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From Organizational Culture to Efficiency in People Management: Development and Validation of the People Management Efficiency Scale (PMES)

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Abstract

This study investigates people management efficiency as a multidimensional organizational capability, contributing to the broader discussion on how organizational culture and internal processes are associated with management effectiveness as a socially embedded organizational outcome beyond formal institutional arrangements. A sequential exploratory mixed-methods design was employed, comprising three interrelated studies. Study 1 involved semi-structured interviews with 15 auditors to identify the key dimensions of people management. Study 2 used cognitive interviews with 28 professionals to refine and validate the measurement items. Study 3 consisted of a survey administered to 286 employees, aiming to validate the People Management Efficiency Scale (PMES) and to test a parallel mediation model. Exploratory and confirmatory factor analyses supported a stable five-dimensional structure. The results show that organizational culture is positively associated with people management efficiency, both directly and indirectly, with work organization and continuous improvement operating as statistically significant mediating variables within the tested model. No statistically significant differences were identified between certified and non-certified organizations in terms of people management efficiency, work organization, and transparency. However, statistically significant differences were observed for organizational culture and continuous improvement. Overall, the findings suggest that people management efficiency is closely associated with the alignment between cultural values and internal organizational practices as socially embedded processes. These results highlight the relevance of internal organizational mechanisms in shaping people management outcomes. Given the simplified operationalization of certification in the present study, the findings should be interpreted with caution and do not support definitive comparative conclusions between culture-driven processes and formal certification mechanisms.

Keywords: people management efficiency; organizational culture; scale development and validation; work organization; continuous improvement; transparency; organizational certification

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1. Introduction

The increasing complexity of contemporary organizational contexts, marked by simultaneous demands for performance, continuous adaptation, and attention to employee well-being, has reinforced the centrality of people management as a strategic organizational function [1]. Within this framework, efficiency in people management is no longer understood exclusively through an economic–financial lens but increasingly incorporates

social, relational, and sustainability-related concerns associated with value creation for all stakeholders within organizational systems [2]. In parallel, there has been a widespread diffusion of management systems and normative frameworks across domains such as quality, environmental management, occupational health and safety, work–life balance, and organizational well-being [3]. These frameworks seek to structure processes, responsibilities, and control mechanisms and are frequently assumed to function as instruments for enhancing organizational efficiency, including efficiency in people management [4]. However, empirical evidence suggests that the mere formal adoption of such systems does not ensure more effective people management practices and highlights the importance of the internal processes through which these frameworks are interpreted and implemented by organizations [5].

Despite the recognized practical relevance of certification systems for structuring people management practices, existing academic research remains limited in two key respects. At a theoretical level, prior studies tend to examine certification primarily as a formal control mechanism, paying limited attention to how certification interacts with organizational culture and internal management processes. At a measurement level, certification is frequently operationalized in simplified or dichotomous terms, with little consideration of its role within broader, multidimensional frameworks of people management efficiency. This lack of theoretically grounded and empirically validated measurement approaches constrains a more systematic understanding of how certification systems contribute to efficiency in people management, particularly in relation to how such systems are socially interpreted and enacted within organizational contexts.

Efficiency in people management has progressively been conceptualized as a multidimensional and systemic construct, emerging from the articulation between cultural context, work organization, human resource management practices, and continuous learning processes as socially embedded organizational mechanisms [6]. Within this perspective, organizational culture plays a structuring role by shaping how people management practices are designed, implemented, and interpreted within organizational settings [7]. Nevertheless, despite this theoretical recognition, the internal mechanisms through which culture is effectively translated into efficiency in people management remain underexplored, particularly regarding the role of work organization and continuous improvement as mediating processes in this relationship.

At the same time, the empirical operationalization of efficiency in people management continues to reveal significant limitations. Although there is growing consensus regarding its integrated and relational nature, many studies still rely on fragmented indicators or partial proxies, which hampers a systemic understanding of the phenomenon and limits consistent comparison across empirical investigations [8]. Additionally, the impact of organizational certification on people management efficiency remains ambiguous, as certification is often assumed to signal good practices, despite empirical evidence suggesting that normative formalization does not necessarily translate into the substantive internalization of organizational practices, nor into their consistent enactment within organizational social systems.

Grounded in the field of human resource management, this study conceptualizes people management efficiency as a socially constructed organizational outcome, with implications for broader organizational research. Specifically, the study highlights how organizational culture, institutionalized practices, and internal social dynamics shape the interpretation and enactment of people management systems. By integrating cultural, structural, and process-based dimensions into a unified framework, the proposed scale contributes to understanding how organizations function as social systems in which

shared meanings, norms, and practices influence managerial effectiveness as a socially embedded process.

It is within this context that the present article positions itself within the debate in organizational social sciences, integrating contributions from human resource management (HRM), institutional theory, and organizational studies. The study offers three main contributions. First, it develops and validates the People Management Efficiency Scale (PMES), designed to capture, in an integrated manner, the cultural, structural, relational, and processual dimensions of efficiency in HRM. Second, it empirically tests an explanatory model that examines organizational culture as an antecedent of people management efficiency, considering the mediating role of work organization and continuous improvement as internal mechanisms through which cultural values are translated into practices and outcomes within socially embedded organizational processes. Finally, it proposes a critical reading of organizational certification as an institutional framework, distinguishing normative formalization from the substantive effectiveness of people management practices.

The PMES is conceptually distinct from established frameworks such as the AMO (Ability–Motivation–Opportunity) model or the concept of HRM system strength. Rather than replicating these perspectives, it offers an integrated empirical operationalization aimed at measuring people management efficiency as a systemic evaluative outcome within organizational and institutional contexts.

While the study provides initial empirical support for the proposed relationships, the findings should be interpreted as part of an early-stage validation effort, requiring further replication and refinement across different organizational contexts.

1.1. Organizational Culture and People Management

Organizational culture can be understood as a system of shared values, beliefs, and norms that guides behavior and frames organizational practices, influencing processes ranging from decision-making to internal cohesion within organizational social systems [9]. Vasumathi et al. [10] emphasize that culture is not merely a reflection of individual attitudes but rather a structured set of assumptions that shapes how organizational processes are regulated and experienced by employees. Despite broad consensus regarding its relevance, there remains considerable heterogeneity in how its core elements are conceptualized and operationalized in empirical studies, reinforcing the need for context-sensitive analyses [11]. In a similar vein, Manekar [12] argues that culture has a direct impact on the effectiveness of people management practices, as it guides how employees perceive their roles, organizational objectives, and performance expectations. Alignment between organizational culture, organizational strategy, and HRM practices tends to reinforce coherence between formally defined principles and practices effectively implemented within organizations [13].

Abawa and Obse [14] contend that positive organizational cultures enhance the effectiveness of HRM practices, which is reflected in higher levels of performance and increased employee satisfaction. The study conducted by Vasumathi et al. [10] demonstrates that cultural dimensions such as teamwork, trust, and shared goals are positively associated with performance, resulting in higher productivity levels. However, this relationship is contingent upon organizational context and sectoral characteristics, highlighting the importance of examining the interaction between organizational culture and specific people management practices [15]. When culture is aligned with HRM practices and organizational objectives, organizational performance and adaptive capacity in response to internal and external challenges tend to be strengthened, reflecting the role of culture as a socially embedded organizing mechanism [13].

1.2. People Management Efficiency as a Multidimensional Construct

Efficiency in HRM has increasingly been conceptualized beyond a strictly economic–financial logic [8]. It is currently understood as a systemic and multidimensional construct, oriented toward multiple stakeholders and assessed according to its capacity to create value for organizations, employees, and society, within broader organizational and institutional contexts [16].

Within this framework, Stahl et al. [1] propose a sustainable HR performance model that explicitly integrates a multi-stakeholder perspective and the triple bottom line logic (people, planet, and prosperity). The HR function is conceived as an integrated system of practices influencing: (i) economic outcomes, such as productivity and innovation [17]; (ii) social outcomes, including employee well-being and fairness [18]; and (iii) environmental outcomes, whose effectiveness depends on the internal coherence of practices and their strategic alignment with long-term organizational objectives [16].

In a similar direction, Bozhinovska et al. [5] update classical strategic HRM models, namely the Harvard and Michigan models, proposing a conceptual framework grounded in a multi-stakeholder perspective. Within this framework, consistent people management outcomes emerge from the interaction between: (i) top management leadership characteristics [19]; (ii) the adoption of a broad stakeholder perspective in policies and practices [8]; (iii) increased employee involvement and commitment [20]; and (iv) sustained improvement in organizational performance over time [21]. This approach reinforces the idea that HRM efficiency results from systemic configurations rather than from the isolated adoption of specific practices [22].

This theoretical perspective supports the understanding of people management efficiency as a multidimensional construct, operationalized through interdependent dimensions [5]. Based on this conceptualization, the following subsections explore four core components of people management efficiency—organizational culture, work organization, transparency in organizational contexts, and continuous improvement of processes and outcomes—which are critical for sustainable value creation in people management.

