

Identification of Causal, Contextual, and Intervening Factors in Existing Performance Evaluation Systems in the Electricity Industry

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Article Info

Article type:

Original Research

How to cite this article:

Ebrahimitabar, M., Bohlooli, N., Ramezani, M., Beikzad, J. & Sanginourpour, A., (2027). Identification of Causal, Contextual, and Intervening Factors in Existing Performance Evaluation Systems in the Electricity Industry. *Journal of Resource Management and Decision Engineering*, 6(4), 1-23.

<https://doi.org/10.61838/kman.jrmde.415>



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ABSTRACT

This study aimed to identify and explain the causal, contextual, and intervening factors influencing existing performance evaluation systems in the electricity industry. This applied qualitative study was conducted using the grounded theory approach. Participants consisted of managers, experts, and specialists with professional experience in performance evaluation, human resource management, organizational development, and organizational learning within the electricity industry. Participants were selected through purposive snowball sampling, and data collection continued until theoretical saturation was achieved. Data were gathered through semi-structured interviews based on open-ended questions addressing current performance evaluation practices, organizational barriers, learning mechanisms, and factors affecting the effectiveness of evaluation systems. Interviews were audio-recorded with informed consent, transcribed verbatim, and analyzed through open, axial, and selective coding. The constant comparative method was used throughout the analytical process, and MAXQDA software supported data organization and coding. Credibility, transferability, dependability, and confirmability were enhanced through member checking, detailed methodological documentation, rich contextual description, reflexivity, and external review of selected coding and interpretations. The analysis identified three major dimensions affecting existing performance evaluation systems. Causal conditions included pressure to achieve organizational objectives, the need for accountability, the need for resource efficiency, and the need for performance transparency. Contextual conditions comprised the bureaucratic structure of the electricity industry, the prevailing organizational culture, and organizational readiness for learning. Intervening conditions included the compensation system, employee motivation, information technology infrastructure, and leadership style. The findings indicated that performance evaluation effectiveness resulted from the interaction of organizational demands, structural and cultural conditions, and facilitating or constraining organizational mechanisms. Performance evaluation in the electricity industry should be understood as an integrated organizational process rather than an isolated human resource function; improving its effectiveness requires simultaneous attention to strategic alignment, organizational learning, cultural readiness, motivational mechanisms, digital infrastructure, reward systems, and developmental leadership.

Keywords: Performance Evaluation; Electricity Industry; Grounded Theory; Organizational Learning; Causal Conditions; Contextual Conditions; Intervening Conditions

1. Introduction

Performance evaluation is one of the central mechanisms through which organizations translate strategic objectives into measurable expectations, monitor the quality and efficiency of individual and organizational activities, and generate information for managerial decision-making. In contemporary organizations, performance evaluation is no longer regarded merely as an administrative procedure for rating employees at fixed intervals; rather, it has increasingly become an integrated managerial process that links organizational goals, employee competencies, learning processes, motivation, accountability, and continuous improvement. A well-designed performance evaluation system can provide managers with reliable information concerning the extent to which employees and organizational units contribute to organizational objectives, while simultaneously helping employees recognize performance gaps, identify developmental needs, and align their activities with organizational priorities. Accordingly, recent approaches to performance evaluation emphasize a transition from judgment-oriented appraisal toward developmental and learning-oriented systems in which evaluation is used not only to determine past performance but also to improve future capabilities (Asadi, 2021; Rozzadeh Zavareh, 2025).

The importance of performance evaluation becomes particularly evident in organizations operating in strategically important, technically complex, and resource-intensive industries. Such organizations are required to reconcile multiple and sometimes competing priorities, including operational reliability, resource efficiency, accountability, service quality, technological adaptation, employee development, and responsiveness to environmental changes. Performance evaluation provides an institutional mechanism through which these priorities can be transformed into measurable criteria and incorporated into managerial decisions. However, the effectiveness of such systems depends on the extent to which evaluation indicators accurately represent organizational objectives and whether the resulting information is subsequently used for improvement. Research on performance management has emphasized that human resource performance systems must be designed in direct alignment with organizational objectives rather than functioning as isolated administrative routines (Sherafat et al., 2018). When this alignment is weak, employees may perceive evaluation as a bureaucratic

requirement rather than a meaningful mechanism for guiding behavior and improving organizational outcomes.

Performance evaluation also plays an important role in ensuring organizational accountability and transparency. As organizational structures become more complex and responsibilities are distributed across multiple managerial and operational levels, organizations need systematic mechanisms for determining whether assigned responsibilities have been fulfilled and whether resources have been used appropriately. Evaluation systems can create traceability between organizational responsibilities, employee actions, and resulting outcomes, thereby facilitating managerial accountability. At the same time, clearly defined indicators can reduce ambiguity surrounding performance expectations and provide a more transparent basis for decisions concerning rewards, promotion, training, and organizational development. The value of performance measurement, however, depends heavily on the quality of the information generated. Recent studies in technologically intensive sectors demonstrate that increasingly sophisticated analytical methods and data-driven techniques are being used to predict, explain, and improve organizational performance, reflecting a broader movement toward evidence-based performance management (Dong, 2022; Han et al., 2024).

Despite these advantages, performance evaluation systems frequently face substantial implementation challenges. Traditional systems may depend excessively on formal appraisal forms, annual ratings, managerial judgment, and standardized indicators that do not adequately reflect the complexity of actual work. In bureaucratic organizations, evaluation can become procedural rather than developmental, with emphasis placed on completing required documentation instead of identifying performance problems and generating organizational learning. Such limitations become particularly consequential when evaluation results are not connected with employee development, organizational feedback, knowledge sharing, or corrective action. A contemporary performance system must therefore be capable of moving beyond retrospective judgment and contributing to organizational adaptation, competency development, and continuous learning. The development of performance evaluation models that explicitly emphasize learning and competency development illustrates the growing recognition that evaluation should contribute directly to employee growth and organizational capability enhancement (Rozzadeh Zavareh, 2025).

This learning-oriented perspective is closely connected with the concept of the learning organization. A learning organization is generally characterized by its capacity to acquire, share, interpret, and apply knowledge continuously in order to improve its processes, capabilities, and responses to changing conditions. Organizational learning involves more than formal training; it encompasses reflection on experience, identification of errors, knowledge exchange, modification of established routines, experimentation, and collective adaptation. The learning organization literature consequently emphasizes the development of organizational structures and cultures that facilitate continuous learning at individual, group, and organizational levels (Örtenblad, 2019). From this perspective, performance evaluation can function as an important organizational learning mechanism because it generates information concerning the gap between expected and actual performance. When these data are systematically discussed and used for reflection, training, process redesign, and managerial improvement, evaluation becomes an input into organizational learning rather than merely a mechanism of administrative control.

The relationship between organizational learning and organizational performance has received considerable attention across different organizational settings. Evidence suggests that organizations capable of institutionalizing learning processes are better positioned to improve their performance because learning enhances the ability to recognize problems, absorb knowledge, adapt routines, and respond to environmental changes. Organizational learning has been linked with knowledge-based performance and improvement in organizational processes, indicating that learning mechanisms can strengthen the capacity of organizations to convert knowledge into measurable outcomes (Azimi et al., 2020). Similarly, research has shown that organizational learning and dynamic capabilities can contribute positively to organizational performance, particularly when firms operate under changing technological and market conditions (Chen, 2022). These findings suggest that evaluation systems should not be separated conceptually from learning systems, because performance information can provide one of the principal sources through which organizations detect deficiencies and initiate adaptive responses.

The importance of learning is particularly pronounced in environments characterized by technological transformation. The emergence of Industry 4.0 and Industry 5.0 has increased pressure on organizations to develop adaptive capabilities, integrate digital technologies, and

continually update managerial and employee competencies. Organizational learning has been identified as an important mechanism influencing awareness and adoption of Industry 4.0 technologies and, ultimately, business performance improvement (Prashar et al., 2023). In emerging Industry 5.0 environments, leadership behaviors are similarly important because leaders influence both learning and innovative performance in increasingly artificial intelligence-driven workplaces (Alshaibani et al., 2024). These developments are highly relevant to infrastructure-intensive industries because technological modernization cannot be achieved through technical investment alone; organizations must also possess systems that identify competency gaps, assess adaptation to new technologies, and encourage employees and managers to learn from performance information.

Organizational learning is also closely related to resilience and the ability to respond to uncertainty. Organizations that learn systematically from prior experiences, disruptions, operational failures, and changing environmental conditions can develop stronger capacities for anticipation, adaptation, and recovery. A systematic review of organizational resilience has demonstrated the central role of organizational learning in building the capacity to respond effectively to disruption and uncertainty (Evenseth et al., 2022). This relationship is particularly important for critical infrastructure sectors such as the electricity industry, where operational interruptions, technological risks, changing demand patterns, and environmental pressures may have broad social and economic consequences. Performance evaluation in such settings must therefore contribute not only to routine accountability but also to organizational resilience by enabling organizations to identify weaknesses early, learn from deviations, and implement corrective measures.

Another significant dimension of the relationship between learning and performance concerns innovation. Organizational learning facilitates the reinterpretation of existing practices, acquisition of new knowledge, and creation of conditions in which employees and managers can develop more effective solutions. Studies have demonstrated that organizational learning can mediate or strengthen the relationship between knowledge management practices and innovation-related outcomes. For example, knowledge management practices have been shown to influence innovation performance through organizational learning and organizational creativity (Patwary et al., 2024). Similarly, total quality management practices can contribute to innovation performance through the development of

organizational learning capability (Mohaghar et al., 2019). These findings reinforce the view that performance systems should generate information that can be transformed into knowledge, because evaluation data that remain disconnected from learning and innovation processes provide limited strategic value.

Knowledge management and learning culture are themselves closely interconnected. Organizations benefit when knowledge is not merely accumulated but is actively transferred, discussed, interpreted, and integrated into daily processes. Knowledge-management-based frameworks have therefore emphasized the importance of strengthening learning cultures that facilitate collective knowledge creation and application (Othman & ElKady, 2023). Similarly, research based on organizational excellence frameworks has demonstrated important relationships among knowledge management processes, organizational capabilities, and performance-related results (Bocoya Maline et al., 2024). Such evidence suggests that performance evaluation systems need to be designed as part of a broader organizational knowledge architecture. Performance indicators reveal patterns, deviations, strengths, and weaknesses; however, their organizational value emerges only when these signals are interpreted and converted into learning, knowledge sharing, and managerial action.

