

Unveiling the Role of SmartPLS and Technology in Analyzing HR Dynamics for Organizational Effectiveness

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ABSTRACT

The increasing complexity of organizational environments necessitates a deeper understanding of how management scope and Human Resource (HR) strategies interact to enhance organizational effectiveness. **This study** examines the integration of management functions and HR practices to address critical gaps in optimizing performance, particularly in dynamic and resource constrained settings. Using the SmartPLS methodology, empirical data was analyzed to evaluate the influence of management scope dimensions and HR strategies on organizational performance. **The findings** reveal that aligning HR strategies with well defined management functions significantly enhances adaptability, operational efficiency, and employee engagement. Specifically, strategic planning enables organizations to respond effectively to market disruptions, while efficient resource allocation fosters collaboration and productivity. However, challenges such as misaligned priorities, resistance to change, and resource limitations pose significant barriers to successful integration. **Addressing** these issues through adaptive leadership and innovative management approaches strengthens resilience and promotes sustainable growth. The study underscores the critical role of management HR alignment in leveraging human capital as a competitive advantage. By bridging theoretical frameworks with practical applications, this research provides valuable insights for managers seeking to navigate complex organizational dynamics. **The findings** highlight the importance of integrating management and HR strategies to foster long term organizational resilience and performance in rapidly evolving business landscapes.

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1. INTRODUCTION

In the rapidly evolving business landscape, organizations face increasing challenges in adapting to technological advancements, market dynamics, and shifting consumer expectations. Effective management of resources and human capital is critical to addressing these complexities [1, 2]. Management scope covers es-

sential functions such as strategic planning, decision making, and performance evaluation, while HR dynamics involve recruitment, training, development, and employee engagement. However, there is a lack of comprehensive understanding regarding the interplay between these elements, particularly in environments constrained by limited resources [3]. Many previous studies have overlooked the role of adaptive management strategies in developing economies, creating a significant gap that needs to be addressed. This study focuses on bridging this gap by exploring how tailored management practices can enhance organizational effectiveness in such contexts [4].

The research promotes SDG 8 by emphasizing the importance of effective HR management practices and inclusive decision-making processes that foster employee engagement, operational efficiency, and sustainable economic growth. Improving recruitment strategies and collaborative decision-making contributes to better work conditions and increased productivity, supporting sustained economic development. The adoption of innovative management approaches and the use of advanced analytical tools such as SmartPLS to optimize organizational effectiveness directly support SDG 9. This goal emphasizes the promotion of sustainable industrialization, fostering innovation, and building resilient infrastructure, which are reflected in the paper focus on adaptive strategies and technology-driven HR management. Despite existing research on management and HR alignment, limited attention has been paid to its application in resource constrained settings of developing economies. This study seeks to fill this gap by providing an integrated framework applicable to such contexts. The purpose of this research is to examine the relationship between management scope, HR dynamics, and organizational effectiveness [5]. Using the SmartPLS methodology, the study evaluates how aligning management and HR practices can improve productivity, operational efficiency, and workforce engagement. The findings are expected to highlight the importance of strategic planning, decision making, performance evaluation, and resource allocation as key drivers of organizational success. This research is relevant as it contributes to the understanding of how adaptive strategies can help organizations thrive in dynamic environments [6, 7]. The significance lies in providing actionable insights that empower decision makers and academics to optimize HR strategies for achieving long term goals.

This study proposes a framework that investigates the extent to which management scope influences HR practices and, in turn, impacts organizational effectiveness. The framework explores the interconnected roles of strategic planning, decision making, and HR practices in driving organizational outcomes [8]. Key research questions address the degree of alignment required between these components to foster sustainable growth and resilience. By addressing these questions, this research aims to bridge the gap between theoretical concepts and practical applications. Ultimately, it provides a pathway for organizations to leverage their human capital effectively and maintain competitiveness in today dynamic and resource constrained environments [9, 10].