In this study, people management efficiency is conceptualized as a systemic outcome reflecting the overall effectiveness of the people management system in achieving its intended organizational and relational objectives. It does not represent a specific managerial practice or structural mechanism, but rather the perceived capacity of the system to generate coherent, sustainable, and value-oriented results. Accordingly, people management efficiency is treated as a higher-order outcome that emerges from the interaction among cultural, structural, and process-based dimensions, rather than as a dimension equivalent to them. This distinction is central to avoiding conceptual overlap between explanatory mechanisms and the outcome variable.

It is important to clarify that, in this study, people management efficiency is not conceptualized as an objective input–output ratio or a financial productivity indicator. Rather, it is understood as a perceived systemic evaluative outcome reflecting employees' assessments of the coherence, alignment, and overall functioning of the people management system. Accordingly, the construct captures perceived internal effectiveness rather than objective performance metrics, which is consistent with the perceptual and self-report design of the study, and with the understanding of organizations as socially constructed systems of meaning and practice.

1.2.1. Organizational Culture

Organizational culture constitutes a central mechanism through which people management practices are translated into sustained organizational outcomes [12]. Georgescu et al. [13] demonstrate that strategic HRM practices—namely recruitment and selection,

training, performance management, and the work environment—influence organizational resilience, with culture acting as a significant mediator in this relationship. Cooke et al. [23], cultures oriented toward collaboration, learning, and innovation amplify the impact of HR practices on responsiveness to crises and change. This effect is reflected in greater adaptive effectiveness and more efficient use of organizational resources. In line with this argument, Botelho [24] suggests that cultures oriented toward flexibility, learning, and openness reinforce the impact of HRM practices on innovation, highlighting a complementary relationship between organizational culture and people management systems.

In this context, Georgousopoulou et al. [25] argue that organizational culture influences how people management is perceived. Cultural context significantly affects several domains—quality, safety, and customer orientation—and it is within this framework that HRM practices may be interpreted either as bureaucratic control mechanisms or as opportunities for development and learning [26,27].

Organizational culture contributes to people management efficiency in two ways: (i) as a contextual condition that can intensify or neutralize the impact of HRM practices on individual and organizational outcomes [28]; and (ii) as an outcome that consolidates over time when people management practices are applied consistently and coherently [11]. Accordingly, organizational culture assumes both a structural and a dynamic role in people management efficiency, as it influences the mechanisms through which HRM practices produce effects and the stability of these effects over time [22].

1.2.2. Work Organization

Work organization also plays an important role in people management efficiency, as it structures how work is planned and performed, shaping everyday work practices as socially organized processes. This dimension is associated with job design and encompasses aspects such as autonomy, participation, access to information, and opportunities for employee development [29].

The concept of HRM system strength, proposed by Heffernan et al. [22], is grounded in the clarity, consistency, and consensus of HR practices. When people management is coherent and supported by internal processes and open systems, employees report higher levels of well-being. Diep and Horváthová [19] further emphasize that work organization functions as an organizational structure through which HRM practices influence individual and organizational outcomes. Cahyadi et al. [29] show that HRM practices involving skill development, empowerment, information sharing, and recognition contribute to employee adaptation and resilience. Similarly, Alqudah et al. [30] highlight that work organization facilitates employee responses to change and has direct implications for people management efficiency.

The reviewed studies indicate that work organization plays a central role in shaping how HRM practices foster individual and organizational performance [31]. This perspective aligns with the AMO framework, according to which the impact of people management practices depends on how they create conditions for capability development, enhance motivation, and promote opportunities for participation [32]. In this sense, Heffernan et al. [22] stress that work organization contributes directly to people management efficiency.

The way work is organized is also fundamental for effectively responding to the demands of management systems, including normative requirements, procedural reviews, audits, and performance monitoring through indicators. Consequently, work organization is essential for translating HRM practices into work experiences that sustain performance, adaptation, and employee engagement over time [30].

1.2.3. Transparency in Organizational Contexts

Transparency has been identified as a key factor in strengthening trust, commitment, and cooperative behaviors—dimensions that Schnackenberg and Tomlinson [33] consider central to an effective HRM system. Building on this idea, Jiang and Luo [34] argue that transparency in internal communication has a direct and significant effect on employee trust and engagement, translating into positive organizational outcomes. These findings are corroborated by Hadziahmetovic and Salihovic [35], who demonstrate that transparency goes beyond a purely communicational function and plays a structuring role in reducing organizational ambiguity and enhancing HRM system efficiency, particularly through its role in structuring shared understandings and reducing ambiguity within organizational contexts.

This perspective is closely linked to HRM system strength, according to which clarity, consistency, visibility of practices, and credibility of information sources are essential conditions for employees to understand the underlying logic of the management system. When HRM practices are perceived as inconsistent or arbitrary, system effectiveness tends to be compromised, increasing the need for supervision and control [22]. Transparency is particularly relevant in three core domains: (i) HRM processes (e.g., recruitment and selection criteria, career progression, performance appraisal, compensation [36]; (ii) organizational decisions directly affecting work (e.g., restructuring, technological change, job redesign; Jiang and Luo, 2018); and (iii) communication of expectations and feedback regarding goal setting, performance metrics, and results communication [37]. These domains link transparency to organizational efficiency indicators such as reduced defensive behaviors and resistance to change, enhanced trust and commitment, and greater alignment between individual behaviors and organizational objectives [38].

In certification contexts and in the adoption of formal management systems—where procedures, metrics, and audits reinforce institutional control infrastructures—this dimension assumes particular importance [39]. Clarifying expectations, making evaluation criteria visible, and explaining impacts on people management contribute to strengthening perceptions of organizational justice and enhancing process and outcome efficiency [40]. According to Schnackenberg and Tomlinson [33], transparency plays a central role in people management, as it functions as a cognitive and relational alignment mechanism that sustains long-term trust relationships.

Although transparency constitutes an important dimension of people management systems, its role is primarily contextual, contributing to coherence, trust, and predictability in organizational processes. Transparency is not conceptualized as a direct process-based mechanism linking organizational culture to efficiency outcomes, but rather as a supporting condition that enables the effective functioning of other organizational dimensions.

1.2.4. Continuous Improvement of Processes and Outcomes

As an integrative dimension of people management efficiency, continuous improvement of processes and outcomes refers to the organizational capacity to review, adjust, and refine practices. This orientation promotes collective learning, internal capability development, and consistent performance optimization over time [41,42]. Gemar et al. [4] demonstrate that identifying organizational dysfunctions, defining indicators, and systematically implementing corrective and preventive actions enable the detection of weaknesses in HRM processes and guide interventions with performance impacts.

Complementarily, Wickramasinghe and Chathurani [43] confirm that continuous improvement initiatives positively affect employee engagement and teamwork. These findings suggest that, in HRM, such initiatives go beyond process efficiency and influence social and motivational dynamics associated with organizational performance, reinforcing the socially embedded nature of continuous improvement processes. Dat and Hanh [44] show

that effectively managed continuous improvement processes contribute to the development of individual and collective capabilities, promoting behavioral change and more disciplined work practices. Rode et al. [45] propose a conceptual model in which learning-oriented HRM practices, combined with problem-solving activities, foster continuous improvement. This effect is supported by social mechanisms such as trust climate, knowledge sharing, and perceived organizational support [22].

Continuous improvement constitutes a structuring dimension of people management efficiency because it enables HRM practices to be adjusted based on results, while simultaneously promoting employee development and optimizing organizational performance [46]. In articulation with organizational culture, work organization, and transparency, continuous improvement contributes to a coherent and dynamic functioning of the people management system, grounded in organizational learning and sustained value creation over time [2].

When considered integratively, this multidimensional configuration allows people management efficiency to be understood as a continuous organizational process emerging from the interaction between practices, behaviors, and organizational context [6]. Despite the relevance of these dimensions, it remains necessary to understand how organizational culture influences people management and its outcomes [7]. The following section examines the internal organizational processes that link organizational culture to HRM practices and clarifies their contribution to the coherence, consistency, and effectiveness of the people management system.

1.3. From Culture to Practices: Internal Organizational Mechanisms

People management efficiency does not depend solely on the normative frameworks adopted in domains such as quality, environmental management, occupational health and safety, people management, work–life balance, and organizational well-being (e.g., ISO 9001 [47], ISO 45001 [48], ISO 14001 [49], NP 4427 [50]; NP 4552 [51]). It depends primarily on how these frameworks are interpreted, operationalized, and embedded within the organization, as part of socially constructed organizational processes [46,50].

These processes link formal normative requirements to everyday practices, transforming formal demands into concrete modes of action [22]. Diep and Horváthová [19] argue that the effects of HRM practices on well-being and performance do not occur immediately or linearly but rather through mediating pathways associated with organizational culture and work organization. In this context, work organization, trust climate, and learning processes play a central role in how practices are internalized and influence organizational adaptive capacity over time [22]. Georgescu et al. [13] further emphasize that these factors operate interdependently, shaping work experiences and conditioning the overall effectiveness of people management through socially mediated organizational processes.

Accordingly, the four dimensions previously identified play a central role in explaining people management efficiency and in structuring the processes through which normative frameworks are translated into consistent and sustained practices [13]: organizational culture, work organization, transparency in organizational contexts, and continuous improvement of processes and outcomes.

