accounting, thereby supporting more effective performance management and managerial decision-making.

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