



# Key management skills and organizational climate in Mexican banking institutions in pre-COVID-19 and COVID-19 scenarios; Unilevel and multilevel model

*Habilidades gerenciales clave y clima organizacional en instituciones bancarias de México bajo escenarios pre-covid y covid; modelo uninivel y multinivel*

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Received April 23, 2022; accepted October 27, 2022  
Available online September 9, 2024

## Abstract

The objective of the research is to analyze the relationship between the managerial skills teamwork, problem solving and management of labor conflicts with respect to the organizational climate, in the case of banking institutions in Mexico through a unilevel model. Likewise, to propose sequential relationships that contemplate teamwork as a mediating variable in a multilevel model and to contrast the results of both models under the pre-covid and covid scenarios. The results show that both models explain about 50% of the organizational climate in the two scenarios; the multilevel model additionally explains 70% of teamwork. In the unilevel model, problem solving showed significance only in the covid scenario, while teamwork did so in both scenarios. In the multilevel model, all the relationships showed significance, however, teamwork and problem solving have a greater impact in the covid scenario, while management of labor conflicts presents it in the pre-covid scenario. It is concluded that the managerial skills under study are positively related to organizational climate, considering that the covid affected the selection and the impact of the variables on the organizational climate.

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Peer Review under the responsibility of Universidad Nacional Autónoma de México.

<http://dx.doi.org/10.22201/fca.24488410e.2023.4635>

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*JEL Code:* J24, M10, M54

*Keywords:* organizational climate; management skills; teamwork; problem solving; labor conflict management

## Resumen

El objetivo de la investigación es analizar la relación entre las habilidades gerenciales trabajo en equipo, solución de problemas y manejo de conflictos laborales con respecto al clima organizacional, en el caso de las instituciones Bancarias en México mediante un modelo uninivel. Así mismo, proponer relaciones secuenciales que contemplan trabajo en equipo como variable mediadora en un modelo multinivel y contrastar los resultados de ambos modelos bajo los escenarios pre-covid y covid. Los resultados muestran que ambos modelos explican alrededor de 50% del clima organizacional en los dos escenarios; el modelo multinivel explica adicionalmente 70% de trabajo en equipo. En el modelo uninivel solución de problemas mostró significancia solo en el escenario covid, mientras que trabajo en equipo lo hizo en ambos escenarios. En el modelo multinivel todas las relaciones mostraron significancia, sin embargo, trabajo en equipo y solución de problemas presentan mayor impacto en el escenario covid, mientras que manejo de conflictos laborales lo presenta en el escenario pre-covid. Se concluye que las habilidades gerenciales bajo estudio se relacionan positivamente con clima organizacional, considerando que el covid afectó la selección y el impacto de las variables sobre el clima organizacional.

*Código JEL:* J24, M10, M54

*Palabras clave:* clima organizacional; habilidades gerenciales; trabajo en equipo; solución de problemas; manejo de conflictos laborales

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## Introduction

The COVID-19 pandemic forced organizations worldwide to change how they operate and work in the face of its economic and human effects. Organizational leaders were faced with the need to rethink business and workforce priorities (Deloitte, 2021). In these conditions, banks have participated by providing the necessary elements so that the financial operations of companies, governments, and the population in general are carried out properly (Asociación de Bancos de México, 2022). Companies looking to achieve adequate productivity and profitability must constantly adapt and evolve given the dynamism of market conditions. They must be aware of their resources and the capacity to develop them, protect them, and make adequate use of them to be competitive in the markets (Ibarra & Suarez, 2002). One of these resources is human capital, understood as the knowledge, skills, and experiences acquired by people that provide value to the organizations in which they participate (Bernal González, Pedraza Melo, & Castillo Hernández, 2020).

Even during the COVID-19 pandemic, organizational climate was among the factors impacting the productivity of companies. Empirical studies such as Canales-Farah, López-Gómez, and Napán-Yactayo (2021), Korompot (2020), and Palacios Molina (2019) positively relate organizational climate

with employee performance, productivity, and consequently, with the profitability of companies. Likewise, other studies such as those of Zulema Ybela, Cañamero Tuanama, and Cárdenas Saavedra (2021), Nahou Larrea (2019), and Nita and Stanciu (2015) relate in particular some managerial skills with the level of organizational climate.

Given the above elements, it is advisable to ensure that human capital is adequately managed to achieve maximum performance. For this purpose, the capabilities and skills of managers are a key element since they are the ones who are permanently in contact with employees and manage, direct, and coordinate them (Amjad & Bhaswati, 2014).