Organizational culture establishes the framework that legitimizes or constrains how practices are formalized and how requirements associated with management systems are assimilated by organizations [9]. When culture is oriented toward learning, innovation, collaboration, and social responsibility, it amplifies the impact of normative frameworks on people management and facilitates employee acceptance [1]. This cultural framework is reflected in how work organization translates HRM values and policies into practices that affect employee ability, motivation, and contribution to organizational objectives [22].

Through job design, the formal principles of management systems are converted into concrete experiences of autonomy, participation, and skill utilization, in line with the AMO perspective widely applied in HRM [36].

Transparency, in turn, ensures understanding of the objectives and criteria underlying people management practices and reinforces trust, perceptions of fairness, and employee engagement [52]. These factors are particularly relevant in certification contexts and for the acceptance of organizational changes resulting from such systems [22].

Finally, continuous improvement of processes and outcomes results from the cumulative interaction of these dimensions. It depends on a learning-oriented culture, a work organization that fosters participation and initiative, and transparency practices that value employee contributions and make them visible across the [43].

Certified management systems establish a set of formal conditions that contribute to people management efficiency [4]. However, their effectiveness depends on how these four internal dimensions articulate and reinforce one another over time, influencing the conversion of adopted frameworks into coherent and results-oriented HRM practices [13].

1.4. Organizational Certification as an Institutional Framework

Management system certification defines formal requirements for structuring, implementing, monitoring, and continuously improving organizational [4]. Beyond its technical function, certification translates regulatory, professional, and societal expectations into internal principles that influence how HRM practices are designed and evaluated, reflecting broader institutional and social dynamics [1].

ISO standards—namely ISO 9001 (quality), ISO 14001 (environment), and ISO 45001 (occupational health and safety)—are based on a common structure (High Level Structure), facilitating their integration into a single, coherent management system [48–50]. This normative framework promotes process-based approaches, risk-based management, employee participation, internal communication, and continuous improvement [4]. These transversal principles contribute to more systematized and efficient people management [22].

In the Portuguese context, NP 4427 [50], NP 4552 [51], and NP 4590 [53]—focused respectively on HRM, work–life balance, and organizational well-being—extend certification to the social and human dimensions of people management [50,51,53]. Combining ISO frameworks with NP standards allows the structuring of an integrated normative framework in which people management is conceived as an organizational system rather than merely an administrative function [8]

Nevertheless, certification does not guarantee higher levels of people management efficiency [5]. Studies on ISO 14001 [49] indicate that implementations focused primarily on audit compliance and certification maintenance tend to produce limited impacts on people management and organizational performance [43,54]. These effects are particularly limited in the absence of effective Green HRM practices and a sustainability-oriented organizational culture [21]. Similar patterns are observed in occupational health and safety, where the benefits associated with ISO 45001 [48] depend largely on leadership, continuous training, open communication, and the internalization of a shared safety culture [43]. When used as instruments for critical reflection and strategic alignment, these frameworks may function as catalysts for organizational learning and HRM practice redesign; however, when adopted predominantly in a symbolic manner, their effects tend to be marginal [5].

Despite their structuring potential, certification systems present limitations associated with overly formalistic appropriation, including documentation overload, audit fatigue, and difficulties in capturing informal and relational dimensions of people management—such as trust, perceived justice, and supportive climate—which are widely recognized as determinants of work experience and performance [19].

In this study, organizational certification is treated as a dichotomous contextual variable (certified versus non-certified organizations), understood as a proxy for the degree of institutional formalization of people management practices grounded in normative management systems. This methodological choice does not assume that certification ensures more effective practices but recognizes that the adoption of certified systems creates differentiated formal conditions for structuring, monitoring, and continuously improving HRM [8].

Taken together, prior research converges in recognizing the relevance of organizational culture, work organization, continuous improvement, and certification systems for structuring people management practices. However, important divergences persist regarding how these elements interact and the mechanisms through which they translate into efficiency outcomes. While some studies emphasize formal systems and procedural alignment, others highlight relational and cultural processes, often without integrating both perspectives within a unified analytical framework. Moreover, existing research is characterized by recurring limitations, including fragmented theoretical approaches, context-specific analyses, and the absence of validated multidimensional measurement instruments. These gaps constrain cumulative knowledge development and underscore the need for integrative frameworks capable of capturing people management efficiency as a systemic construct, embedded in organizational and institutional contexts. On this basis, the present study adopts an exploratory sequential design, described in the following section, to address these limitations empirically.

From a social science perspective, these internal organizational mechanisms can be understood as socially embedded processes through which institutional norms are translated into everyday practices. This perspective extends the analysis beyond technical HRM frameworks and situates people management efficiency within broader debates on organizational functioning as a social system, where shared meanings, norms, and practices shape organizational outcomes. The theoretical discussion highlights the complexity of certification as an institutional and organizational phenomenon; in the present study, it is operationalized in a simplified manner as a dichotomous variable (certified vs. non-certified organizations). This approach does not capture variations in certification intensity, maturity, or system integration, and should therefore be interpreted as a preliminary and contextual operationalization. The aim is not to exhaust the complexity of certification, but rather to introduce an initial empirical distinction between organizational contexts characterized by different levels of formalization.

2. Materials and Methods

2.1. Research Design

The study was operationalized through a mixed-methods approach, employing an exploratory sequential design and structured into three complementary and interdependent studies. The primary purpose of this design was to ensure rigor in instrument development and to establish its conceptual, semantic, and empirical validity within the context of analyzing organizational phenomena as socially embedded processes.

In the first phase, an exploratory qualitative approach was adopted, based on semi-structured interviews, to identify the dimensions associated with people management within organizational contexts. Subsequently, cognitive interviewing using a think-aloud procedure was conducted to assess item adequacy in relation to the study objectives. Finally, a quantitative study was implemented to examine the psychometric validity of the instrument and to empirically test the proposed conceptual model.

The theoretical framework presented in the literature review informed the initial conceptual structuring of the PMES prior to empirical data collection. Specifically, the literature

on organizational culture, work organization, continuous improvement, and transparency guided the preliminary identification of core domains and shaped the thematic framework used in the qualitative phase. Thus, the generation of interview protocols and initial item pools was theoretically anchored from the outset, rather than being developed solely on the basis of emergent empirical findings. This conceptual matrix preceded empirical testing and was subsequently refined through expert evaluation and psychometric validation procedures, reflecting the articulation between theoretical frameworks and socially grounded empirical observations.

2.2. Study 1—Item Development (Semi-Structured Interviews)

The first study aimed to explore the perceptions of auditors who work directly with certification bodies in certification processes of management systems with implications for people management in organizational contexts. This analysis enabled the identification of conceptually relevant dimensions, which served as the basis for the initial construction of the questionnaire items. The transformation of qualitative findings into quantitative measurements followed a structured and systematic process. First, interview transcripts were coded and organized into thematic categories and subcategories corresponding to the identified dimensions. Subsequently, these categories were used as the basis for item generation, with each item designed to reflect a specific aspect of the underlying construct. This process was conducted in alignment with established theoretical frameworks in human resource management and organizational studies, ensuring conceptual coherence between qualitative insights and the resulting measurement instrument.

For illustrative purposes, one of the thematic categories identified during the qualitative analysis—related to the alignment between organizational values and daily practices—was used to inform the wording of specific items. For example, this category led to the development of items capturing the extent to which organizational practices are perceived as consistent with stated values. This example illustrates how qualitative insights were systematically translated into measurable survey items.

The use of auditors as key informants in this phase was intentional, as these professionals possess a comprehensive and cross-functional understanding of organizational processes related to people management and certification systems. Their perspective enabled the identification of structured and system-level dimensions that might not be fully captured through individual employee experiences alone.

Although the identification of the PMES dimensions was primarily informed by expert interviews and exploratory analyses, their interpretation and labeling were further refined through established theoretical frameworks in the fields of human resource management and organizational studies. Specifically, organizational culture reflects foundational perspectives emphasizing shared values and norms as structuring mechanisms of managerial practices; work organization aligns with process-oriented and socio-technical approaches to efficiency; continuous improvement is grounded in learning-based and quality management frameworks; and transparency resonates with theories of procedural justice, communication, and trust. Thus, while the scale development followed an inductive logic, its dimensional structure is theoretically anchored rather than purely data-driven, and is consistent with the understanding of organizations as socially constructed systems. This approach ensured that the initial item pool was both empirically grounded and theoretically informed.

2.2.1. Study 1 Participants

Fifteen professionals participated in this study (nine women and six men), each with more than ten years of experience as certified auditors, reflecting the composition of the

professional context under analysis. According to Rubery and Fagan [55], women tend to be more represented in occupations associated with HRM and services. The number of interviews was determined according to the principle of theoretical saturation, allowing the collection of sufficient information to identify recurring patterns.

2.2.2. Study 1 Design and Procedure

Semi-structured interviews were conducted using a previously defined interview guide. The interviews took place individually and had an average duration of approximately 45 min. After informed consent was obtained, the interviews were audio-recorded and subsequently transcribed for content analysis.

The credibility of the qualitative analysis was ensured through conducting interviews until theoretical saturation was achieved, as well as through the adoption of systematic data analysis procedures, including thematic coding and discussion of emergent categories, as described in the following section.

