



Leadership, Organizational Communication and Information Technologies as Factors Associated with Work Stress and NOM-035 in MSMEs in Mexicali

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Abstract. Mental health and the prevention of psychosocial risks have become strategic priorities for organizations due to their impact on employee well-being, productivity, and organizational performance. In Mexico, the implementation of NOM-035-STPS-2018 established mandatory guidelines for identifying, analyzing, and preventing psychosocial risk factors in the workplace, representing a major challenge for micro and small enterprises (MSMEs). The objective of this research was to analyze leadership, organizational communication, and information technologies as factors associated with work stress and compliance with NOM-035-STPS-2018 in MSMEs located in Mexicali, Baja California. A quantitative, descriptive, and cross-sectional research design was employed. Data were collected from 133 entrepreneurs and managers selected from the National Statistical Directory of Economic Units (DENUE) using a structured questionnaire comprising 22 Likert-scale items and one open-ended question related to psychosocial risk factors in the workplace. Quantitative data were analyzed using descriptive statistics, while qualitative responses were examined through thematic analysis. The findings indicate that organizations promoting participatory leadership, employee recognition, and collaborative organizational environments exhibit more favorable conditions for preventing work-related stress and strengthening employee well-being. Likewise, effective organizational communication contributes to improving internal cohesion and facilitating psychosocial risk management. However, 71% of the participating enterprises reported not formally implementing NOM-035-STPS-2018, mainly due to limited knowledge of the regulation, insufficient resources, and lack of specialized training. The study concludes that leadership, organizational communication, and information technologies constitute key organizational factors for strengthening psychosocial risk prevention and supporting compliance with NOM-035-STPS-2018 in Mexican MSMEs. These findings provide empirical evidence that may assist managers and decision-makers in designing organizational strategies aimed at improving occupational well-being, regulatory compliance, and organizational sustainability.

Keywords: Organizational leadership; organizational communication; information technologies; occupational stress; psychosocial risks; NOM-035-STPS-2018; MSMEs.

1 Introduction

Mental health and employee well-being have become strategic priorities for organizations because of their direct influence on productivity, organizational performance, and long-term competitiveness. In recent years, increasing attention has been given to the prevention of psychosocial risks in the workplace, particularly following the implementation of the Official Mexican Standard NOM-035-STPS-2018, which establishes mandatory guidelines for identifying, analyzing, and preventing psychosocial risk factors while promoting favorable organizational environments that protect workers' physical and psychological health [1]. In this context, compliance with NOM-035 represents not only a regulatory requirement but also an opportunity for organizations to strengthen occupational well-being and organizational sustainability, especially among micro, small, and medium-sized enterprises (MSMEs), where the availability of financial, technological, and human resources is often limited [2].

Work-related stress is recognized as one of the most significant psychosocial risks affecting workers worldwide. The World Health Organization emphasizes that poorly managed work environments characterized by excessive job demands, inadequate organizational support, limited employee participation, and deficient communication can considerably increase stress levels and negatively affect both physical and mental health [2]. Similarly, the International Labour Organization highlights psychosocial risks as one of the principal occupational safety and health challenges faced by organizations during the last decade [3]. From a theoretical perspective, Lazarus and Folkman [4] explain that stress results from the interaction between individuals and their environment when perceived job demands exceed their available coping resources. Within organizational settings, leadership, organizational communication, and information technologies represent critical factors capable of either mitigating or intensifying this perception of occupational stress.

Organizational communication constitutes a fundamental element for organizational effectiveness because it facilitates information exchange, coordination of activities, decision-making, and the development of productive working relationships. Fernández [5], defines organizational communication as the set of processes and activities aimed at facilitating the flow of information among organizational members and stakeholders. More recent evidence indicates that effective internal communication strengthens organizational commitment, psychological safety, employee engagement, and workplace well-being while reducing factors associated with occupational stress [6]. Consequently, organizations that promote open and transparent communication channels are generally better positioned to prevent psychosocial risks and foster healthier work environments.

Leadership is another organizational factor that exerts a significant influence on employees' psychological well-being and organizational performance. According to Lussier and Achua [7], leadership is a process of influence directed toward achieving organizational objectives through collaboration and change. Contemporary research consistently demonstrates that participatory and transformational leadership styles promote job satisfaction, organizational commitment, innovation, and lower levels of occupational stress [8]. Leaders who encourage participation, recognize employee contributions, and foster supportive work environments contribute substantially to the prevention of psychosocial risks and the development of positive organizational climates.

Likewise, digital transformation has considerably expanded the use of information technologies within organizational environments. Although digital tools facilitate communication, coordination, information management, and organizational monitoring, inadequate implementation may also contribute to work overload, digital fatigue, and technostress [9]. Conversely, when strategically integrated into organizational processes, these technologies can strengthen psychosocial risk management, improve decision-making, and support compliance with occupational health regulations such as NOM-035-STPS-2018. Despite these potential benefits, many MSMEs continue to experience significant challenges in effectively implementing technological resources due to financial, technical, and organizational constraints.

