

**Influence of training on productivity. A study in micro service companies**

**Influencia de la capacitación en la productividad. Un estudio en microempresas de servicios**

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**Abstract**

Nowadays, micro-enterprises face constant challenges to maintain their efficiency and competitiveness, where a large part of this responsibility falls mainly on the performance and efficiency of the workers. Given this situation, it is important that the productivity of the employees is continuously stimulated, with training being one of the options. Therefore, the aim of this research was to determine the influence of training on the productivity of workers in service micro-enterprises. To this end, a diagnosis was made on the perception of the variables training and productivity, analyzing the results obtained through inferential statistics. The results showed that the attitude to receive training and the knowledge acquired significantly influence the productivity of workers. It is concluded that micro-enterprises must provide continuous training to their workers in order to provide them with more tools to stimulate their productivity and work performance, as well as their personal and professional development.

**Resumen**

Hoy en día, las microempresas enfrentan desafíos constantes para mantener su eficiencia y competitividad, donde gran parte de esta responsabilidad recae principalmente, en el rendimiento y desempeño los trabajadores. Ante esta situación, es importante que la productividad del personal sea continuamente estimulada, siendo la capacitación una de las opciones. Por ello, el objetivo fue determinar la influencia de la capacitación en la productividad de los trabajadores en microempresas de servicios. Para tal fin, se realizó un diagnóstico sobre la percepción de las variables capacitación y productividad, analizando los resultados obtenidos por medio de estadística inferencial. Los resultados revelaron que la actitud para recibir capacitación y los conocimientos adquiridos influyen significativamente en la productividad de los trabajadores. Se concluye que las microempresas deben dar capacitación continua a sus trabajadores para brindarles mayores herramientas que estimulen su productividad y desempeño laboral, así como su desarrollo personal y profesional.

Aim	Method	Contribution
<b>Influence:</b> ÷ 	  <b>Diagnosis of variables</b>	<b>Results:</b> <b>Knowledge</b>  <b>Attitude</b>
<b>Training Productivity</b>  <b>In microenterprises</b> 	 <b>Regression</b> Simple Multiple	<b>Contributions:</b> Training significantly influences productivity, with attitudes and knowledge being the most significant factors.

Objetivo	Método	Contribución
<b>Influencia:</b> ÷ 	  <b>Diagnóstico de variables</b>	<b>Resultados:</b> <b>Conocimiento</b>  <b>Actitud</b>
<b>Capacitación Productividad</b>  <b>En microempresas</b> 	 <b>Regresión</b> Simple Múltiple	<b>Contribuciones:</b> La capacitación influye significativamente en la productividad, siendo los factores <b>actitudes</b> y <b>conocimientos</b> los más significativos.

Training, worker productivity, SMEs

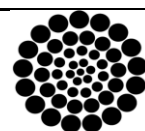
Capacitación, productividad del trabajador, mipymes

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## Introduction

Nowadays, the lack of employee training is one of the main problems seen in micro and small organisations, a situation that has a direct impact on the low performance of their activities. When measuring the relationship between productivity, results and resources used, this is directly related to the training that organisations provide to their employees (Newstrom, 1993). Training ensures the quality and improvement of tasks and achieves greater specialisation in workers (Government of Mexico, 2018), thus optimising resources and achieving better results. Coparmex (2022) mentioned that the development of new knowledge, skills and attitudes in employees will improve productivity in companies. In addition, he stated the urgency of raising awareness among employers so that they recognise the need for highly qualified staff as a competitive advantage.

Similarly, Obando (2020) mentions that training will have a positive impact on employees and increase their commitment to the activities carried out, since in this way they will be empowered to perform their activities with greater ease, so that they have the necessary and appropriate skills that will enable them to achieve the short and long-term objectives of their work unit and the company in general.

Therefore, in this research, the following research question was posed: How does training influence the productivity of workers in micro service enterprises and the research objective: to determine the influence of training on the productivity of workers in micro service enterprises.

## Literature review

### *Training*

Training is conceived as a learning process that is applied in a systematic and organised manner, through which people acquire knowledge, skills and attitudes to efficiently perform their tasks and, as a result, achieve the objectives defined for their position (Chiavenato, 2007). For companies, this set of competences represents an investment in their human capital, as it allows them to strengthen aspects that are important for their work performance.

The objective of training focuses on teaching new apprentices (Rodríguez, 2002), as this allows for the adaptation of personnel for the exercise of a specific task within an organisation. In addition, training prepares people for their position and at the same time provides them with opportunities for continuous professional development, ensuring that they not only learn about the activities within their current position, but also allows them to acquire tools to perform more complex and higher functions, preparing them for new jobs or promotions (Chiavenato, 2011).

Training not only represents a useful tool to help and teach staff, making them capable of performing effectively in their jobs, but also helps them to change people's attitudes on various issues, and this in turn will lead to a more satisfactory climate within companies, increasing their motivation and making them more receptive to new management trends. The purpose of training is to help staff at different organisational levels to achieve their and the company's objectives, through continuous learning that allows them to improve and provide quality in the tasks performed, avoid and reduce downtime, avoid rework (Yon, 2022), solve problems with different vision and motivate staff in terms of personal and professional growth (Government of Mexico, 2018) that serves as a type of emotional retribution and causes satisfaction to workers about their job growth.