2.2.3. Data Analysis (Interview Content Analysis)

The analysis process involved coding the narratives, identifying categories and subcategories, and systematizing the main emergent dimensions. Data were analyzed using an inductive approach, supported by MAXQDA software (version 26). The analysis identified five dimensions associated with HR-related certification in organizational contexts: organizational culture, work organization, continuous improvement, transparency, and people management efficiency.

These domains reflect the areas perceived as most relevant by participants within HR-related certification processes and constituted the conceptual basis for the initial formulation of the questionnaire items, reflecting participants' interpretations of organizational processes within specific social and institutional contexts. Based on these findings, instrument development proceeded, followed by cognitive validation, as described in Study 2.

2.3. Study 2—Think-Aloud Item Review (Cognitive Interviews)

The second study aimed to assess item clarity, semantic adequacy, and comprehensibility, drawing on the conceptual domains defined in Study 1. To this end, cognitive interviewing was conducted using a think-aloud procedure. This method enabled examination of participants' interpretations of each statement and identification of potential ambiguities or formulation problems. In addition to rating item adequacy, participants were encouraged to comment on their understanding of each statement, highlighting potential ambiguities, difficulties in interpretation, or unclear wording. These qualitative insights were used to identify problematic items and to guide subsequent revisions, ensuring that the final instrument reflected both conceptual accuracy and respondent comprehension. Based on this analysis, adjustments were made to item wording in order to ensure instrument suitability for the target population, taking into account how participants interpret organizational practices within their social context.

Participants' verbalizations were systematically analyzed to identify potential issues related to item clarity, wording, and interpretation. Based on this feedback, items presenting ambiguity or comprehension difficulties were reformulated to enhance clarity and ensure alignment with respondents' interpretations.

This stage played a critical role in aligning the expert-informed dimensions identified in Study 1 with the perspectives of potential respondents, ensuring that the items reflected both system-level conceptualization and employee-level interpretation of people management practices.

2.3.1. Study 2 Participants

This study included 28 professionals with experience in auditing, quality management systems, and HR-related domains. The number of participants followed Willis's [56] recommendations for cognitive validation studies, which prioritize analytical depth over sample size.

2.3.2. Study 2 Design and Procedure

A pool of 100 items was developed and evenly distributed across the five dimensions identified in Study 1, with 20 items per dimension. Each participant reviewed all items and assigned a score on a scale from 1 (not adequate at all) to 10 (highly adequate), based on perceived relevance to the study objectives. The procedure incorporated elements of think-aloud protocols; it was implemented in a more structured format, combining quantitative adequacy ratings with qualitative feedback to support item refinement.

2.3.3. Data Analysis (Item Adequacy Analysis)

Item adequacy was assessed using the Content Validity Index (CVI), calculated as the proportion of experts assigning scores equal to or above 8, as recommended by Lynn [57]. The criteria proposed by Polit and Beck [58] were also applied, and only items with a CVI equal to or higher than 0.70 were retained, resulting in a final version comprising 36 items.

2.4. Study 3—Psychometric Properties of the Instrument

The third study aimed to examine the psychometric properties of the instrument developed and refined in the previous phases, using a quantitative approach based on employee perceptions.

2.4.1. Study 3 Participants

The quantitative study sample was obtained through a non-probabilistic sampling procedure and comprised 286 employees. Table 1 presents the characterization of participants and the organizational context.

Table 1. Characterization of Participants and Organizational Context.

Variables	N (%)
Gender	
Male	127 (44.4%)
Female	159 (55.6%)
Age group (M = 46.69; SD = 10.39)	
44 years or younger	96 (33.6%)
Between 45 and 50 years	86 (30.1%)
51 years or older	104 (36.4%)
Educational level	
Below bachelor's degree	98 (34.3%)
Bachelor's degree	92 (32.2%)
Above bachelor's degree	96 (33.6%)

Table 1. *Cont.*

Variables	N (%)
Professional experience (M = 23.13; SD = 10.57)	
10 years or less	49 (17.1%)
Between 11 and 20 years	68 (23.8%)
Between 21 and 30 years	90 (31.5%)
31 years or more	79 (27.6%)
Functional area	
Human Resources	26 (9.1%)
Quality/Auditing/Management Systems	12 (4.2%)
Operations/Production/Maintenance/Laboratory	24 (8.4%)
Sales/Commercial	26 (9.1%)
Marketing/Communication	28 (9.8%)
Finance/Accounting	76 (26.6%)
Information Technologies	16 (5.6%)
Health/Education/Social Services	48 (16.8%)
Administration/Support Services	30 (10.5%)
Tenure in the current organization (M = 15.34; SD = 11.59)	
5 years or less	88 (30.8%)
Between 6 and 15 years	62 (21.7%)
Between 16 and 25 years	70 (24.5%)
26 years or more	66 (23.1%)
Employment status	
Permanent contract	242 (84.6%)
Fixed-term contract	32 (11.2%)
Self-employed/service provision	12 (4.2%)
Organization size	
Micro-enterprise (1 to 9 employees)	22 (7.7%)
Small enterprise (10 to 49 employees)	46 (16.1%)
Medium-sized enterprise (50 to 249 employees)	62 (21.7%)
Large enterprise (250 employees or more)	156 (54.5%)
Certification status	
Yes	192 (67.1%)
No	36 (12.6%)
Do not know	58 (20.3%)
Certification standards adopted by the organization	
ISO 9001	126 (44.1%)
ISO 45001	54 (18.9%)
ISO 14001	40 (14.0%)
NP 4427	10 (3.5%)
Other standards	12 (4.2%)

Note. N = 286. Certification standards correspond to multiple-response items. The category "Other standards" includes NP 4552, NP 4590, and ISO/IEC 27001 and ISO/IEC IT Service Management standards.

Although certification standards are presented separately for descriptive purposes, it is acknowledged that ISO 9001, ISO 14001, and ISO 45001 are frequently implemented within integrated management systems. Their individual reporting aims solely to characterize the certification landscape of the sample and does not imply independent or isolated implementation of these standards within organizations.

Participants who indicated uncertainty regarding their organization's certification status were excluded from analyses involving this variable, as their inclusion could introduce classification error and compromise the interpretation of certification-related effects. This decision, while necessary to ensure classification accuracy, contributed to an imbalance between certified and non-certified groups, which should be considered when interpreting comparative results.

2.4.2. Measures

Data were collected using a questionnaire developed based on the contributions of Studies 1 and 2. The instrument—the People Management Efficiency Scale (PMES)—comprised 36 items distributed across five dimensions: organizational culture (8 items; e.g., The organizational culture promotes mutual respect), work organization (7 items; e.g., Work organization promotes consistency), continuous improvement (8 items; e.g., Performance is continuously monitored), transparency (10 items; e.g., Communication between departments is transparent), and people management efficiency (4 items; e.g., People management practices promote employee retention).

Items were rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), according to participants' level of agreement with each statement.

The people management efficiency items were designed to capture an overall evaluative outcome of the people management system (e.g., retention, value alignment, transparent recruitment criteria, and communication consistency), rather than to reproduce the content of the antecedent dimensions included in the conceptual model. Accordingly, the construct captures perceived internal effectiveness rather than objective performance metrics, consistent with its conceptualization as a socially constructed evaluative outcome.

The final version of the PMES, comprising 24 items distributed across five dimensions, is presented in Appendix A.

Although the people management efficiency dimension comprises four items, reliability and construct validity indicators support its adequacy as a distinct latent construct within the model. Its purpose is to represent a higher-level evaluative outcome, not a structural or process-based mechanism.

2.4.3. Study 3 Design and Procedure

The PMES was administered online and disseminated through the researcher's professional networks. Participation was voluntary and anonymous. Confidentiality of responses was ensured, and data were used exclusively for academic purposes.

The study was conducted in accordance with the ethical principles applicable to research involving human participants. Prior to data collection, participants were informed about the study objectives and provided informed consent for the use of their responses for research purposes. Anonymity and confidentiality were ensured throughout the research process. Participation was voluntary, and all procedures complied with the principles established in the Declaration of Helsinki. The Ethics Statement was assigned by the ISG/CIGEST Ethics Committee.

2.4.4. Statistical Analysis

The questionnaire's factor structure was assessed through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Reliability and validity were also evaluated.

The validation of the PMES followed a systematic and sequential logic. Content validity was ensured in Study 2 through expert assessment and calculation of the CVI. Construct validity was subsequently examined in Study 3 through exploratory and confirmatory factor analyses. Reliability was assessed using internal consistency indicators, including Cronbach's alpha and composite reliability. Convergent and discriminant validity were evaluated using average variance extracted (AVE) and maximum shared variance (MSV). Finally, procedural and statistical remedies were employed to assess potential common method variance.

Given the available sample size, the same dataset was used for both EFA and CFA, as splitting the sample into independent subsamples could compromise factor solution stability and reduce statistical power [59]. Although cross-validation using independent samples is recommended in advanced validation stages, the present study represents an initial validation effort, and further replication is necessary to confirm the stability of the measurement model, particularly across different organizational and institutional contexts.