Despite the recognized importance of psychosocial risk prevention, many micro and small enterprises continue to face significant difficulties in identifying, assessing, and managing psychosocial risks in the workplace. Limited financial resources, insufficient technological infrastructure, and restricted managerial capabilities often hinder the implementation of preventive strategies and compliance with NOM-035-STPS-2018. These challenges are particularly evident in MSMEs, where organizational structures are less formalized and occupational health management systems are still under development. Consequently, workers in these organizations may be more vulnerable to work-related stress and unfavorable psychosocial conditions, negatively affecting organizational performance, employee well-being, and long-term sustainability [10].

In this context, there is an increasing need for empirical evidence that explains how organizational factors interact to influence psychosocial risk management in MSMEs. Although previous studies have independently examined leadership, organizational communication, information technologies, or occupational stress, limited empirical research has simultaneously analyzed these dimensions in relation to compliance with NOM-035-STPS-2018 within Mexican MSMEs. Consequently, the combined influence of these organizational factors on psychosocial risk prevention remains insufficiently understood, particularly in regional business contexts such as Mexicali, Baja California. Based on this research gap, the following research question is proposed: How are leadership, organizational communication, and information technologies associated with

work stress and compliance with NOM-035-STPS-2018 in micro and small enterprises located in Mexicali, Baja California?

Accordingly, the objective of this research is to analyze leadership, organizational communication, and information technologies as organizational factors associated with work stress and compliance with NOM-035-STPS-2018 in micro and small enterprises in Mexicali, Baja California.

The literature reviewed demonstrates that leadership has evolved from being understood solely as a managerial function to becoming a strategic organizational capability that significantly influences employee well-being, organizational performance, and the prevention of psychosocial risks. Although different theoretical perspectives emphasize distinct leadership attributes, they consistently recognize leaders as key actors in fostering participation, trust, effective communication, employee recognition, and organizational support. These elements are particularly relevant in MSMEs, where closer interpersonal relationships and less formal organizational structures increase the influence of leadership practices on workplace climate and occupational health. Consequently, understanding the evolution of leadership theories provides a conceptual basis for explaining how leadership may contribute to psychosocial risk prevention and facilitate compliance with NOM-035-STPS-2018.

To synthesize the theoretical evolution of leadership and its relevance to the objectives of this research, Table 1 presents a comparative analysis of the principal leadership perspectives reported in the literature. Beyond defining leadership from different conceptual approaches, the table highlights the main contribution of each perspective and its relationship with psychosocial risk prevention, organizational communication, and the creation of healthy work environments. This comparative approach facilitates the identification of those leadership characteristics that provide the theoretical foundation for the analytical model proposed in this study.

Table 1. Leadership concepts.

Author	Leadership Perspective	Main Contribution	Relevance to Psychosocial Risk Prevention and NOM-035
Cattell (1951)	Leadership as group performance	Leadership promotes effective changes in group behavior and performance.	Demonstrates the importance of leadership in influencing collective work dynamics and organizational climate.
Chiavenato (1993)	Interpersonal influence	Leadership is exercised through communication to achieve organizational objectives.	Highlights communication as a mechanism for reducing conflicts and strengthening psychosocial well-being.

Author	Leadership Perspective	Main Contribution	Relevance to Psychosocial Risk Prevention and NOM-035
Davis and Newstrom (2003)	Motivation toward organizational goals	Leadership motivates employees to willingly pursue organizational objectives.	Supports employee engagement and commitment, reducing work-related stress associated with unclear expectations.
Maxwell (2007)	Leadership through influence and personal development	Effective leaders enhance employees' capabilities through guidance and influence.	Reinforces recognition, empowerment, and psychological support, contributing to healthier work environments.
Daft (2013)	Relational leadership	Leadership emerges through relationships that generate organizational change and shared purpose.	Promotes trust, collaboration, and organizational cohesion, key elements in psychosocial risk prevention.
Lussier and Achua (2016)	Transformational and participatory leadership	Leadership facilitates organizational change through collaboration between leaders and followers.	Provides the theoretical foundation for analyzing leadership as a determinant of employee well-being, organizational communication, and compliance with NOM-035-STPS-2018.

Note. Own elaboration.

Overall, the theoretical perspectives presented in Table 1 indicate that leadership should not be understood as an isolated organizational attribute but rather as a multidimensional capability that interacts with communication processes, information technologies, and organizational support mechanisms to influence employees' psychological well-being. This conceptual framework supports the selection of leadership as one of the principal variables examined in this research and provides the basis for its operationalization alongside organizational communication, information technologies, work stress, and compliance with NOM-035-STPS-2018, as described in the following section.

