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KPI Frameworks and Strategic Performance Management: A Data-Driven Approach to Organizational Effectiveness

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Abstract

The evolution of strategic performance management has gone from reporting financial results retrospectively to systems that integrate strategy, operations, people, stakeholders and real-time data. The use of key performance indicators (KPIs) is integral to this transformation as they help to break down strategic priorities into measurable components, enabling monitoring, learning, accountability and managerial intervention. This article explores the significance of KPI frameworks in strategic performance management and data-driven strategies in enhancing organizational effectiveness. The review is based on the literature of performance measurement and recent research on measures such as the Balanced Scorecard (BSC), Objectives and Key Results (OKRs), management control systems, digital transformation, analytics and sustainability and the conditions under which measures can enhance rather than limit performance. The results indicate that successful KPI systems are well aligned, include a mix of leading and lagging indicators, consist of just the KPIs needed for decision making, are underpinned by robust data governance, and are integrated into feedback and review processes. Digital dashboards and analytics make a difference to timeliness and visibility, but they are not enough to make a data-driven organisation – analytical culture, managerial judgement, data quality and clear decision rights are just as important. The review also reveals that poorly-designed KPIs can lead to gaming, short-termism, metrics overload, local optimization, and misplaced accountability. A strategic performance management system, therefore, is a combination of KPIs, strategic performance maps, outcome-oriented goals, regular KPI renewals, stakeholder performance measures, and sustainability measures, and structured performance dialogues with KPIs. The article ends by suggesting that the effectiveness of the organisation is enhanced if the performance data are not used only to control employees but to align resources and test strategic assumptions as well as for learning and adaptive decision making.

Key words: *Key performance indicators; strategic performance management; organizational effectiveness; Balanced Scorecard; performance measurement*

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1. Introduction

Companies today are dealing with competitive pressures, digital disruption, customer expectations, sustainability requirements and increased accountability. In such an environment, strategy is not enough for effective organisations, but the ability to turn strategic intent into coordinated action and achieved results. Performance measurement systems constitute the information architecture that organizations use to prioritize, measure, detect gaps and focus managerial attention. The field has thus evolved gradually from a narrow financial control over to multidimensional strategic performance management, which incorporates financial and non-financial indicators (Neely et al., 1995; Otley, 1999; Franco-Santos et al., 2012).

Key performance indicators are a concrete part of this larger performance management system. A KPI is not any measure; it's one that has been chosen because it reflects an aspect of strategic success or driver. It's important because modern enterprises can produce thousands of operational metrics from enterprise systems, digital platforms, sensors, customer applications and analytics tools. Too much measurement can lead to greater visibility and also to noise and inattention to strategic priorities. So, good KPI design must be selective, must be strategically relevant, must be well defined, must have clear ownership, must set targets, must ensure data integrity, and must have a clear managerial response should performance fall short of expectations (Neely et al., 1995; Franco-Santos et al., 2007).

The Balanced Scorecard made a very important contribution to the field of strategic performance management by suggesting that there should be measures of customer, internal process, and learning and growth, in addition to financial measures. What's important about the scorecard is not the presence of four categories, but that measures must be based on strategy and tied together through a clear logic that connects the actions that drive performance with the results that are desired (Kaplan & Norton, 1992, 1996). The Balanced Scorecard has also been proven to remain relevant for a longer period, and there is already some research that documents the progression of BSC towards sustainability, stakeholderness, integrated reporting and systems thinking (Kumar et al., 2024).

Meanwhile, organizations have incorporated more agile methods of setting their goals, like Objectives and Key Results. OKRs are designed to deliver transparency, focus, alignment and regular strategic check-ins, and are qualitative objectives that are measured with key results. Academic research on OKRs is less well developed than the vast literature on established performance measurement systems, but recent empirical work indicates that OKRs can be used to operationalize strategy, coordinate action across functions, and, support sensemaking when implementing (Silva & Santos, 2024; Wowerath, 2026). Keeping this in mind, one can think of KPIs and OKRs as complementary to each other, but not interchangeable: KPIs track vital elements of an organization's health and strategic performance, and key results track progress toward time-bound objectives.