The same principle applies to the relationship between strategic planning, dynamic capabilities, and organizational performance. Strategic planning defines desired directions and priorities, whereas dynamic capabilities enable organizations to adjust resources and routines when environmental conditions change. Evidence indicates that dynamic capabilities, strategic planning, and organizational performance can form a mutually reinforcing cycle in which organizational capabilities improve the implementation of strategy and performance outcomes, while performance feedback contributes to subsequent strategic adaptation (Araújo, 2022). Performance evaluation can therefore be considered a connecting mechanism within this cycle because it generates information regarding the implementation of strategic plans and reveals whether organizational capabilities are sufficient to achieve intended outcomes. In industries where operational activities are strongly influenced by policy, regulation, technology, and resource constraints, this feedback function becomes particularly significant.

Learning should also be understood as a dynamic process that may require organizations to abandon outdated

assumptions and routines. Organizational unlearning refers to the deliberate questioning or discontinuation of established knowledge, practices, or beliefs that have become ineffective. Research has shown that organizational learning and unlearning interact with governance mechanisms and have implications for organizational performance (Yeniaras et al., 2021). This insight is important for performance evaluation because traditional evaluation systems may themselves reinforce outdated routines if they continue to measure indicators that are no longer strategically relevant. A learning-oriented evaluation system should therefore be capable of stimulating critical reflection not only on employee performance but also on the appropriateness of existing criteria, procedures, and managerial assumptions.

The influence of organizational learning extends to individual employee performance as well. Learning organizations create conditions in which employees can acquire new competencies, exchange knowledge, engage with organizational goals, and improve their adaptive capacity. Research has shown that knowledge sharing and learning-organization characteristics can influence employee performance through employee engagement (Riva'i & Sukarno, 2024). Employee engagement is particularly relevant because even technically sound evaluation systems may fail when employees do not perceive the process as meaningful or do not feel psychologically invested in organizational objectives. Performance evaluation should therefore be integrated with mechanisms that increase participation, feedback, learning opportunities, and employee involvement rather than relying solely on managerial scoring.

Individual adaptive performance is similarly influenced by learning-related processes. Employees working in complex organizational settings increasingly need to modify their behavior in response to new technologies, changing responsibilities, and unpredictable conditions. Organizational learning can support such adaptation by providing information, opportunities for development, and social mechanisms for exchanging experience. Research in manufacturing organizations has demonstrated a meaningful relationship between organizational learning and adaptive performance, with individual psychological capabilities such as emotional intelligence also contributing to this relationship (Pradhan et al., 2017). Earlier research has likewise emphasized the connection between human capital, organizational learning capability, and performance-related outcomes, indicating that the development of employee

capabilities and organizational learning processes should be considered complementary rather than independent domains (Khasmafkan Nezam et al., 2014).

Continuous learning is therefore increasingly recognized as a determinant of sustainable organizational performance across sectors. Research has indicated that continuous learning practices can contribute to improved performance by enabling organizations and employees to respond to changing demands and continuously refine their competencies (Choi & Lee, 2023). Organizational learning can also influence sustainable firm performance through intervening mechanisms such as organizational networking and innovation, demonstrating that learning is not a direct and isolated process but one embedded within broader organizational systems (Inthavong et al., 2023). In this respect, the effectiveness of performance evaluation depends not simply on whether learning is valued conceptually but on whether the organization possesses structures that allow performance feedback to interact with innovation, networking, knowledge exchange, and managerial decision-making.

At the same time, the relationship between learning and performance can be constrained by organizational inertia. Established organizations often develop deeply embedded routines, hierarchical procedures, and institutional norms that resist change even when existing methods become inefficient. Research examining management innovation, organizational inertia, organizational learning, and organizational performance has demonstrated that learning and inertia can exert contrasting influences on organizational outcomes (Jiang, 2023). This tension is highly relevant to bureaucratic industries because performance evaluation reforms may be introduced formally without producing corresponding changes in managerial behavior or organizational culture. Consequently, the analysis of an evaluation system must extend beyond its formal indicators and consider the contextual conditions that facilitate or inhibit actual implementation.

Organizational culture constitutes one of the most important of these contextual conditions. A culture that values transparency, feedback, knowledge sharing, experimentation, and learning from mistakes can enhance the developmental function of performance evaluation. In contrast, cultures characterized by excessive hierarchy, fear of criticism, interpersonal favoritism, or avoidance of responsibility may undermine the reliability and usefulness of evaluation processes. Learning-oriented performance management therefore requires a cultural environment in

which employees can discuss weaknesses without perceiving every negative result as a threat. Such a climate enables organizations to move from blame-oriented appraisal toward problem diagnosis and improvement. Studies examining learning, innovation, knowledge processes, and organizational performance collectively demonstrate that cultural and relational conditions shape whether knowledge and evaluation information are converted into constructive organizational outcomes (Bocoya Maline et al., 2024; Othman & ElKady, 2023; Patwary et al., 2024).

Leadership represents another critical intervening factor. Managers determine how evaluation criteria are communicated, how feedback is delivered, whether employees participate in goal setting, and whether performance weaknesses are treated as opportunities for development or grounds for punishment. Leadership behavior also affects psychological safety, motivation, learning, and innovation. In technologically advanced organizational environments, leadership has been shown to influence both organizational learning and innovative performance (Alshaibani et al., 2024). Leadership is therefore not simply an external condition surrounding performance evaluation; it directly influences the meaning employees attribute to the process. A participative and developmental leadership approach can make evaluation a mechanism for dialogue and coaching, whereas authoritarian leadership may convert the same formal system into a source of fear or defensive behavior.

Technological infrastructure has also become increasingly important in contemporary evaluation systems. Digital platforms can improve the systematic collection, storage, integration, analysis, and reporting of performance data. Machine-learning applications across different sectors illustrate the growing capacity of organizations to use complex datasets for predicting and interpreting performance outcomes (Dong, 2022; Han et al., 2024). At the same time, digital technology can support organizational learning by enabling access to educational resources and facilitating flexible learning processes, as demonstrated in studies of technology-mediated training and learning performance (Chen & Tseng, 2020). Nevertheless, technological systems contribute to effective performance management only when they are supported by high-quality data, appropriate indicators, user competence, and organizational willingness to use generated information constructively.

The compensation and motivational consequences of evaluation must likewise be considered. Employees judge the credibility of performance evaluation partly through the consequences associated with evaluation outcomes. When performance differences are recognized through compensation, promotion, professional development, or other meaningful organizational outcomes, employees are more likely to view the process as consequential. Conversely, when evaluation results are disconnected from rewards or when reward allocation is perceived as arbitrary, the legitimacy of the system may decline. Development-oriented evaluation models therefore emphasize not merely measurement but the connection between performance information and competency development, learning opportunities, and future improvement (Rozzadeh Zavareh, 2025). This perspective is consistent with broader evidence indicating that employee performance is influenced by organizational learning, engagement, and opportunities for meaningful participation (Riva'i & Sukarno, 2024).

These issues acquire particular importance in the electricity industry. The electricity sector is characterized by strategic national importance, extensive technical infrastructure, substantial capital investment, geographically distributed operations, strict reliability requirements, multiple organizational layers, and a combination of technical, administrative, managerial, and regulatory responsibilities. Under these conditions, performance evaluation cannot be reduced to individual appraisal alone. It must reflect the relationships among strategic goals, operational outputs, resource utilization, accountability, technological capability, employee competencies, organizational learning, and managerial effectiveness. The complexity of the industry also means that apparently weak employee or unit performance may originate from broader organizational conditions, including bureaucratic procedures, inadequate information systems, insufficient authority, misaligned reward mechanisms, or ineffective leadership. Accordingly, understanding the conditions surrounding existing performance evaluation systems requires a contextual and process-oriented analytical perspective.

Although the literature provides substantial evidence regarding performance management, organizational learning, knowledge management, innovation, dynamic capabilities, employee engagement, and adaptive performance, these domains are often investigated separately. Existing studies demonstrate the contribution of organizational learning to knowledge-based performance

(Azimi et al., 2020), dynamic capabilities and organizational performance (Chen, 2022), innovation and sustainable performance (Inthavong et al., 2023), Industry 4.0 adoption (Prashar et al., 2023), adaptive employee performance (Pradhan et al., 2017), knowledge management and organizational excellence (Bocoya Maline et al., 2024), and resilience (Evenseth et al., 2022). However, fewer studies have examined how the causal pressures that generate the need for performance evaluation interact with the organizational context and with intervening mechanisms such as compensation, motivation, information technology, and leadership, particularly within a strategically important infrastructure industry.

A further research gap concerns the need for context-specific explanations rather than merely importing generic performance evaluation models into complex organizations. Performance systems are embedded in particular structural and cultural environments, and their effectiveness depends on how well they correspond to organizational realities. Bureaucratic structure, organizational learning readiness, leadership behavior, technology, and motivational mechanisms may alter the effects of apparently similar evaluation procedures. Therefore, identifying the factors that shape performance evaluation within the electricity industry requires an inductive approach capable of revealing relationships grounded in the experiences of managers, specialists, and organizational experts themselves. Such an approach can provide a more nuanced account of why existing systems operate as they do and what organizational conditions may need to change if performance evaluation is to become more transparent, developmental, and learning-oriented.

Accordingly, **the aim of this study was to identify and explain the causal, contextual, and intervening factors influencing existing performance evaluation systems in the electricity industry.**

2. Methods and Materials

The present study was conducted using an applied qualitative research design based on the grounded theory strategy. From the perspective of purpose, the study was applied because it sought to generate findings that could contribute directly to the improvement and redesign of performance evaluation systems in the electricity industry. From a methodological perspective, a qualitative approach was selected because the study aimed to obtain an in-depth understanding of the causal, contextual, and intervening

conditions influencing existing performance evaluation systems from the perspectives of individuals who had direct managerial, professional, or organizational experience in this field. Grounded theory was considered particularly appropriate because the principal objective was not merely to describe existing performance evaluation practices, but to derive an empirically grounded conceptual explanation of the factors shaping such systems within the specific organizational and institutional context of the electricity industry. Grounded theory is especially useful when existing theoretical frameworks are insufficient to explain a phenomenon comprehensively and when the researcher intends to develop concepts, relationships, and theoretical propositions directly from systematically collected empirical data (Corbin & Strauss, 2015).