2 **Research method**

This study adopted a quantitative approach with a descriptive and cross-sectional research design to analyze organizational factors associated with work stress and compliance with NOM-035-STPS-2018 among micro and small enterprises in Mexicali, Baja California. A quantitative approach was considered appropriate because it enables the systematic collection and statistical analysis of empirical

data, facilitating the identification of patterns and trends among the variables under investigation. Furthermore, the descriptive scope allowed the characterization of the phenomenon as it naturally occurs without manipulating the study variables, while the cross-sectional design made it possible to analyze participants' perceptions at a single point in ([11] & [12]).

The study population consisted of 202 micro and small enterprises located in the city of Mexicali, Baja California, identified through the National Statistical Directory of Economic Units (DENUE) maintained by the National Institute of Statistics and Geography (INEGI). DENUE was selected because it provides an official and comprehensive registry of formally established business units in Mexico, ensuring the reliability and representativeness of the sampling frame [13].

The required sample size was calculated using the finite population formula (Equation 1), adopting a 95% confidence level, a 5% margin of error, and an expected proportion of 0.50, resulting in a final sample of 133 entrepreneurs and managers. These parameters are commonly recommended in social science research to achieve an acceptable balance between statistical precision and sampling feasibility ([14] & [11]).

$$n = \frac{N(Z)^2(p)(q)}{(e)^2(N-1) + (Z)^2(p)(q)} \quad (1)$$

Participants were selected through non-probability convenience sampling based on their accessibility and willingness to participate in the study. Although this sampling technique does not permit statistical generalization to the entire population, it is considered appropriate in exploratory and descriptive organizational research where access to decision-makers may be limited [15]. Entrepreneurs and managers were intentionally selected because of their direct knowledge of organizational leadership practices, internal communication processes, technological resources, and compliance with NOM-035-STPS-2018.

Data were collected using a structured questionnaire specifically designed to measure the organizational variables examined in this study. The instrument consisted of 22 items measured on a five-point Likert scale, ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"), together with one open-ended question aimed at identifying participants' perceptions regarding psychosocial risk factors and compliance with NOM-035-STPS-2018.

The Likert scale was selected because it provides an effective and reliable approach for measuring attitudes, perceptions, and organizational behaviors, facilitating the quantitative analysis of subjective constructs commonly examined in social science research [14]. The inclusion of an open-ended question complemented the quantitative information by allowing participants to describe organizational experiences and perceptions that could not be fully captured

through predefined response categories, thereby enriching the interpretation of the findings [11].

The questionnaire was organized into four analytical dimensions derived from the research objectives and the conceptual framework: (1) leadership, (2) organizational communication, (3) information technologies, and (4) work stress associated with compliance with NOM-035-STPS-2018. Structuring the instrument into dimensions facilitated the systematic operationalization of the study variables and ensured consistency between the theoretical framework, research objectives, and empirical measurement [11].

The leadership dimension assessed employee participation in decision-making, recognition of individual contributions, and organizational support provided by supervisors and managers. The organizational communication dimension evaluated feedback processes, internal information flow, and collaborative practices among organizational members. The information technologies dimension examined the use of digital tools to support organizational management and psychosocial risk monitoring. Finally, the work stress and NOM-035 dimension assessed perceptions related to psychosocial risks, knowledge of the regulation, and organizational mechanisms implemented to prevent occupational stress and promote healthy work environments.

Content validity was established through expert judgment involving specialists in administration, human resource management, and organizational behavior, who evaluated the questionnaire in terms of relevance, clarity, coherence, and consistency with the research objectives and theoretical constructs. Expert review is widely recognized as an essential procedure for ensuring that research instruments adequately represent the dimensions intended to be measured before their empirical application [11].

Subsequently, a pilot test was conducted with a small group of participants sharing characteristics similar to those of the target population. The pilot study aimed to verify the clarity, comprehensibility, and logical sequence of the questionnaire items, as well as to identify potential ambiguities or difficulties in the response process. Based on participants' feedback, minor editorial adjustments were introduced to improve the wording of specific items without modifying their conceptual meaning [14].

Data collection was conducted electronically through the SurveyMonkey platform, facilitating standardized questionnaire administration and ensuring secure data recording. Once the information had been collected, quantitative data were processed and analyzed using IBM SPSS Statistics, applying descriptive statistical techniques based on frequencies, percentages, and distribution analyses consistent with the descriptive scope of the study [16].

Responses obtained from the open-ended question were analyzed using Atlas's to identify recurrent themes and categories associated with psychosocial risk factors,

organizational practices, and compliance with NOM-035-STPS-2018. The integration of quantitative and qualitative evidence contributed to a more comprehensive interpretation of the organizational phenomena examined in this research [11]. The integration of both analytical approaches enhanced the robustness of the findings by complementing numerical trends with participants' qualitative perceptions.