This research aims to analyze the relation between the managerial skills of teamwork, problem solving, and conflict management concerning the organizational climate in banking institutions in Mexico.

## **Problem statement**

Several factors affect the profitability of companies, and one of them is the organizational climate. It is also important to recognize the value provided by proper human capital management (Torres Ordóñez, 2005). Observing and analyzing the organizational climate makes it possible to detect factors that help manage human capital. Companies identify employee needs, allowing them to take measures to satisfy them by increasing their well-being, commitment, and permanence (BR Consultores Asociados, 2018). Companies associate well-being with factors such as productivity and staff retention (Deloitte, 2018). The well-being aspect had increased in importance even before the COVID-19 pandemic; it was the highest-rated factor in the human capital trend study undertaken by Deloitte (2021). Likewise, companies perceive that the experience lived by employees within the companies impacts their level of commitment and, consequently, their productivity. The definition of employee experience within companies contains various elements; the work environment (organizational climate) stands out with 65% of the cases (Deloitte, 2019).

When companies generate plans to increase employee engagement and well-being, they recognize the organizational climate as one of the fundamental elements. It is a priority to place employees at the center of the process, to understand the organizational climate, and to be clear about which elements could be improved to increase employee satisfaction and productivity (Da Silva Romero, 2018).

Companies intending to keep growing and entering new market niches require their leaders to have specific managerial skills (Sisa Mazabanda, Ballesteros López, & Mejía Vayas, 2020). Given the technical knowledge employees acquire during their stay in a company, they are climbing and occupying positions in the organization. Nonetheless, what makes it possible for them to generate initiatives and productivity for the company are their managerial skills (Silva-Rubio, 2020).

The banking sector is crucial because it provides the elements and conditions for the financial operations of companies, the government, and the general population. Its basic functions are to manage savings, use savings resources to provide loans that favor productivity, and finally, it is responsible for controlling the system of payments and financial transactions. As of January 2022, there are 49 banks in Mexico (Asociación de Bancos de México, 2022). As of the fourth quarter of 2020, the level of total financial savings (internal and external) represented 102.1% (25.3 trillion pesos) of Mexico's GDP, while financing represented 101.4% (25.1 trillion pesos) of GDP (Comisión Nacional Bancaria y de Valores, 2021).

These data support the importance of analyzing how managerial skills affect the organizational climate for banks in Mexico. Thus, this research aims to determine the relevance of key managerial skills concerning organizational climate in Mexican banking institutions. Likewise, it is hypothesized that teamwork, problem solving, and labor conflict management are management skills that positively impact the organizational climate in Mexican banking institutions.

## **Theoretical framework**

Organizational climate, defined as “the perception that employees have of the elements that make up the work environment of the company in which they work and that influences their behavior,” has been investigated and studied since the beginning of the last century (Alegría Zebadúa & Alarcón Martínez, 2021, p. 34).

In 1927, Elton Mayo initiated the Humanistic School of Management (Ganga Contreras, Piñones Santana, & Saavedra Moyano, 2015). It supports the human relations theory (Ramos Lugo & Triana, 2007). In the late 1930s, the concept of organizational climate emerged with Kurt Lewin's field theory (Ganga Contreras, Piñones Santana, & Saavedra Moyano, 2015). In 1967, Likert's organizational climate theory arose (Rojas Nieto, 2017). According to Dessler (1976), Litwin and Stringer conclude in their research that organizational climate refers to characteristics of the work environment, which are perceived by employees and have direct repercussions on work performance (García Solarte, 2009). Likewise, there are several theoretical models related to the organizational climate phenomenon, like Likert's Theoretical Model (1967), Litwin and Stringer's Theoretical Model (1968), and Toro's Theoretical Model (1992).

Several definitions of organizational climate are reported in the literature, among which are those considered by Rojas Nieto (2017), Arias Gallegos and Arias Cáceres (2014), Juárez Adauta (2012), Del Toro Granados, Salazar Sotter, and Gómez Rangel (2011), Rodríguez M., Paz Retamal, Lizana, and Cornejo (2011), García Solarte (2009), and Cuadra Peralta and Veloso Besio (2007), in their research work and publications. These definitions generally consider the dimensions of work environment

characteristics, employee perceptions of this environment, and employee behavior. For this research work and according to the definition of Litwin and Stringer (1968), organizational climate will be considered as the set of “measurable characteristics of the work environment, perceived directly or indirectly by those who live and work in this environment and that influence their motivation and behavior” (Bustamante-Ubilla, Lapo-Maza, Tello- Sánchez, & Núñez Lapo, 2018, p. 17).

