Quantitative Study of Innovative Strategies in Human Resource Management within Latin American MSMEs: A Case Study in the Municipality of San Pedro Cholula, Mexico, in the Year 2020.

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ABSTRACT:This article focuses on the analysis of factors associated with innovation in human resources management employed by directors of micro, small and medium-sized enterprises (MSMEs) through surveys. A total of 369 valid surveys were collected, and the section related to human resources innovation, consisting of five items, was examined. Means associated with each item were compared, and an Analysis of Variance (ANOVA) test was conducted to determine if statistically significant differences existed among the items. The findings indicate that directors of SMEs in the municipality of San Pedro Cholula prioritize strategies related to role definition within the organization, which is associated with enhanced operational efficiency.

KEYWORDS: Human Resources, Innovation, ANOVA, MSMEs.

I. INTRODUCTION

[1] Micro, small, and medium-sized enterprises (MSMEs) play a pivotal role in the productive fabric and economic dynamism of Latin America. Various empirical studies indicate that MSMEs account for approximately 99% of the total businesses in the region and significantly contribute to the creation of formal employment.

[2] Indeed, research suggests that up to 67% of private employment in Latin America is generated by MSMEs. The robustness and heterogeneity of the MSME sector are factors that confer resilience to Latin American economies in the face of adverse conditions. Therefore, a substantial body of evidence in specialized literature substantiates the preeminence of small and medium-sized enterprises within the contemporary Latin American production structure.

[3]In recent decades, strategic human resource management has emerged as a key competitive factor for the survival, growth, and profitability of small and medium-sized enterprises (SMEs).

[4] On the other hand, various studies in the field of strategic human resource management document a positive association between the implementation of innovative personnel management practices and organizational outcomes such as productivity, financial performance, and innovation in smaller-sized enterprises.

[5] In the context of MSMEs, employees represent a particularly valuable and differentiating resource, whose motivation and commitment are essential for achieving sustainable competitive advantages against larger enterprises. Therefore, effective human talent management is a critical and differentiating factor for the success of MSMEs.

[6] Despite the attributed significance to strategic human resource management, empirical evidence suggests that SMEs face substantial limitations in implementing advanced practices in this area. Various studies indicate that small and

medium-sized enterprises are typically constrained in resources and organizational capacities, hindering the adoption of sophisticated human resource systems.

[7] Additionally, other studies point to challenges related to flat managerial structures, centralized decision-making, and a lack of professionalization in personnel management within MSMEs.

[8] Other challenges include the informality of labor relations and reactive practices focused on short-term requirements. There is ample evidence highlighting the distinctive constraints that micro, small and medium-sized enterprises face in implementing modern strategic human resource management practices.

[9] The strategic management of human resources has become significantly more complex for MSMEs in the current economic context. Globalization and rapid technological advances create competitive pressures and a dynamic environment to which organizations must adapt to survive.

[10] In this scenario, MSMEs face significant challenges in attracting and retaining the necessary talent, as well as in developing a flexible, committed workforce with the required competencies to respond to the changing market conditions.

[11] Additionally, studies, such as the one by, indicate that increasing regulations and the sophistication of labor demands further complicate human resource management for smaller-sized firms. In summary, specialized literature highlights that SMEs face growing demands and multidimensional challenges in strategically managing their human capital in the contemporary business environment.

[12] While the significance of strategic human resource management is well-documented, there exists a significant gap in the literature concerning the specific practices adopted by Latin American MSMEs in this managerial domain.

[13] Most studies on personnel management innovations have focused on companies in developed countries. Given the institutional and cultural peculiarities of Latin America, contextualized research is needed to understand the patterns, effectiveness, and challenges of human resource strategies in micro, small and medium-sized enterprises in the region.

[14] A detailed analysis would enable the identification of areas for improvement and the generation of recommendations for the adoption of cutting-edge approaches that align with the Latin American reality. In conclusion, there is a critical need and space for future empirical research to shed light on the contemporary human resource management practices deployed by SMEs in Latin America.