The methodological sequence adopted in this study—from instrument design and validation to quantitative and qualitative data analysis—ensured consistency between the research objectives, data collection procedures, and analytical strategy.

Participation in the study was entirely voluntary, and all respondents provided their informed consent prior to completing the questionnaire. Participants were informed about the academic purpose of the research [10], the confidential treatment of the information collected, and their right to withdraw from the study at any stage without any consequences. To ensure privacy and data protection, no personally identifiable information was collected, and all responses were analyzed anonymously and reported only in aggregated form, following internationally accepted ethical principles for social science research ([17], [18] & [11]).

The internal consistency of the instrument was assessed using Cronbach's alpha coefficient, one of the most widely accepted indicators for evaluating the reliability of measurement scales in social science research [14]. The analysis produced a Cronbach's alpha value of 0.85, indicating good internal consistency and demonstrating that the questionnaire provides reliable measurements of the organizational constructs examined in this study. According to Hair et al. [14], Cronbach's alpha coefficients above 0.70 indicate acceptable reliability, whereas values above 0.80 reflect good internal consistency among questionnaire items.

The statistical analyses were performed using a 95% confidence level, ensuring an appropriate degree of precision for the descriptive analyses conducted. Overall, these results confirm that the instrument possesses satisfactory reliability for assessing leadership, organizational communication, information technologies, work stress, and compliance with NOM-035-STPS-2018 among MSMEs in Mexicali.

On the other hand, the variable operationalization constitutes a fundamental stage in quantitative research because it transforms theoretical constructs into observable and measurable indicators that can be empirically assessed. [11]. Explain, this process ensures consistency between the theoretical framework, research objectives, and data collection procedures by defining the variables, their dimensions, indicators, and corresponding measurement scales.

In the present study, the operationalization process was developed based on the conceptual framework and the objectives of the research, considering four

principal variables: leadership, organizational communication, information technologies, and work stress associated with compliance with NOM-035-STPS-2018. Each variable was divided into specific dimensions and indicators evaluated through the structured questionnaire using a five-point Likert scale. The resulting operational framework is presented in Table 2.

Table 2. Operationalization of variables.

Variable	Dimension	Indicator
Leadership	Employee participation	Employee participation in organizational decision-making
	Recognition	Recognition and appreciation of employees' ideas and contributions
	Organizational support	Goal setting, guidance, and managerial support provided to employees
Organizational Communication	Feedback	Regular meetings and feedback mechanisms to improve organizational performance
	Internal communication	Flow of information between managers and employees
	Collaboration	Teamwork, cooperation, and mutual support among employees
Information Technologies	Digital tools	Use of digital technologies to support organizational management
	Organizational monitoring	Use of surveys, records, and technological tools to monitor psychosocial risks
Work Stress and NOM-035-STPS-2018	Psychosocial risks	Identification and prevention of psychosocial risk factors
	Regulatory compliance	Knowledge and implementation of NOM-035-STPS-2018
	Complaint and protection mechanisms	Availability of confidential reporting channels and employee identity protection

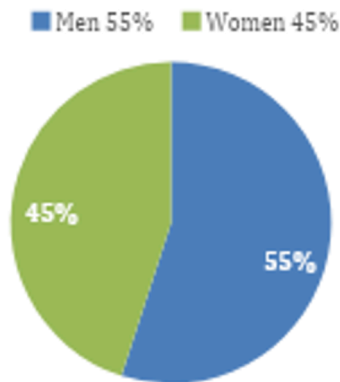
Note. Own elaboration ([11] & [14]).

The operationalization presented in Table 2 ensured consistency between the theoretical framework, the research objectives, and the data collection instrument. By translating each construct into measurable dimensions and indicators assessed through a standardized Likert scale, the study established a coherent basis for the subsequent descriptive statistical analysis and the interpretation of organizational factors associated with work stress and compliance with NOM-035-STPS-2018 ([11] & [14]).

3 Results

This section presents the empirical findings obtained from the analysis of 133 questionnaires administered to entrepreneurs and managers of micro and small enterprises (MSMEs) in Mexicali, Baja California. The results are organized according to the principal variables examined in this study—leadership, organizational communication, information technologies, and work stress associated with compliance with NOM-035-STPS-2018—in order to provide a comprehensive understanding of the organizational factors related to psychosocial risk management within the participating enterprises.

Figure 1 presents the gender distribution of the respondents participating in the study. The sample consisted of 133 entrepreneurs and managers of MSMEs located in Mexicali, Baja California, exhibiting a relatively balanced gender composition. Male respondents represented 55% of the sample, while female respondents accounted for 45%. This balanced distribution provides a diverse representation of managerial perspectives regarding leadership practices, organizational communication, information technologies, work stress, and compliance with NOM-035-STPS-2018.



