

## Influence of motivation and job satisfaction on job performance in Mexican industrial microenterprises

## Influencia de la motivación y la satisfacción laboral en el desempeño laboral en microempresas industriales mexicanas

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### Abstract

The main objective of this paper is to analyze the relationship between motivation variables and job satisfaction in job performance. The hypothesis of this study is that there is a relationship between motivation and job satisfaction with job performance. This study has a quantitative approach, with a descriptive, correlational and explanatory scope. The design is non-experimental and cross-sectional. The object of study are industrial companies with less than 10 workers in a municipality in the south of the state of Sonora in Mexico. The subject of study were the workers of the operational areas of said companies. An instrument with a Likert-type scale was designed, which was submitted to statistical tests to determine its validity and reliability. One contribution is that only one investigation was found regarding small and medium-sized companies in which job satisfaction is positively related to the performance of workers, which was carried out by Soomro and Shah (2019). No one made in Mexico was found.

**Motivation, Job Satisfaction, Job Performance, Industrial, Municipality**

### Resumen

Este trabajo tiene como objetivo principal analizar la relación que existe entre las variables de motivación y la satisfacción laboral en el desempeño laboral. Las hipótesis de este estudio es que sí existe relación entre la motivación y la satisfacción laboral con el desempeño laboral. Este estudio es de enfoque cuantitativo, de alcance descriptivo, correlacional y explicativo. El diseño es no experimental y transversal. El objeto de estudio son las empresas industriales con menos de 10 trabajadores de un municipio del sur del estado de Sonora en México. El sujeto de estudio fueron los trabajadores de las áreas operativas de dichas empresas. Se diseñó un instrumento con escala tipo Likert, la cual se sometió a pruebas estadísticas para determinar su validez y confiabilidad. Una aportación es que sólo se encontró una investigación referente a pequeñas y medianas empresas en la que la satisfacción laboral se relaciona positivamente con el desempeño de los trabajadores, la cual fue realizada por Soomro y Shah (2019). No se encontró alguna realizada en México.

**Motivación, Satisfacción Laboral, Desempeño Laboral, Industrial, Municipio**

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## Introduction

At the international level, the Organisation for Economic Co-operation and Development (OECD, 2020) presents the level that Mexico occupies in that organisation in a comparative trend of labour productivity and its components in the period 2000-2016, where its position is not outstanding, ranking among the last places. Reviewing the panorama of the American continent, ILO statistics (2019b) are presented regarding trends and projections of labour productivity, the expected decrease for North America starting in 2018 and which will not end until 2020 (with 1.3%), but not the expected decrease for Latin America and the Caribbean, where Mexico is located. The latter region shows a sustained and remarkable growth since 2017 (where it performed in negative numbers: -0.1). The significant jump was from 2017 to 2019.

Regarding the labour productivity index (by sector) based on hours worked in Mexico shown by INEGI (2020c) in manufacturing firms decreased from April to June 2020, -9% compared to the previous quarter. Analysing the labour productivity index by state in Mexico with data from INEGI (2020c), manufacturing companies in the state of Sonora show a decrease of -9.3% with respect to the same quarter of the previous year. Sonora is in the group of entities that showed a decline in their labour productivity index, with the state of Oaxaca presenting the worst performance (-46.8%). Yucatan, with 37.1%, is one of the states with the best performance compared to the same quarter last year.

As a consequence, this research is important because there are factors that can improve workers' performance, including motivation and job satisfaction. Therefore, the following question is posed: What is the relationship between motivation and job satisfaction with job performance in Mexican industrial microenterprises?

The main objective of this paper is to analyse the relationship between motivation variables and job satisfaction and job performance. The hypothesis of this study is that there is a relationship between motivation (H1) and job satisfaction (H2) with job performance.

## Theoretical Framework

### *Job performance*

Improving performance is the most important goal of an organisation. Companies should implement motivation schemes for their employees to increase performance. Two ways of measuring performance have been identified: financial and non-financial. (Pang & Lu, 2018). In the past, companies evaluated their performance by measuring only financial aspects, sales and profitability. Such criteria are no longer adequate to achieve the results sought by business corporations. Therefore, financial and non-financial indicators are now used as they complement each other (Ha, Lo, & Wang, 2016).

In addition, several research studies have criticised current performance evaluation schemes, specifically those that only measure financial aspects. These disagreements are based on the fact that such an approach projects little performance into the future and is more concerned with immediate results as they look only within companies and ignore aspects of competitors and customers. Furthermore, they do not show strategic initiatives and do not encourage innovation. (Parida, Kumar, Galar, & Stenström, 2015).

