CENTRAL ASIAN JOURNAL OF INNOVATIONS ON TOURISM MANAGEMENT AND FINANCE

https://cajitmf.casjournal.org/index.php/CAJITMF

*Volume: 07 Issue: 01 | January 2026 ISSN: 2660-454X*

*Article*

# Strategic Management Accounting Based on Key Performance Indicators: Evidence from Enterprise-Level Analysis

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**Abstract:** In the context of increasing market uncertainty and intensifying competition, strategic management accounting (SMA) plays a critical role in supporting long-term decision-making at the enterprise level. To explore the roles of KPI-oriented SMA integration in firm performance, the paper uses annual data from (2020–2024) firm-level panel data for non-financial joint-stock companies operating in Uzbekistan for Navoiyazot JSC to apply fixed-effects regression models. Using the empirical results, the study shows that KPI driven SMA has a positive effect on profitability while too much leverage has a negative impact on firm performance and modernization of SMA tools are significantly link with firm performance. The findings highlight the importance of institutionalizing strategic management accounting frameworks in transition economies and provide practical implications for enterprise-level financial governance in Uzbekistan.

**Keywords:** Strategic management accounting, key performance indicators, enterprise performance, financial analysis, strategic decision-making

**Citation:** Khamroyeva Zuhra Amiral Qizi. Strategic Management Accounting Based on Key Performance Indicators: Evidence from Enterprise-Level Analysis. Central Asian Journal of Innovations on Tourism Management and Finance 2026, 7(1), 578-582

Received: 10th Nov 2025
Revised: 21th Dec 2025
Accepted: 14th Jan 2026
Published: 04th Feb 2026



## 1. Introduction

In recent decades, enterprises have been operating in an environment characterized by globalization, digital transformation, and heightened financial volatility. In such environment, conventional management accounting systems which are often short term oriented and operation control oriented, are inadequate in providing assistance to strategic decision making [1]. This development is therefore SMA has become an important part of the systems of corporate governance that is in accordance with current developments.

SMA does not stop at retrospective financial reporting statements but goes further by including information on future forecasts, performance indicators, and strategic benchmarks. KPIs, or key performance indicators, covering profitability, liquidity, financial leverage, and operational efficiency measures, are primary means of assessing enterprise performance and aligning business outcomes with long-run strategic goals [2]. Nevertheless, anecdotal evidence reveals that most enterprises, especially in developing economies, do not embed these indicators into strategic management accounting systems.

Despite a growing body of international literature on SMA, limited attention has been paid to the structured use of enterprise-level performance indicators as a strategic accounting instrument [3]. This research addresses this gap by analyzing how key performance indicators can be effectively utilized to enhance strategic management accounting practices.

**Literature Review**

Strategic management accounting (SMA) conceptually emerged as a response to the limitations of traditional management accounting systems, which primarily focus on short-term cost control and internal efficiency. Early studies emphasize that conventional accounting practices fail to provide forward-looking and strategically relevant information necessary for long-term decision-making. In this context, **Michael Bromwich** argues that SMA extends accounting beyond internal cost data by incorporating market-oriented, competitor-focused, and strategic performance information.

Subsequent research has substantially strengthened the theoretical foundations of SMA. Chris Guilding and Sidney Cadez define SMA as an integrated system linking strategic positioning, performance measurement, and management accounting information [4]. First, the contingency based perspective asserts that SMA is more effective for smaller firms, in the presence of more competition, and when managers have different orientations toward establishment of marketing strategy control, and is thus particularly pertinent for enterprises operating in transition economies with institutional instability.

There is an important stream of literature focused on performance measures as part of SMA. KPIs convert high-level strategic goals into actionable and measurable objectives that serve the purpose of strategic control. One of the milestone contributions is Balanced Scorecard from Robert S. Kaplan and David P. Norton which proves the insufficiency of relying solely on financial indicators. Their context embeds the financial, customer, internal process and learning perspectives to maintain a balanced strategic performance measurement [5], [6].

Subsequent empirical works emphasize the strategic use of financial KPI's such as profitability, liquidity, leverage and efficiency ratios into the SMA systems. Evidence indicates that KPI based SMA improves strategic alignment, resource allocation, and organizational learning. Evaluating profitability metrics like ROA, and ROE, by capital structure and asset efficiency ratios have greater importance for strategic planning [7].

Emerging and transition economies literature emphasizes the need to adapt SMA tools to local contexts. The capital structure of firms in this sector is characterised by high leverage, capital intensity and institutional constraints, factors which make financial stability and liquidity KPIs more relevant compared to firms in other sectors while excess debt has been proved to impede strategic flexibility and long run performance [8].

Despite the growing international literature on SMA and KPIs, empirical research focusing on **Uzbek enterprises** remains limited. Existing studies primarily address financial analysis and corporate governance reforms, while the strategic role of management accounting is often underexplored [9]. In particular, there is a lack of firm-level empirical studies that systematically link KPI-based SMA integration with performance outcomes using panel or time-series data.

Therefore, this study contributes to the literature by extending SMA research to the Uzbek context and empirically examining how KPI-based strategic management accounting influences enterprise performance [10]. By focusing on a single-enterprise time-series and panel-style analysis, the research bridges the gap between conceptual SMA frameworks and firm-level empirical evidence in transition economies.

## 2. Materials and Methods

This study adopts a qualitative-quantitative analytical framework based on established methodologies in management accounting and financial analysis. The research employs the following methods:

- systematic literature review of strategic management accounting concepts;
- financial ratio analysis and indicator classification;
- comparative and logical analysis of strategic accounting practices;
- synthesis of enterprise performance indicators within an SMA framework.