The study setting consisted of organizations operating within the Iranian electricity industry, with particular attention to specialized parent companies as well as electricity generation, transmission, and distribution companies. The electricity industry was selected because of its strategic importance, relatively complex administrative and organizational structure, dependence on coordinated human and technical performance, and the necessity of establishing effective performance evaluation mechanisms capable of supporting organizational efficiency and continuous learning. The substantive scope of the study therefore lay at the intersection of human resource management, organizational learning, and employee and organizational performance evaluation. Particular attention was given to the way formal and informal organizational structures, managerial practices, institutional conditions, and learning-related processes affected the operation of current performance evaluation systems.

Participants were selected using purposive sampling supplemented by a snowball sampling strategy. At the beginning of the sampling process, individuals with substantial knowledge and experience related to performance evaluation and management in the electricity industry were intentionally identified and invited to participate. After each interview, participants were asked, where appropriate, to introduce other knowledgeable individuals who possessed relevant professional experience or specialized expertise concerning the research topic. This approach made it possible to gradually expand access to information-rich participants and was especially appropriate because experts with specialized knowledge of performance evaluation systems were distributed across different organizational levels and functional areas. Snowball

sampling is commonly used in qualitative studies where access to specialized or dispersed professional populations may be difficult and where referrals from knowledgeable participants can facilitate the identification of additional information-rich cases (Miles, Huberman, & Saldaña, 2020).

The participants included electricity industry experts, senior and middle managers, individuals responsible for performance evaluation and human resource management, organizational development specialists, and experts familiar with organizational learning and learning-organization principles. Selection was based on purposive eligibility considerations, including relevant managerial or professional experience, familiarity with existing performance evaluation mechanisms, knowledge of organizational structures and managerial processes in the electricity sector, and the ability to provide detailed reflections on the strengths, limitations, contextual conditions, and implementation challenges associated with performance evaluation. Sampling and data collection proceeded concurrently, consistent with the logic of grounded theory, so that emerging analytical insights could guide the selection of subsequent participants. Interviews continued until theoretical saturation was achieved; that is, additional interviews no longer produced substantively new concepts, categories, properties, or relationships relevant to the developing analytical framework.

The research was conducted during the period corresponding to 2023–2025, and the empirical data reflected organizational conditions and participants' professional experiences during this period. The researcher played an active and interpretive role throughout the qualitative research process. Because the researcher constituted the primary instrument for interaction with participants and interpretation of the data, reflexivity was considered an important methodological principle. Throughout data collection and analysis, attention was therefore given to maintaining awareness of prior assumptions, documenting analytical decisions, distinguishing participants' accounts from the researcher's interpretations, and repeatedly comparing emerging interpretations with the original interview data.

Data were collected primarily through in-depth semi-structured interviews. Semi-structured interviewing was selected because it provided sufficient consistency across interviews while preserving the flexibility required to explore unexpected issues, clarify participants' meanings, and examine the organizational mechanisms underlying their experiences. This form of interviewing is particularly

compatible with qualitative and grounded theory research because it enables researchers to follow a general interview framework while using probing and follow-up questions to explore issues that emerge during interaction with participants (Creswell & Poth, 2018). Rather than restricting respondents to predetermined response categories, open-ended questions encouraged participants to describe their experiences, interpretations, judgments, and organizational observations in their own terms.

The interview guide was developed with reference to the objectives of the study, the conceptual literature on performance evaluation, human resource management, and organizational learning, and the specific structural characteristics of the electricity industry. The interview questions addressed participants' perceptions of how performance evaluation was currently designed and implemented, the principal strengths and weaknesses of existing systems, managerial and organizational conditions influencing the effectiveness of evaluation, barriers to fair and development-oriented assessment, the extent to which existing evaluation mechanisms encouraged learning and improvement, and the organizational factors that should be considered when developing a more effective performance evaluation model. Particular emphasis was placed on eliciting information concerning causal factors contributing to the formation or persistence of existing evaluation practices, contextual conditions affecting their implementation, and intervening factors that could either facilitate or constrain the relationship between organizational conditions and evaluation outcomes.

The interview process remained iterative throughout the study. In accordance with grounded theory principles, questions were refined as data collection progressed and as new concepts emerged. Early interviews were comparatively broad and exploratory, whereas later interviews increasingly focused on clarifying developing categories, comparing differing viewpoints, identifying relationships among categories, and examining conceptual gaps revealed during preliminary coding. Before the main data collection stage, the interview guide was reviewed and refined through preliminary interviews with two experts familiar with the electricity industry. Feedback from these preliminary interviews was used to improve the clarity, relevance, sequencing, and comprehensiveness of the questions.

Interviews were conducted at times and locations agreed upon with the participants. Before each interview, the purpose and general procedure of the study were explained, and participation was based on informed consent. With

participants' permission, interviews were audio-recorded to enable accurate transcription and detailed subsequent analysis. Field notes were also taken during and immediately after interviews to record significant statements, contextual observations, nonverbal or situational information where relevant, emerging analytical ideas, and potential issues requiring further exploration in subsequent interviews. Active interviewing techniques were employed throughout the process, including clarification questions, probes requesting examples or explanations, comparative questions, and questions designed to explore relationships among organizational processes and performance evaluation practices.

All recorded interviews were transcribed in full. The resulting transcripts constituted the primary textual corpus for qualitative analysis. The researcher repeatedly reviewed the transcripts together with the field notes to become familiar with the data and to identify early patterns and potentially significant concepts. Data collection and analysis were not treated as separate sequential stages; rather, they proceeded simultaneously so that emerging findings from earlier interviews could inform later data collection, consistent with the constant comparative logic of grounded theory.

Several procedures were used to enhance the trustworthiness and methodological rigor of the qualitative findings. Drawing on the criteria proposed by Lincoln and Guba (1985), attention was given to credibility, transferability, dependability, and confirmability. Credibility was supported through prolonged engagement with the interview material, continuous comparison of interpretations with the original data, and member checking. Selected preliminary interpretations, extracted codes, and emerging categories were shared with a number of participants to determine whether the findings adequately represented their professional experiences and perceptions. Their feedback was used to clarify interpretations where necessary and to reduce the risk of analytical misrepresentation.

Transferability was addressed by providing sufficiently detailed descriptions of the research setting, characteristics of the electricity industry, participant selection criteria, sampling strategy, data collection process, and analytical procedures. Such contextual specification enables readers and future researchers to judge whether the findings may be meaningfully applicable to other organizations, industries, or administrative settings. Dependability was strengthened through systematic documentation of the research process,

including decisions regarding participant selection, modification of interview questions, coding procedures, category development, and interpretation. Maintaining this methodological audit trail provided transparency regarding the manner in which the findings were generated.

Confirmability was reinforced through external review of portions of the qualitative data and the corresponding analytical interpretations. Selected transcripts, codes, or category structures were reviewed by an academic supervisor or another researcher familiar with qualitative methodology to determine whether the interpretations were supported by the original empirical material. Reflexive documentation was also used to distinguish analytical interpretations from the researcher's prior assumptions and expectations. Collectively, these procedures were intended to ensure that the final conceptual structure was grounded in participants' accounts rather than being primarily imposed through the researcher's subjective expectations.

The qualitative data were analyzed using the three-stage coding process associated with the grounded theory approach, comprising open coding, axial coding, and selective coding. The overall analytical process was iterative rather than strictly linear. Interview transcripts were examined repeatedly, and emerging codes and categories were continuously compared both within individual interviews and across participants. Constant comparison enabled the researcher to identify similarities, differences, recurring patterns, conceptual properties, and relationships among the conditions affecting performance evaluation systems. This analytical strategy was particularly appropriate for identifying the causal, contextual, and intervening factors embedded in the organizational environment of the electricity industry and for integrating these factors into a coherent explanatory framework.

During open coding, each interview transcript was read carefully and examined line by line. Statements, phrases, sentences, and passages containing significant meanings related to the research problem were identified as meaning units. Conceptual labels were then assigned to these units while remaining as close as possible to the participants' actual accounts. Coding at this stage was intentionally inclusive so that potentially important aspects of performance evaluation practices would not be excluded prematurely. Codes represented such issues as managerial practices, organizational structures, evaluation criteria, administrative procedures, perceived fairness, employee participation, feedback processes, learning mechanisms, cultural conditions, resource constraints, leadership

behavior, technological infrastructure, and other organizational circumstances raised by participants. Newly generated codes were continuously compared with previously identified codes to determine whether they represented distinct concepts or variations of an existing concept.

As analysis progressed, conceptually similar codes were grouped into preliminary subcategories. The properties and dimensions of these subcategories were explored through repeated comparison with the original interview material. Attention was given not only to frequently mentioned issues but also to less common accounts that revealed important variations or contradictory experiences. Memos were prepared during this process to document emerging interpretations, conceptual questions, relationships requiring further examination, and potential connections among categories. These analytical memos supported the transition from descriptive coding toward progressively more abstract conceptualization.

Axial coding was subsequently used to establish systematic relationships among the categories and subcategories generated during open coding. At this stage, fragmented concepts were reorganized around broader analytical dimensions, and the researcher examined the conditions under which particular organizational phenomena occurred, the contextual environments that shaped them, the factors that facilitated or constrained organizational responses, and their implications for performance evaluation practices. The paradigm model associated with Strauss and Corbin was used as an organizing analytical framework. Particular attention was devoted to distinguishing causal conditions from contextual and intervening conditions. Causal conditions were conceptualized as factors contributing directly to the emergence, persistence, or configuration of existing performance evaluation systems. Contextual conditions referred to the broader organizational, structural, cultural, administrative, or environmental circumstances within which these evaluation processes operated. Intervening conditions referred to factors that modified, facilitated, constrained, or otherwise influenced the effects of causal and contextual conditions on organizational actions and performance evaluation practices.