Some authors define performance as the ease with which a company executes its operational plans. (Parida, Kumar, Galar, & Stenström, 2015). It also refers to the way in which a worker adds his or her effort to that of his or her organisation. (Kwame Mensah, 2015).

### *Motivation*

Both Maslow in 1943 (hierarchy of needs), Herzberg in 1968 (dual factor) and McGregor (X-Y) in 1960 presented theories on motivation to meet requirements and improve the performance of workers to achieve organisational results (Asrar-ul-Haq & Anwar, 2018). According to Zlate and Cucui (2015) Maslow explains five types of people's needs: physiological, safety, social, respect and personal achievement. Their degree of satisfaction determines their increase. Herzberg proposes two factors: motivational (achievement, recognition) and hygiene (safety, salary).

MacGregor proposes two attitudes to work responsibilities: willingness or unwillingness to work.

For Ohueri, Enegbuma, Wong, Kuok, & Russell (2018) motivation is about the internal and external elements that influence a person to maintain their focus on fulfilling set commitments or activities through continuity in their behaviour. It is a term associated with elements internal and external to the individual and focused on their own expectations and beliefs (Savolainen, 2018).

### *Job satisfaction (SL)*

When it's time to evaluate performance, job satisfaction is one way to measure it. (Pang & Lu, 2018). The theory of work design has a direct relationship with job satisfaction, job performance and work environment. It proposes that work activities should be distributed in an orderly and orderly manner to workers or teams within the workplace. It proposes several tactics to promote good performance, including role variety, broadening activities, job enrichment, self-directed teams towards high performance. (Akinwale & George, 2020). The forerunner of this theory was Viteles in the early 1950s (Akinwale & George, 2020) but later taken up by Hackman and Oldman (1980) cited in Akinwale & George (2020) who comment that this theory offers great opportunities and limitations to distribute tasks, which affects the fulfilment of the same.

With regard to the definitions of job satisfaction for Zayas Agüero, Báez Santana, Zayas Feria, Hernández Lobaina (2015) it is the perception of the experiences in the company by the collaborator, which prevails when an objective is achieved, generating a favourable or adverse position of their employment. It is the benefit perceived for the work performed in comparison with other colleagues (Gevrek, Spencer, Hudgins, & Chambers, 2017).

### **Methodology to be developed**

The stages of the methodology used in the development of this work are explained below. This study has a quantitative approach as an instrument will be applied to measure the variables.

The research is descriptive in scope because it measures concepts and establishes variables, it is correlational because it seeks to explain how two variables are related and it is explanatory because it establishes the causes of the problem. The research design is non-experimental because the variables were not manipulated, only what happened is observed, and transversal because data will be obtained at a single point in time, reviewing variables and their interaction. (Hernández Sampieri, Fernández Collado, & Baptista Lucio, 2010).

The object of study is the industrial enterprises of Navojoa, Sonora, Mexico with 10 or fewer workers (microenterprises) and the subject of study or unit of analysis was the workers in the operational areas of these enterprises. Statistical methods were used for hypothesis testing and correlation of variables. A Likert-type scale instrument was designed and subjected to validity and statistical tests to determine its validity and reliability. The surveys were applied in the field and captured in spreadsheets. The results were analysed and conclusions and recommendations of the study will be presented.

An instrument was constructed from previously valid and reliable scales with a Likert scale 1-5 (1=completely disagree to 5=completely agree) because the level of discrimination of the operative personnel of the companies to be studied was considered in order to facilitate the understanding of the answers. Also, the 5-point scale was the most commonly used in the studies from which the items were obtained to elaborate the instrument.

In addition, the instrument consists of three sections. The first section explains the instructions for answering the questionnaire, and the second section includes 26 items to measure the three variables under study (one dependent and two independent). For the dependent variable Worker Performance, 10 items taken from Kalemci et al. (2018), Rehman et al. (2020), Soomro and Shah (2019) and Sanchez et al. (2021) were used with Cronbach's alpha of 0.81, 0.75, 0.78 and 0.77 respectively, which shows an acceptable level of reliability. A five-point Likert-type measurement scale was used, where 1=strongly disagree and 5=strongly agree.