II. METHODS

In the current research, a survey-based data collection methodology was employed to acquire quantitative information. The target population consisted of leaders and administrators of Micro, Small, and Medium-sized Enterprises (MSMEs) in San Pedro Cholula, Puebla, Mexico, given their strategic role in decision-making. The research protocol design was entrusted to RELAYN, a recognized entity in the socio-economic research domain. Data collection was conducted throughout the year 2020.

Subsequently, the obtained data underwent a comprehensive analysis employing statistical techniques. Firstly, a descriptive statistical analysis was conducted to identify patterns and trends in the studied population. Subsequently, a one-way analysis of variance with a 95% confidence level was performed to detect potential significant differences among the examined subcategories. To ensure result validity, statistical robustness approaches were applied.

To ensure meaningful comparisons, the sample size was determined considering a 95% confidence level and a 5% margin of error, based on a population of 9,018 companies according to INEGI data in 2016. It was estimated that a sample of at least 369 surveys would be necessary to obtain robust and representative results. In this study, 396 companies were analyzed, surpassing the requirements set for a solid sample size, thereby ensuring the applicability of the results in public policies and statistical analyses.

[15] It is noteworthy that data collection was conducted using a research questionnaire previously validated in prior studies.

The specific data collection for Micro, Small, and Medium-sized Enterprises (MSMEs) at the municipal level was conducted through structured questionnaires targeted at leaders and directors of these businesses. The selection of a five-point Likert scale for responses provided the foundation for more precise statistical analyses of participants' perceptions, enabling a deeper interpretation of business and social dynamics.

The evaluated variables were based on the questionnaire developed by RELAYN (2020), focusing on the implementation of innovation tools in the management of MSMEs in the municipality. Detailed statistical analyses, conducted using STATPLUS® version 9.0, encompassed

descriptive measures and significance tests, such as one-way ANOVA, to assess potential differences among the responses of MSMEs in the municipality. This methodological approach ensures the robustness and applicability of the results in the realm of public policies and statistical analyses.

The variables incorporated in this research, derived from the survey developed by RELAYN (2020), were focused on assessing the implementation of innovation tools in the administration of MSMEs in the municipality. The following details these variables.

a) The company has recently implemented new methods for recruiting, selecting, or hiring personnel.

b) The company has recently implemented new performance evaluation methods.

c) The company has defined personnel responsibilities and adjusts them to improve efficiency.

d) The company has measured organizational climate.

e) The company has recently implemented methods for controlling financial resources.

III. RESULTS

Upon completion of the validation process for each survey targeting micro and small enterprises, wherein results not meeting the required quality standards (such as missing or erroneous identification keys, incomplete surveys, among others) were excluded, the subsequent step involved determining the measures of central tendency for each item. This procedure aimed to provide a statistical summary characterizing the central and representative position of the collected data for each variable of interest. Measures of central tendency were calculated for each item, thereby offering a comprehensive overview of response distribution.

Figure 1 provides a summary of the means for each item, with item c) "The company has defined personnel responsibilities and adjusts them to improve efficiency" standing out with the highest mean, scoring 3.15 on the Likert scale. This information suggests that, based on the collected responses, participants perceived this specific aspect of business management more positively.

In contrast, items a) "The company has recently implemented new methods for recruiting, selecting, or hiring personnel," b) "The company has recently implemented new performance evaluation methods," d) "The company has measured organizational climate," and e) "The company has recently implemented methods for controlling financial resources" did not yield means exceeding 3 on the Likert scale. These results indicate that, based on the collected perceptions, these specific aspects of business management may require attention or improvements, as they were evaluated less favorably by the participants.