Because data were collected through self-report and at a single time point, procedural remedies were adopted to mitigate potential method biases, including participant anonymity, clarification that there were no right or wrong answers, and clear instructions regarding questionnaire completion. In addition, Harman's single-factor test was conducted as a statistical check for common method variance, yielding a solution explaining 34.4% of the total variance [60].

3. Results

3.1. Exploratory Factor Analysis

To examine the internal structure of the PMES and assess the adequacy of the items in relation to the proposed theoretical dimensions, an EFA was conducted. The Kaiser–Meyer–Olkin (KMO) measure yielded a high value (KMO = 0.87), indicating satisfactory sampling adequacy. Bartlett's test of sphericity was significant [$\chi^2_{(325)} = 1929.52$, $p < 0.001$], confirming the presence of sufficient inter-item correlations.

Factor extraction was performed using principal component analysis (PCA) with varimax rotation. The decision regarding the number of factors was based on the Kaiser–Guttman criterion (eigenvalues greater than 1), scree plot inspection, and the percentage of explained variance. This approach identified a five-factor solution explaining 61.47% of the total variance, which is consistent with the conceptual structure defined in Studies 1 and 2.

Although PCA was used at this exploratory stage to identify a parsimonious factor structure, it is acknowledged that this method does not distinguish between common and unique variance. Therefore, to assess the robustness of the obtained solution, an additional factor analysis was conducted using common factor extraction with oblique rotation, given the expected correlations among latent dimensions. The results were consistent with the initial solution, with similar factor loadings, item retention patterns, and overall dimensional structure. No substantial differences were observed in the composition or interpretation of the factors, supporting the stability and robustness of the proposed measurement model. Detailed results are available upon request and were omitted for brevity.

The initial version of the PMES comprised 36 items; however, the component matrix revealed that ten items exhibited cross-loadings on more than one factor and were therefore removed. The final version retained only items with item–factor loadings equal to or greater than 0.40 and a minimum difference of 0.20 relative to other factor loadings. This procedure contributed to a coherent and psychometrically sound factor structure.

Subsequently, internal consistency of each dimension was assessed using Cronbach's alpha coefficients. The analysis indicated that two items negatively contributed to the

reliability of their respective scales and were therefore excluded. The final version of the PMES consists of 24 items distributed across the five identified dimensions (Table 2).

Table 2. Factor matrix of the PMES after varimax rotation.

Items	D1	D2	D3	D4	D5
OC1	0.797				
OC2	0.797				
OC3	0.730				
OC4	0.685				
OC5	0.672				
OC6	0.660				
OC7	0.644				
OC8	0.551				
WO1		0.840			
WO2		0.781			
WO3		0.763			
WO4		0.721			
T1			0.804		
T2			0.744		
T3			0.676		
T4			0.636		
PME1				0.815	
PME2				0.702	
PME3				0.658	
PME4				0.478	
CI1					0.711
CI2					0.681
CI3					0.680
CI4					0.586
Eigenvalue	9.47	2.35	1.59	1.51	1.05
Explained variance (%)	18.87	11.97	11.86	9.48	9.27
Cronbach's alpha (α)	0.90	0.82	0.81	0.74	0.80

Note. D1 = Organizational culture; D2 = Work organization; D3 = Transparency; D4 = People management efficiency; D5 = Continuous improvement.

Given the ordinal nature of the items, the sample size, and the characteristics of the Likert scale used, skewness and kurtosis coefficients were examined. The values fell within the recommended range of [−1.96; 1.96], as suggested by Demir [61]. These results, together with the adequate internal consistency of the dimensions, supported treating the data as approximately continuous and proceeding with CFA.

3.2. Confirmatory Factor Analysis

Due to sample size constraints, both exploratory and confirmatory factor analyses were conducted using the same dataset. While this approach is commonly adopted in

early-stage scale development, it limits the independence of the validation process and requires cautious interpretation of the results.

Multivariate normality was assessed using Mardia's coefficient, and no severe deviations were observed, confirming the suitability of the maximum likelihood estimation method.

Model fit was evaluated using the chi-square statistic (χ^2), the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA) with a 90% confidence interval, and the Standardized Root Mean Square Residual (SRMR). The fit indices indicated that, despite the complexity of the model and the exploratory–confirmatory nature of the instrument validation, the measurement model demonstrated an acceptable fit ($\chi^2/_{df}$ = 2.81; CFI = 0.88; TLI = 0.86; RMSEA = 0.08; SRMR = 0.06). These fit indices should be interpreted with caution, as CFI and TLI values are positioned near conventional threshold levels and the RMSEA is comparatively elevated. The model can be considered to demonstrate an acceptable, although not optimal, level of fit.

Composite reliability (CR) values were satisfactory for all dimensions, ranging from 0.78 to 0.90, indicating adequate internal consistency. Convergent validity was supported for most factors, with AVE values equal to or above 0.50, with the exception of the People Management Efficiency dimension, which presented a slightly lower value (AVE = 0.47) but remained within acceptable limits.

Regarding discriminant validity, some factors exhibited Maximum Shared Variance (MSV) values slightly higher than their respective AVE values, indicating partial overlap among certain dimensions (Table 3). In some dimensions, MSV values exceed AVE, and the AVE of the People Management Efficiency construct remains slightly below the recommended threshold. These results indicate limitations in discriminant validity and suggest that some constructs may not be empirically distinct to the desired extent. While this pattern may reflect the interrelated nature of people management processes, it also requires cautious interpretation. Therefore, the discriminant validity of the constructs should be considered with care, and future research is encouraged to refine item wording and further validate the scale using independent samples in order to strengthen construct distinctiveness.

Table 3. Composite reliability, convergent validity, and discriminant validity of the PMES.

Dimension	CR	AVE	MSV
Organizational culture	0.90	0.53	0.55
Work organization	0.82	0.53	0.21
Transparency	0.82	0.53	0.49
Continuous improvement	0.81	0.51	0.55
People management efficiency	0.78	0.47	0.41

Note. CR = Composite reliability; AVE = Average variance extracted; MSV = Maximum shared variance.

Importantly, although certain dimensions exhibit conceptual proximity, the constructs were specified at distinct analytical levels within the model. Organizational culture, work organization, and continuous improvement represent structural and process-based mechanisms, whereas people management efficiency is conceptualized as an evaluative systemic outcome emerging from their interaction. The CFA results support this distinction, as factor loadings, inter-factor correlations, and reliability indicators do not indicate structural redundancy or collinearity. Accordingly, the model does not test circular relationships between identical perceptions but examines how distinct organizational mechanisms converge toward a perceived efficiency outcome.

These findings should be interpreted as reflecting patterns of association among perceptual constructs, rather than objective causal relationships between organizational variables.

The CFA results corroborate the adequacy of the proposed measurement model for the PMES. Although some fit indices fall slightly below the most conservative reference values, they remain within ranges considered acceptable [59]. At this stage, CFA was conducted exclusively to validate the PMES measurement model, and structural relationships among dimensions were not tested.

Based on the validated factor structure and the theoretical rationale presented in the previous sections, the relational model among the dimensions of people management efficiency was subsequently specified.

Taken together, the results of the reliability analyses, the assessments of convergent and discriminant validity, and the tests for common method variance provide consistent support for the psychometric adequacy of the PMES. These findings indicate that the instrument demonstrates acceptable levels of internal consistency, construct validity, and measurement robustness, supporting its use in subsequent analyses examining the relationships among the study variables.

Importantly, despite theoretical proximity among certain dimensions, the CFA results support the empirical distinction between people management efficiency and its predictors. The dependent variable was modeled as a separate latent construct, and its factor loadings, reliability indices, and model fit statistics indicate that it captures a distinct evaluative outcome rather than a reformulation of antecedent dimensions.

3.3. Conceptual Model and Research Hypotheses

The empirically derived dimensions retained in the PMES were subsequently integrated into the conceptual model based on their theoretical coherence with established frameworks in human resource management and organizational theory. The model presented in Figure 1 links organizational culture to people management efficiency and incorporates work organization and continuous improvement as parallel mediators, in accordance with the empirical structure of the validated scale and the theoretical framework previously discussed.