Organizational climate is related to constructs such as employee behavior (productivity), job satisfaction, leadership, and managerial skills. Korompot (2020), Palacios Molina (2019), Vasudevan and Iqbal (2018), Managheb, Razmjooei, Gharbi, Hosseini, and Amiranzadeh (2018), Dominguez Aguirre, Sanchez Garza, and Torres Hernandez (2010) relate it positively to employee behavior. Coronel Chugden, Ayay Arista, and Milla Pino (2020), Cabrera Luján and Trigozo Castro (2016), and Juarez Adata (2012) positively relate the level of job satisfaction with organizational climate. Likewise, Paredes-Zempual, Ibarra-Morales, and Moreno-Freites (2021), Peña Cárdenas, Díaz Díaz, and Olivares Medina (2015), Serrano Orellana and Portalanza G.(2014), and Cuadra Peralta and Veloso Besio (2007) relate the type of leadership positively with it.

Management skills are the knowledge, skills, attitudes, and behavior that managers must have to be effective within an organization (Mora & Osorio, 2006). People with higher skills can generate better connections with others in all dimensions of work life. Companies select people who manifest these skills and can manage and develop them as it implies better results for those companies (Pereda Pérez, López-Guzmán Guzmán, & González Santa Cruz, 2014). In particular, managers are an important element for organizations since they are the ones who coordinate and motivate employees and interact with top management and customers in order to achieve the organization’s individual and collective goals (Amjad & Bhaswati, 2014).

Empirical studies have found a positive relation between key managerial skills and organizational climate. Nahou Larrea (2019), Quispe-Layme, Espinoza-Flores, Atahuaman-Estrella, Chavez-Gavidia, and Paricahua-Peralta (2017), Rojas Nieto (2017), Nita and Stanciu (2015), and Aburto Pineda (2011) report in their research works this type of relation. Several managerial skills record this relation, but for this research, the managerial skills of teamwork, problem solving, and labor conflict management were selected as independent variables given their impact, considering that the analysis was conducted under the pre-COVID-19 and COVID-19 scenarios. The COVID-19 scenario captures the changes that companies were forced to make as a result of the pandemic, among them evolving product and service portfolios, technological changes, and remote work (García-Madurga, Grilló-Méndez, & Morte-Nadal, 2021). Such conditions could have affected the structure of work teams, generated problems, or led to labor conflicts.

According to the literature, several definitions have been used for these three constructs. For the teamwork variable, the definitions reported by Whetten and Cameron (2011), Medina Fuenmayor (2010), and Madrigal Torres (2002) contain the following dimensions: encouraging people to work together in pursuit of common goals, favoring common goals over individual ones, and giving weight to the contribution of knowledge, experience and skills to the group (Alegría Zebadúa & Alarcón Martínez, 2021). Considering the above, for the present research teamwork is defined as a group of people who work together to achieve the same goals. It privileges common goals over individual ones and considers that the sum of the team's knowledge, experience, and skills improves the results. It would be associated with the term synergy (Medina Fuenmayor, 2010).

Regarding the construct problem solving, Whetten and Cameron (2011), Acevedo Borrego, Linares Barrantes, and Cachay Boza (2010), and Madrigal Torres (2002) report definitions that generally contain one of these two dimensions: description of the meaning of the problem, or the steps to be followed to solve it. Alegría Zebadúa and Alarcón Martínez (2021) consider both elements in their definition. Therefore, for this research, problem solving will be "the ability to modify certain undesired conditions of the current state to obtain the desired or predefined conditions, fulfilling the following steps: identify and define the problem, generate alternative solutions, evaluate and select an alternative, implement the solution, and perform a follow-up" (Alegría Zebadúa & Alarcón Martínez, 2021, p. 37).

Finally, for the labor conflict management variable, the definitions used by Whetten and Cameron (2011) and by Madrigal Torres (2002) include one of two elements: the definition of labor conflict or phases for its management. The definition of Alegría Zebadúa and Alarcón Martínez (2021) consolidates both dimensions. Therefore, for this research work, labor conflict management is defined as "the managerial capacity to reach agreements on differences presented in the processes inherent to the work of employees, fulfilling the phases of diagnosis of the origin of the conflict, strategy to address it, execution of the strategy, and successful resolution of the conflict" (Alegría Zebadúa & Alarcón Martínez, 2021, p. 36).