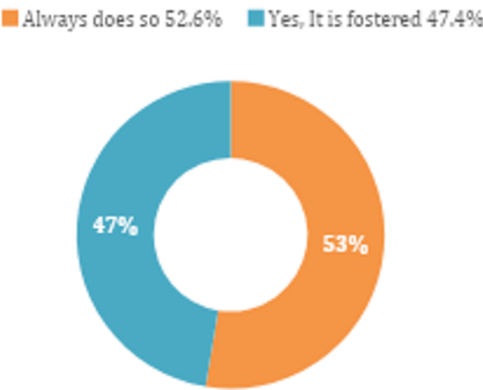
Note. Own elaboration.

Figure 1. Gender Distribution of Respondents.

Regarding organizational roles, administrative personnel constituted the largest group of respondents (40%), followed by business owners (35%), reflecting the participation of individuals directly involved in organizational decision-making processes. Furthermore, 55% of the participating enterprises belonged to the commercial sector, whereas the remaining 45% operated in the service sector. This distribution provides an appropriate organizational context for examining psychosocial risk management practices within MSMEs.

The findings indicate that leadership practices within the participating MSMEs are predominantly characterized by participatory management approaches that encourage employee involvement in organizational activities. Overall, respondents perceived that managers actively promote participation in decision-making, recognize employees' contributions, and provide organizational support to facilitate the achievement of work objectives. These results suggest that leadership is generally perceived as a factor that contributes positively to organizational collaboration and employee engagement.

Specifically, 50% of respondents reported that employee participation in decision-making is frequently encouraged, whereas 45% indicated that it is always promoted Figure 2. Likewise, 60% stated that managers consistently recognize employees' ideas and contributions, while an additional 38% reported that this practice occurs frequently. Furthermore, 62% indicated that supervisors regularly establish clear organizational goals and provide the necessary support to achieve them, reflecting favorable leadership practices within the participating enterprises.



Note. Own elaboration.

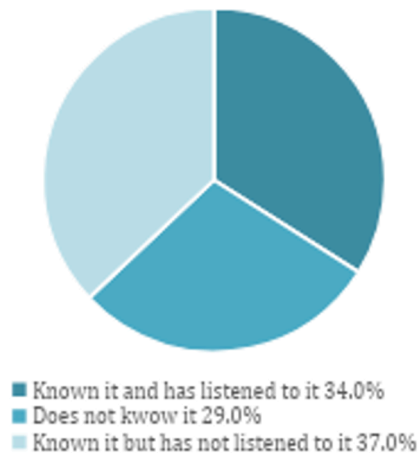
Figure 2. Leadership Practices Promoting Employee Participation.

Despite these positive perceptions, the results also reveal the persistence of centralized leadership practices in some organizations. Approximately 45% of respondents indicated that important organizational decisions are frequently made without consulting employees, while 17% reported that this practice always occurs. These findings suggest that participatory leadership coexists with more

traditional decision-making approaches, indicating opportunities for strengthening employee involvement in organizational governance.

Figure 3 presents the level of knowledge and implementation of NOM-035-STPS-2018 among the MSMEs participating in the study. Overall, the findings reveal a limited degree of regulatory adoption, indicating that compliance with the standard remains an important challenge for many organizations. Although a proportion of respondents reported familiarity with the regulation, formal implementation is still far from widespread, suggesting that psychosocial risk management has not yet been fully integrated into organizational practices within the surveyed enterprises.

Specifically, 37% of respondents indicated that they were unaware of NOM-035-STPS-2018, while 34% reported having heard about the regulation but not implementing it within their organizations. In contrast, only 29% stated that they were both familiar with the standard and had formally implemented its requirements (Figure 3). These findings indicate that more than two-thirds of the participating MSMEs have not yet achieved effective compliance with the Mexican regulation on psychosocial risk prevention.



Note. Own elaboration.

Figure 3. Level of Knowledge and Implementation ([11] & [14]).

The limited level of implementation identified in Figure 3 suggests that organizational efforts to manage psychosocial risks remain uneven across the participating enterprises. Consequently, it becomes relevant to examine the organizational mechanisms available for monitoring psychosocial risks and

fostering collaborative work environments, which are presented in the following figures.

Figure 4 illustrates the organizational perception of five dimensions associated with the implementation and institutionalization of the evaluated initiative. The highest percentage corresponds to the statement "At my company there is one" (approximately 70%), indicating that most respondents recognize the existence of a formal organizational structure, policy, or program related to the initiative. This finding suggests that the organization has established the necessary institutional mechanisms to support its implementation.



Note. Own elaboration.