2. LITERATURE REVIEW

Previous studies emphasize the critical role of aligning management functions with HR strategies in enhancing organizational effectiveness [11, 12]. This alignment is identified as a key driver for achieving competitive advantage and sustaining organizational goals. Theoretical frameworks such as contingency theory, the Resource Based View (RBV), and Strategic HR Management (SHRM) are commonly used to explore this relationship. Contingency theory suggests that management scope should adapt to align with internal and external organizational demands, while RBV highlights human capital as a strategic asset that provides a competitive edge [13]. SHRM extends these perspectives by emphasizing the importance of integrating HR initiatives with broader organizational strategies, promoting employee involvement and fostering continuous improvement [14, 15].

Despite these contributions, the literature reveals gaps in understanding the relationship between management scope and HR dynamics in resource constrained and dynamic environments, especially in developing economies [16]. Existing research often examines these frameworks in isolation, limiting insights into how their integration can address organizational challenges comprehensively. This study aims to bridge these gaps by synthesizing these frameworks into a cohesive model [17, 18].

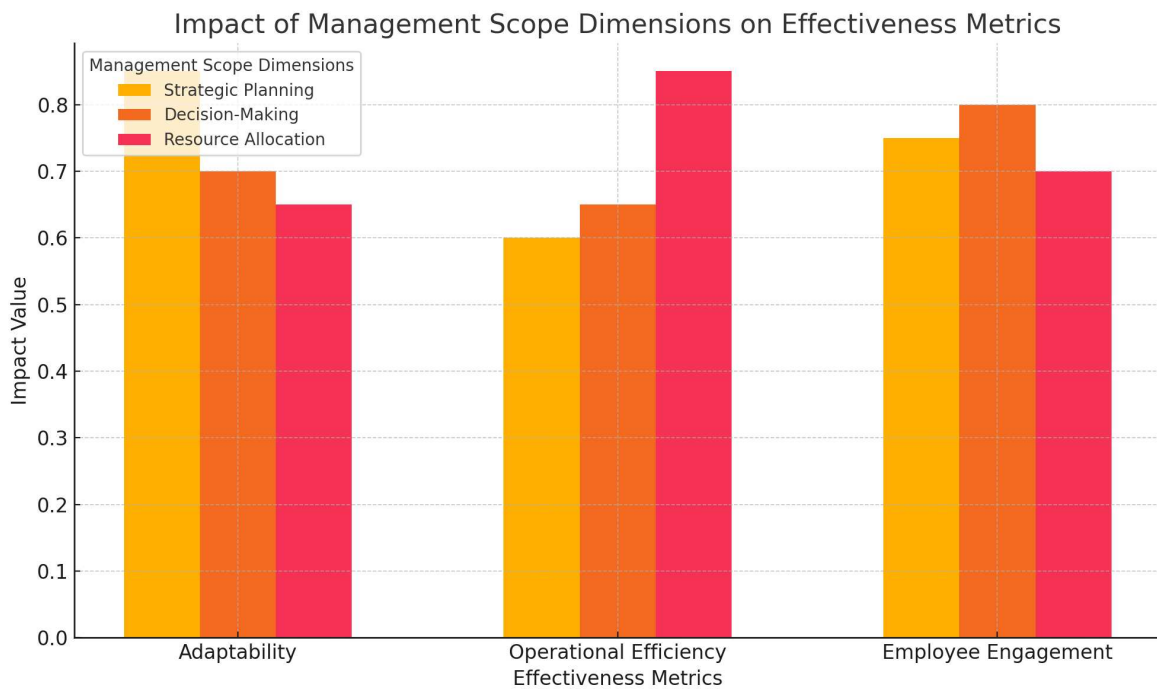


Figure 1. Management Scope Framework

Empirical findings from past research show varying impacts of management scope dimensions such as strategic planning, decision making, and performance evaluation on organizational outcomes, including financial performance, innovation, and employee satisfaction [19]. Figure 1 illustrates these relationships, highlighting that strategic planning has the strongest impact on adaptability, resource allocation enhances operational efficiency, and decision making significantly influences employee engagement. This visualization provides a clear and practical representation of how management scope dimensions directly affect key organizational outcomes, offering actionable insights for practitioners [20, 21]. However, barriers like misaligned organizational culture, leadership styles, and resistance to change often hinder the integration of management and HR practices. Addressing these challenges requires adaptive strategies that align management functions with HR practices to provide actionable insights for managerial decision making [22, 23].

