

SOCIO-ECONOMIC ASSESSMENT OF HUMAN RESOURCE MANAGEMENT EFFECTIVENESS UNDER UNCERTAINTY

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Abstract. *The purpose* of this paper is to develop a comprehensive conceptual framework for assessing the effectiveness of human resource management (HRM) under conditions of uncertainty. The study focuses on integrating socio-economic indicators into a structured evaluation model that reflects not only financial results but also social outcomes such as employee well-being, engagement, and adaptability. By addressing the limitations of traditional HRM evaluation methods, which often prioritize efficiency and cost control, the article proposes a more balanced and resilient approach suited for volatile environments. *Methodology.* The study adopts a conceptual and analytical approach, relying on an extensive review of contemporary academic literature and international standards for human capital reporting, including ISO 30414:2018. The authors synthesize findings from empirical and theoretical studies on HRM performance, high-commitment work systems, sustainable HRM, and human capital risk management. The research does not involve primary data collection or empirical testing. Instead, the framework is constructed on the basis of recognized academic principles and comparative analysis of existing evaluation models. The methodology also draws upon strategic management concepts, including dynamic capabilities and stakeholder theory, to ensure that the proposed framework is adaptive and aligned with organizational objectives and risk factors. *Results.* The main output of the research is a multi-dimensional analytical framework for evaluating HRM effectiveness under conditions of uncertainty. This framework incorporates both economic metrics (e.g., productivity, return on investment in human capital, turnover costs) and social indicators (e.g., employee satisfaction, stress levels, adaptability, organizational commitment). The evaluation process is structured into key stages: identification of uncertainty factors, goal alignment with stakeholders, selection and weighting of indicators, and feedback-driven adaptation. The framework is designed to be flexible, scalable, and applicable across different industries. It enables decision-makers to monitor HRM performance over time, adjust HR strategies proactively, and integrate human capital metrics into broader organizational risk assessments. *Practical implications.* The framework can serve as a practical tool for HR professionals and organizational leaders seeking to manage and evaluate HRM performance in unpredictable conditions such as war, crisis, recession, or digital transformation. It supports the design of HR dashboards, enhances human capital reporting, and fosters data-informed decisions that safeguard both employee welfare and long-term business goals. The article also opens a pathway for future empirical studies, particularly on how socio-economic indicators can be customized and weighted in sector-specific or country-specific settings. *Value / originality.* The originality of this research lies in its socio-economic approach to HRM effectiveness evaluation in uncertain environments. Unlike traditional models that isolate financial outcomes or internal process metrics, this framework acknowledges the interdependence of social and economic dimensions. It positions employees as key stakeholders and contributors to resilience, innovation, and sustainable performance. By proposing a balanced, human-centered framework, the article responds to global calls for responsible HRM and contributes to the advancement of strategic HRM practices suitable for dynamic and high-risk contexts, particularly in emerging economies.

Keywords: HRM effectiveness, uncertainty, socio-economic indicators, human capital, performance evaluation, strategic HRM.

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1. Introduction

In today's volatile and unpredictable environment, organizations are challenged not only to maintain performance but also to ensure workforce resilience and engagement. Human Resource Management (HRM) plays a central role in addressing this dual task by aligning human capital with strategic goals, even under conditions of instability. This study introduces a socio-economic approach to assessing HRM effectiveness, which merges traditional economic outcomes (productivity, profitability, ROI) with social dimensions such as employee well-being, development, and organizational culture. This perspective is especially timely given the increasing complexity of uncertainty – ranging from economic crises and political instability to global health emergencies and digital disruption. Traditional HRM evaluation frameworks, which often rely on static financial or operational metrics, frequently fail to capture the dynamic realities of such environments. There is a growing consensus that effective HRM assessment must go beyond "hard" indicators like turnover or cost efficiency, and integrate "soft" dimensions such as employee engagement, learning, and adaptability. Socio-economic evaluation addresses this gap, offering a multi-level view of HRM outcomes. Additionally, recent developments – such as the ISO 30414:2018 standard for human capital reporting – signal an international shift toward more balanced and transparent approaches to evaluating human resources. The purpose of this study is to propose a conceptual model for the socio-economic evaluation of HRM effectiveness in conditions of uncertainty. It aims to critically analyze existing HRM assessment models to reveal their limitations in volatile environments, clarify the significance of socio-economic indicators in capturing the comprehensive impact of HRM, and develop a flexible framework that integrates these indicators conceptually, without relying on the collection of new empirical data. Methodologically, the article is based on a qualitative literature review of recent research, strategic HRM theories (such as dynamic capabilities and stakeholder theory), and international human capital standards. The proposed framework is conceptual in nature but supported by examples from existing studies, including those on high-performance work systems (HPWS) and their effect on resilience and adaptability in times of crisis. The structure of the article includes a review of current evaluation approaches, the role of socio-economic indicators, and the design of a conceptual framework for HRM assessment, followed by findings and conclusions.