## **Method**

This research is classified as quantitative, descriptive, correlational, and explanatory. It is non-experimental and longitudinal. The documentary and bibliographic techniques were used; the data collection was carried out using the field technique. The measurement instrument was a questionnaire. The following steps were considered for the operationalization of the variables: to select the definition for each construct, to specify its dimensions, to identify in the literature measurement instruments for these constructs, to choose from these instruments the items that represent the dimensions of the variables under

study, and finally, to align the wording of the items according to the orientation of the present research. The questionnaire for the organizational climate variable consisted of 12 items and used the instrument of Litwin and Stringer (1968) as a basis for its configuration, which originally included nine dimensions. Of these dimensions, the five that refer to aspects related to managerial skills were selected: responsibility, warmth, support, conflict, and identity. A Likert-type scale was used with the following options: 1 for totally disagree, 2 for disagree, 3 for indifferent, 4 for agree, and 5 for totally agree. See Table 1.

Table 1  
 Measuring instrument: Dimensions and # of items, dependent variable

Variable	Dimensions	# of items
Organizational climate	Responsibility	3
	Warmth	3
	Support	2
	Conflict	2
	Identity	2

Source: created by the authors.

The questionnaire considered 20 items for the independent variables: 7 for teamwork, 7 for problem solving, and 6 for labor conflict management. The instruments of Whetten and Cameron (2011) and Mendoza (2005) were used as a basis for its construction. The items representing the dimensions of the constructs under study were selected from them. To respond to each of the items in the instrument, a Likert-type measurement scale was used that considered the following options: 1 Never, 2 Almost never, 3 Sometimes, 4 Almost always, and 5 Always. See Table 2.

Table 2  
 Measuring instrument: Dimensions and # of items, independent variables

Variable	Dimensions	# of items
Problem solving	Identify and define the problem	2
	Generate alternative solutions	2
	Evaluate and select an alternative	2
Teamwork	Success in problem solving	1
	Encourage people to work	2
	Privilege common goals over individual ones	3
Labor conflict management	Weigh the knowledge contribution of the group	2
	Diagnose the origin of the conflict	2
	Generate a solution strategy	1
	Execute the strategy	2
	Generate agreements	1

Source: created by the authors.

The content validity of the instruments was confirmed by a group of experts composed of three academic researchers and a human capital professional (Alegría Zebadúa & Alarcón Martínez, 2021). The

questionnaire was applied to 84 middle managers (chiefs, managers, deputy directors, and directors of the banks' central administrative and operational areas).

Table 3 shows the descriptive statistics regarding mean, median, mode, and standard deviation. Also, the comparison of the pre-COVID-19 and COVID-19 scenarios is shown.

Table 3  
 Descriptive statistics

Variable	Pre-COVID-19			
	Mean	Median	Mode	Standard deviation
Organizational climate	3.927	3.950	3.970	.6169
Problem solving	3.624	3.691	3.130	.7818
Teamwork	3.810	3.892	5.000	.8426
Labor conflict management	3.673	3.982	4.000	.9551
Variable	COVID-19			
	Mean	Median	Mode	Standard deviation
Organizational climate	3.866	3.973	4.000	.7186
Problem solving	3.613	3.688	3.000	.7516
Teamwork	3.833	3.869	5.000	.8482
Labor conflict management	3.707	4.000	4.000	.9479
Variable	Difference Pre-COVID-19 vs. COVID-19			
	Mean	Median	Mode	Standard deviation
Organizational climate	-0.060	0.023	0.030	0.1017
Problem solving	-0.011	-0.003	-0.130	-0.0302
Teamwork	0.023	-0.023	0.000	0.0056
Labor conflict management	0.033	0.017	0.000	-0.0073

Source: created by the authors.

For the present research, given that the data according to the statistical analysis of the sample did not present a normal distribution, a structural equation model (SEM) was used in its analysis; it is a multivariate tool that allows the study of latent variables and the observed variable (Manzano Patiño, 2017). The econometric analysis considered two scenarios: the pre-COVID-19 scenario (before the onset of the pandemic) and the COVID-19 scenario (from June to August 2021). Likewise, a unilevel model was considered for both scenarios following the hypotheses originally proposed, and a second multilevel model that contrasts with the relations originally proposed.

The structural equation methodology considered the measurement and structural models for both scenarios. The measurement model is related to the evaluated constructs and considers internal consistency, convergent validity, and discriminant validity for its analysis. The structural model considers the R<sup>2</sup> level, the path coefficients, and the significance of the variables. The structural model is detailed in the results section.