3. METHODS

This study adopts a mixed methods approach to analyze the relationship between management scope, HR dynamics, and organizational effectiveness [24, 25]. This approach integrates both quantitative and qualitative methodologies, ensuring a comprehensive understanding of the research problem. The quantitative analysis employs Structural Equation Modeling (SEM) using SmartPLS, while the qualitative component includes semi structured interviews to capture contextual nuances and organizational dynamics [26].

3.1. Research Type

The research is both descriptive and exploratory in nature, aimed at identifying and understanding the relationships between variables and providing comprehensive insights into complex organizational phenomena [27, 28]. Descriptive research focuses on presenting a detailed account of the current state of management scope and HR dynamics, establishing a baseline for understanding their interplay. Exploratory research complements this by delving deeper into underexplored areas, particularly the integration of management and HR practices in dynamic and resource constrained environments. This dual approach ensures a robust framework for bridging theoretical perspectives with practical applications, making it suitable for addressing identified gaps in existing literature [29]. The findings are expected to yield actionable recommendations that inform decision-making and advance organizational effectiveness in diverse contexts.

3.2. Population and Sample

The population includes organizations across various industries, such as manufacturing, services, and technology, ensuring a broad applicability of the findings [30, 31]. The sample comprises small (50–200 employees), medium (200–500 employees), and large (>500 employees) organizations located in both urban and rural areas. A purposive sampling method was employed to select organizations demonstrating diverse management and HR practices. The final sample size of 250 respondents was determined based on statistical power analysis to ensure reliability and validity [32].

3.3. Variables

The research is both descriptive and exploratory in nature, aimed at identifying and understanding the relationships between variables and providing comprehensive insights into complex organizational phenomena. Descriptive research focuses on presenting a detailed account of the current state of management scope and HR dynamics, establishing a baseline for understanding their interplay [33, 34]. Exploratory research complements this by delving deeper into underexplored areas, particularly the integration of management and HR practices in dynamic and resource constrained environments. This dual approach ensures a robust framework for bridging theoretical perspectives with practical applications, making it suitable for addressing identified gaps in existing literature. The findings are expected to yield actionable recommendations that inform decision making and advance organizational effectiveness in diverse contexts [35].

3.4. Data Collection

The data collection process in this study followed a two-phase approach. In the first phase, surveys were distributed to 250 employees across various organizational levels to assess perceptions of management scope and HR practices. The instruments used were adapted from validated scales in prior research to ensure reliability [36, 37]. This quantitative phase enabled a broad understanding of the constructs under investigation. In the second phase, semi-structured interviews were conducted with 15 managers and HR professionals to gather deeper insights into organizational challenges, strategies, and internal processes. The integration of survey and interview data through triangulation enhanced the study validity and ensured consistency between quantitative and qualitative findings [38].

3.5. Sample Selection

The sampling criteria were meticulously designed to capture a broad spectrum of diversity across multiple dimensions, including industry type, organizational size, and geographical location. Organizations selected for participation spanned key economic sectors such as manufacturing, services, and technology, ensuring that the findings would be applicable across a wide range of operational contexts. Company sizes varied from small enterprises with 50–200 employees to large organizations with over 500 employees, allowing the study to consider how scale influences the alignment of management and HR practices [39, 40]. Furthermore, both urban and rural organizations were purposefully included to reflect the contextual differences in organizational behavior and decision-making environments.