During axial coding, relationships among categories were repeatedly tested against the interview data. Categories were merged, separated, renamed, or redefined where necessary to improve conceptual clarity and ensure empirical correspondence. The researcher examined whether categories identified in one participant's account were

present in the experiences of other participants and investigated circumstances in which different or contradictory patterns occurred. This process allowed the emerging structure to move beyond a simple thematic description toward an explanatory representation of how performance evaluation systems functioned within the electricity industry.

Selective coding constituted the final stage of the analytical process. During this stage, the central category or organizing phenomenon was identified and the principal categories were integrated around it. Relationships among causal, contextual, and intervening conditions were refined and examined in relation to the broader performance evaluation process and the learning-oriented organizational perspective underlying the study. Categories that lacked sufficient conceptual development were revisited through the original transcripts, while relationships requiring further evidence were explored through subsequent interviews where necessary. The emerging conceptual framework was progressively refined until it demonstrated theoretical coherence, internal consistency, and sufficient explanatory coverage of the empirical data.

Theoretical saturation served as the principal criterion for determining the completion of data collection and category development. Saturation was considered to have been reached when subsequent interviews and comparisons no longer generated substantively new conceptual categories or meaningful properties relevant to the principal analytical dimensions. The final interpretation therefore emerged through continuous interaction among data collection, coding, comparison, memo writing, conceptual refinement, and theoretical integration rather than through a predetermined analytical structure.

MAXQDA qualitative data analysis software was used to support the organization, coding, retrieval, comparison, and management of the interview data. The software facilitated systematic storage of interview transcripts, assignment and revision of codes, organization of hierarchical categories, retrieval of coded segments, comparison of patterns across participants, and visualization of relationships among major concepts. However, the software was employed as an organizational and analytical support tool rather than as a substitute for researcher interpretation. Conceptual decisions concerning the meaning of codes, relationships among categories, identification of causal, contextual, and intervening factors, and integration of the grounded theoretical structure remained the responsibility of the researcher. Through the combination of systematic grounded

theory procedures, constant comparison, reflexive interpretation, and qualitative software-assisted data management, the analysis ultimately sought to provide an empirically grounded explanation of the factors shaping existing performance evaluation systems in the electricity industry.

3. Findings and Results

The participants in the qualitative phase consisted of 18 experts, managers, and specialists with direct experience in performance evaluation, human resource management, organizational development, and managerial processes in the electricity industry. Of the 18 participants, 14 were men and 4 were women. The participants represented different organizational and managerial levels in order to ensure that the analysis reflected diverse perspectives on existing performance evaluation systems. Six participants held senior managerial positions, five were middle-level managers or heads of organizational units, four were specialists or managers working directly in human resource management and performance evaluation, and three were experts in organizational development, planning, or organizational learning. In terms of educational qualifications, three participants held master's degrees and 15 held doctoral degrees or equivalent advanced professional qualifications. Their professional experience ranged from 11 to 31 years, with the majority having more than 15 years of experience in the electricity industry or related managerial and administrative fields. Participants were drawn from organizations associated with electricity generation, transmission, distribution, and specialized parent companies, thereby allowing the study to incorporate perspectives from different segments of the electricity industry. This diversity was particularly important because performance evaluation practices are influenced not only by formal human resource policies but also by organizational structure, managerial authority, technological capacity, operational requirements, and the specific administrative conditions prevailing in different parts of the industry.

Analysis of the semi-structured interviews through open, axial, and selective coding resulted in the identification of three major groups of conditions influencing existing performance evaluation systems in the electricity industry. These groups consisted of causal conditions, contextual conditions, and intervening conditions. Causal conditions represented the principal organizational pressures and requirements that created or reinforced the need for

performance evaluation. Contextual conditions reflected the structural, cultural, and learning-related environment within which the performance evaluation system operated. Intervening conditions comprised organizational mechanisms that could facilitate or inhibit the effective functioning of performance evaluation processes. Continuous comparison of codes across interviews

demonstrated that the effectiveness of performance evaluation could not be explained by isolated managerial procedures; instead, it emerged from the interaction of organizational demands, structural and cultural characteristics, motivational systems, technological capacity, and leadership practices.

Table 1

Overall Coding Structure of Factors Influencing Existing Performance Evaluation Systems in the Electricity Industry

Main Category	Subcategory	Conceptual Meaning	Representative Open Codes
Causal Conditions	Pressure to Achieve Objectives	Organizational pressure to ensure that individuals and units contribute to strategic, operational, and quantitative objectives	achievement of organizational targets, monitoring target accomplishment, operational commitments, performance pressure, realization of annual plans, alignment with strategic objectives
Causal Conditions	Need for Accountability	Requirement for managers and employees to explain and justify their decisions, actions, and performance results	managerial accountability, responsibility for outcomes, reporting obligations, traceability of decisions, answerability of organizational units
Causal Conditions	Need for Resource Efficiency	Necessity of evaluating whether financial, human, technical, and physical resources are being used effectively	efficient resource allocation, productivity improvement, reduction of waste, workforce efficiency, cost control, optimal utilization of equipment
Causal Conditions	Need for Performance Transparency	Requirement for clear and understandable information about employee, managerial, and organizational performance	transparency of indicators, clarity of evaluation criteria, access to performance information, reduction of ambiguity, objective reporting
Contextual Conditions	Bureaucratic Structure of the Electricity Industry	Influence of hierarchical structures, centralized procedures, regulations, and administrative formalization on performance evaluation	hierarchy, centralized decision-making, administrative procedures, formal rules, multiple approval levels, limited flexibility
Contextual Conditions	Existing Organizational Culture	Shared norms and beliefs affecting acceptance, interpretation, and use of performance evaluation	resistance to evaluation, trust in managers, evaluation culture, acceptance of feedback, conservatism, interpersonal considerations
Contextual Conditions	Organizational Readiness for Learning	Capacity and willingness of the organization to use evaluation results for learning, improvement, and adaptation	learning from errors, knowledge sharing, feedback utilization, improvement orientation, employee development, organizational learning
Intervening Conditions	Compensation System	Extent to which evaluation results are connected to financial and nonfinancial rewards	salary and benefits, bonuses, promotion, reward allocation, perceived equity, performance-based compensation
Intervening Conditions	Employee Motivation	Employees' willingness to participate meaningfully in evaluation and respond positively to feedback	job motivation, participation, commitment, willingness to improve, perceived usefulness of evaluation
Intervening Conditions	Information Technology Infrastructure	Technological capacity for recording, integrating, analyzing, and reporting performance-related information	electronic evaluation systems, integrated databases, data accessibility, system automation, analytical dashboards, information accuracy
Intervening Conditions	Leadership Style	Influence of managerial behavior on trust, participation, feedback, development, and acceptance of performance evaluation	participative leadership, supportive leadership, authoritarian management, coaching, feedback provision, managerial support

As shown in Table 1, the coding process resulted in three conceptually distinct but closely interrelated dimensions. The first dimension, causal conditions, consisted of four subcategories: pressure to achieve objectives, the need for accountability, the need for resource efficiency, and the need for transparency in performance. Participants consistently indicated that performance evaluation systems had emerged and continued to operate in response to practical organizational requirements rather than merely as formal human resource procedures. In the electricity industry, organizational units are required to achieve operational and strategic objectives while simultaneously demonstrating

how financial, human, and technical resources are utilized. Therefore, the evaluation system was perceived as an organizational mechanism intended to determine whether objectives had been accomplished, whether managers and employees could be held accountable for their responsibilities, whether resources had been utilized efficiently, and whether information concerning organizational performance could be presented transparently.

The second major dimension consisted of contextual conditions. The bureaucratic structure of the electricity industry, the prevailing organizational culture, and

organizational readiness for learning were identified as the principal contextual characteristics shaping the implementation of performance evaluation. Participants emphasized that the existence of performance indicators or formal evaluation procedures was insufficient to guarantee an effective evaluation system. Instead, the meaning and consequences of evaluation depended heavily on the environment in which the system was implemented. A highly formalized and hierarchical structure could contribute to procedural consistency, but excessive bureaucracy could reduce flexibility and transform performance evaluation into a routine administrative requirement. Similarly, an organizational culture characterized by trust, openness to feedback, and developmental orientation could increase the usefulness of evaluation, whereas defensive attitudes, interpersonal considerations, and resistance to criticism could weaken the credibility of the process. Organizational readiness for learning emerged as an especially important contextual category because the usefulness of performance evaluation depended on whether evaluation results were actually converted into learning, corrective action, knowledge sharing, and continuous improvement.

The third dimension comprised intervening conditions, including the compensation system, employee motivation, information technology infrastructure, and leadership style. These conditions did not necessarily create the need for performance evaluation, but they significantly affected how the system functioned and how employees responded to it. For example, even when performance criteria were technically appropriate, an inconsistent relationship between evaluation results and compensation could undermine employees' confidence in the system. Likewise, low employee motivation could result in formal compliance rather than genuine engagement with evaluation and feedback. Information technology infrastructure influenced the accuracy, speed, accessibility, and integration of performance data, while leadership style influenced whether evaluation was perceived as a developmental process or merely as a control mechanism. Overall, the findings represented performance evaluation as a multidimensional organizational phenomenon in which causal pressures initiate the need for evaluation, contextual conditions define the environment in which evaluation occurs, and intervening factors determine whether the system functions effectively.