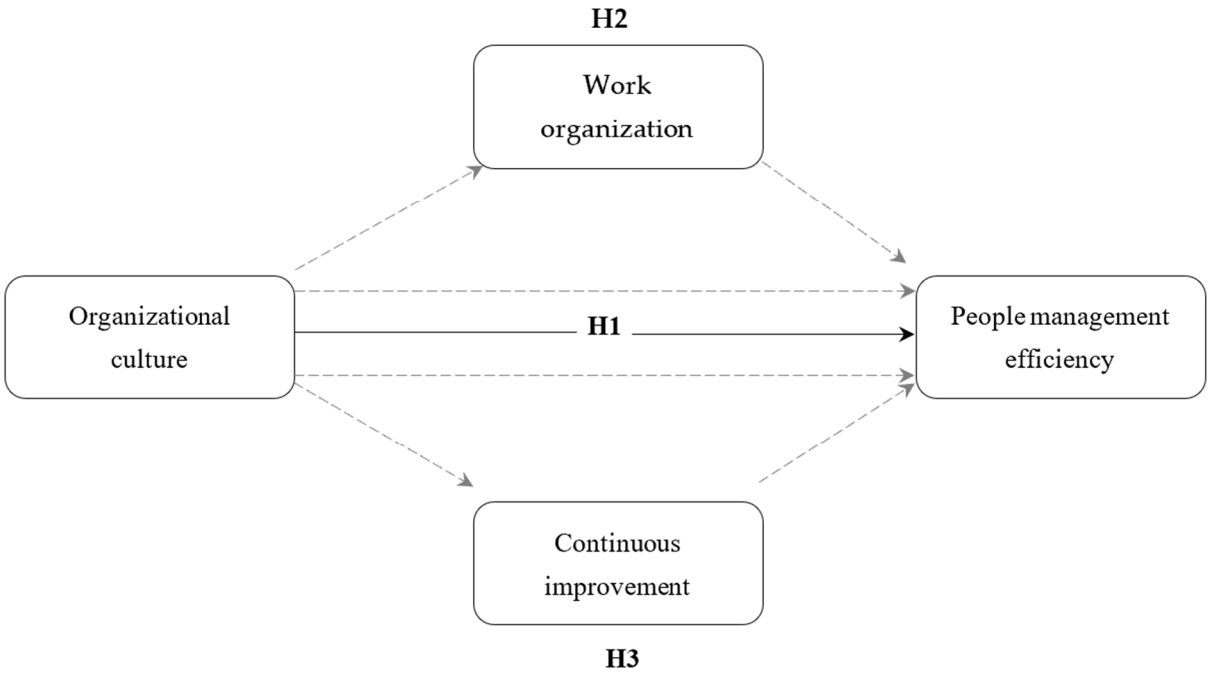


Figure 1. Investigation Model.

The selection of work organization and continuous improvement as mediating mechanisms was theoretically defined prior to model estimation, based on their established role in the HRM and organizational literature as process-based mechanisms through which cultural values are associated with organizational outcomes. Preliminary analyses were conducted to verify theoretical expectations rather than to redefine the conceptual model. These analyses indicated that organizational culture, work organization, and continuous improvement are positively and statistically significantly associated with people management efficiency.

Transparency was retained in the measurement model as a constitutive dimension of the people management system. However, in the structural model, only dimensions with a theoretically defined process-based role were included. Transparency is conceptualized as a contextual and enabling condition that supports system coherence and trust, rather than as a direct mechanism linking organizational culture to efficiency outcomes. Its exclusion from the structural model therefore reflects a theoretically grounded decision focused on analytical parsimony, rather than a purely data-driven adjustment.

It is important to distinguish conceptually between the measurement and structural roles of transparency within the framework. Transparency is retained as a constitutive dimension of the PMES, reflecting normative and contextual features of people management systems, such as clarity of procedures and communicative consistency. However, it is not conceptualized as a direct process-based mechanism through which organizational culture is associated with efficiency outcomes. Accordingly, its exclusion from the structural model does not diminish its conceptual relevance but clarifies its function within the overall framework.

On the basis of this framework, three research hypotheses were formulated:

Hypothesis 1. *Organizational culture is positively associated with people management efficiency.*

Hypothesis 2. *Work organization mediates the association between organizational culture and people management efficiency.*

Hypothesis 3. *The association between organizational culture and people management efficiency is mediated by continuous improvement.*

The conceptual model and the proposed hypotheses were tested using a parallel mediation analysis, as described in the following section.

3.4. Parallel Mediation Analysis

To examine the mechanisms underlying the relationship between organizational culture and people management efficiency, a parallel mediation analysis was conducted using PROCESS Model 4 [62].

Indirect effects were estimated using a bootstrapping procedure with 5000 resamples. The results indicated that organizational culture is positively and statistically significantly associated with work organization ($b = 0.267$, $SE = 0.048$, $t = 5.594$, $p < 0.001$), accounting for approximately 9.9% of its variance ($R^2 = 0.099$). Organizational culture also showed a positive and statistically significant association with continuous improvement ($b = 0.588$, $SE = 0.043$, $t = 13.663$, $p < 0.001$), with substantially greater explanatory power ($R^2 = 0.397$). These findings indicate that higher levels of perceived organizational culture are associated with higher reported levels of structured work organization and continuous improvement. The overall model was also statistically significant [$F_{(3, 282)} = 52.32$, $p < 0.001$] and explained approximately 35.8% of the variance in people management efficiency ($R^2 = 0.358$).

Hypothesis 1, which posited that organizational culture is positively associated with people management efficiency, was supported by the results (b = 0.224, SE = 0.059, t = 3.777, $p < 0.05$). A positive and statistically significant indirect effect mediated by work organization was also observed (b = 0.054, SE = 0.018, 95% CI [0.022; 0.094]), supporting Hypothesis 2. In addition, continuous improvement demonstrated a statistically significant mediating effect in the association between organizational culture and people management efficiency (b = 0.197, SE = 0.040, 95% CI [0.118; 0.278]), thereby supporting Hypothesis 3.

These results indicate statistically significant parallel mediating associations between organizational culture and people management efficiency, indicating partial mediation, as the direct effect remained statistically significant. The coexistence of direct and indirect associations suggests that, beyond the organizational mechanisms examined, additional unobserved processes may contribute to explaining the relationship between organizational culture and people management efficiency.

Table 4 summarizes the results of the hypothesis tests, including the direct and indirect effects estimated in the parallel mediation model. Overall, the findings suggest that people management efficiency is positively associated not only with favorable cultural values but also with organizations' capacity to translate those values into systematic practices of learning, adaptation, and continuous improvement.

Table 4. Results of the Parallel Mediation Model Testing.

Hypotheses	Paths	B	SE	LLCI	ULCI	Result
H1	Organizational culture → People management efficiency	0.224	0.059	0.107	0.341	Supported
H2	Organizational culture → Work organization → People management efficiency	0.054	0.018	0.022	0.094	Supported
H3	Organizational culture → Continuous improvement → People management efficiency	0.197	0.040	0.118	0.278	Supported

Note. β = Unstandardized coefficient; SE = Standard error; LLCI/ULCI = Lower and upper limits of the 95% confidence interval, obtained through 5.000 bootstrap samples. The reported coefficients correspond to unstandardized effects, as recommended for mediation models estimated using PROCESS [62]. The symbol → indicates the direction of the relationship between variables. Source. Authors' own elaboration.

In addition to analyzing the explanatory mechanisms underlying the relationship between organizational culture and people management efficiency, it was considered relevant to examine whether statistically significant differences exist in the studied dimensions as a function of organizational certification.

3.5. Complementary Analysis: The Role of Organizational Certification

In order to explore potential contextual factors, this analysis examined whether the presence of organizational certification is associated with significant differences across the PMES dimensions, particularly in people management efficiency. To this end, a mean comparison analysis was conducted between certified and non-certified organizations. Prior to performing independent-samples *t*-tests, assumptions of normality and homogeneity of variances were assessed. Skewness and kurtosis values fell within acceptable ranges for all analyzed variables, and decisions regarding variance equality were based on Levene's test.

The results indicated that no statistically significant differences were observed in people management efficiency, work organization, or transparency as a function of organizational certification. This finding suggests that certification is not systematically associated with superior outcomes. Conversely, statistically significant differences were found for

organizational culture and continuous improvement, with higher mean scores observed among non-certified organizations in both cases (Table 5).

Table 5. Mean comparisons of PMES dimensions between certified and non-certified organizations.

Dimensions	Certification	M	SD	t	*p*	d
People management efficiency	No	3.61	0.95	0.49	0.625	0.11
	Yes	3.53	0.74			
Organizational culture	No	4.13	0.60	4.79	<0.001	0.71
	Yes	3.57	0.81			
Work organization	No	3.97	0.59	0.32	0.749	0.06
	Yes	3.93	0.65			
Transparency	No	3.75	0.86	1.80	0.074	0.33
	Yes	3.48	0.80			
Continuous improvement	No	4.06	0.58	3.74	<0.001	0.68
	Yes	3.55	0.77			

Note. d = Cohen effect size.

The results suggest that organizational certification does not constitute a differentiating factor in overall people management efficiency, reinforcing the relevance of exploring explanatory models centered on internal organizational mechanisms, such as work organization and continuous improvement.

It is also important to note that although statistically significant differences were observed in organizational culture and continuous improvement, the corresponding effects fall within a moderate range. Higher mean values among non-certified organizations may reflect more flexible and less normative organizational dynamics, potentially more oriented toward informal learning practices that are not necessarily influenced by formal certification processes. These findings reinforce the idea that certification, as an institutional mechanism, is not necessarily associated with the consistent presence of effective and internalized organizational practices, which is consistent with the results of the parallel mediation model presented earlier.

4. Discussion

The findings of this study should be interpreted within the HRM domain. Specifically, the results suggest that people management efficiency emerges as a socially constructed outcome shaped by cultural alignment, institutional processes, and internal organizational dynamics.

The central theoretical contribution of this study lies in conceptualizing people management efficiency as a systemic evaluative outcome emerging from the interaction between organizational culture and internal process-based mechanisms. Rather than treating efficiency as an isolated performance indicator, the proposed framework positions it as the result of structural coherence between cultural values and operational practices. This perspective integrates cultural, structural, and evaluative dimensions into a unified explanatory model, offering a theoretically integrated explanation of how people management systems are associated with organizational effectiveness as a socially constructed outcome.