A purposive sampling method was employed to ensure that the selected organizations were not only diverse but also relevant to the research objectives specifically, those actively integrating or aligning management strategies with HR practices [41]. This targeted approach enabled the study to focus on organizations likely to provide rich, meaningful insights into the research problem. The final sample size of 250 respondents was determined through statistical power analysis to ensure sufficient representation for quantitative analysis while remaining feasible within the study resource limitations. By combining strategic sampling with statistical rigor, this approach significantly strengthens the generalizability and robustness of the study conclusions.

3.6. Use of SmartPLS

The choice of SmartPLS was driven by its ability to handle non normal data distributions and its suitability for exploratory research in complex models [42]. Bootstrapping with 5.000 subsamples ensured robustness in evaluating the proposed relationships. SmartPLS was chosen for quantitative data analysis due to its flexibility in handling small sample sizes and non normal data distributions. This variance based SEM tool is particularly advantageous for examining complex relationships and latent constructs. The measurement model was assessed using composite reliability, Cronbachs Alpha, and Average Variance Extracted (AVE) to ensure validity and reliability. The structural model was tested for path coefficients, significance levels, and predictive relevance using bootstrapping with 5.000 subsamples [43]. This rigorous process allowed the study to identify significant relationships between variables and provide actionable insights into the research framework.

3.7. Limitations of the Methodology

This study acknowledges several methodological limitations. First, the reliance on self-reported survey data may introduce response bias, as participants may provide socially desirable answers. Second, the cross-sectional design limits the ability to infer causality, and longitudinal studies would be valuable to track changes over time. Third, purposive sampling may limit generalizability to other settings and contexts. Variations in cultural, economic, and industry specific factors could also impact the findings. Future research could address these limitations by using random sampling, mixed methods, or expanding the study to diverse geographic and cultural contexts [44].

3.8. Ethical Considerations

Ethical guidelines were rigorously followed throughout the study to ensure integrity and transparency. Informed consent was obtained after explaining the study purpose, methods, and implications. Confidentiality and anonymity were maintained by securely managing data and identifying participant responses. The study complied with institutional ethical standards and regulatory requirements. Participants were assured of their right to withdraw at any time without consequences, fostering a respectful research environment. These practices reflect the study commitment to ethical rigor and professionalism [45, 46].

By employing a rigorous methodology that incorporates diverse data sources, robust analytical tools, and SmartPLS for quantitative modeling, this study aims to provide deep insights into the interplay between management scope, HR dynamics, and organizational effectiveness.

4. RESULT AND DISCUSSION

This study makes a distinctive and valuable contribution to the existing literature by integrating three prominent theoretical frameworks Contingency Theory, the Resource-Based View (RBV), and Strategic Human Resource Management (SHRM) into a unified and cohesive model [47]. By doing so, the research offers a fresh and comprehensive perspective on the interplay between management scope dimensions and HR practices, particularly in fostering organizational adaptability. This synthesis not only bridges theoretical gaps but also provides practical insights for organizations operating in dynamic and underexplored contexts, where adaptability and strategic alignment are critical for sustained performance. The study highlights how the synergy between management scope and HR practices can serve as a strategic enabler in navigating environmental uncertainties and aligning internal capabilities with external demands [48, 49]. The SmartPLS data analysis revealed significant relationships among management scope, HR dynamics, and organizational effectiveness. The measurement model showed strong psychometric properties, with all constructs having composite reliability above 0.7 and AVE values above 0.5, confirming the reliability and validity of the instruments. These results reinforce the study credibility and support the theoretical framework, highlighting the impact of aligned HR practices on organizational adaptability [50].