Digital transformation has had a further impact on the context of performance management. Cloud, ERP, business intelligence, predictive analytics and automated dashboards provide organizations with performance information faster and at a more granular level than it was ever possible in the periodic reporting model. However, recent studies indicate that digitalisation can lead to a higher maturity of management control systems, better communication and organisational performance, and analytical culture and perceived data quality influence data-driven decision-making (Broccardo et al., 2024; Szukits & Móricz, 2024). But more technical ability does not eliminate the need for strategic judgment. There is still work to be done in determining what to measure, why it is important, who is responsible, and how the information should be used to make decisions.

It is therefore not about measurement, but design and application of a coherent strategic performance management system. Measuring too much, making low-level causal links, creating the wrong incentives, using the wrong measures, combining and relying on the wrong data, and preferring to measure the easy-

to-measure over the meaningful-to-measure can all lead to failure. In this article you will read about how KPI frameworks can be used to help create an effective organisation in the context of a data-driven performance management system. It emphasizes strategic alignment, indicator architecture, leading and lagging indicators, analytics, behavioral impacts, governance, sustainability, adaptive review, and embedding KPIs in Balanced Scorecards and OKRs (Bititci et al., 2012; Franco-Santos et al., 2012).

2. Literature Review

2.1 From Performance Measurement to Strategic Performance Management

The traditional way of assessing performance was heavily conditioned by financial accounting and focused on past results like profit, return on investment, revenue growth and cost variance. Though they still are essential since they provide the overview of economic consequences, these measures do not provide the information to the extent of the drivers of operations and organizations which develop future consequences. The response of the performance measurement literature was to expand the scope of measurement and make measures more explicit in relation to strategy, customers, processes, innovation, people and stakeholders (Neely et al., 1995; Neely, 2005).

Strategic performance management isn't about taking measures. It links objectives, measures, targets, initiatives, incentives, feedback and learning processes. According to Otley (1999) objectives, strategies, target setting, rewards, and information feedback are interrelated aspects of management control. Ferreira and Otley (2009) subsequently created a more comprehensive model which underlined the importance of performance management in its entirety, and not in isolation. This systems perspective is necessary because the effects of the same KPI can be vastly different and dependent on the way targets are set, the language used to discuss information, and if the measure is tied to reward or developmental review.

Modern performance measurement systems have the potential to shape employee behaviour, capability and performance outcomes. Franco-Santos et al. (2012) conducted a major review to conclude that the impact of using measurement is not always beneficial and is dependent on the system design, context, implementation and use. Measurement can help to clarify expectations and make these expectations more coordinated, yet when targets are too strict, it can also trigger manipulation or channel the focus of attention. The effectiveness of an organisation thus is not dependent on the existence of metrics, but on the quality of the process of performance measurement.

2.2 KPI Design and Strategic Alignment

The first step to a useful KPI is strategy. It starts with the strategic objectives and critical success factors, and then identifies measures that show whether the objectives are being met. This avoids the pitfall of assuming available data and assuming that what's easy to measure is what's strategically important. Rangone (1997) make the connection between organizational effectiveness, key success factors and measures explicit, and Kaplan and Norton (1996) state that measures should form a strategy model and should not be a random collection of indicators.

There is a need for vertical and horizontal coherence in strategic alignment. Top-down, enterprise goals should trickle down into business-unit and team-level metrics without diminishing the strategic aims. KPIs should not be designed to incentivize local optimization that negatively affects the enterprise. In other words, cost savings from procurement could impact quality, supplier viability; high sales goals could lead to high sales, but low margins or customer satisfaction. This is part of the reason why integrated performance measurement frameworks were built, as they attempt to balance out multiple dimensions and make the interdependencies explicit (Ghalayini et al., 1997; Bititci, 2000).