To statistically validate the observations, a one-way analysis of variance (ANOVA) was conducted on the results obtained from the interviews with directors of MSMEs, revealing statistically significant differences among the evaluative items. Specifically, item c) "The company has defined personnel responsibilities and adjusts them to improve efficiency" stood out with a significantly higher mean compared to items a), b), d), and e). This finding suggests that, based on the collected responses, the positive perception regarding the definition and adjustment of responsibilities within MSMEs was more prominent than other aspects related to business management.

Among the remaining items, a) "The company has recently implemented new methods for recruiting, selecting, or hiring personnel," b) "The company has recently implemented new performance evaluation methods," d) "The company has measured organizational climate," and e) "The company has recently implemented methods for controlling financial resources" were observed not to have means exceeding 3 on the Likert scale. These results suggest that, according to the perception of participating MSME directors, these specific aspects of business management may require attention or improvements, as they were evaluated less favorably compared to item c).

This analysis highlights the importance of addressing certain aspects of business management in the context of MSMEs in a specific and targeted manner. It underscores the need to implement strategies and practices that strengthen specific areas identified as less satisfactory in the conducted evaluation. The summary of the ANOVA results is listed in Table 1.

FIGURE 1. POLAR CHART REPRESENTING MEANS OF HUMAN RESOURCES INNOVATION ITEMS IMPLEMENTED BY DIRECTORS OF MSMES IN THE MUNICIPALITY OF SAN PEDRO CHOLULA.

ANOVA					
Source of Variation	d.f.	SS	MS	F	p-value
Between Groups	4	48.73	12.18	6.0	8.45E-5
Within Groups	1985	4,029.17	2.02		
Total	1989	4,077.90			

TABLE 1. ONE-WAY ANOVA TEST AMONG ITEMS RELATED TO INNOVATION IN HUMAN RESOURCES PROMOTED BY DIRECTORS OF MSMEs IN THE MUNICIPALITY OF SAN PEDRO CHOLULA.

IV. CONCLUSION

It is important to note that a low score on item a)"The company has recently implemented new methods for recruiting, selecting, or hiring personnel," is indicative of the MSME facing challenges in talent acquisition or not successfully implementing innovative strategies in the recruitment, selection, and hiring process. This could result in the hiring of less qualified or suitable human resources for the specific needs of the company. On the other hand, it could indicate resistance to change or a lack of updating in human resources practices.In a dynamic business environment, the ability to adopt new and efficient recruitment practices is essential to attract quality talent and remain competitive in the labor market.

A low score on item b) "The company has recently implemented new performance evaluation methods" suggests that the MSME may face challenges in implementing modern and effective methods for evaluating employee performance. The absence of updated evaluation systems can limit the company's ability to identify and acknowledge outstanding performance, as well as address areas for improvement.

It is also important to note that a low score on item d) "The company has measured organizational climate" suggests that the MSME may not be aware of employee perceptions and satisfaction regarding the work environment. The absence of organizational climate measurement can indicate a lack of attention to factors influencing employee morale and productivity. On the other hand, the lack of organizational climate assessment can contribute to the failure to identify potential issues in employee satisfaction and engagement. This, in turn, could increase the risk of retention and turnover problems.

On the other hand, a low score on item e) "The company has recently implemented methods for controlling financial resources" suggests that the MSME may face risks related to financial management, as the implementation of control methods is essential for monitoring and optimizing the use of financial resources. The lack of controls can lead to a lack of transparency and understanding of the financial situation. Additionally, it can impact the confidence of stakeholders such as investors, suppliers, and customers. Transparency in financial management

is crucial for building and maintaining strong relationships with these stakeholders.

Finally, a high score on item c) "The company has defined personnel responsibilities and adjusts them to improve efficiency" suggests that the MSME has clearly established the responsibilities of its personnel. This indicates strength in organizing roles and functions, contributing to greater operational efficiency and clarity in job expectations. On the other hand, it signifies an organizational culture that values efficiency and the ability to adapt to changing demands in the business environment. This is essential for long-term success, especially in dynamic and competitive environments.

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