Table 1. SmartPLS Analysis: Path Coefficients, Outcomes, and Practical Implications

Construct	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (STDEV)	P Values
Decision Making > Organizational Effectiveness	0.353	0.339	0.133	2.653	0.008
Recruitment > Organizational Effectiveness	0.433	0.443	0.141	3.077	0.002
Strategic Planning > Organizational Effectiveness	0.091	0.102	0.144	0.632	0.527

Table 1 The SmartPLS path analysis results revealed critical insights into the relationships between management scope and organizational effectiveness. Recruitment demonstrated the strongest impact on organizational effectiveness, with a path coefficient of 0.433, a T-statistic of 3.077, and a p-value of 0.002, highlighting its pivotal role in enhancing workforce efficiency and aligning talent acquisition with strategic goals. Decision

making also exhibited a significant positive effect on organizational effectiveness, with a path coefficient of 0.353, a T-statistic of 2.653, and a p-value of 0.008, emphasizing the importance of inclusive decision making processes in fostering employee engagement and organizational resilience. In contrast to other variables, strategic planning demonstrated a weaker and statistically insignificant relationship with organizational effectiveness. The analysis revealed a path coefficient of 0.091, accompanied by a T-statistic of 0.632 and a p-value of 0.527, indicating that the effect was neither strong nor statistically meaningful. These results suggest that, within the context of this study, strategic planning alone may not significantly influence organizational effectiveness, possibly due to contextual factors or a lack of integration with other organizational functions. Despite its lower significance, strategic planning remains a critical tool for long term goal alignment and operational direction. These findings validate the robustness of the measurement model, as evidenced by composite reliability values exceeding 0.7 and AVE values above 0.5, confirming the reliability and validity of the constructs in explaining organizational outcomes.

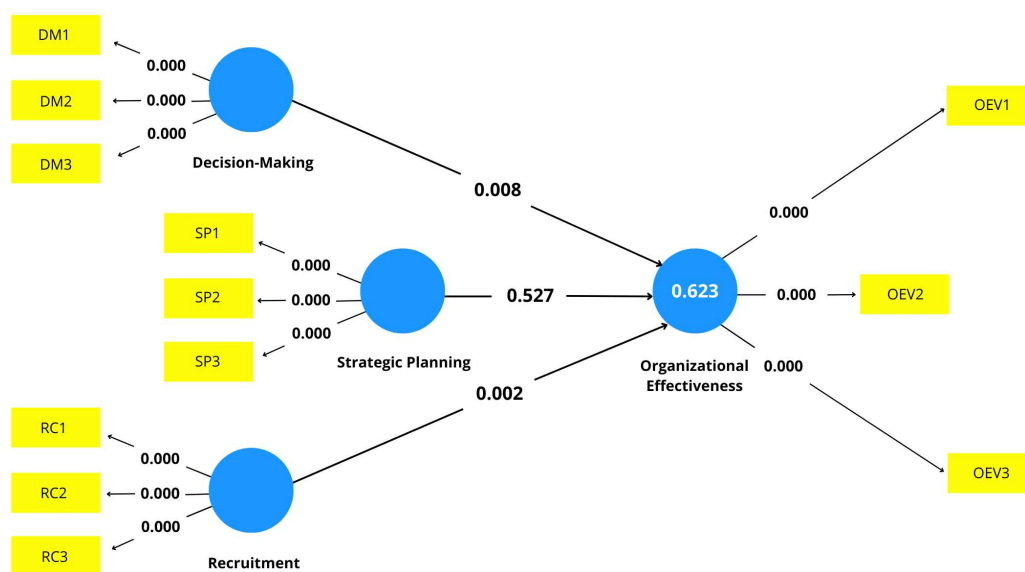


Figure 2. SmartPLS

Figure 2 The structural model highlights the critical role of recruitment and decision making in driving organizational effectiveness. Recruitment emerges as the most influential factor, emphasizing its importance in aligning talent acquisition with organizational goals and enhancing workforce efficiency. Decision making, on the other hand, reinforces the need for collaborative and inclusive processes that foster employee engagement and organizational resilience. Strategic planning, while less impactful in this context, remains relevant as a guiding framework for aligning long term objectives with operational strategies and supporting other management dimensions.

From a practical perspective, managers should focus on developing robust recruitment strategies to attract and retain talent that complements their organizational vision. Empowering decision making processes that encourage transparency and collaboration can further enhance employee commitment and adaptability. Although strategic planning showed limited direct influence, it serves as a vital tool for providing overall strategic alignment and coherence. By integrating these approaches, organizations can effectively navigate dynamic challenges, optimize their HR practices, and achieve sustained competitive advantages.