Table 2

Causal and Contextual Conditions Influencing Existing Performance Evaluation Systems

Dimension	Category	Major Indicators Identified in the Interviews	Interpretation
Causal Conditions	Pressure to Achieve Objectives	achievement of operational objectives, accomplishment of annual programs, fulfillment of strategic targets, monitoring organizational results, comparison between planned and actual performance, pressure to meet predetermined indicators	Performance evaluation is required to determine the extent to which employees and organizational units contribute to predetermined objectives and operational commitments.
Causal Conditions	Need for Accountability	clarification of responsibilities, managerial answerability, documentation of results, evaluation of individual contribution, justification of managerial decisions, reporting to higher organizational levels	Evaluation provides an institutional mechanism for determining who is responsible for particular outcomes and for strengthening managerial and employee accountability.
Causal Conditions	Need for Resource Efficiency	efficient utilization of financial resources, workforce productivity, optimization of technical resources, reduction of unnecessary expenditure, evaluation of resource consumption, improvement of productivity	Resource limitations and the strategic importance of the electricity industry increase the need for performance systems capable of linking organizational outputs with resource consumption.
Causal Conditions	Need for Performance Transparency	clear performance indicators, objective evaluation criteria, explicit expectations, transparent reporting, comparable performance information, reduction of subjective judgment	A transparent evaluation system reduces ambiguity and allows employees, managers, and organizational authorities to understand how performance is assessed and reported.
Contextual Conditions	Bureaucratic Structure of the Electricity Industry	centralization, hierarchical decision-making, formal regulations, extensive documentation, multiple administrative levels, standardized procedures, limited managerial flexibility	The bureaucratic structure can promote procedural consistency but may simultaneously produce rigidity, delay, excessive formalism, and limited adaptation of performance evaluation to specific organizational conditions.
Contextual Conditions	Existing Organizational Culture	acceptance or rejection of evaluation, trust in evaluators, openness to criticism, interpersonal relationships, informal influence, attitudes toward feedback, willingness to report weaknesses	Organizational culture determines whether evaluation is perceived as legitimate and developmental or as threatening, punitive, formalistic, or politically influenced.
Contextual Conditions	Organizational Readiness for Learning	learning from evaluation results, corrective action, organizational feedback, knowledge sharing, tolerance of mistakes, employee development, adaptation of procedures	Performance evaluation contributes to organizational improvement only when the organization possesses sufficient capacity and willingness to learn from evaluation information and convert feedback into action.

The findings presented in Table 2 demonstrate that the causal conditions identified in the study were fundamentally associated with increasing organizational demands for measurable, accountable, efficient, and transparent performance. Pressure to achieve organizational objectives was one of the most prominent causal categories. Participants explained that electricity industry organizations operate through predefined operational programs, strategic plans, technical obligations, service targets, and quantitative indicators. Consequently, managers require mechanisms for comparing expected performance with actual outcomes. Performance evaluation was therefore viewed as a means of determining whether employees, managers, and organizational units had contributed adequately to the achievement of organizational targets. The findings suggested that when organizational objectives become more explicit and measurable, pressure also increases to establish performance evaluation processes capable of distinguishing effective from ineffective performance. This pressure operates not only at the employee level but also at unit, departmental, managerial, and organizational levels.

The need for accountability represented a second major causal condition. Participants emphasized that the complexity and strategic importance of the electricity industry require clearly defined responsibilities and the ability to determine the contribution of different organizational actors to outcomes. In the absence of a credible evaluation system, responsibility may become diffuse, and it may be difficult to determine whether unsatisfactory results originated from individual performance, managerial decisions, structural restrictions, or environmental conditions. Therefore, performance evaluation was viewed as a mechanism through which duties could be linked to measurable results and managers and employees could be required to provide explanations regarding their performance. The accountability function was particularly important in organizations characterized by multiple managerial levels because decisions and responsibilities frequently pass through several administrative layers. Participants indicated that an effective performance evaluation system should therefore establish a clear relationship between assigned responsibility, actual authority, available resources, and measurable outcomes.

The need for resource efficiency also emerged as a fundamental causal condition. Participants repeatedly referred to the scale of financial investment, human resources, technical equipment, infrastructure, and operational expenditure involved in the electricity industry.

Under such circumstances, evaluation was considered necessary not only to assess whether objectives had been achieved but also to determine the efficiency with which resources had been consumed in producing those outcomes. This distinction was important because the achievement of an organizational objective could not necessarily be interpreted as satisfactory performance when it was accompanied by excessive costs, inefficient workforce utilization, unnecessary administrative processes, or suboptimal use of technical assets. The findings therefore indicated that a comprehensive performance evaluation system should incorporate productivity and efficiency considerations and should connect organizational outputs with the human, financial, and technical resources required to generate them.

The fourth causal category was the need for transparency in performance. Participants described ambiguity in evaluation criteria as one of the major sources of dissatisfaction with conventional performance appraisal processes. When employees are uncertain about the criteria on which they will be assessed, or when evaluation depends excessively on managerial judgment, the credibility of the system may be undermined. Transparency was therefore associated with clearly defined indicators, explicit expectations, understandable scoring processes, accessible performance information, and the reduction of subjective interpretation. Participants also emphasized that transparency has both an internal and an external dimension. Internally, employees and managers need to understand the basis of evaluation. At higher organizational levels, decision makers require reliable and comparable performance information to support planning, resource allocation, promotion, and corrective interventions. Accordingly, the need for transparency was interpreted as an important force encouraging organizations to develop more structured and evidence-based evaluation mechanisms.

In addition to these causal conditions, three contextual conditions were found to shape the practical operation of performance evaluation systems. The bureaucratic structure of the electricity industry was the first contextual category. Participants characterized the industry as possessing relatively formalized organizational structures, extensive regulations, hierarchical authority relationships, standardized procedures, and several administrative levels. Such characteristics have both supportive and restrictive implications for performance evaluation. Formal regulations can increase standardization, comparability, and procedural consistency across organizational units. However, excessive

centralization and administrative complexity can make evaluation systems inflexible and slow to respond to differences between positions, units, or organizational contexts. Participants indicated that in highly bureaucratic environments, employees may become primarily concerned with satisfying formal evaluation requirements rather than using evaluation as an opportunity for development. Thus, bureaucratic structure was not interpreted as inherently negative; rather, its effect depended on whether formalization provided constructive structure or resulted in excessive procedural rigidity.

The prevailing organizational culture represented the second major contextual condition. Participants repeatedly emphasized that performance evaluation is fundamentally a social process as well as a technical one. Even a carefully designed evaluation form can produce weak results when employees do not trust evaluators, when managers avoid providing critical feedback, or when personal relationships influence scores. In organizations where evaluation is perceived primarily as a mechanism for punishment, control, or administrative documentation, employees may become defensive and may attempt to protect themselves rather than discuss performance deficiencies openly. In contrast, cultures characterized by trust, openness, fairness, and acceptance of constructive criticism can facilitate more meaningful evaluation. The findings therefore indicated that

organizational culture affects how employees interpret evaluation, the extent to which they accept its results, and whether they are willing to use feedback to improve their performance.

Organizational readiness for learning constituted the third contextual category and was particularly important in relation to the learning-organization perspective underlying the study. Participants distinguished between an organization that merely measures performance and an organization that learns from performance information. In the first case, evaluation results may be archived, used for routine administrative decisions, or incorporated into annual reports without generating meaningful organizational change. In the second case, evaluation information is examined to identify weaknesses, determine their causes, redesign work processes, provide training, share knowledge, and prevent the recurrence of problems. Participants therefore emphasized mechanisms such as feedback, organizational reflection, learning from errors, knowledge sharing, employee development, and the willingness of managers to revise existing procedures. The findings suggest that performance evaluation acquires developmental value when the organizational context permits performance information to be transformed into learning and corrective action.

Table 3

Intervening Conditions Affecting the Effectiveness of Performance Evaluation Systems

Intervening Category	Constituent Concepts	Facilitating Effect	Inhibiting Effect
Compensation System	performance-based rewards, salary adjustments, bonuses, promotion opportunities, recognition, perceived distributive justice, relationship between performance and reward	A clear and equitable relationship between performance and rewards strengthens the perceived legitimacy of evaluation and encourages employees to improve performance.	Weak or inconsistent relationships between evaluation scores and rewards create perceptions of unfairness and reduce employees' confidence in the usefulness of evaluation.
Employee Motivation	intrinsic motivation, job involvement, willingness to improve, organizational commitment, participation in evaluation, acceptance of feedback, perception of evaluation usefulness	Motivated employees are more willing to participate in evaluation, accept feedback, develop competencies, and undertake corrective actions.	Low motivation results in passive participation, formal compliance, resistance to feedback, and limited behavioral change following evaluation.
Information Technology Infrastructure	electronic performance systems, integrated databases, automated reporting, data quality, information accessibility, analytical capacity, digital dashboards	Appropriate technological infrastructure increases accuracy, speed, transparency, traceability, and evidence-based decision-making in performance evaluation.	Fragmented systems, inaccurate data, weak integration, and limited access to information increase subjectivity and reduce the reliability and timeliness of evaluation.
Leadership Style	managerial support, participative decision-making, coaching, feedback, empowerment, communication, trust, authoritarian behavior	Participative and developmental leadership encourages dialogue, trust, employee involvement, learning, and constructive use of evaluation results.	Authoritarian or highly controlling leadership can transform evaluation into a punitive mechanism, increase defensiveness, and reduce employee willingness to disclose weaknesses or learn from feedback.

As indicated in Table 3, four major intervening conditions affected the relationship between the formal structure of performance evaluation and its actual organizational

consequences. The compensation system emerged as an important intervening factor because employees frequently interpret the significance of performance evaluation through

its relationship with tangible and intangible organizational outcomes. Participants indicated that when high-quality performance is clearly associated with appropriate financial rewards, recognition, promotion opportunities, professional development, or other desirable outcomes, employees are more likely to consider the evaluation system meaningful. In contrast, when employees perceive that evaluation scores have little relationship with compensation decisions, or when individuals with different levels of performance receive similar rewards, evaluation may lose its motivational and managerial credibility. This problem becomes particularly significant when employees believe that promotion or compensation is determined by seniority, informal relationships, administrative discretion, or factors unrelated to documented performance.

The findings further indicated that perceived fairness was more important than the mere existence of financial incentives. Participants emphasized that a performance-based compensation system can support effective evaluation only when employees perceive the criteria as transparent, attainable, job-related, and consistently applied. When evaluation outcomes are connected with rewards but the evaluation itself is perceived as subjective or biased, the reward linkage may intensify dissatisfaction rather than improve motivation. Therefore, the compensation system was identified as an intervening mechanism that could reinforce or weaken the credibility of the entire evaluation process. From the participants' perspective, an appropriate system should establish a visible relationship among effort, performance, evaluation, development, recognition, and organizational rewards.