Figure 4. Perceived Collaborative Organizational Environment in Participating MSMEs.

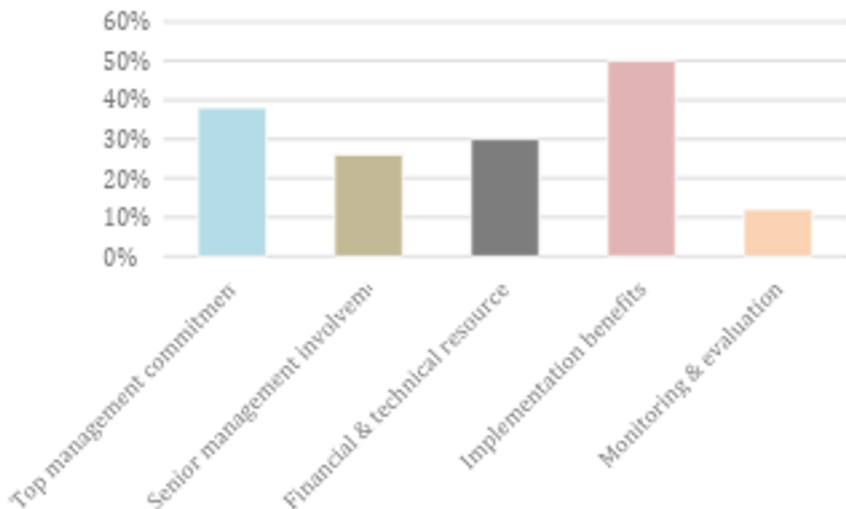
The second-highest score is associated with the involvement of supervisors and managers (approximately 47%), reflecting a moderate level of leadership commitment. Although management participation is evident, the results indicate opportunities to strengthen managerial engagement in promoting and supporting the initiative across the organization.

The dimensions referring to individual involvement (approximately 38%) and implementation (approximately 35%) show intermediate values, suggesting that the initiative has been deployed to some extent and that a proportion of employees has actively participated in its execution. Nevertheless, these results also indicate that implementation has not yet reached all organizational members uniformly.

The lowest percentage is observed for organizational culture (approximately 30%), implying that the initiative has not yet become fully embedded in the organization's shared values, norms, and daily practices. This finding highlights that, despite the presence of formal structures and partial implementation, greater efforts are required to foster employee engagement and integrate the initiative into the organizational culture.

Figure 5 presents the organizational mechanisms implemented by participating MSMEs to identify, monitor, and address psychosocial risk factors. Overall, the findings indicate that although several organizations have introduced monitoring practices aimed at preventing work-related stress, the implementation of these mechanisms remains heterogeneous. While some enterprises have established formal procedures to identify psychosocial risks, others continue to rely on partial or informal organizational practices.

Specifically, 33% of the surveyed enterprises reported having formal monitoring mechanisms, including surveys, interviews, and organizational records designed to identify psychosocial risks (Figure 5). An additional 35% indicated that these mechanisms were only partially implemented, suggesting that systematic monitoring practices remain under development in many organizations.



Note. Own elaboration.

Figure 5. Organizational Mechanisms for Monitoring Psychosocial Risks.

Regarding organizational support mechanisms, 50% of respondents indicated that their organizations provide accessible and confidential reporting channels for employees, while 45% stated that identity protection procedures are implemented when workplace complaints are submitted. These practices reflect organizational efforts to strengthen employee confidence and facilitate the early identification of psychosocial risk situations within the workplace.

Overall, the findings suggest that the participating MSMEs have initiated the implementation of organizational mechanisms aimed at monitoring psychosocial risks; however, these practices are not yet fully standardized across all enterprises. Consequently, opportunities remain to strengthen organizational monitoring systems and improve the systematic management of psychosocial risk factors.

Table 3 provides an integrated summary of the principal quantitative findings obtained across the four organizational dimensions examined in this study. Overall, the results reveal that leadership and organizational communication constitute the strongest organizational capabilities identified among the participating MSMEs. High levels of employee participation, recognition of individual contributions, and collaborative work environments suggest that many organizations have adopted management practices that may contribute positively to employee well-being and organizational cohesion.

Conversely, the findings also reveal important opportunities for improvement regarding the implementation of information technologies for psychosocial risk monitoring and compliance with NOM-035-STPS-2018. Although several enterprises have introduced organizational mechanisms such as monitoring systems and confidential reporting channels, these practices remain only partially implemented in a considerable proportion of the surveyed organizations.

The most significant challenge identified in the study relates to the limited adoption of NOM-035-STPS-2018. Most respondents reported either limited knowledge or the absence of formal implementation of the regulation, with lack of regulatory awareness emerging as the principal barrier. Collectively, these findings indicate that while the participating MSMEs demonstrate favorable organizational practices associated with leadership and communication, greater efforts are still required to strengthen psychosocial risk management systems and promote effective compliance with occupational health regulations.