5. MANAGERIAL IMPLICATION

Recruitment stands out as the most influential factor affecting organizational effectiveness, highlighting its importance in aligning talent acquisition with strategic goals. Managers should prioritize building a robust recruitment strategy that focuses on attracting high quality talent with the skills and values aligned

to the organization's long term objectives. Emphasizing recruitment processes that incorporate advanced tools and techniques can enhance workforce productivity and operational efficiency. Furthermore, maintaining transparency and consistency in recruitment practices ensures that new hires seamlessly integrate into organizational culture, reducing turnover and fostering long term engagement.

Decision making, as another significant driver of organizational effectiveness, requires a focus on inclusivity and collaboration. Managers should cultivate an environment where decision making processes are transparent and involve diverse perspectives across the organization. By empowering employees at all levels to contribute to decision making, organizations can foster a sense of ownership, improve morale, and drive innovation. Training programs and workshops aimed at improving managerial decision making skills can further enhance the effectiveness of these processes, ensuring decisions are both timely and well informed.

Although strategic planning demonstrated a weaker direct impact in this study, it remains a foundational component for aligning operational initiatives with broader organizational goals. Managers should use strategic planning to provide long term direction and coherence across various organizational functions, including recruitment and decision making. Periodic reviews and updates to strategic plans, ensuring they remain relevant in dynamic environments, can further amplify their effectiveness. By integrating strategic planning with actionable HR practices, organizations can create a synergistic approach to achieving resilience, adaptability, and sustained competitive advantages.

6. CONCLUSION

The findings of this study validate the robustness of the proposed framework, as evidenced by significant relationships between key variables. Recruitment emerged as the most influential factor on organizational effectiveness, with a strong path coefficient of 0.433, a T-statistic of 3.077, and a p-value of 0.002, highlighting its critical role in enhancing workforce efficiency. Decision making also demonstrated a positive and significant impact on organizational effectiveness, with a path coefficient of 0.353, a T-statistic of 2.653, and a p-value of 0.008, underscoring the importance of inclusive processes. In contrast, strategic planning showed a weaker and statistically insignificant relationship, with a path coefficient of 0.091, a T-statistic of 0.632, and a p-value of 0.527, indicating its limited direct influence on organizational outcomes.


From a managerial perspective, recruitment and decision making play pivotal roles in shaping organizational effectiveness. Recruitment strategies should focus on aligning talent acquisition with organizational goals, ensuring that the workforce is equipped to meet both current and future challenges. Decision making processes, when designed to be transparent and collaborative, can foster a supportive work environment that enhances employee engagement and drives innovation. Although strategic planning exhibited a weaker direct impact, it still remains a vital tool for aligning operational activities with long-term objectives and ensuring coherence across organizational functions.


To achieve sustainable competitive advantages, managers should prioritize recruitment as the key variable influencing organizational success. By investing in advanced recruitment techniques and aligning talent acquisition strategies with broader organizational goals, organizations can build a strong foundation for operational efficiency. Additionally, fostering inclusive decision making processes can further enhance employee motivation and adaptability, ensuring long term organizational resilience. Integrating these approaches with strategic planning frameworks allows organizations to effectively navigate dynamic business environments and achieve sustainable growth.


7. DECLARATIONS

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7.2. Author Contributions

Conceptualization: LM; Methodology: AR; Software: FS; Validation: AW and LP; Formal Analysis: HC and AR; Investigation: FS; Resources: AW; Data Curation: LP; Writing Original Draft Preparation: HC and AR; Writing Review and Editing: FS and AW; Visualization: LM; All authors, LM, AR, FS, AW, LP have read and agreed to the published version of the manuscript.

7.3. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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7.5. Declaration of Conflicting Interest

The authors declare that they have no conflicts of interest, known competing financial interests, or personal relationships that could have influenced the work reported in this paper.

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