A good KPI architecture also differentiates outcomes from drivers. Lagging indicators track outcomes that have been achieved, like profit, defect rates, employee turnover, market share or customer retention. Leading

indicators provide data on activities or conditions that are likely to impact future results, like pipeline quality, process cycle time, employee capability, preventive maintenance, customer complaints, or product-development velocity. The Balanced Scorecard system formalized this distinction by making both kinds of measures visible by making outcome measures and performance-drivers links visible, so that managers could monitor both immediate outcomes and the capability needed for future outcomes (Kaplan & Norton, 1996; Kumar et al., 2024).

2.3 Balanced Scorecard and Strategy Maps

It is fair to say that the Balanced Scorecard is one of the most influential frameworks in strategic performance management. Its financial, customer, internal-process and learning-and-growth perspectives force organisations to not only think about the financial results, but also to think about intangible assets and operational drivers. The initial presentation of the scorecard was as a balanced measurement framework, later works of Kaplan and Norton focused on the use of the scorecard for strategy communication, alignment, resource allocation, and organizational learning (Kaplan & Norton, 1996).

Studies have demonstrated the importance of a scorecard's strategic comprehensiveness. A wide performance system is more useful if the measures are linked to organization strategy and value drivers as opposed to being added for the sake of diversity of measures. Ittner et al. (2003) discovered that strategic alignment and wider application of non-financial measures was linked with the satisfaction with performance measurement and market outcomes in financial services. Likewise, the studies on comprehensive scorecard design show that a well-developed system can help translate the strategy, understand cause-effect relationships, and facilitate internal communication (Micheli & Manzoni, 2010; Kumar et al., 2024).

The scorecard has been continually developed. In response to stakeholder expectations and reporting requirements Sustainability Balanced Scorecards are extensions of traditional performance architecture to environmental and social results. Recent research indicates an increasing interconnection of sustainability, governance, and strategic performance measurement, as well as the need for value creation that goes beyond short-term financial benefits (Chehimi & Naro, 2024; Kumar et al., 2024). This is another testament to the fact that KPI systems need to be flexible to accommodate shifting definitions of what constitutes an effective organization.

2.4 Objectives and Key Results and Their Relationship with KPIs

OKRs have become more popular as companies want to have shorter planning cycles, more transparency and tighter connections between strategy and execution. Objectives are desired directions that are more qualitative in nature, and key results are measurable evidence of the Objective. Unlike permanent or semi-permanent KPIs, OKRs are typically meant to be reviewed and reassessed over a fixed period, and there are generally only a few OKRs that address strategic priorities. While the academic literature is relatively nascent, Silva and Santos (2024) report on the systematic mapping of the literature, which indicates that OKRs are increasingly being adopted in communication, prioritization, alignment, performance measurement and goal attainment.

Recent empirical findings indicate that OKRs can improve the implementation of the strategy by helping middle managers to translate high-level priorities, convey them throughout the teams and synchronize the actions. Wowerath (2026) suggests OKRs can help facilitate communication, transparency, employee empowerment, and cross-functional collaboration. These mechanisms are used in conjunction with KPI systems as an organization could have KPI systems for permanent measurement of its business health and OKRs for a specific strategic challenge that needs to be addressed.

The difference between activity and outcome is important in both approaches. Weak key results typically measure things done or work completed, as do weak KPIs which measure volume but have no strategic

value. A mature performance system thus poses the questions: Do indicators reflect meaningful outcomes, are they measurable at the organizational level, and do teams know what behaviours and operations improve their performance (Franco-Santos et al., 2007; Wowerath, 2026)?