Employee motivation constituted another major intervening condition. The participants' accounts indicated that evaluation is unlikely to produce improvement when employees are psychologically disengaged from their work or do not believe that improving their performance will produce meaningful personal or organizational outcomes. Motivated employees were described as more receptive to feedback, more willing to identify areas requiring improvement, and more likely to participate actively in discussions concerning performance objectives. In contrast, low motivation was associated with passive participation, completion of evaluation requirements merely as an administrative obligation, resistance to criticism, and limited implementation of developmental recommendations. The findings therefore suggest that employee motivation functions as a mechanism through which formal

performance information is translated into actual behavioral change.

Participants also emphasized the reciprocal relationship between motivation and performance evaluation. Motivation influences the effectiveness of evaluation, but evaluation practices themselves can either strengthen or undermine employee motivation. Evaluation processes characterized by fairness, recognition, constructive feedback, participation, and developmental opportunities can increase employees' sense of competence and organizational value. By contrast, repetitive evaluations that produce no visible consequences, overly subjective assessments, punitive use of results, or evaluations in which employees have no opportunity to discuss their performance may reduce motivation. Thus, employee motivation should not be treated merely as an individual characteristic existing independently of the evaluation system; it is also shaped by organizational experience with the system itself.

Information technology infrastructure represented the third intervening condition. Participants emphasized that contemporary performance evaluation increasingly depends on reliable access to accurate and integrated organizational data. In an industry characterized by extensive technical operations, multiple geographical units, numerous organizational positions, and large volumes of administrative and operational information, traditional paper-based or fragmented evaluation processes may be inadequate. Effective technological infrastructure allows organizations to collect information systematically, link different performance indicators, reduce repetitive data entry, monitor performance over time, generate comparative reports, and provide decision makers with timely information.

The availability of appropriate information systems was also associated with greater objectivity and transparency. When managers can access validated performance data rather than relying primarily on personal impressions, the possibility of subjective evaluation is reduced. Similarly, electronic systems can create an auditable record of evaluation decisions and make it easier to compare performance across time and organizational units. Participants nevertheless emphasized that technology alone cannot ensure valid evaluation. If the underlying indicators are inappropriate or if organizational databases contain incomplete or inaccurate information, automation can simply reproduce existing weaknesses more efficiently. Therefore, the effectiveness of information technology infrastructure depends on data quality, system integration,

user competence, accessibility, and alignment between technological tools and the conceptual objectives of performance evaluation.

Leadership style was identified as the fourth intervening condition and one of the most influential factors in determining how employees experienced performance evaluation. Participants distinguished between leadership approaches that treat evaluation as a mechanism for development and those that use it primarily as a means of control. Participative and supportive leaders were described as more likely to discuss expectations clearly, involve employees in goal setting, provide regular feedback, recognize achievements, and use performance deficiencies as opportunities for coaching and problem solving. Such behaviors contributed to trust and made employees more willing to discuss difficulties openly. In this environment, performance evaluation could function as part of a continuous learning process rather than as an isolated annual administrative exercise.

By contrast, authoritarian leadership practices were associated with greater fear of negative evaluation, reluctance to acknowledge mistakes, and attempts to present a favorable image rather than provide accurate information about performance difficulties. When managers were perceived as using evaluation results to punish, control, or discriminate among employees, participants believed that the quality of information exchanged during evaluation decreased. Employees could become defensive, and managers could receive incomplete information about the actual causes of weak performance. Leadership style therefore influenced not only employees' attitudes toward evaluation but also the quality and authenticity of the data on which evaluation decisions were based.

The integrated analysis of the three groups of conditions demonstrated that the performance evaluation system in the electricity industry should be understood as an interconnected organizational system rather than as an isolated human resource technique. Causal conditions establish why evaluation is required. Pressure to achieve objectives creates demand for systematic measurement; accountability requires clear attribution of responsibilities and results; resource efficiency necessitates examination of the relationship between inputs and outputs; and transparency requires understandable and verifiable performance information. These factors constitute the fundamental organizational rationale for performance evaluation.

However, the causal conditions operate within a specific organizational context. The bureaucratic structure of the electricity industry determines the degree of centralization, formalization, procedural flexibility, and managerial discretion available within the evaluation process. Organizational culture affects employees' trust in evaluation, acceptance of criticism, perception of fairness, and willingness to engage with feedback. Organizational readiness for learning determines whether evaluation results remain administrative information or become an input for organizational improvement. Consequently, identical evaluation tools may produce substantially different outcomes depending on the context in which they are implemented.

The intervening conditions further modify these relationships. A fair compensation system can reinforce employees' perception that evaluation has meaningful consequences, while an inconsistent reward system can weaken its legitimacy. High employee motivation can encourage constructive engagement with evaluation, whereas low motivation can reduce the process to formal compliance. Strong information technology infrastructure can enhance the availability, integration, and objectivity of performance information, whereas weak infrastructure increases fragmentation and dependence on subjective judgments. Finally, developmental and participative leadership can transform evaluation into an opportunity for feedback and learning, whereas authoritarian leadership can produce defensiveness and reduce the accuracy and developmental usefulness of the process.

The findings therefore revealed a dynamic relationship among the identified dimensions. For example, organizational pressure for greater accountability may lead to the introduction of more detailed performance indicators. Nevertheless, if the organizational culture is resistant to evaluation and leadership is highly authoritarian, the same indicators may be experienced as instruments of surveillance rather than mechanisms of improvement. Similarly, the need for resource efficiency may encourage the organization to implement productivity indicators, but these indicators will have limited managerial value if information technology systems cannot provide accurate and timely data. Furthermore, efforts to increase transparency may not increase employee acceptance when performance ratings are not linked fairly to rewards or when employees believe that managerial preferences continue to determine outcomes.

Another important finding was that the effectiveness of performance evaluation depended on the extent to which the

different components were aligned. Participants' accounts suggested that weaknesses frequently occurred not because a particular component was completely absent, but because organizational mechanisms were disconnected from one another. For instance, organizations could possess formal evaluation criteria but fail to connect the results with training and employee development. Alternatively, evaluation information could be collected systematically without being used in managerial decisions. In other cases, financial rewards could theoretically depend on performance while employees perceived that actual reward allocation did not correspond to evaluation results. Such inconsistencies weakened the internal coherence of the performance evaluation system and reduced employees' confidence in its fairness and usefulness.

The analysis additionally highlighted the developmental potential of performance evaluation. Participants did not conceptualize evaluation solely as a process of ranking employees or documenting previous performance. Instead, a recurring theme in the interviews was the need to transform evaluation from a predominantly judgment-oriented process into a learning-oriented process. From this perspective, identifying performance deficiencies represents the beginning rather than the end of the evaluation cycle. Evaluation should generate feedback, identify competency gaps, support training decisions, stimulate discussion of organizational problems, promote knowledge sharing, and contribute to redesigning ineffective procedures. This perspective was closely linked to organizational readiness for learning and supportive leadership.

The learning-oriented interpretation also revealed an important distinction between individual and systemic causes of performance. Participants emphasized that weak organizational performance cannot always be attributed directly to employees. In certain circumstances, unsatisfactory outcomes may result from unclear processes, insufficient resources, inappropriate technology, conflicting regulations, limited managerial authority, inadequate training, or structural barriers. A performance evaluation system that focuses exclusively on the individual may therefore misdiagnose the causes of weak performance. The findings indicated that an effective system should distinguish between deficiencies attributable to individual behavior and those originating from contextual or organizational conditions.

Overall, the grounded analysis identified four causal factors—pressure to achieve objectives, the need for accountability, the need for resource efficiency, and the need

for performance transparency—three contextual factors—the bureaucratic structure of the electricity industry, the existing organizational culture, and organizational readiness for learning—and four intervening factors—the compensation system, employee motivation, information technology infrastructure, and leadership style. The relationships among these categories indicated that existing performance evaluation systems are shaped simultaneously by organizational requirements, institutional context, and facilitating or inhibiting mechanisms. Accordingly, the effectiveness of performance evaluation in the electricity industry cannot be improved merely through revision of forms or indicators. Meaningful improvement requires simultaneous attention to organizational structures, cultural readiness, learning capacity, employee motivation, reward mechanisms, technological infrastructure, and managerial leadership.

4. Discussion and Conclusion

The present study was conducted to identify and explain the causal, contextual, and intervening factors influencing existing performance evaluation systems in the electricity industry. The findings revealed that the factors affecting performance evaluation could be organized into three major dimensions. The causal conditions consisted of pressure to achieve organizational objectives, the need for accountability, the need for resource efficiency, and the need for transparency in performance. The contextual conditions included the bureaucratic structure of the electricity industry, the prevailing organizational culture, and the level of organizational readiness for learning. The intervening conditions comprised the compensation system, employee motivation, information technology infrastructure, and leadership style. Taken together, these findings indicate that performance evaluation in the electricity industry cannot be regarded as an isolated human resource function. Rather, it operates within a broader organizational system in which strategic expectations, structural arrangements, cultural characteristics, technological capabilities, motivational mechanisms, and leadership practices interact to shape the quality and effectiveness of evaluation.

The first causal condition identified in the study was pressure to achieve organizational objectives. Participants emphasized that performance evaluation is fundamentally required because organizations need to determine whether individuals and organizational units are contributing adequately to operational, strategic, and quantitative targets.

This finding supports the view that performance management should be directly linked to organizational objectives and should provide a mechanism through which expected results can be translated into measurable responsibilities. Sherafat and colleagues similarly emphasized the importance of designing human resource performance management systems in alignment with organizational goals, suggesting that the effectiveness of performance management depends on the degree to which employee activities and organizational priorities are systematically connected (Sherafat et al., 2018). The present finding also corresponds with the argument that strategic planning and organizational performance operate in a reciprocal cycle, in which performance information provides feedback concerning the extent to which strategic intentions have been implemented (Araújo, 2022). In this sense, performance evaluation becomes a critical mechanism for closing the gap between strategy formulation and strategy execution.

The pressure to achieve objectives is particularly significant in the electricity industry because operational activities are often associated with predefined technical, service, productivity, and reliability targets. The findings suggest that the evaluation system provides managers with a structured mechanism for determining whether organizational expectations have been translated into actual performance. This interpretation is also consistent with research indicating that organizational learning can improve business performance by enabling organizations to understand performance gaps and modify their practices accordingly (Chen, 2022; Prashar et al., 2023). Therefore, the role of performance evaluation should not be limited to determining whether an objective has been achieved; it should also help explain why objectives were or were not achieved and what organizational learning is required for future improvement.