2. Contemporary Approaches to Assessing the Effectiveness of HRM

The evaluation of human resource management (HRM) effectiveness has undergone significant evolution – from transactional and financially oriented assessments to more comprehensive and strategic models. Traditional approaches primarily emphasized quantitative indicators such as turnover rate, absenteeism, cost-per-hire, or return on investment in training programs. While these remain relevant, they are increasingly viewed as insufficient for capturing the full impact of HRM on organizational performance, particularly under volatile and unpredictable conditions (Cook, MacKenzie, Forde, 2016). With the development of Strategic Human Resource Management (SHRM), assessment tools have expanded to reflect the alignment of HRM with long-term organizational goals. Frameworks such as the HR Scorecard and the Balanced Scorecard, when adapted for HR purposes, advocate for multi-dimensional evaluation. These models account not only for financial and operational outcomes but also for internal process effectiveness, employee development, innovation, and stakeholder engagement. As a result, HRM is now assessed through a broader lens that includes both organizational results and workforce dynamics.

A notable contemporary method is the use of integrated HRM performance indices, which combine various indicators into a single evaluative framework. For example, Yuryk et al. (2021) developed an integrated indicator based on ISO 30414:2018 standards, designed to reflect the effectiveness of HRM in the Ukrainian industrial context (Yuryk, Bezpalko, Hryniuk, 2021). Such approaches offer a dual function: they serve as tools for current performance diagnosis and as strategic guides for decision-making. The implementation of international standards like ISO 30414 signals a growing commitment to standardized human capital reporting, enabling organizations to consistently track socio-economic indicators such as engagement, well-being, and productivity. Another widely adopted approach involves HR analytics or People Analytics, which applies data-driven techniques to analyze, interpret, and even predict the outcomes of HR decisions. The integration of big data from various sources – HRIS systems, engagement surveys, performance evaluations – allows organizations to construct a dynamic and real-time view of HRM effectiveness. This is particularly valuable in conditions of uncertainty, where organizational responsiveness depends on the ability to detect emerging trends in workforce

behavior and productivity. Further, research on High-Performance Work Systems (HPWS) has emphasized the role of cohesive HRM practices – such as selective hiring, intensive training, and participatory management – in driving organizational success. These systems are associated with improved performance indicators but also depend on intermediate variables such as employee satisfaction, trust in management, and organizational commitment. Modern evaluation models, therefore, incorporate social indicators as early signals of the long-term effectiveness of HRM systems.

Additionally, contingency-based approaches are increasingly used to assess how well HRM practices fit the external environment and organizational strategy. Scholars argue that under conditions such as economic recessions or political instability, organizations may deprioritize "soft" HRM practices like development or engagement, jeopardizing long-term resilience. Evaluating the balance between short-term efficiency and long-term sustainability of HR investments is now seen as a key component of HRM effectiveness (Marler, Boudreau, 2017).

In summary, contemporary approaches to assessing HRM effectiveness reflect a paradigm shift: from static, efficiency-centered measures to dynamic, multidimensional, and context-sensitive models. These modern frameworks integrate financial, operational, and social indicators, making them better suited for evaluating HRM performance in complex and uncertain environments. They also establish a solid foundation for incorporating socio-economic metrics, which are essential for capturing the full spectrum of HRM's contribution to sustainable organizational success.

3. Socio-Economic Indicators in HRM Evaluation Under Uncertainty

In conditions of uncertainty – caused by economic turbulence, technological change, or social and political crises – organizations require more than traditional efficiency-based tools to assess the performance of their human resource management (HRM) systems. In this context, socio-economic indicators have become essential for providing a multidimensional view of HRM effectiveness. These indicators capture both economic outcomes (such as productivity, labor cost, and return on investment) and social outcomes (such as employee satisfaction, resilience, trust, and development), offering a more holistic understanding of how HRM contributes to organizational sustainability and adaptability.

The value of these indicators becomes particularly evident in times of disruption. Social indicators – such as morale, trust in leadership, and commitment – can play a crucial role in organizational resilience. Empirical studies, such as Ab. Wahab et al. (2021),