2.5 Data-Driven Performance Management and Analytics

Digitalization has led to increased velocity, volume and variety of performance information. Data from finance, customers, operations, workforce and supply chain can all be combined into dashboards on business intelligence platforms, providing managers with a view of the data that can uncover patterns sooner than a traditional month-end report. Digital transformation also impacts the way in which performance measurement systems are designed, using greater flexibility, connectivity, and real-time use; therefore, organizations must rethink how they select and update their measures (Bititci et al., 2012; Broccardo et al., 2024).

Evidence-based management is not simply the availability of data. According to Szukits and Móricz (2024), top-management support and perceived data quality are important factors that affect the existence of the analytical decision-making culture and that an analytical culture is associated with increased data use during the decision-making process. This illustrates the socio-technical nature of KPI systems: trust and use of information depends on both norms and capabilities, as well as leadership and decision rights.

Analytic can take the performance management effort beyond descriptive reporting to diagnostic, predictive and prescriptive applications. Descriptive analytics answers the question “What is happening?” while diagnostic analysis enables you to ask “Why is this happening?” Predictive models help you answer the question “What could happen?” and prescriptive tools allow you to ask “What can I do about it?” This is particularly useful when the traditional KPIs show variation, but provide no insight into the root. But analytics models can also instill a false sense of confidence when data are incomplete, skewed, poorly governed, or not connected to the operational environment. Thus, data-driven performance management needs analytical skills and critical interpretation in the managerial field (Szukits & Móricz, 2024; Broccardo et al., 2024).

2.6 Behavioral Consequences and Metric Dysfunction

Performance measures drive behavior as they tell us what the organization cares about. Linking measures to rewards, promotion, recognition or managerial attention leads to adaption of the employees' effort towards measured outcomes. This can lead to better focus and accountability where target measures reflect the strategy, but can lead to dysfunctional behaviour where the measures are incomplete or easy to manipulate. Franco-Santos et al. (2012) demonstrate that, in addition to quality of measurement, performance measurement systems also have behavioural consequences.

Metric overload is another risk. With the ease of data collection, organizations can start to build larger and larger dashboards without differentiating between strategic measures and diagnostic or operational metrics. Too many measures diffuse focus, add to the workload of reporting and send mixed messages. The literature on performance measurement has always insisted on a focus on a limited number of measures, balanced measures, and coherent measures from a strategic perspective (Neely et al., 1995; Bititci et al., 2012).

Short-termism is also a result of target fixation. When short-term numerical results take precedence in evaluations, managers might prioritize short-term gains at the expense of other factors such as investing in capability, quality, innovation, safety, and employee development. This risk can be addressed by a balanced system that includes measures of future capability, stakeholder outcomes and process health, as well as interactive performance review, to enable managers to consider whether the measures continue to be valid as circumstances evolve (Kaplan & Norton, 1996; Ferreira & Otley, 2009).

2.7 Organizational Effectiveness, Capabilities, and Sustainability

There are multiple dimensions to organizational effectiveness. These are financial viability, customer value, operational reliability, innovation, employee capability, adaptability, as well as now environmental and social performance and stakeholder legitimacy. Too narrowly defined KPIs can optimise one dimension at the expense of another. The Performance Prism explicitly expanded the scope of performance measurement, focusing on stakeholder satisfaction, stakeholder contribution, strategies, processes and capabilities (Neely et al., 2002).

In recent research, management control systems also play a role with an accent on organizational capabilities. Phan et al. (2024) reveal a nexus between configurations of management controls and organizational capabilities as well as organizational performance, and studies in technology-intensive companies indicate a relationship between interactive control, dynamic capabilities, and organizational outcomes. Based on this finding, it is recommended that performance management not only serve to evaluate results but also reinforce the capacity of the organization which allows for future results.

Sustainability takes this one step further by asking organizations to think about the value to the environment and society, in addition to economic results. These dimensions are combined in Sustainability Balanced Scorecards and other sustainability frameworks in their performance planning, measurement and reporting. Their rising visibility highlights that strategic KPI frameworks are not one-size-fits-all solutions, but rather adapt to the varying expectations of stakeholders, regulatory requirements, organizational objectives, and the evolving definitions of long-term success (Chehimi & Naro, 2024; Trisyulianti et al., 2024).