### Measurement model

The measurement model considers internal consistency as the first phase of analysis. For this purpose, Cronbach's alpha was used to estimate the level of correlation of the items that make up each of the constructs. It was also complemented with the Composite Reliability. High correlations denote that the items have the same measurement and represent the construct under analysis more adequately. Values below .800 present an opportunity to improve the wording of the items, and values above .900 represent high reliability (Mendoza & Garza, 2009). According to Cronbach's alpha parameter, the level of internal consistency showed levels within the recommended ranges for all constructs. See Table 4.

Table 4  
 Cronbach's alpha and composite reliability

Variable	Cronbach's alpha		Composite reliability	
	Pre-COVID-19 Scenario	COVID-19 Scenario	Pre-COVID-19 Scenario	COVID-19 Scenario
Y - Organizational climate	0.893	0.894	0.918	0.919
X1 - Teamwork	0.934	0.929	0.948	0.944
X2 - Problem solving	0.899	0.897	0.925	0.924
X3 - Labor conflict management	0.939	0.938	0.953	0.952

Source: created by the authors based on the data collected.

This internal consistency analysis was run for each dimension comprising the four constructs under study. In general, it is observed that the parameters are located within the recommended ranges. See Table 5.

Table 5  
 Cronbach's alpha by dimensions

Variable	Dimensions	Pre-COVID-19 Scenario	COVID-19 Scenario
Organizational climate	Responsibility	0.717	0.769
	Warmth	0.827	0.849
	Support	0.652	0.746
	Conflict	0.553	0.606
	Identity	0.822	0.857
Problem solving	Identify and define the problem.	0.779	0.750
	Generate alternative solutions	0.841	0.857
	Evaluate and select an alternative	0.912	0.904
	Success in problem solving	*	*
Teamwork	Encourage people to work	0.833	0.814

	Privilege common goals over individual ones	0.888	0.877
	Weigh the knowledge contribution of the group	0.840	0.842
Labor conflict management	Diagnose the origin of the conflict	0.912	0.909
	Generate a solution strategy	*	*
	Execute the strategy	0.889	0.887
	Generate agreements	*	*

\* Dimensions with one item

Source: created by the authors.

The second phase of the measurement model is convergent validity; it refers to the extent to which the construct coincides in explaining the variance of its items. As a first step in this phase, it is estimated that the items that make up a construct maintain adequate loadings. For the present investigation, the level of loadings of the items that make up the constructs was set above .750 to ensure that they explain at least 50 percent of the variance of the indicator. The average variance extracted (AVE) was calculated as a second step to estimate convergent validity. To estimate the AVE, the external loadings of each construct are squared, and the mean value is calculated. The minimum recommended value for the AVE is .500. This implies that the construct explains at least 50 percent of the variance of its component items (Hair, Risher, Sarstedt, & Ringle, 2019). The AVE level of the constructs resulted within the recommended range. See Table 6.

Table 6  
 Average Variance Extracted (AVE)

Variable	Pre-COVID-19 Scenario	COVID-19 Scenario
Y - Organizational climate	0.652	0.652
X1 - Teamwork	0.753	0.739
X2 - Problem solving	0.712	0.708
X3 - Labor conflict management	0.803	0.798

Source: created by the authors based on the data collected.

The third phase of the measurement model is discriminant validity, which refers to the fact that a construct must differ from the rest of the constructs that make up the same structural model (Hair, Risher, Sarstedt, & Ringle, 2019). For the estimation of discriminant validity, what was proposed by Fornell and Lacker (1981) was carried out. They stated that there is discriminant validity if the shared variance between two constructs is less than the variance extracted from a particular construct (Martínez-García & Martínez-Caro, 2009). The results are within the parameters established as acceptable in both scenarios. See Table 7.

Table 7  
 Fornell and Lacker Criterion

Variable	Pre-COVID-19 Scenario				COVID-19 Scenario			
	Organizational climate	Labor conflict management	Problem solving	Teamwork	Organizational climate	Labor conflict management	Problem solving	Teamwork
Organizational climate	0.807				0.809			
Labor conflict management	0.673	0.896			0.556	0.893		
Problem solving	0.672	0.819	0.844		0.690	0.781	0.841	
Teamwork	0.703	0.795	0.823	0.868	0.715	0.748	0.799	0.859

Source: created by the authors based on the data collected.