In the independent variable motivation, 6 items taken from Beltran and Bou (2018), Cafferkey and Dundon (2015), Shafi et al. (2020) and Kuvaas (2006) were considered with a Cronbach's alpha of the mentioned items was 0.86, 0.81, 0.94 and 0.85 respectively, which shows a good reliability index. The measurement scale is a five-point Likert-type scale, where 1=strongly disagree and 5=strongly agree.

The independent variable job satisfaction included 8 items taken from Al-Haroon and Al-Qahtani (2019) and Rehman et al. (2020) with a Cronbach's alpha of these items was 0.84 and 0.85 respectively, i.e. a good level of reliability. A five-point Likert-type measurement scale was used, where 1=strongly disagree and 5=strongly agree, and in the third section 7 items are included to obtain demographic information of the respondent and to know the profile of the company.

The population to be studied is represented by the 1731 workers of the 729 manufacturing microenterprises (0 to 10 workers) in the city cited (INEGI, 2019a) included in Sector 31-33 Manufacturing industries, which represent 13.7% of the total number of personnel hired in companies of that size considering that it is the third largest in that sector.

According to Rositas (2014) an adequate sample size makes a difference when making knowledge contributions. To calculate the sample size for this research, the finite population formula of this author is used, since the value of the population to be studied is known.

$$n = \frac{NPQ}{(N-1)(e/z)^2 + PQ} \tag{1}$$

Sample calculation  
 Source: Rositas (2014)

Where:

N=Population size

n=Sample size

P=Probability of success

Q=Probability of failure

e=Error tolerated

z=Confidence level

The data were analysed to calculate the sample as follows: N=1731 microenterprise workers, z=1.96 (95% reliability), P=0.5, Q=0.5 and e=10% a sample of 91 workers is obtained, which were visited in their enterprises in the colonies registered in the city in INEGI (2020a) to achieve a simple random sampling by convenience.

In order to verify the level of understanding of the instrument's items and to capture information regarding the reliability of the instrument, a pilot test was conducted by applying 30 surveys with 24 items to operative workers who, due to their characteristics, represent the unit of analysis.

The statistical analysis of the data was carried out with the SPSS programme and Cronbach's alpha was calculated for each of the variables. According to George and Mallery (2019) the Cronbach's alpha levels generally applied are: 0.9=excellent, 0.8=good, 0.7=acceptable, 0.6=questionable, 5=poor and less than 5=not acceptable. The results of this pilot test can be seen in the table below.1.

Variable	Cronbach's alpha	No. of items
Y. Worker performance	0.783	10
X1. Motivation	0.762	6
X2. Job satisfaction	0.707	8

**Table 1** Results of Cronbach's alpha by variable in pilot test

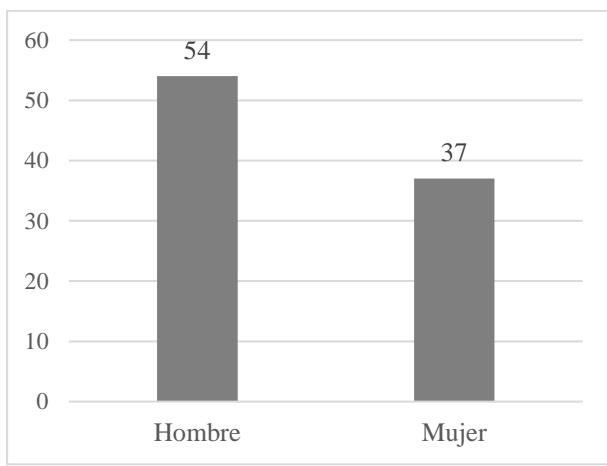
Source: own elaboration

With the above results, the variable Worker Performance (Y) shows a coefficient of 0.783 with 14 items. The variable Motivation (X1) shows an alpha of 0.762 with 6 items. The variable Job Satisfaction (X2) shows an alpha of 0.707, with 8 items. All three variables show acceptable levels of reliability.

**Results**

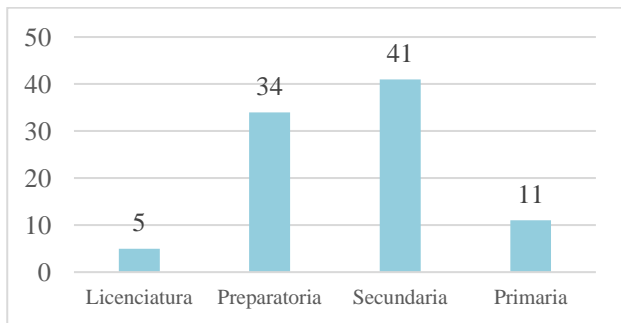
The statistical results of the sample data, descriptive statistics and the statistical analysis of this research are presented below. Starting with the socio-demographic data of the 91 operative workers of the manufacturing companies of the mentioned city that are part of this research.