3. Methodology

It was decided to use a structured desk-based literature review in this article, which integrated research on KPI frameworks, performance measurement, strategic performance management, Balanced Scorecards, OKRs, management control, business analytics, digital transformation, and organizational effectiveness. The review approach was suitable, since the goal was not to test a particular model, but to synthesize concepts and empirical findings from the literature of accounting, operations management, strategy, information systems and organizational research. The review process was guided by best practice for reviews which include clear problem definition, selective inclusion of sources, thematic coding, and integrating interpretation (Snyder, 2019).

Peer-reviewed academic journal articles, scholarly books, and more recent systematic reviews were preferred in the literature search. The key concepts that emerged as a core part of the search were: key performance indicators, performance measurement systems, strategic performance management, organisational effectiveness, Balanced Scorecard, Objectives and Key Results, management control systems, business analytics, data-driven decision-making, digital transformation, and sustainability performance measurement. The works were prioritized as follows: foundational works, where they introduced widely used frameworks, were retained, and recent studies from 2023–2026, focusing on analytics, OKRs, digitalization and sustainability were prioritized.

Sources were deemed to be included if they had a direct contribution to the design, implementation, use or consequences of strategic performance measurement systems. The synthesis was structured by the following themes: strategic alignment, KPI architecture, leading and lagging measures, Balanced Scorecards, OKRs, digital analytics, data quality, behavioral consequences, dynamic capabilities, sustainability and governance. Preference was given to influential theoretical works, systematic literature reviews, and empirical studies that looked at organizational outcomes or implementation mechanisms.

The review is interpretive, rather than meta-analytic, and thus does not provide a single pooled estimate of the effect of KPI systems on organizational performance. There are a number of different studies on

performance management in various industries, nations, organizational levels and various definitions of effectiveness and therefore, a direct comparison of effect sizes is not appropriate for the purpose of this article. Instead the review points to common design principles, common risks, and actual processes that can positively or negatively affect organizational effectiveness when data-driven strategic performance management is used.

4. Findings and Discussion

4.1 Strategic Alignment Is the Foundation of Effective KPI Systems

Central to the literature is that when measures are based on strategy, they add value to performance. Indicators should be aligned to the organization's strategic objectives, critical success factors and value creation logic, and not just because they are easy to obtain. This alignment provides measures with interpretative value: managers know the measures not only have changed but also why the change is important to strategic performance (Kaplan & Norton, 1996; Rangone, 1997; Ittner et al., 2003).

Strategic alignment also helps eliminate the competition between measures. Local optimization can impact enterprise results if functions design their own KPIs. An integrated KPI architecture provides clarity around trade-offs and establishes common priorities amongst finance, sales, operations, HR, technology and customer. The literature on integrated and dynamic performance measurement stresses that when measurement systems are designed, their effectiveness is enhanced if they form a coherent system instead of a collection of departmental scoreboards (Ghalayini et al., 1997; Bititci, 2000).

4.2 Balanced Leading and Lagging Indicators Improve Managerial Control

Effective systems have a mix of outcome measures and measures of future performance. Leading measures help to alert earlier to make sure something doesn't get worse, lagging measures hold people accountable for results. While financial results, customer retention, safety incidents, turnover and market share may be key outcomes, organizations require indicators of process capability, employee competence, pipeline quality, preventive activity, innovation and customer sentiment (Kaplan & Norton, 1992, 1996).

Bona-fide causal reasoning is the foundation of the practical value of leading indicators. A specific driver with an expectation of influencing a desired outcome should be articulated by an organization, and it should periodically be tested with evidence. Strategy maps and causal hypotheses can be helpful as they help to render assumptions explicit and amenable to revision. Studies on the Balanced Scorecard have increasingly focused on the dynamic relationships between perspectives and systems thinking in recent years (Kumar et al., 2024).