## Results

### Structural model

The level at which the model explains the phenomenon under study is represented by the  $R^2$ , which expresses in percentage terms the extent to which the latent variables considered in the structural model explain the dependent variable (Hair, Risher, Sarstedt, & Ringle, 2019). The model defined for the present research yields an  $R^2$  of .537 for the pre-COVID-19 scenario and .554 for COVID-19; that is, Teamwork (TE), Problem Solving (SP), and Labor conflict management (MC) explain 53.7% and 55.4% of the level of Organizational Climate (OC) in the pre-COVID-19 and COVID-19 scenarios, respectively. See Figure 1.

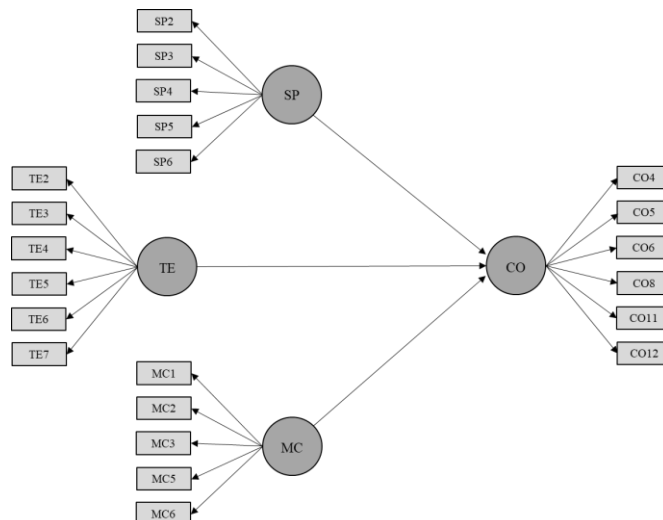


Figure 1. Unilevel model - pre-COVID-19 and COVID-19 scenarios  
 Source: created by the authors based on the data collected.

Once the structural model was defined, the path coefficients' impact and significance were evaluated. The bootstrapping technique in PLS-ESM was used to calculate the significance of the latent variables. The process generates the mean estimator of the path coefficients and the standard error or variance of the path coefficients; significance was estimated with these two indicators. The magnitude of the path coefficients is related to the level of impact that the latent variables have on the dependent variable. Table 8 shows the path coefficient, the t-test, and the significance level (P-value in percent). The teamwork variable with path coefficients of 0.378 and 0.491 in the pre-COVID-19 and COVID-19 scenarios, respectively, is significant for organizational climate. The variable problem solving with a path coefficient of 0.385 shows significance for organizational climate only in the COVID-19 scenario.

Table 8  
 Path coefficients, T-test, and P-value

Variable	Pre-COVID-19 Scenario			COVID-19 Scenario		
	Path coefficient	T-test	P-value	Path coefficient	T-test	P-value
X1 - Teamwork	0.378	2.193	2.4%	0.491	3.721	0.0%
X2 - Problem solving				0.385	2.420	1.5%
X3 - Labor conflict management						

Source: created by the authors based on the data collected.

The level of collinearity was estimated using the variance inflation factor (VIF). Levels similar to or higher than 5 of the VIF manifest collinearity problems between the constructs that comprise the model (Hair, Risher, Sarstedt, & Ringle, 2019). For both the pre-COVID-19 and COVID-19 scenarios, the model shows VIF levels below the suggested maximum limit. Therefore, it is determined that there is no collinearity problem in the model. See Table 9.

Table 9  
 Collinearity

Variable	Pre-COVID-19 Scenario	COVID-19 Scenario
X1 - Teamwork	3.601	3.104
X2 - Problem solving	4.017	3.504
X3 - Labor conflict management	3.523	2.874

Source: created by the authors based on the data collected.

According to the significance results, the hypothesis of the teamwork variable is tested in both the pre-COVID-19 and COVID-19 scenarios. The problem solving variable is only tested in the COVID-19 scenario. Labor conflict management is not tested in any of the scenarios.

After analyzing the results of the unilevel model and testing the hypotheses originally proposed, an additional multilevel model was constructed with the same constructs and items used in the unilevel

model. The objective was to detect additional relations to those proposed in the unilevel model. Given that the construct Teamwork (TE) in the unilevel model showed significance in both scenarios, this construct was retained as a mediating variable concerning Organizational Climate (CO), linking the variables Problem Solving (SP) and Labor Conflict Management (MC) with the mediating variable. Based on the above, the multilevel model shown in Figure 2 was generated for the pre-COVID-19 and COVID-19 scenarios.