have demonstrated that high-commitment HR systems, which foster employee involvement, training, job security, and empowerment, help maintain performance and reduce burnout during crises. In other words, investing in the social aspects of HRM can lead to tangible economic benefits, such as sustained productivity and reduced turnover, even in highly unstable environments (Ab. Wahab, Tatoglu, Glaister, Demirbag, 2021). Among the most critical indicators is employee well-being, which has gained prominence as both a strategic and ethical imperative. In uncertain conditions, elevated stress, anxiety, and job insecurity can undermine not only performance but also organizational cohesion. By tracking well-being metrics – such as engagement levels, work-life balance, or absenteeism due to mental health – organizations can identify potential threats early and adjust HR policies accordingly. Positive well-being trends signal effective HRM; negative trends highlight areas requiring intervention (Guest, 2017). Adaptability and development indicators are also central to long-term organizational competitiveness. A workforce equipped with diverse skills and supported by continuous learning opportunities is better prepared to respond to rapid market or technological changes. Metrics such as internal promotion rates, training participation, or cross-functional mobility serve as indicators of HRM's role in future-readiness. Cultural indicators, such as values alignment, ethical climate, and collaborative behavior, further enrich the socio-economic profile. A strong and coherent organizational culture enhances employee engagement and supports strategic agility. Especially under uncertainty, a culture that promotes innovation and collective responsibility can determine whether an organization merely survives or successfully adapts. It is equally important to include external socio-economic context when evaluating HRM effectiveness. Labor market dynamics, economic conditions, demographic trends, or changes in employment legislation directly affect workforce behavior and organizational decision-making. Linking internal HRM indicators with external benchmarks (e.g., national unemployment rates, inflation-adjusted wages, or sectoral turnover norms) enables more informed and flexible management responses.

Socio-economic indicators offer a comprehensive framework for evaluating HRM performance beyond short-term cost metrics. They reflect the interconnectedness of people and performance, capturing both risks and opportunities inherent in managing human capital under uncertainty. By incorporating these indicators systematically into HRM evaluation processes, organizations can improve their ability to monitor workforce health, align HR policies with long-term goals, and adapt effectively to evolving challenges.

4. Designing an Analytical Framework for HRM Performance Evaluation

Building upon the insights from contemporary HRM evaluation approaches and the integration of socio-economic indicators, this section outlines a comprehensive analytical framework tailored for assessing HRM effectiveness in volatile and uncertain environments. The framework is conceptual and designed to be applicable across different organizational contexts without relying on specific empirical data, while remaining grounded in international standards and academic research.

The first stage involves environmental and uncertainty analysis, which allows organizations to map both external and internal sources of instability. These may include economic downturns, geopolitical risks, regulatory shifts, or internal restructuring. By understanding the context-specific risks, organizations can determine which HRM dimensions are most vulnerable or critical, thereby ensuring that the evaluation process is strategically focused. For instance, during periods of industry disruption, attention might shift towards agility-related indicators such as skill development or innovation readiness (Erederi, Nurgabdeshev, Kozhakhmet, Rofcanin, Demirbag, 2021). The second component is defining HRM goals in alignment with organizational strategy and stakeholder needs. In a stable environment, HRM might primarily aim at efficiency and cost reduction; however, under uncertainty, goals often expand to include workforce resilience, retention of critical knowledge, and sustaining employee morale. It is essential to recognize the diverse expectations of stakeholders: top management may prioritize business continuity and performance, while employees seek security, clarity, and support. A balanced evaluation framework must capture this duality. The third element focuses on the selection of socio-economic indicators, which serve as key performance indicators (KPIs) within the framework. Drawing from sources such as ISO 30414:2018 and contemporary literature, indicators are grouped into categories: leadership and culture (e.g. trust in leadership, inclusiveness), employee well-being and engagement (e.g. satisfaction, absenteeism, burnout rates), talent development (e.g. training hours, internal promotions), productivity and performance (e.g. revenue per employee, task success rate), and cost efficiency (e.g. HRM cost ratios, turnover costs). Each indicator is linked to either social value, economic output, or both, enabling a multidimensional evaluation (Yuryk, Bezpalko, Hryniuk, 2021). The fourth step is constructing an integrated evaluation model, which consolidates these indicators into a composite score or dashboard. This may involve assigning relative weights to each category, depending on organizational priorities. For example,

in knowledge-based sectors, indicators related to learning and development may be given more emphasis. The framework supports both qualitative judgments and quantitative scoring, encouraging organizations to adapt the model as new challenges emerge – such as remote work transitions or crises requiring shifts in workforce strategy. Next, data collection and analysis are undertaken using a mix of sources: HRIS systems for quantitative data, employee surveys for qualitative insights, and external benchmarks for comparative context. Advanced HR analytics tools can further enhance the process through pattern recognition and predictive modelling. This stage ensures that decision-makers have access to timely, evidence-based insights on both employee experience and organizational performance (Marler, Boudreau, 2017). The sixth component is interpretation and diagnostic analysis. Rather than treating the results as static, the framework encourages exploring interconnections – for instance, whether declining engagement is a leading indicator of falling sales, or whether budget cuts in training correlate with increased errors or delays. This diagnostic function enhances the ability to take preemptive actions and avoid reactive responses. Finally, the framework emphasizes a feedback loop into HR strategy and decision-making. Findings should inform adjustments to HRM practices, policy changes, or resource reallocation. For example, high employee stress scores may prompt wellness program expansion, while weak productivity trends might signal a need for better skills matching or performance incentives. Regular (e.g. quarterly) review cycles support adaptive management and keep HRM aligned with shifting external conditions and internal priorities.