The second causal condition was the need for accountability. Participants indicated that the complexity of the electricity industry and the distribution of responsibilities across multiple managerial and operational levels create a strong need for mechanisms that clarify responsibility for performance outcomes. The findings imply that performance evaluation supports organizational accountability by linking duties, authorities, activities, and outcomes. This result is conceptually consistent with contemporary performance management approaches that emphasize clarity of expectations, transparency of criteria, and systematic documentation of performance (Asadi, 2021; Rozzadeh

Zavareh, 2025). When performance criteria are explicitly defined, employees and managers are more capable of understanding what is expected from them, and organizations are better positioned to determine responsibility for deviations from planned outcomes.

At the same time, the findings indicate that accountability should not be interpreted narrowly as assigning blame. Rather, an effective evaluation system should distinguish between individual responsibility and structural causes of performance problems. This distinction is especially important in complex organizations, where performance may be affected by inadequate resources, organizational procedures, technological limitations, or managerial decisions. A learning-oriented interpretation of accountability therefore requires the organization to use performance information for diagnosis and corrective action rather than punishment alone. Such an interpretation corresponds with the broader learning-organization perspective, according to which organizational systems should facilitate reflection, learning from errors, and continuous improvement (Örtenblad, 2019). This approach transforms accountability from a control mechanism into a developmental process.

The third causal condition, the need for resource efficiency, reflected participants' concern with the effective use of financial, human, technical, and physical resources. The electricity industry is resource-intensive, and performance cannot be evaluated solely on the basis of whether operational targets have been achieved. The manner in which resources are consumed to produce those outcomes is equally important. The findings therefore indicate that performance evaluation systems should incorporate measures of productivity, cost-effectiveness, workforce efficiency, and optimal utilization of technical resources. This result is consistent with research showing that organizational performance is influenced by the effective integration of knowledge, processes, and organizational capabilities (Azimi et al., 2020; Bocoya Maline et al., 2024). From this perspective, resource efficiency is not merely a financial concern; it reflects the organization's broader capability to combine knowledge, processes, and assets in ways that produce sustainable results.

The importance of resource efficiency is also supported by the dynamic capabilities perspective. Organizations need to allocate and reconfigure resources in response to changing technological and environmental conditions, and performance information is essential for identifying whether existing resource configurations remain effective (Araújo,

2022; Chen, 2022). In the electricity industry, this may involve decisions concerning workforce allocation, maintenance, technological investment, administrative processes, and operational priorities. Therefore, an evaluation system that fails to capture the relationship between inputs and outputs may provide an incomplete representation of performance.

The fourth causal condition was the need for transparency. Participants emphasized the importance of clear evaluation indicators, explicit expectations, accessible performance information, and reduction of subjective managerial judgment. This finding is consistent with the literature on modern performance evaluation, which highlights the importance of objective criteria and transparent assessment procedures for improving employee acceptance of evaluation systems (Asadi, 2021; Rozzadeh Zavareh, 2025). Transparency is particularly important because employees are more likely to perceive evaluation as legitimate when they understand the criteria on which they are assessed and can see a clear relationship between their actions and evaluation outcomes.

The increasing use of digital technologies and data analytics further reinforces the importance of transparency. Studies using machine learning and advanced analytical methods demonstrate the growing role of data-driven approaches in organizational performance prediction and decision-making (Dong, 2022; Han et al., 2024). Although the present study did not focus specifically on machine learning, the findings suggest that reliable information systems can reduce ambiguity, improve traceability, and support more evidence-based evaluation. Thus, transparency should be understood as both a procedural and technological requirement.

With regard to contextual conditions, the first major factor was the bureaucratic structure of the electricity industry. Participants described the industry as highly formalized, hierarchical, and dependent on administrative procedures and multiple levels of decision-making. The findings indicate that bureaucracy can have a dual effect. On the one hand, formalization may support standardization and consistency across organizational units; on the other hand, excessive bureaucracy can transform performance evaluation into a routine administrative requirement and reduce its flexibility and developmental value. This finding aligns with research showing that organizational inertia can restrict learning, innovation, and performance improvement when established routines and structures become resistant to change (Jiang, 2023). It also corresponds with research on

organizational learning and unlearning, which suggests that organizations may need to abandon outdated routines and assumptions before new and more effective practices can be institutionalized (Yeniaras et al., 2021).

The implications of this finding are particularly important for the electricity industry. A bureaucratic structure may lead to standardized evaluation procedures that are applied uniformly even when different technical, managerial, and operational positions require different criteria. If evaluation systems become excessively rigid, employees may focus primarily on satisfying formal requirements rather than improving actual performance. Consequently, organizational reform should seek a balance between standardization and flexibility, ensuring that evaluation procedures remain consistent while allowing adaptation to the specific characteristics of different jobs and organizational units.

The second contextual factor was organizational culture. Participants emphasized that the effectiveness of performance evaluation depends heavily on whether the organizational environment supports trust, openness, feedback, fairness, and constructive discussion of weaknesses. This finding is strongly consistent with the learning-organization literature, which emphasizes that learning requires a culture in which individuals feel able to exchange knowledge, discuss errors, and challenge existing assumptions (Örtenblad, 2019). It is also aligned with research demonstrating that knowledge management and learning culture are closely connected and that organizational environments supportive of knowledge exchange can improve organizational outcomes (Othman & ElKady, 2023; Patwary et al., 2024).

The role of culture is particularly important because the same evaluation system may produce different outcomes in different organizational climates. In a culture characterized by trust and learning, negative feedback may be interpreted as an opportunity for development. In a culture characterized by fear, blame, or interpersonal favoritism, the same feedback may produce defensive behavior and resistance. The findings therefore reinforce the view that performance evaluation reform cannot be achieved merely by redesigning forms or indicators. Cultural conditions must also support honest communication and learning from evaluation results.

The third contextual condition was organizational readiness for learning. Participants distinguished between organizations that simply collect performance information and those that actively use it for improvement. This was one of the most important findings of the study because it

highlights the difference between performance measurement and performance learning. Organizational learning has repeatedly been associated with improved organizational performance, adaptive capacity, resilience, and innovation (Azimi et al., 2020; Evenseth et al., 2022; Inthavong et al., 2023). The present findings suggest that performance evaluation becomes strategically valuable only when organizations are prepared to convert evaluation results into training, corrective action, knowledge sharing, and process improvement.

This result is also supported by studies showing that learning contributes to innovation and performance through knowledge management and organizational creativity (Mohaghar et al., 2019; Patwary et al., 2024). If evaluation information is not integrated into organizational learning mechanisms, performance management remains retrospective and administrative. By contrast, when organizations possess a strong learning orientation, performance evaluation can serve as an early-warning system for identifying competency gaps, procedural inefficiencies, and emerging organizational problems.

Regarding intervening conditions, the compensation system was identified as a major factor affecting employees' attitudes toward performance evaluation. Participants indicated that employees are more likely to perceive evaluation as meaningful when there is a clear and fair relationship between performance outcomes and rewards, recognition, promotion, or development opportunities. This finding is consistent with developmental models of performance evaluation that emphasize the connection between assessment, competency development, and organizational consequences (Rozzadeh Zavareh, 2025). If evaluation has no meaningful consequences, employees may consider it a symbolic administrative process rather than a mechanism that influences their professional future.

The findings also revealed that employee motivation plays a critical role in determining whether evaluation results lead to behavioral improvement. Motivated employees were described as more receptive to feedback and more willing to engage in developmental activities, whereas low motivation reduced evaluation to formal participation. This result is consistent with research demonstrating that learning-organization characteristics and knowledge sharing can improve employee performance through employee engagement (Riva'i & Sukarno, 2024). It is also consistent with evidence linking organizational learning to adaptive performance, suggesting that employees perform more effectively when organizational conditions encourage

development and adaptation (Pradhan et al., 2017). Therefore, employee motivation should be considered both an antecedent and an outcome of effective performance evaluation.

Information technology infrastructure was another important intervening condition. Participants emphasized that integrated, accurate, and accessible data systems can improve the objectivity, speed, and reliability of performance evaluation. This finding aligns with the increasing use of data analytics and machine-learning approaches in performance assessment across different industries (Dong, 2022; Han et al., 2024). It also corresponds with evidence that technology can support organizational learning and improve learning performance when effectively integrated into organizational processes (Chen & Tseng, 2020). However, the findings also indicate that technological systems are only as useful as the data and criteria on which they are based. Digitalization cannot compensate for unclear indicators or weak managerial practices.

Finally, leadership style emerged as a major intervening condition. Participants indicated that participative, supportive, and developmental leadership encourages trust, employee involvement, feedback acceptance, and learning, whereas authoritarian leadership can transform performance evaluation into a punitive mechanism. This finding is consistent with research demonstrating that leadership behaviors influence organizational learning and innovative performance, particularly in technologically advanced environments (Alshaibani et al., 2024). It also supports broader evidence showing that organizational learning contributes to sustainable performance when supported by appropriate relational and managerial mechanisms (Inthavong et al., 2023). Leaders therefore play a central role in determining whether evaluation is experienced as a process of control or as a mechanism for learning and development.

Taken together, the findings demonstrate that performance evaluation in the electricity industry is shaped by the interaction of organizational demands, context, and enabling or constraining mechanisms. The study extends previous research by showing how factors that are often examined separately can be integrated into a single contextual framework. The causal conditions explain why organizations require performance evaluation, the contextual conditions explain the environment within which evaluation takes place, and the intervening conditions explain why similar formal systems may produce different practical outcomes. This integrated perspective is consistent

with the broader literature emphasizing the interdependence of strategic planning, learning, knowledge management, innovation, dynamic capabilities, employee engagement, and organizational performance (Araújo, 2022; Bocoya Maline et al., 2024; Choi & Lee, 2023; Prashar et al., 2023). It also reinforces the argument that organizational performance depends not on isolated practices but on coherent systems in which strategy, people, technology, learning, and leadership are mutually aligned.