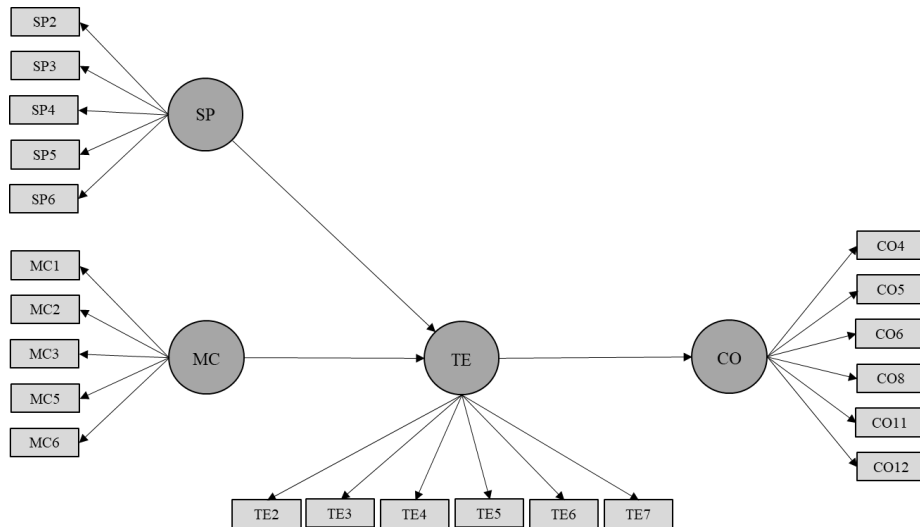


Figure 2. Multilevel model - pre-COVID-19 and COVID-19 scenarios  
Source: created by the authors based on the data collected.

For the multilevel approach, the analysis of the measurement model related to internal consistency, convergent validity, and discriminant validity, yielded similar results to the unilevel model in both scenarios. The structural model reported an  $R^2$  for organizational climate of .493 and .512 for the pre-COVID-19 and COVID-19 scenarios, respectively. For teamwork, it yielded an  $R^2$  of .723 and .681 for pre-COVID-19 and COVID-19, respectively. Path coefficients were .702, .522, and .368 for Teamwork, Problem solving, and Labor conflict management, respectively, in the pre-COVID-19 scenario. For the COVID-19 scenario, the path coefficients were .715, .563, and .308 respectively for these variables. Significance is observed in all the relations in the multilevel model. There are no collinearity problems; the VIF value in pre-COVID-19 was 3.02 and 2.53 in COVID-19.

### *Contrast of the unilevel and multilevel models*

The R<sup>2</sup> value for the organizational climate variable in both the pre-COVID-19 and COVID-19 scenarios is slightly lower in the multilevel model than in the unilevel model. Nonetheless, in both scenarios and models, the R<sup>2</sup> for organizational climate indicates that the independent variables under study explain this phenomenon at levels of around 50%. For its part, the multilevel model makes it possible to obtain the R<sup>2</sup> for the teamwork variable. Likewise, while the unilevel model shows the significance of only one variable in the pre-COVID-19 scenario and two in COVID-19, the sequence of the relation of variables proposed in the multilevel model shows significance for all variables in both scenarios. Although there are no collinearity problems in either of the two models and scenarios, it is observed that it is lower in the multilevel model and in the COVID-19 scenario. See Table 10.

Table 10  
 Unilevel vs. Multilevel Structural Model Results

Model	Relation	Pre-COVID-19 Scenario			COVID-19 Scenario				
		VIF	R <sup>2</sup>	Path coefficient	P-Value	VIF	R <sup>2</sup>	Path coefficient	P-Value
Unilevel	TE to CO			0.378	2.4%			0.491	0.0%
	SP to CO		0.537			0.554		0.385	1.5%
	MC to CO								
	TE	3.6				3.1			
	SP	4.0				3.5			
Multilevel	MC	3.5				2.9			
	SP to TE			0.522	0.0%			0.563	0.0%
	MC to TE		0.723	0.368	0.4%		0.681	0.308	1.6%
	SP	3.0				2.5			
	MC	3.0				2.5			
	SP to CO*			0.367	0.1%			0.402	0.0%
	SP to CO*		0.493	0.259	0.3%		0.512	0.220	1.3%
TE to CO			0.702	0.0%			0.715	0.0%	
	TE	1.0				1.0			

CO.- Organizational climate, TE.- Teamwork, SP.- Problem solving, MC.- Labor conflict management

\* Indirect effects

Source: created by the authors based on the data collected.