The development and validation of the instrument proposed in this study contribute to strengthening the understanding of people management efficiency as a systemic and multidimensional construct that results from the articulation of multiple organizational dimensions [46]. The identification of five interdependent components—organizational

culture, work organization, transparency in organizational contexts, continuous improvement of processes and outcomes, and people management efficiency—is aligned with contemporary HRM approaches that argue that efficiency does not stem from the isolated adoption of practices, but rather from the coherence and articulation among different dimensions [5]. Within this configuration, transparency plays a supporting role by reinforcing coherence, predictability, and trust in organizational processes, rather than operating as a direct process-based mechanism within the tested structural relationships.

The obtained factor structure indicates that people management efficiency integrates cultural, structural, relational, and processual components simultaneously, corroborating the perspective that HRM systems function as complex organizational configurations whose effects emerge from the interaction between practices, context, and behaviors [6]. The identified dimensions are related but operate at different analytical levels within the proposed framework. Organizational culture, transparency, and continuous improvement represent structural and process-based organizational mechanisms, whereas people management efficiency is conceptualized as an overall evaluative outcome reflecting the perceived effectiveness of the system as a whole. The observed proximity between constructs should be interpreted as reflecting the systemic and interdependent nature of people management processes, rather than as an indication of conceptual redundancy.

The findings indicate that organizational culture is positively and significantly associated with people management efficiency, thereby supporting Hypothesis 1. In line with this, Hartnell et al. [7] argue that culture shapes how HRM practices are designed, interpreted, and operationalized in daily organizational life. Bozhinovska et al. [5] further suggest that people management efficiency depends less on formal practices and more on the cultural matrix that gives them meaning and stability over time. Georgescu et al. [13] reinforce this perspective by demonstrating that organizational culture acts as an integrative element aligning practices, work structures, and employee experiences. Complementarily, Manekar [12] shows that cultures oriented toward learning, collaboration, and innovation are positively associated with more efficient people management systems, which is reflected in higher levels of employee engagement and performance.

However, this relationship should not be interpreted as universally applicable. Its strength and manifestation may vary depending on contextual conditions such as industry characteristics, organizational size, the degree of formalization, and the maturity of certification systems. In highly formalized contexts, structured systems and standardized procedures may play a more prominent role, whereas in less formalized environments, informal practices and cultural dynamics may be more salient. Acknowledging these boundary conditions contributes to a more precise interpretation of the findings and highlights the importance of organizational and institutional context in the application of the proposed framework.

The data analysis also supported Hypothesis 2, as work organization was found to mediate the association between organizational culture and people management efficiency. This evidence aligns with the work of Harney and Collings [6], who argue that cultural effects manifest through structural mechanisms that shape concrete work experiences. In this context, Cahyadi et al. [29] contend that cultures oriented toward learning, participation, and development tend to translate into work models characterized by greater autonomy and development opportunities, which in turn foster employee ability, motivation, and engagement. Complementarily, Georgescu et al. [13] emphasize that HRM efficiency emerges from the effective translation of cultural values into coherent and functionally aligned work structures.

It was also found that continuous improvement of processes and outcomes mediates the association between organizational culture and people management efficiency, thereby

confirming Hypothesis 3. This result is consistent with organizational learning models that conceptualize culture as an antecedent of organizations' capacity to adapt and evolve in a sustained manner [2]. In addition, Gemar et al. [4] argue that people management efficiency is a dynamic and cumulative process grounded in the organization's ability to adjust practices based on experience and achieved results. In this regard, Rode et al. [45] demonstrate that learning- and problem-solving-oriented HRM practices foster continuous improvement, through which cultural values are translated into consistent practices and sustained outcomes. Cultures oriented toward critical reflection and participation facilitate continuous improvement practices, which in turn positively influence the quality of HRM practices [43].

The findings indicate that people management efficiency is not associated with a single isolated factor, but rather from an organizational process constructed over time, in which organizational culture guides how HRM practices are experienced within organizations [6]. Nevertheless, this effect is not automatic, as it is through work organization and continuous improvement dynamics that cultural values are reflected in consistent practices and concrete work experiences with tangible impacts on organizational functioning [22]. Accordingly, people management efficiency should be understood as a dynamic process resulting from the interaction among cultural values, HRM practices, and internal organizational structures, rather than as the automatic outcome of the isolated adoption of formal practices [13]. These results should be interpreted as indicative of associations rather than definitive causal relationships, particularly given the potential influence of common method bias.

While the theoretical framework highlights the complexity of organizational certification as a multidimensional institutional phenomenon, its empirical role in this study is intentionally limited to a contextual comparison between certified and non-certified organizations. This approach reflects an initial attempt to incorporate certification into the analysis of people management efficiency, without fully capturing its structural and processual complexity. Such interpretations should be considered with caution. Given the cross-sectional design of the study and the use of self-reported measures, the observed differences cannot be interpreted as causal effects of certification status. Moreover, certification was operationalized as a dichotomous contextual variable, which does not capture variation in certification scope, maturity, or integration. Accordingly, the results indicate empirical associations rather than definitive explanatory mechanisms and should be interpreted within the methodological boundaries of the study. In addition, certification was examined through mean comparisons based on a dichotomous operationalization, which limits the depth of analysis and does not allow for strong comparative conclusions regarding its relative importance in relation to internal organizational mechanisms. Therefore, the results should be interpreted as highlighting the relevance of internal processes rather than establishing a hierarchical relationship between culture-driven mechanisms and formal certification systems. Given the simplified operationalization of certification and the imbalance in sample distribution, the results should be interpreted with particular caution and should not be extended beyond the specific empirical context of the study.

The findings of this study offer an integrative contribution to the literature on people management efficiency. Theoretically, the PMES advances existing research by conceptualizing people management efficiency as a systemic and multidimensional construct emerging from the interaction between organizational culture, work organization, and continuous improvement processes. By moving beyond fragmented or practice-specific approaches, the scale provides a coherent analytical framework capable of capturing how cultural values are translated into operational efficiency. From a practical perspective, the PMES offers organizations a validated diagnostic tool to assess the internal coherence of their peo-

ple management systems, supporting more informed decisions regarding organizational design, process alignment, and continuous improvement initiatives.

This perspective contributes to ongoing discussions within HRM research by emphasizing that organizational effectiveness is not solely a function of formal structures, but also of socially embedded processes through which organizational practices are interpreted, enacted, and sustained. By conceptualizing people management efficiency as a systemic and socially constructed evaluative outcome, this study extends existing HRM frameworks and provides an integrative analytical lens for examining how organizational systems function within complex social and institutional contexts.

5. Conclusions

This study aimed to deepen the understanding of people management efficiency, based on the premise that this phenomenon cannot be adequately captured through isolated indicators or exclusively instrumental approaches. By proposing an integrated approach that articulates organizational culture, work organization, transparency, continuous improvement, and the institutional framework, this research sought to contribute to a more comprehensive reading of HRM efficiency.

The development and validation of the PMES constituted a central axis of this work. The construction of the instrument addressed a widely recognized need in the literature to measure people management efficiency in an integrated manner. By evidencing a consistent multidimensional structure, the PMES overcomes the conceptual fragmentation often observed in this field and provides a solid empirical basis for future research and organizational applications.

The findings indicate that people management efficiency is not solely associated with the formal adoption of policies, practices, or certified systems, but primarily from how cultural values are translated into work structures, organizational routines, and continuous learning processes. Organizational culture appears to play a central role in shaping how people management practices are interpreted and operationalized. The results also show that certification, in isolation, is not associated with higher levels of people management efficiency. Although normative frameworks may create formal conditions for management structuring, they are not necessarily associated with more effective practices. Their contribution largely depends on how these frameworks are interpreted, integrated, and applied within organizations' internal functioning.

The study supports the view that people management efficiency can be understood as an organizational capability developed over time, emerging from the continuous interaction between culture, work organization, transparency, and continuous improvement. This perspective advances theoretical debates in HRM while simultaneously offering both a measurement instrument and an analytical framework capable of supporting more reflective, coherent, and value-oriented management practices that promote sustainable value creation for employees and organizations.

5.1. Theoretical and Practical Contributions

This research makes a relevant contribution to understanding people management efficiency by adopting an integrated approach that articulates organizational culture, work organization, transparency, and continuous improvement. By examining how these dimensions are associated with one another, it reinforces the notion that HRM efficiency does not result from isolated dimensions, but rather from articulated organizational processes developed over time and embedded in organizational functioning.

The first contribution lies in the development and validation of the PMES, designed to capture the multidimensional nature of HRM efficiency. The scale overcomes frag-

mented or overly instrumental approaches by integrating cultural, structural, relational, and processual dimensions into a single measurement instrument. This development is particularly relevant in a field where recurring difficulties have been identified in empirically operationalizing people management efficiency. From a practical perspective, the PMES constitutes a useful organizational diagnostic tool that enables organizations to assess people management efficiency from employees' perspectives and to identify strengths and vulnerabilities across different dimensions of the HRM system.