Table 3. Synthesis of the main quantitative results by variable.

Variable	Indicator Evaluated	Main Finding	Interpretation
Leadership	Employee participation in decision-making	95% of respondents indicated that employee participation is	Leadership practices are predominantly participatory, fostering employee

Variable	Indicator Evaluated	Main Finding	Interpretation
Organizational Communication		frequently or always encouraged.	involvement in organizational decision-making.
	Recognition of employee contributions	98% reported that employees' ideas and contributions are frequently or always recognized.	Organizations demonstrate strong recognition practices that may strengthen employee motivation and organizational commitment.
	Consideration of employees' opinions	65% indicated that employees' opinions are considered to improve the work environment.	Internal communication encourages employee participation in organizational improvement processes.
	Collaborative work environment	70% perceived a collaborative environment characterized by teamwork and mutual support.	Collaboration represents one of the principal organizational strengths identified in the participating MSMEs.
Information Technologies	Organizational monitoring mechanisms	33% reported having formal monitoring mechanisms, while 35% indicated partial implementation.	Monitoring systems for psychosocial risks are present but remain under development in many organizations.
	Confidential reporting channels	50% indicated the existence of confidential complaint channels.	Organizational mechanisms supporting psychosocial risk reporting have been partially implemented.
Work Stress and NOM-035-ST PS-2018	Knowledge and implementation of NOM-035	Only 29% reported formally implementing the regulation.	Regulatory compliance remains limited among the surveyed enterprises.
	Lack of implementation	71% reported either being unaware of the regulation or not implementing it.	Limited adoption of NOM-035 constitutes one of the principal organizational challenges identified in the study.
	Main implementation barrier	40% identified lack of knowledge as the principal obstacle.	Insufficient regulatory awareness appears to be the main factor limiting

Variable	Indicator Evaluated	Main Finding	Interpretation
			compliance with NOM-035-STPS-2018.

Note. Authors' elaboration based on survey responses collected from entrepreneurs and managers of MSMEs in Mexicali, Baja California (2025).

4 Discussion

The findings of this study indicate that leadership, organizational communication, and information technologies operate as complementary organizational capabilities associated with psychosocial risk management and compliance with NOM-035-STPS-2018 in MSMEs located in Mexicali, Baja California. Rather than acting independently, these organizational dimensions appear to interact in ways that strengthen employee well-being, facilitate organizational coordination, and support the implementation of preventive practices aimed at reducing work-related stress. This integrated perspective is consistent with current international approaches that emphasize the importance of organizational management systems for promoting psychological health and safe work environments ([10] & [2]).

One of the principal findings of this study is the predominance of participatory leadership practices among the surveyed MSMEs. High levels of employee participation in decision-making, recognition of individual contributions, and managerial support suggest that leadership is perceived as a strategic organizational capability that promotes collaboration and employee commitment. These findings are consistent with the perspective proposed by Lussier and Achua [7], who define leadership as a process of influence directed toward achieving organizational objectives through cooperation and shared effort. Likewise, Álvarez [19], argues that effective leadership strengthens employee commitment and contributes to healthier organizational environments by fostering motivation and positive interpersonal relationships.

The present findings are also supported by Montaña et al. [18], who identified that participatory and transformational leadership styles are associated with higher levels of workplace well-being and lower perceptions of occupational stress. Similarly [8], conclude that leadership characterized by participation, trust, and organizational support contributes to psychological safety and organizational resilience, particularly in organizations operating under dynamic work environments. Collectively, these findings reinforce the importance of participatory leadership as a key organizational factor for psychosocial risk prevention.

Despite the predominance of participatory leadership, the results also reveal that centralized decision-making remains present in a proportion of the participating

organizations. This coexistence of collaborative and traditional management practices suggests different levels of organizational maturity among the surveyed MSMEs. According to Lazarus and Folkman [4], employees' perception of control over their work environment constitutes a fundamental mechanism for coping with occupational stress. Therefore, organizations in which decision-making remains concentrated may inadvertently reduce employees' sense of autonomy, increasing their vulnerability to psychosocial risk factors. These findings are consistent with those reported by Montaña et al. [18], who emphasize that greater employee participation contributes to healthier organizational climates and lower levels of work-related stress.

The findings indicate that organizational communication is associated with healthier work environments in the participating MSMEs. Positive perceptions regarding teamwork, knowledge sharing, and employee participation suggest that communication contributes to organizational cohesion and psychosocial risk prevention. These results are consistent with Fernández [5], who defines organizational communication as a process that promotes coordination and organizational integration, and with Velázquez [20], who argues that effective communication strengthens trust, collaboration, and employee commitment.