In sum, the proposed analytical framework enables organizations to evaluate HRM effectiveness through an integrated socio-economic perspective that is dynamic, stakeholder-sensitive, and context-aware. It is not merely a tool for measurement, but a mechanism for strategic learning and resilience-building in the face of uncertainty.

5. Findings

The study reveals several key findings about assessing HRM effectiveness under uncertainty. First, it confirms that traditional models – focused mainly on operational efficiency or historical data – lack the sensitivity to capture emerging challenges in volatile environments. Overemphasis on short-term cost reduction may obscure deeper vulnerabilities that manifest during crises, underscoring the need for broader, future-oriented evaluation criteria. Second, integrating socio-economic indicators significantly improves the robustness of HRM evaluation. Employee well-being, engagement, and development are shown to have a direct influence on productivity and

profitability, especially in uncertain contexts where adaptability is vital. The framework developed in this study demonstrates how these indicators can be embedded into strategic assessment processes using tools like integrated indices or balanced scorecards. These tools not only aggregate diverse metrics but also support managerial decision-making by acting as navigational instruments for HR strategy. Third, the importance of adaptability in HRM evaluation emerges as a central theme. Leading organizations tend to revise their KPIs frequently, incorporate scenario planning, and apply analytics to track early signs of workforce-related risks. High-commitment HR practices – such as employee involvement and internal career development – were associated with greater organizational resilience, indicating their value as diagnostic indicators in volatile settings. Another finding highlights the role of standardized human capital reporting frameworks, such as ISO 30414. Aligning internal HRM evaluation with these standards enhances transparency, facilitates benchmarking, and strengthens accountability to stakeholders, including investors and regulators. Using common indicators – like turnover, diversity, or training investments – enables comparison across firms and industries, enriching the evaluative context. Lastly, while the conceptual framework proposed here is theoretically grounded, further empirical testing is needed to validate its application across various sectors and regions. Still, the overall findings support the viability and value of a socio-economic, uncertainty-aware approach to HRM evaluation – one that balances human development with strategic performance, even amid unpredictable change.

6. Conclusions

This article set out to explore the potential of socio-economic indicators as a tool for evaluating the effectiveness of human resource management (HRM) in environments marked by uncertainty. Through conceptual analysis and a synthesis of relevant literature, it has demonstrated that integrating social and economic performance metrics provides a more comprehensive and adaptable basis for HRM assessment compared to conventional efficiency-focused approaches. In volatile contexts, such dual-focus evaluation enables organizations to better identify risks, align with stakeholder expectations, and preserve long-term strategic capacity. A central outcome of this study is the development of a flexible

analytical framework for HRM evaluation. It begins with an assessment of contextual uncertainties, followed by alignment of HR goals with organizational strategy, the selection of relevant socio-economic indicators, and the construction of an adaptable scoring and feedback model. This framework offers practical guidance for how organizations can measure HRM effectiveness not only through financial outcomes, but also by assessing employee engagement, well-being, adaptability, and development – factors shown to contribute significantly to organizational resilience in times of crisis. The conclusions of the article have both theoretical and applied implications. Theoretically, they reinforce the evolving view of HRM as a strategic, value-generating function that should be evaluated through a multidimensional lens. This aligns with emerging paradigms such as sustainable and responsible HRM, which emphasize the long-term benefits of supporting employee well-being, capacity building, and ethical governance. Furthermore, the paper highlights that HR metrics can and should serve as part of broader risk monitoring systems, especially as firms increasingly face unpredictable economic, social, and technological shifts. From a practical standpoint, the article encourages HR professionals and organizational leaders to incorporate socio-economic indicators into their internal HRM dashboards and reports. Tools such as composite HRM effectiveness indices, informed by standards like ISO 30414, can enhance decision-making transparency and stakeholder communication. Regular monitoring of such indicators – especially in dynamic conditions – can act as an early-warning system, supporting proactive and evidence-based HR interventions. Future research should focus on empirical validation of the proposed framework across sectors and national contexts. Investigating which indicators most strongly correlate with resilience and performance outcomes in uncertain times could help refine the approach. The integration of advanced HR analytics and AI-driven diagnostic tools also offers promising avenues to strengthen real-time responsiveness and predictive capacity. In summary, the study affirms that socio-economic assessment is not only feasible but necessary for robust HRM evaluation in an era of uncertainty. By aligning performance measurement with both human and economic dimensions, organizations can foster more sustainable, adaptive, and effective people management systems – better equipped to navigate ongoing change.

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