4.3 KPI Architecture Should Be Selective, Hierarchical, and Decision-Oriented

The review suggests that there should be a stepped approach for organization, and not a one-size-fits-all dashboard. A small collection of enterprise KPIs should be displayed on the top, which reflect strategic health and priority outcomes. Then, supporting diagnostic measurements can be used to explain changes in the diagnostic measurements, and operational measurements can be used to control the process day by day. This multi-level strategy reduces the burden on the executives and at the same time ensures operational managers do not lack detailed information (Neely et al., 1995; Franco-Santos et al., 2007).

Each KPI should also have a clear definition, source for data, frequency, clear owner, target (or range) and clear response when out of target. Organizations lacking these characteristics can end up debating the numbers instead of performance. In particular, definitions are important if several units share the same label but compute it in different ways. Together with data dictionaries, ownership rules and standardized calculation logic are not only technical documentation, but they are also part of strategic performance management (Ferreira & Otley, 2009; Szukits & Móricz, 2024).

4.4 Digital Dashboards Increase Visibility but Do Not Guarantee Better Decisions

Digital dashboards can enhance performance information in terms of timeliness, accessibility and granularity. Automated data pipelines can minimize manual reporting, and visual analytics can enable managers to see trends, exceptions and relationships faster. The studies on digitalization and management control indicate that, in case of effective integration with the organization, digital maturity can lead to a better communication, monitoring and organizational performance (Broccardo et al., 2024).

But real-time visibility can be counterproductive if organizations track measures that are poorly defined, unstable, or inactionable. Managers can overreact to short-term changes, or simply mistake correlation for causation. Thus, the usefulness of analytics hinges on decision rules, review frequency, statistical knowledge, and managerial judgment. Data-driven management is not an automatic management, evidence should discipline and not annihilate judgment (Szukits & Móricz, 2024).

4.5 Data Governance Is a Strategic Performance Capability

Data quality becomes a critical component to trusted performance management. The KPIs become disbelieved when they get different figures from different systems, when data are only available late, when definitions are changed in an uncontrolled manner, and when employees think data can be manipulated. Perceived data quality is an important antecedent of analytical culture (Szukits and Móricz, 2024), which means that the more managers trust the data they use, the more likely they are to use performance information seriously.

A proper KPI system, however, needs to have governance, access control, metric definitions, validation processes, lineage, ownership and change control over the master data. Governance also considers ethical and privacy issues when dealing with employee, customer or partner data. As businesses integrate operational data with predictive analytics and AI, these capabilities are becoming more crucial. The quality of the performance information must be reproducible, explainable, timely, and relevant to the context of the decision-making process (Broccardo et al., 2024; Szukits & Móricz, 2024).

4.6 Performance Dialogue Matters More Than Dashboard Production

The evidence indicates that value is produced by the performance information in the managerial dialogue. Dashboards reveal deviations, but it is organizations that enhance with manager conversation about causes, challenge assumptions, agree actions, allocate resources, and follow up on commitments. Feedback loops are a key element of Otley's (1999) framework and Ferreira and Otley (2009) demonstrate that performance management is about the use of information, not simply what is measured. If it doesn't change behaviour, then it is not a performance management system, it is a reporting product.

Performance conversation(s) should include accountability and learning. If managers view all deviations as failures, they may engage in problem concealment, data manipulation or may not set goals that are very high. Metrics without accountability can be transformed into a ritualistic framework. Good practice separates out controllable performance, external shocks, learning stretch targets and minimum operating standards. This is a balance that contributes to truthful reporting and adaptive action (Franco-Santos et al., 2012; Wowerath, 2026).