An analysis of the difference in impacts in the pre-COVID-19 and COVID-19 scenarios was conducted for all relations. These were found to be significant. The greatest difference in the path coefficients was recorded in the relation between teamwork and organizational climate in the unilevel model, with a 19.58% increase. On the other hand, the path coefficients of the relations of labor conflict management with teamwork and organizational climate in the multilevel model decreased by 7.07% and 6.18%, respectively. The rest of the relations show smaller impact differences than these. See Table 11.

Table 11  
 Impact differences - Path coefficients

Model	Relation	Pre-COVID-19 Scenario		COVID-19 Scenario		Level of Significance	Difference Path coefficients *
		Path coefficient	Standard error	Path coefficient	Standard error		
Unilevel	TE to CO	0.378	0.166	0.491	0.130	0.00%	19.58%
	SP to TE	0.522	0.130	0.563	0.125	1.94%	1.53%
	MC to TE	0.368	0.132	0.308	0.128	0.16%	-7.07%
Multilevel	SP to CO**	0.367	0.107	0.402	0.105	1.69%	1.91%
	MC to CO**	0.259	0.090	0.220	0.088	0.25%	-6.18%
	TE to CO	0.702	0.063	0.715	0.053	7.49%	0.20%

CO.- Organizational climate, TE.- Teamwork, SP.- Problem solving, MC.- Labor conflict management

\* Level of significance for the difference of the Path coefficients of 5% except for TE to CO, which is 10%

\*\* Indirect effects

Source: created by the authors based on the data collected.

## Conclusions

The results obtained in this study complement the current literature as they show some differences from the results reported in it. According to the unilevel model, the variables problem solving and labor conflict management do not report significance with organizational climate in the pre-COVID-19 scenario, and labor conflict management does not report it in the COVID-19 scenario, although previous empirical studies do report this relation. Nahou Larrea (2019), Rojas Nieto (2017), and Quispe-Layme, Espinoza-Flores, Atahuaman-Estrella, Chavez-Gavidia, and Paricahua-Peralta (2017) report it for labor conflict management and Rojas Nieto (2017) for problem solving. The variation in these results concerning the antecedent found in the literature may be due to several factors, among them, the segments or industries analyzed in the investigations are different and do not correspond to the same latitudes or chronologically. Likewise, the COVID-19 pandemic affected the general conditions in which the companies operate and the level of stress that these conditions generate within the companies.

The unilevel model shows that the significance of the variables is different for the pre-COVID-19 and COVID-19 scenarios. While teamwork is positively related to organizational climate in both scenarios, problem solving is only positively related to organizational climate in the COVID-19 scenario. This can be explained by the change in the conditions prevailing in the companies in the COVID-19 scenario. It is expected that a stressful environment generated by the pandemic would add greater urgency to problem solving for bank managers in Mexico. Likewise, for the teamwork variable, the impact analysis of its path coefficients shows that its impact on organizational climate increases in the COVID-19 scenario, and this can also be associated with the stress generated by the pandemic; under these conditions, greater ability is required to generate teamwork in organizations. This effect on the significance of

variables and their level of impact may be an element that explains why, at times, some management skills show significance for organizational climate and at others they do not.

On the other hand, the multilevel model made it possible to observe additional relations to those originally proposed in this research. Its sequential relations are verified and report a relation between the variables problem solving and labor conflict management with organizational climate, as well as the mediating effect of the teamwork variable in this relation. The managerial skills under study reflect significance in both scenarios but their impact has a significant change. As in the unilevel model, the impact of the teamwork variable on organizational climate increases in the COVID-19 scenario. The variable problem solving increases its impact on organizational climate and teamwork in the COVID-19 scenario. This model also confirms that a stressful environment demands greater managerial skills related to problem solving to maintain the organizational climate at adequate levels.

On the other hand, the labor conflict management variable reduces its impact on organizational climate and teamwork. In contrast to the increase in problems presented by the operational and functional changes organizations had to make due to COVID-19, labor conflicts did not behave similarly since the home office reduced interpersonal relationships. In this situation, the need for the managerial skill of labor conflict management in the COVID-19 scenario was less demanding.

## **Recommendations**

The research results will be useful for companies when considering managerial skills such as problem solving, teamwork, and labor conflict management in addressing human capital issues and analyzing their organizational climate. Likewise, it would be advisable to continue this line of research incorporating other management skills or other productive segments and to consider the impact that the pandemic recovery process and the effect of the generations (baby boomers, generation X, millennials, generation Z) could have. Finally, considering that the present research incorporated scenarios with no precedents in the literature and additional sequential relations were proposed, it is suggested that this type of research be analyzed in other productive sectors and regions to strengthen its consistency in different scenarios.

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