Figure 1 shows the gender distribution of the workers. There are 54 men and 37 women. The gender distribution of the workers is balanced.



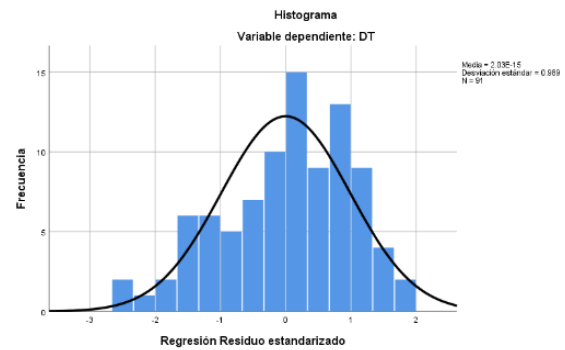
**Figure 1** Sex of workers  
Source: Own elaboration with data taken from SPSS.

Figure 2 shows the levels of schooling of the workers who answered the instrument. There are 41 workers with secondary school completed, followed by 34 with high school, 11 with primary school completed and 5 with a bachelor's degree completed. As can be seen, the highest concentration of workers in terms of schooling is found in secondary school.



**Figure 2** Workers' level of education  
Source: Own elaboration with data taken from SPSS.

Moving on to the statistical analysis of the data, the results of the normality assumption are presented below. Figure 3 shows how most of the data are included within the curve. According to Williams et al. (2013) normality assumes that the data of the variables have a normal distribution, i.e. they are normally distributed. This indicates that this assumption is met.



**Figure 3** Normality plot  
Source: Own elaboration with SPSS data

According to Lévy Mangin and Varela Mallou (2003) a linear regression model is based on the meaning of stochastic dependence between variables, one of which is the dependent variable with a quantitative character and the other variables will be independent variables that support explaining the behaviour of the dependent variable.

The mathematical notation of the linear regression model is:

$$Y = XB_0 + B_1X_1 + B_2X_2 + \dots + B_kX_k + u_i \quad (2)$$

Source: Lévy Manhin and Varela Mallou (2003)

Table 2 below shows the model on which this research is based. It is a model with one dependent variable and two independent variables with a total of 24 items. In this case, the relationship of each of the two proposed independent variables (motivation and job satisfaction) with the dependent variable (employee performance) is reviewed and motivation is significant ( $p < 0.05$ ) as is job satisfaction. ( $p < 0.05$ ).

Model	Coefficients <sup>a</sup>		Beta	t	Sig.
	Unstandardised coefficients	Standardised coefficients			
1	(Constant)	2.235	.319	7.006	.000
	MOT	.332	.093	3.561	.001
	SL	.183	.091	2.007	.048

a. Dependent variable: DT

**Table 2** Linear regression results  
Source: Own elaboration with SPSS data.

As can be seen in table 3, the model presents an R-squared (also called coefficient of determination) of 0.359, which represents an acceptable level of prediction of the model, as this indicator behaves between 0 and 1. This means that the model presented has 35.9% of prediction in terms of the result it forecasts.

Summary of the model <sup>b</sup>					
Model	R	R square	R tight square	Standard error of the estimate	Durbin-Watson
1	.611 <sup>a</sup>	.374	.359	.27976	2.108
a. Predictors: (Constant), SL, MOT					
b. Dependent variable: DT					

**Table 3.** Summary of the model. *Source: Own elaboration with SPSS data.*

Regarding the independence assumption, according to Vilà Baños, Torrado Fonseca and Reguant Álvarez (2019), it establishes that the errors between the independent variables are independent of each other, for which the Durbin Watson statistic is used and they are considered independent if this indicator is between 1.5 and 2.5. Table 3 presents the results of the independence of the variables by means of the Durbin-Watson test. In this case it is 2.108, which is acceptable since the cited authors establish that the range is between 1.5 and 2.5. Therefore, it can be established that this assumption is also fulfilled. Table 4 shows the results of the hypotheses proposed.