Beyond the contribution associated with the instrument, the findings highlight the centrality of organizational culture as a structuring element of people management efficiency. The results suggest that culture does not operate solely through direct effects but is associated with efficiency primarily through how work is organized and how organizations learn and adjust over time. This evidence underscores that HRM efficiency depends less on the formal definition of practices and more on their translation into coherent work structures and organizational routines that foster learning, adaptation, and employee engagement. From a practical standpoint, this suggests that people management change initiatives are more likely to be effective when they stem from reflection on cultural values and assumptions and are translated into concrete adjustments in work organization.

The analysis also clarifies the role of transparency in organizational contexts. Although this dimension is relevant within the structure of HRM efficiency, the results suggest that its influence operates mainly as a facilitating condition for system functioning, reinforcing predictability, trust, and coherence of HRM practices. This interpretation has direct practical implications, indicating that transparency should be addressed in articulation with other organizational processes rather than treated as an end in itself.

The primary contribution of this study lies within the field of human resource management, particularly through the development and validation of a multidimensional measure of people management efficiency. By providing a theoretically grounded and empirically validated instrument, the study advances the understanding of how organizational mechanisms shape perceived efficiency in people management systems. At the same time, the findings offer relevant implications for broader organizational research, contributing to ongoing discussions within the social sciences regarding the role of culture, structure, and institutional processes in shaping organizational outcomes.

In addition, the study proposes a critical reinterpretation of the role of organizational certification in people management efficiency. By challenging linear assumptions regarding the association between certification and superior HRM performance, the findings reinforce the distinction between normative formalization and substantive internalization of practices. From a theoretical perspective, this contribution advances the debate on the substantive value of certified management systems. From a practical perspective, it alerts organizations to the need to shift the focus from symbolic compliance with standards toward coherence between culture, leadership, practices, and actual work experiences.

5.2. Study Limitations and Directions for Future Research

Despite the relevance of the findings, several limitations should be acknowledged when interpreting the results, while simultaneously constituting opportunities for future research.

The first limitation relates to the cross-sectional design, which restricts the ability to establish causal relationships among the analyzed variables. Although the proposed theoretical model assumes that organizational culture is associated with people management efficiency through internal mechanisms, the collected data reflect consistent associations at a single point in time. Therefore, reciprocal relationships or the influence of unobserved variables cannot be ruled out.

Additionally, data collection relied exclusively on self-report measures obtained from a single source at one point in time, which may increase the risk of common method bias. Although procedural remedies were implemented and Harman's single-factor test was conducted as an initial diagnostic, this approach provides only limited assurance. Therefore, the potential influence of method-related variance cannot be fully excluded and should be considered when interpreting the findings.

A third limitation concerns the validation of the measurement instrument. Although the PMES factor structure demonstrated conceptual coherence and adequate psychometric properties, empirical validation was conducted using a single sample. This approach, common in the initial stages of instrument development, limits the assessment of scale stability across different organizational contexts and the evaluation of model stability. In addition, the use of the same sample for both exploratory and CFA reduces the independence of the validation process and requires cautious interpretation of the results, which should be regarded as providing initial evidence of the scale's structure rather than a fully established validation. Although the initial conceptualization of the scale was informed by expert perspectives, its validation within an employee sample supports its applicability to capturing perceived people management efficiency in organizational contexts.

Future research should prioritize cross-validation using independent samples and, where possible, multi-group analyses to assess measurement invariance across organizational contexts. Such procedures would further strengthen confidence in the robustness and generalizability of the PMES.

An additional methodological limitation concerns the analytical strategy adopted for testing the mediation model. Although the constructs were validated using CFA, the mediation analysis was conducted using a regression-based approach (PROCESS Model 4), which does not explicitly account for measurement error within a unified latent structural framework. This approach is widely used and provides bootstrapped estimates of indirect effects. Future research may benefit from employing full latent SEM models to simultaneously estimate measurement and structural components.

In addition, the model fit indices obtained in the CFA, while acceptable, were close to conventional threshold values, which suggests that future studies may refine the measurement structure to achieve stronger overall fit.

An additional limitation concerns discriminant validity. The observed pattern, in which MSV exceeds AVE in some cases and the AVE of the People Management Efficiency construct falls slightly below the recommended threshold, suggests that certain constructs may not be sufficiently distinct. This limitation may affect the precision of the measurement model and should be considered when interpreting the results. Future research should focus on refining item wording and further validating the scale using independent samples in order to improve construct separation.

Another limitation arises from how organizational certification was operationalized. By treating certification as a dichotomous variable, the analysis does not capture heterogeneity related to the scope, integration, or maturity of certified management systems. In practice, organizations may differ substantially in the number of standards adopted, the extent to which these standards are integrated, and the depth of their internalization into everyday practices. Although this operationalization was appropriate for contrasting formally certified and non-certified contexts, it restricts more fine-grained interpretations of certification effects. Future research may therefore benefit from adopting more differentiated operationalizations of certification, incorporating measures such as certification intensity, level of system integration, and maturity of implementation, thereby enabling a more precise understanding of how certification practices relate to people management efficiency.

Therefore, findings related to certification status should be interpreted with caution, as the imbalance in group sizes and the exclusion of uncertain responses may affect the stability and robustness of the comparative analyses. The smaller number of participants in the non-certified group may affect the stability and comparability of the results, particularly in analyses involving group differences. Therefore, findings related to certification status should be interpreted with caution.

A more nuanced operationalization of certification would allow future studies to capture differences in the number of standards adopted, the degree of integration within management systems, and the maturity level of implementation. Such distinctions may provide a more precise understanding of how certification practices relate to people management efficiency.

These limitations open several avenues for future research. Longitudinal studies may deepen understanding of the temporal dynamics linking organizational culture, internal mechanisms, and people management efficiency, as well as assess the impact of specific organizational interventions over time. It would also be valuable to validate the PMES in samples from different sectors and institutional contexts to strengthen its robustness as a measure of people management efficiency.

In line with the identified limitations, future research may benefit from integrating objective organizational performance indicators and from combining employee perceptions with observable people management outcomes. The role of transparency could also be further examined by conceptualizing it as a moderating or contextual variable.

Taken together, these limitations highlight that the findings should be interpreted as context-dependent and exploratory, consistent with the objectives of scale development research. Future studies may build on this work by applying the PMES across different organizational settings, using longitudinal designs, and incorporating more fine-grained measures of institutional and contextual conditions, such as certification maturity or integration. From a broader perspective, this line of research contributes to understanding organizations as socially embedded systems, in which people management outcomes emerge from the interaction between cultural, structural, and institutional dynamics.

Future research should explicitly examine these boundary conditions by incorporating contextual variables such as industry type, degree of formalization, and certification maturity, allowing for a more nuanced understanding of when and how organizational culture influences people management efficiency.

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Abbreviations

The following abbreviations are used in this manuscript:

AMO	Ability–Motivation–Opportunity
AVE	Average Variance Extracted
β	Unstandardized coefficient
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
CVI	Content Validity Index
d	Cohen's effect size
EFA	Exploratory Factor Analysis
HR	Human resource
HRM	Human resource management
KMO	Kaiser–Meyer–Olkin indicator
LLCI	Lower limits of the 95% confidence interval
M	Mean
MSV	Maximum shared variance
p	*p*-value
PCA	Principal Component Analysis
PMES	People Management Efficiency Scale
RMSEA	Root Mean Square Error of Approximation
SD	Standard-deviation
SE	Standard error
SRMR	Standardized Root Mean Square Residual
t	*t*-test
TLI	Tucker–Lewis Index
ULCI	Upper limits of the 95% confidence interval
χ^2	Chi-square

Appendix A. Final Version of the People Management Efficiency Scale (PMES)

Appendix A.1. Organizational Culture (8 Items)

OC1. Leadership demonstrates ethical behavior in its decision-making.
OC2. Leadership acts consistently with the organization's principles.
OC3. Leadership communicates in a transparent manner.
OC4. The organizational culture encourages collaborative work.
OC5. Leaders foster commitment to organizational objectives.
OC6. Leadership clearly communicates the organization's values.
OC7. The organizational culture promotes mutual respect.
OC8. The organizational culture is oriented toward continuous improvement.

Appendix A.2. Work Organization (4 Items)

WO1. Standardization contributes to outcome quality.
WO2. Standardized processes increase efficiency.
WO3. Standardization facilitates alignment across teams.
WO4. Standardization reduces operational errors.

Appendix A.3. Transparency (4 Items)

T1. The dissemination of internal policies is regular.
T2. Internal standards are communicated in an accessible manner.
T3. Internal communication is accessible to all employees.

T4. Internal standards are clear.

Appendix A.4. Continuous Improvement (4 Items)

CI1. Teams identify opportunities for improvement.
CI2. Collective performance is valued.
CI3. The organization values sustainable results.
CI4. Innovation is integrated into planning.

Appendix A.5. People Management Efficiency (4 Items)

PME1. People management practices promote employee retention.
PME2. People management practices reflect organizational values.
PME3. Recruitment processes are conducted using transparent criteria
PME4. Communication reflects consistency and rigor.

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