These findings are further supported by recent evidence [21], reported that strategic internal communication enhances employee engagement and psychological safety, [2], emphasizes that open communication facilitates the early identification of psychosocial risks and the implementation of preventive actions. Overall, the present findings suggest that strengthening organizational communication may contribute to healthier work environments and support psychosocial risk prevention in MSMEs.

Another relevant finding concerns the role of information technologies in organizational management and psychosocial risk prevention. Although the participating MSMEs reported different levels of technological implementation, the findings suggest that digital tools are increasingly being incorporated to monitor working conditions, facilitate communication, and identify psychosocial risk factors. These results indicate that digital technologies are gradually extending beyond administrative functions to support occupational health management.

These findings are consistent with Daft [22], who argues that information technologies improve organizational coordination by facilitating information processing and decision-making. Similarly, recent evidence indicates that digital technologies contribute to organizational resilience and psychosocial risk management by strengthening organizational monitoring and preventive decision-making ([9] & [21]). recognizes digital transformation as an important organizational resource for improving management processes and competitiveness, particularly among MSMEs. Overall, the present findings suggest that information technologies may contribute to psychosocial risk

prevention by supporting more effective organizational monitoring and decision-making.

The findings indicate that the implementation of NOM-035-STPS-2018 remains limited among the participating MSMEs despite the presence of favorable organizational practices related to leadership and communication. Many respondents reported limited knowledge of the standard and the absence of formal mechanisms for identifying and monitoring psychosocial risks, suggesting that regulatory compliance continues to represent an important challenge for small and medium-sized enterprises. These findings are consistent with the objectives of NOM-035-STPS-2018 [1], which emphasize the systematic identification and prevention of psychosocial risk factors. Likewise, ISO 45003 ([10] & [2]). Recognize that effective psychosocial risk prevention requires organizational commitment, employee participation, and continuous monitoring.

The study also identified organizational barriers that may hinder compliance with NOM-035-STPS-2018, including limited knowledge of the regulation, insufficient financial and human resources, and the absence of formal monitoring mechanisms. Similar challenges have been reported among MSMEs, where resource constraints and limited technical capabilities frequently restrict the implementation of occupational health management ([23] & [24]). Overall, the findings suggest that strengthening leadership, organizational communication, and the use of information technologies may facilitate the implementation of psychosocial risk prevention practices and improve organizational preparedness for compliance with NOM-035-STPS-2018.

This study contributes to the literature by providing empirical evidence on the organizational factors associated with work stress and compliance with NOM-035-STPS-2018 in MSMEs. The findings suggest that leadership, organizational communication, and information technologies are relevant organizational practices that may support psychosocial risk prevention and improve workplace conditions. Consistent with the ([2] & [10]), the results highlight the importance of organizational commitment, employee participation, and continuous monitoring in promoting healthier work environments. From a practical perspective, the findings indicate that strengthening these organizational practices may facilitate the implementation of NOM-035-STPS-2018 while contributing to employee well-being and organizational performance, particularly in resource-constrained MSMEs ([23] & [24]).

This study has several limitations that should be considered when interpreting the findings. The cross-sectional design does not allow causal relationships to be established, and the results are limited to MSMEs located in Mexicali, Baja California. In addition, the analysis was based on self-reported perceptions of entrepreneurs and managers, which may be influenced by respondents' subjective assessments despite the reliability procedures applied during instrument development [11].

5. Conclusions

This study examined leadership, organizational communication, and information technologies as organizational factors associated with work stress and compliance with NOM-035-STPS-2018 in MSMEs located in Mexicali, Baja California. The findings indicate that these organizational practices are associated with healthier work environments and may contribute to psychosocial risk prevention by strengthening employee participation, organizational communication, and workplace monitoring. Although the study does not establish causal relationships, it provides empirical evidence on organizational conditions that may facilitate compliance with NOM-035-STPS-2018 ([10] & [2]).

The principal contribution of this research lies in expanding the empirical evidence on organizational factors associated with psychosocial risk management in MSMEs. By jointly analyzing leadership, organizational communication, and information technologies, the study offers a broader understanding of the organizational practices that may support healthier workplaces and improve preparedness for compliance with occupational health regulations.

From a practical perspective, the findings suggest that MSMEs should approach psychosocial risk prevention as part of their organizational management practices rather than solely as a regulatory requirement. Strengthening participatory leadership, promoting transparent communication, and incorporating information technologies for organizational monitoring may facilitate the implementation of NOM-035-STPS-2018 while improving employee well-being and organizational performance ([23] & [24]).

The findings should be interpreted considering the cross-sectional design, the geographical scope of the sample, and the use of self-reported organizational perceptions [11]. Future research should examine these organizational factors in different sectors and geographical contexts through comparative and longitudinal studies to further understand their association with psychosocial risk prevention and occupational health management in MSMEs.

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