HYPOTHESIS	P VALUE	RESULT
H1 Motivation positively and significantly influences worker performance in the industrial sector of Navojoa, Sonora (Mexico).	0.001	Accepted
H2 Job satisfaction is positively and significantly related to worker performance in the industrial sector of Navojoa, Sonora (Mexico).	0.048	Accepted

**Table 4** Hypothesis testing  
*Source: Own elaboration with SPSS data*

It is important to clarify that both hypotheses were accepted as both assumptions were statistically significant.

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**Conclusions**

The general objective of this work was achieved since the relationship between the variables of motivation and job satisfaction in the performance of workers in the industrial sector of Navojoa, Sonora, was analysed. The general research question was also answered and the objective was fulfilled.

Considering the hypotheses stated, it can be affirmed that the motivation variable has a significant influence on performance (H1), which approves this assumption. This result is in line with those found by Imam et al. (2015) and Kriengsak (2017). The first study was conducted with 550 employees of a state-owned company engaged in managing and protecting forests on the island of Java (Indonesia). The second study was conducted with 330 members and managers of cooperatives in Thailand. Motivation is an important part of what workers in these companies consider to improve their performance, as it represents those stimuli that make them change their behaviour when pursuing their goals.

Regarding the hypothesis of job satisfaction, the impact of this variable on job performance is affirmed, which confirms H2. This shows agreement with the research of Ye et al. (2019) and Zhu and Wu (2016). The first research was conducted with 466 bank employees in China. The second study was conducted with 761 government employees, also conducted in China.

A contribution of this work is that only one research was found concerning small and medium-sized enterprises in which job satisfaction is positively related to workers' performance, which was conducted by Soomro and Shah (2019). None was found in Mexico, which also generates a valuable contribution to knowledge.

**Practical implication**

This research will help industrial companies because they will be able to adopt strategies that improve aspects related to the motivation and job satisfaction of their employees, since if adequate levels of performance are maintained, sources of employment will remain active, as INEGI (2019a) states that in the aforementioned municipality there has been a stagnation in the number of companies dedicated to manufacturing since there are fewer companies in 2019 than those registered in 2009.

Regarding job satisfaction, Deloitte Consulting Group S.C., (2019) shows interesting data from their studies in Mexico. In the face of several factors that can cause satisfaction among workers, tools and technology stand out. The new generations demand better technological conditions to carry out their functions, with a dissatisfaction level of 19%.

This will also have an impact on a better working environment. The OECD (2017) states that the working environment is a factor that can affect workers' performance. In addition, Deloitte Consulting Group S.C., (2019) shares interesting statistics regarding the Mexican labour market in its report on trends in human capital. It states that positive work environment is the factor with the highest weight with 65%. Both data support the importance of motivation and job satisfaction in the performance of workers.

The present study can also contribute value to society, since it benefits from the good performance of organisations, which, by having motivated and satisfied individuals, generate a positive working environment that produces well-being even in family environments.

With respect to the economy, the value of this work is that it shows that satisfied and motivated workers will be more productive and this will have an impact on the performance indicators of companies, benefiting the sector and ultimately the country.

**Recommendations**

There are branches in the city where this research was carried out within the sector under study (manufacturing) that represent a high percentage, as is the case of traditional bakery, where it would be interesting to carry out research focused on this sector. It would also be possible to adapt the instrument to administrative personnel of companies in Commerce and Other Services, where, at least in this municipality, they are larger than those in manufacturing.

It is recommended that this type of study be replicated in different parts of Mexico and Latin America in order to make comparisons and generalise results. It would be interesting to analyse the motivational factors of these workers as well as to initiate the design of performance evaluation schemes to evaluate the effect of these variables on the productivity of the companies. It would also be of great value to share these results with all the employers who allowed the application of the instruments and to invite the members of the different local chambers of commerce to show them the results of this research and to share suggestions focused on the variables analysed.

Regarding future research, we could study the variables organisational culture and worker commitment that influence performance and analyse motivation and job satisfaction in manufacturing industries with 10 or less workers but considering staff from different generations.

Moreover, as proposed by Fridayani et al. (2023) microenterprises should take care to better exploit the data obtained through devices they use in digital marketing, so it would be important to conduct research in this type of companies and the use of digital tools. Speaking of digital entrepreneurship in microenterprises, Chiatchoua and Ávila-Romero (2023) conducted a study on digital self-employment that emerged in Mexico during the COVID-19 pandemic, in which the new generations demonstrate their skills to offer high-value digital services in the market.

As mentioned by Dumenu et al. (2023), another interesting research alternative could be to look for a classification of micro-enterprises operating informally based on their characteristics, as well as to find the reasons why they engage in this practice.

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