4.7 Behavioral Design Determines Whether KPIs Motivate or Distort

KPIs drive behavior through attention, incentive, social comparison and perceptions of fairness. Clear and strategically relevant measures can focus efforts and boost role clarity. However, narrow objectives can encourage gaming, risk avoidance, compromises on quality, or failure to deliver on unspecified performance. These behavioural impacts are why it is so important to consider the effects of measures and not assume that it is simply a numerical fact that accountability will lead to better performance (Franco-Santos et al., 2012).

One real-world takeaway here is to not necessarily tie every KPI to compensation. If there are significant financial incentives for employees to meet targets, then measures that are used for learning, experimentation, or new strategic focus areas can be skewed. Also, when results are a function of teamwork, team-level and cross-functional measures might be more suitable than individual measures. Performance systems thus need to establish accountability to the extent of real decision control and interdependence (Ferreira & Otley, 2009; Bititci et al., 2012).

4.8 KPIs, Balanced Scorecards, and OKRs Work Best as an Integrated Architecture

The review suggests that KPI systems, Balanced Scorecards and OKRs all have distinct functions and are complementary. The Balanced Scorecard offers a strategic framework to balance the perspectives and link them to their drivers. KPIs track important dimensions of performance over time. OKRs enable people to concentrate effort on a small number of objectives and what can be measured within a specific timeframe. These tools can be paired up to form a unified process from planning to precise action to ongoing tracking (Kaplan & Norton, 1996; Silva & Santos, 2024; Wowerath, 2026).

So, an integrated model could be to use a strategy map to set the long-term goals, enterprise KPIs to gauge strategic health, and quarterly OKRs to drive specific improvements. The method prevents two common pitfalls: relying on static KPIs as a strategy and having OKRs that change every month but no consistent metrics of organizational health. The design should not be too complex to be understood by the employees as to how their work is related to the organizational priorities (Kumar et al., 2024; Wowerath, 2026).

4.9 Dynamic Review Is Essential in Changing Environments

Performance measures become irrelevant when strategies, technologies, customer expectations, rules, or business models change. Bourne et al. (2000) point out that there must be clear mechanisms for revising and adjusting performance measurement systems to keep them in line with strategy. Similarly, Bititci (2000) calls for a dynamic PM system that can evolve according to the changing priorities and operating conditions of the organization.

This is especially critical in digital settings, where data and business models can shift at a much quicker pace than the once a year planning cycle. KPIs should be retired periodically when they no longer have an impact on decisions, new targets should be revisited when assumptions change, and additional measures should be added when additional strategic risks or capabilities emerge. Review does not imply altering any measures when performance is not desirable, but checking if the measure is still aligned with the strategic objective and if the causal logic underpinning the measure is still plausible (Bititci et al., 2012; Broccardo et al., 2024).

4.10 Organizational Effectiveness Improves Through Alignment, Learning, and Adaptability

The connection between KPI systems and effectiveness is not mechanical. Measurement enhances effectiveness when it leads to more strategic clarity, communication, coordination, capability development, decision quality, and organizational learning. Comprehensive performance research demonstrates that the quality of the system design can boost the translation of strategy and understanding of cause and effect relationships; management control research reveals that interactive controls can be linked to the organizations capabilities and performance (Ittner et al., 2003; Phan et al., 2024).

The most effective performance systems, thus, based on data function as learning infrastructures. They show if the strategy is working, uncover new barriers, offer data for reallocating resources, and make assumptions clear that require updating. Maximising all KPIs is not the key to organisational effectiveness; rather it is having a cohesive set of measures to make better strategic decisions and respond more rapidly to changing circumstances (Ferreira & Otley, 2009; Bititci et al., 2012).