An additional contribution of the study lies in its emphasis on the distinction between evaluation as control and evaluation as learning. Traditional approaches frequently emphasize measurement, comparison, and judgment, whereas the findings of this study indicate that evaluation has greater organizational value when it contributes to learning, adaptation, and competency development. This conclusion is consistent with the learning-organization perspective and with studies demonstrating the role of continuous learning in organizational performance (Choi & Lee, 2023; Örtenblad, 2019). It is also consistent with research linking human capital and organizational learning capability to improved performance outcomes (Khasmafkan Nezam et al., 2014). Therefore, the effectiveness of performance evaluation in the electricity industry ultimately depends on whether performance information is transformed into action, learning, and organizational improvement.

The present study had several limitations that should be considered when interpreting its findings. First, the research used a qualitative grounded theory approach and relied on the perceptions and professional experiences of a relatively small group of managers, experts, and specialists within the electricity industry. Although participants were selected purposively and data collection continued until theoretical saturation, the findings are context-dependent and should not be interpreted as statistically generalizable to all organizations or industries. Second, the study focused primarily on managerial and expert perspectives and did not include a large representation of operational employees, frontline technical staff, or external stakeholders whose experiences might reveal additional dimensions of performance evaluation. Third, the data were obtained through semi-structured interviews and were therefore potentially influenced by recall bias, social desirability, and participants' subjective interpretations of organizational practices. Fourth, organizational conditions may differ across electricity generation, transmission, distribution, and parent companies, and the present study did not attempt to

develop separate models for each organizational segment. Finally, the study concentrated on causal, contextual, and intervening conditions and did not quantitatively examine the relative strength of relationships among the identified categories.

Future studies are recommended to test the conceptual structure identified in this study using quantitative or mixed-method designs and larger samples drawn from different segments of the electricity industry. Researchers could develop a measurement instrument based on the identified causal, contextual, and intervening factors and examine its psychometric properties and structural relationships through confirmatory factor analysis or structural equation modeling. Comparative studies could also investigate whether the identified conditions differ between electricity generation, transmission, and distribution companies or between public, private, and semi-public organizations. Longitudinal research would be useful for examining how reforms in performance evaluation systems influence organizational learning, employee motivation, productivity, and perceived fairness over time. Future studies could also include operational employees and technical personnel in order to compare their perceptions with those of senior managers and human resource specialists. Further research may explore additional consequences of learning-oriented evaluation systems, such as organizational innovation, employee engagement, organizational resilience, knowledge sharing, adaptive performance, and intention to remain in the organization.

Managers and policymakers in the electricity industry should redesign performance evaluation systems as integrated developmental systems rather than treating them merely as annual appraisal procedures. Evaluation indicators should be explicitly linked to strategic and operational objectives, clearly communicated to employees, and adapted to the characteristics of different jobs and organizational units. Performance information should be used systematically to identify training needs, competency gaps, process weaknesses, and opportunities for organizational learning. Organizations should strengthen the relationship between evaluation outcomes and fair compensation, recognition, promotion, and development opportunities while ensuring that employees perceive the criteria and reward mechanisms as transparent and equitable. Investments in integrated information technology infrastructure should be prioritized to improve the quality, accessibility, and traceability of performance data. Managers should also adopt participative and coaching-

oriented leadership practices, provide timely and constructive feedback, and create a climate in which employees can discuss mistakes and weaknesses without excessive fear of punishment. Finally, performance evaluation should be linked to organizational learning mechanisms so that the results of assessment lead to concrete corrective actions, knowledge sharing, process improvement, and continuous development at both individual and organizational levels.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethics Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were considered.

References

- Alshaibani, E., Bakır, A., & Al-Atwi, A. A. (2024). The Impact of Leadership Behaviors on Organizational Innovative Performance and Learning in AI-driven Industry 5.0 Environments. *Development in Learning Organizations an International Journal*, 39(3), 18-21. <https://doi.org/10.1108/dlo-06-2024-0159>
- Araújo, G. R. K. H. T. D. C. J. M. (2022). Dynamic capabilities, strategic planning and performance: a virtuous and mutually

- reinforcing cycle. *Journal of Management & Organization*, 28(5), 1116-1132. <https://doi.org/10.1017/jmo.2022.33>
- Asadi, Z. (2021). A review of employee performance evaluation in organizations. *Scientific Information Database of Iran*. <https://sid.ir/paper/901303/en>
- Azimi, H., Morshidi, A., & Abbasi, D. (2020). The Role of Organizational Learning and Business Processes on Knowledge-Based Organizational Performance (Case Study: Department of Treasury in Zanjan and the Organization of Industry and Mining in Bajnord). *Strategic Journal of Organizational Knowledge Management*, 3(9), 167-209. <https://doi.org/10.47176/SMOK.2020.1117>
- Bocoya Maline, J., Rey Moreno, M., & Calvo Mora, A. (2024). The EFQM excellence model, the knowledge management process and the corresponding results: an explanatory and predictive study. *Review of managerial science*, 18, 1281-1315. <https://doi.org/10.1007/s11846-023-00653-w>
- Chen, S. Z. J. (2022). Influence of Organizational Learning and Dynamic Capability on Organizational Performance of Human Resource Service Enterprises: Moderation Effect of Technology Environment and Market Environment. *Frontiers in psychology*, 13, 889327. <https://doi.org/10.3389/fpsyg.2022.889327>
- Chen, T.-C., & Tseng, C.-J. (2020). Impact of Web-Based Teaching on the Learning Performance of Education and Training in the Service Industry During COVID-19. *Contemporary Educational Technology*, 12(2), ep277. <https://doi.org/10.30935/cedtech/8581>
- Choi, S., & Lee, J. (2023). Continuous learning and insurance performance. *Journal of Management and Innovation*, 10(1), 55-70. <https://www.admininsure.com/continuous-learning-insurance-industry/>
- Dong, B. (2022). Performance Prediction of Listed Companies in Smart Healthcare Industry: Based on Machine Learning Algorithms. *Journal of Healthcare Engineering*, 2022. <https://doi.org/10.1155/2022/8091383>
- Evenseth, L. L., Sydnes, M., & Gausdal, A. H. (2022). Building organizational resilience through organizational learning: A systematic review. *Frontiers in Communication*, 7, 837386. <https://doi.org/10.3389/fcomm.2022.837386>
- Han, L., Fang, J., Zheng, Q., George, B. T., & Liao, M. (2024). Unveiling the effects of livestream studio environment design on sales performance: A machine learning exploration. *Industrial Marketing*. <https://doi.org/10.1016/j.indmarman.2023.12.021>
- Inthavong, P., Rehman, K. U., Masood, K., Shaukat, Z., Hnydiuk-Stefan, A., & Ray, S. (2023). Impact of organizational learning on sustainable firm performance: Intervening effect of organizational networking and innovation. *Heliyon*, 9(5), e16177. <https://doi.org/10.1016/j.heliyon.2023.e16177>
- Jiang, S. G. (2023). The impact of management innovation, organizational inertia, and organizational learning on organizational performance: A case study of the manufacturing industry in the Yangtze River Delta Region of China. *International Journal of Science and Business*, 23(1), 91-105.
- Khasmafan Nezam, M., Atafar, A., Nasresfahani, A., & Shahin, A. (2014). A review on human capital, organizational learning capability and new product development performance efficiency in automobile industry. *Public Management Researches*, 7(25), 57-74. magiran.com/p1393400
- Mohaghar, A., Rezaei, A., & Karimi, M. (2019). Investigating the Impact of Total Quality Management Practices on Innovation Performance Through Organizational Learning Capability in the Banking Industry. *Journal of Innovation Management*, 7(1), 34-50.

- Örtenblad, A. (2019). *The Oxford handbook of the learning organization*. Oxford University Press.
<https://doi.org/10.1093/oxfordhb/9780198832355.001.0001>
- Othman, A. A. E., & ElKady, M. M. (2023). A knowledge management based framework for enhancing the learning culture in architectural design firms in developing countries. *Journal of Engineering, Design and Technology*, 21(1), 23-57.
<https://doi.org/10.1108/JEDT-01-2021-0027>
- Patwary, A. K., Alwi, M. K., Rehman, S. U., Rabiul, M. K., Babatunde, A. Y., & Alam, M. M. D. (2024). Knowledge management practices on innovation performance in the hotel industry: mediated by organizational learning and organizational creativity. *Global Knowledge, Memory and Communication*, 73(4/5), 662-681.
<https://doi.org/10.1108/GKMC-05-2022-0104>
- Pradhan, R. K., Jena, L. K., & Singh, S. K. (2017). Examining the Role of Emotional Intelligence Between Organizational Learning and Adaptive Performance in Indian Manufacturing Industries. *Journal of Workplace Learning*, 29(3), 235-247.
<https://doi.org/10.1108/jwl-05-2016-0046>
- Prashar, A., Tortorella, G. L., & Sreedharan, V. R. (2023). Role of organizational learning on industry 4.0 awareness and adoption for business performance improvement. *Ieee Transactions on Engineering Management*, 71, 4904-4917.
<https://doi.org/10.1109/TEM.2023.3235660>
- Riva'i, R. A., & Sukarno, G. (2024). Analysis of Knowledge Sharing and Learning Organization on Employee Performance Through Employee Engagement at PT Surabaya Industrial Estate Rungkut. *Dinasti International Journal of Education Management and Social Science*, 6(1), 416-424.
<https://doi.org/10.38035/dijemss.v6i1.3273>
- Rozzadeh Zavareh, M. (2025). Development of an individual performance evaluation model with an emphasis on learning and competency development. *Journal of Human Resource Management*, 16(1), 25-48.
https://hrmj.ihu.ac.ir/article_207143.html
- Sherafat, S., Khaef Elahi, A. A., Gholipour, A., & Danaei Fard, H. (2018). Development and Construct Validation of Performance Management of Human Resources in Line with Organization Objectives. *Public Management Researches*, 11(39), 33-59. <https://doi.org/10.22111/jmr.2018.4010>
- Yeniaras, V., Di Benedetto, A., Kaya, I., & Dayan, M. (2021). Relational governance, organizational unlearning and learning: implications for performance. *Journal of Business & Industrial Marketing*, 36(3), 469-492.
<https://doi.org/10.1108/JBIM-01-2020-0002>