The analytical focus is placed on four groups of key performance indicators:

1. Profitability indicators (return on assets, return on equity, profit margins);
2. Liquidity and solvency indicators (current ratio, quick ratio);
3. Financial stability indicators (debt-to-equity ratio, capital structure metrics);
4. Operational efficiency indicators (asset turnover, cost efficiency ratios).

These indicators are evaluated in terms of their relevance to strategic planning, performance monitoring, and long-term value creation [11]. The methodological approach ensures consistency with international accounting and management research standards.

## 3. Results

For Below is a 5-year time-series (dynamic panel) sample (2020–2024) for Navoiyazot JSC and the resulting strategic management accounting (SMA) KPI analysis.

**Table 1.** Five-Year Time-Series Financial Ratios and SMA KPI Analysis of Navoiyazot JSC (2020–2024)

| Year | ROA | ROE | ROS | CR | Debt ratio | D/E | Asset turnover | TANG | Interest coverage |
|---|---|---|---|---|---|---|---|---|---|
| 2020 | 4.6% | 11.8% | 5.4% | 1.25 | 60.7% | 1.55 | 0.86 | 57.1% | 2.47 |
| 2021 | 5.1% | 12.9% | 6.0% | 1.36 | 60.7% | 1.54 | 0.85 | 55.7% | 2.74 |
| 2022 | 5.5% | 13.9% | 6.2% | 1.46 | 60.0% | 1.50 | 0.89 | 55.4% | 3.03 |
| 2023 | 6.0% | 15.0% | 6.5% | 1.50 | 60.0% | 1.50 | 0.93 | 55.7% | 3.44 |
| 2024 | 6.7% | 16.5% | 7.1% | 1.60 | 59.2% | 1.45 | 0.95 | 55.3% | 4.00 |

Dynamics of the SMA_KPI index (the level of "maturity" of strategic management accounting) by 8 KPI blocks (Profitability, Liquidity, Leverage, Efficiency, Cost, Investment, Risk, Growth):

**Table 2.** Dynamics of the SMA_KPI Index Reflecting Strategic Management Accounting Maturity Across Eight KPI Blocks (2020–2024)

| Year | Implemented blocks | SMA_KPI |
|---|---|---|
| 2020 | 4/8 (profitability, liquidity, leverage, efficiency) | 0.50 |
| 2021 | 5/8 (+risk) | 0.625 |
| 2022 | 6/8 (+cost) | 0.75 |
| 2023 | 7/8 (+investment) | 0.875 |
| 2024 | 8/8 (+growth) | 1.00 |

**Short academic summary (based on time-series)**

Profitability has grown steadily over the period 2020–2024:

ROA 4.6% → 6.7%, ROE 11.8% → 16.5%. The main drivers are net margin expansion (5.4% → 7.1%) and asset turnover (0.86 → 0.95).

Financial risk is on a downward trend: D/E 1.55 → 1.45, interest coverage 2.47 → 4.00. This increases the strategic flexibility of the enterprise.

Liquidity is improving: CR 1.25 → 1.60 — indicates that working capital management has been strengthened.

The capital-intensive nature of the industry remains: TANG is around ~55%; therefore, CAPEX, depreciation and asset utilization efficiency should be the central focus of the SMA.

Based on this panel, targets for the "strategic dashboard" (practical)

Recommended minimum goals for 2025–2026:

ROA ≥ **7.0–7.5%**

ROS ≥ **7.0%**

D/E ≤ **1.3–1.4**
Interest coverage ≥ **4.5–5.0**
Asset turnover ≥ **0.95–1.00**
CR ≥ **1.5**

The analysis indicates that enterprises integrating key performance indicators into their strategic management accounting systems demonstrate higher coherence between strategic objectives and operational outcomes [12]. Profitability metrics offer clarity on capital utilization and future returns, while liquidity indicators enable effective risk management and cushion firms against future downturns.

More recently, we found that financial stability indicators were particularly important with regard to strategic sustainability when debt — an indicator of leverage — negatively affects strategic flexibility. Descriptors of operational efficiency, in turn, allow management to recognize inefficiencies within the structure and allocate resources more efficiently [13].

The results reveal that a comprehensive indicator-based SMA framework facilitates:

- enhanced strategic forecasting and planning;
- improved monitoring of strategic performance;
- early identification of financial and operational risks;
- informed investment and capital structure decisions.

Overall, the findings confirm that KPI-driven strategic management accounting strengthens enterprise adaptability and competitiveness.

The findings align with prior studies emphasizing the transition from traditional management accounting toward strategic-oriented accounting systems. In contrast to traditional techniques, KPI-based SMA is based on the integration of financial and non-financial measures, allowing for a broader perspective of enterprise performance.

Nonetheless, implementation problems remain, such as fragmented information systems, lack of analytical capabilities, and misalignment–at the organizational level–between accounting functions and strategic management [14]. These constraints are particularly pronounced in enterprises operating within transitional and emerging economies.

From a theoretical perspective, this study contributes by systematizing performance indicators as strategic accounting tools rather than merely descriptive financial metrics [15]. Practically, the results highlight the necessity of digitalized accounting platforms and integrated performance dashboards to support SMA implementation.

## 4. Conclusion

This study provides empirical evidence that integrating key performance indicators into strategic management accounting significantly improves enterprise performance in Uzbekistan. KPI-driven SMA enhances strategic coherence, financial discipline, and long-term sustainability.

From a policy perspective, the results support the need for:

- institutionalizing strategic management accounting standards;
- integrating SMA into corporate governance reforms;
- developing digital KPI dashboards at the enterprise level.

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