5. Conclusion and Recommendations

5.1 Conclusion

This review concludes that KPI frameworks are most successful where they are used as a component of a strategic performance management system, rather than as stand-alone reporting tools. Good systems turn strategy into a few relevant measures, link results to performance drivers, define ownership, and establish clear, systematic feedback to spur managerial action. The Balanced Scorecard, integrated performance measurement systems and modern OKR methodologies all emphasize that a strategic intent must have measurable evidence of execution (Kaplan & Norton, 1996; Franco-Santos et al., 2012; Wowerath, 2026).

The new challenges of data-driven performance management offer significant potential but also pose risks. Digital dashboards, analytics and automated reporting add timeliness and visibility, but organizations can still make poor decisions if data are unreliable, measures are poorly designed, or managerial culture incentivizes target compliance and demotivates learning. Effectiveness of the organisation thus relies on a mix of technology, data governance, analytical culture, strategic mindset and constructive performance talk (Szukits & Móricz, 2024; Broccardo et al., 2024).

The bottom line: KPIs should be thought of as hypotheses, not truths. An important indicator is an assumption of what is important and how value is created. Assumptions should be tested, reviewed and adjusted as circumstances evolve. The strategic value of performance management occurs when it contributes to learning and coordination, resource allocation, capability building, and adaptation and change rather than simply interpreting past results (Bourne et al., 2000; Bititci et al., 2012).

5.2 Recommendations

First, organizations should start the process of developing KPIs by considering first strategic objectives and critical success factors, not available data. Senior leaders should communicate the logic of value creation that underpins the strategy, and outline the minimum number of indicators they need to assess to see if the logic is effective. Each enterprise KPI must be clearly strategically justified and must have an accountable owner (Kaplan & Norton, 1996; Rangone, 1997).

Second, KPI portfolios must be a mix of financial and non-financial indicators, outcomes and drivers, short-term and long-term focus and internal and external views. Organizations need to not sacrifice customer value, human capability, innovation, resilience or sustainability in any of the performance dimensions. Balanced architectures enhance the probability that measurement will provide a contribution to the total effectiveness of the organization as opposed to local performance (Neely et al., 2002; Kumar et al., 2024).

Thirdly, there should be KPI governance in place. Document the Metric definitions, formulas, sources, reporting frequency, data owners, thresholds, lineage, and change-control procedures. If automated dashboards are employed, leaders should make sure that the information displayed on them is compared with the information from the authoritative systems and that limitation of each indicator is known by the users of the dashboard (Szukits & Móricz, 2024).

Fourth, the emphasis of performance reviews should be on decisions and learning and not on presentation. Meetings should discuss major deviations, test causal theories, make action commitments, clarify previous action commitments and determine if resources or strategy should be adapted. The time required to construct the data on dashboards should be minimized while the time spent interpreting evidence and acting on it should be maximized (Otley, 1999; Ferreira & Otley, 2009).

Fifth, organizations need to distinguish between core health KPIs and improvement objectives that are set within a specific timeframe. Stable KPIs can track long-term metrics like financial performance, customer results, quality, safety, workforce stability, or operational reliability, and OKRs can focus on a select number

of important strategic shifts. This separation ensures that critical monitoring indicators can be maintained without frequent change, while maintaining strategic agility (Silva & Santos, 2024; Wowerath, 2026).

Sixth, the behavior impact of KPIs and incentives should be audited. Leaders need to recognize that incentives are in place that may promote gaming, short-term thinking, risk avoidance, and/or functional conflict and redesign incentives as needed. Where performance relies on team or system-level efforts, preference should be given to team- or system-level measures, and care should be taken to ensure that learning-oriented indicators do not automatically relate to compensation (Franco-Santos et al., 2012).

Seventh, KPI frameworks need to be reviewed regularly. When measures no longer have an impact on decisions, they should be retired; if new measures need to be introduced, a strategic need should exist. Presumed leads should also be tested in periodic review to ascertain if they predict the desired outcomes. It is said that the dynamic renewal of performance management must avoid performance management becoming outmoded due to changes in strategy and environmental conditions (Bourne et al., 2000; Bititci, 2000).

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