Sanchez (2023) says that another benefit of training is to provide security and self-esteem to workers, as providing adequate safety training will help them to identify occupational hazards in a timely manner, which will reduce the possibility of accidents in work areas, impacting on creating a work environment that will give security and confidence to staff, a situation that will improve productivity in microenterprises. And this, in turn, is related to specialisation and flexibility when carrying out their tasks, because if risks are avoided and prevented, carrying out an activity will be simpler and easier, obtaining greater performance for the company.

On the other hand, employers benefit from training, as it will increase productivity and consequently business profitability, raise staff morale, increase the knowledge and performance of the different jobs, improve the company's image, achieve greater identification of staff with the company and thus seek to achieve the objectives of this, improve the relationship between boss and employees, provide information on prospects for staff development in the company, also training helps to develop different solutions in their workers to problems of the organisation (Cota and Rivera, 2017).

Nowadays, training is considered a strategy for the growth of SMEs, as nowadays it has an impact on strengthening the productivity of an SME. Training human capital improves productivity and consequently business competitiveness (Salazar, 2013) and, at the same time, allows them to achieve innovation in the activities they perform because it gives workers the opportunity to participate and develop thinking to create solutions to the problems that arise in their activities (Cota and Rivera, 2017).

In addition, by training workers, companies must understand that through this process they are able to compete in the market and create or participate in the training programmes that are carried out with planning directed towards the company, contributing to its economic development and being an alternative for sustainable development (Granados et al., 2018).

### Productivity

According to Moreno et al., (2009) the purpose of training is to increase productivity and production by increasing the knowledge of human capital. In addition, it will help to develop team equipment, increase job satisfaction and increase safety and hygiene patterns at work, optimise the use of materials and standardise procedures (Moreno et al., 2009).

Productivity, according to Bojórquez and Bojórquez (2013), is understood as the relationship between what is produced and the resources used, considering facilities, machines, tools, human knowledge and services. In this part, Porro (2020) explains that the division of labour for the efficiency of labour is caused by the characteristics of workers, the development and innovation that affects the skill of human capital in saving time and the implementation of machinery that facilitates the work. In addition, effective communication, provided during training will foster communication and that will lead to a grouping of the work team that improves relationships increasing the quality of work (Hernández, 2023). INEGI (2015), in the productivity indices obtained in the National Survey on Productivity and Competitiveness of Micro, Small and Medium Enterprises indicated that when there is an increase in productivity, this is due to the increase in volume production with the same amount of resources used.

Robbins and Judge (2013) consider competitiveness to be the highest level of analysis in organisational behaviour by relating the human behaviour variable of producing more at the lowest cost. Productivity, therefore, requires both effectiveness and efficiency, as the firm becomes effective when it achieves its goals. Preparing the staff will cause this effectiveness in the optimisation of the performance of tasks, because by implementing a training plan, the company will have trained staff to achieve organisational objectives, so it insists on the continuous training of human resources as an investment that will become a future gain for employers (Gómez, n.d.).

Since, the more experience, which is generated through training, will make the staff more efficient by providing job training to know their trade and activities and itself, making the worker aware of the results that are expected of him, (Gomez, n.d.) making him understand that this goes from a higher commitment and a greater sense of well-being at work that can directly impact on their performance levels.

Hernandez (2023) mentioned that training and human capital development will help to develop professional skills of human capital to perform their work by keeping them updated through programmes that allow them to develop favourable competencies that serve the company's purpose. By maintaining a direct relationship with job performance, training generates clear and defined processes that are integrated with the objectives of the company, so that they achieve better personal and professional development of the worker in the workplace, and thus enhance their capabilities (Cárdenas, 2017) in order to provide and support their job growth through the establishment of a work process in which adequate performance is rewarded and employees are aware of the existing growth opportunities (Hernández, 2023).

Today, there are programmes that offer training to employers and/or workers. One of them is the programme created by the Mexican government; Jóvenes Construyendo el Futuro, which aims to support companies to incorporate young people into their workforce, contributing to the economy of the beneficiaries and their families through training (Government of Mexico, 2022). Within this programme, employers act as tutors and participating in this platform benefits them by promoting training in the workplace, providing professional experience to young people while receiving free labour (since the payment for the service provided is made by the government) and, in addition, their company becomes distinctive as a company with social commitment. Young people between the ages of 18 and 29 who are not studying and working can participate in this programme as apprentices, where they are trained and develop new work skills, in addition to receiving financial support, they receive a training certificate and medical insurance from the Mexican Social Security Institute on behalf of the company. At the press conference on behalf of the STPS in 2022, Martha Bolaños López, indicated that this programme has enabled many young people to be trained in the workplace and has also served as an advantage for more than 140,000 companies to use young talent and increase their productivity.

## Methodology

In this research, a mixed type of research was carried out with a descriptive, explanatory and transversal scope, considering worker training and productivity as study variables. Based on theory, the dimensions analysed in the training variable were learning processes (Chiavenato, 2007), competencies (Chiavenato, 2011), and motivation (Yon, 2022). In the worker productivity variable, competitiveness (Robbins and Judge, 2013) and performance (Hernández, 2023) were analysed as dimensions.

A 36-item questionnaire was designed for the study. In the measurement of each item, an interval metric measurement scale was applied, using the Likert method, considering five response categories with metric units from 1 to 5, where 1 was specified as 'not at all determinant', 2 'not very determinant', 3 'indifferent', 4 'determinant' and 5 'very determinant'. For the application of the instrument, micro service enterprises (1 to 5 workers) in the State of Tlaxcala were considered. The reliability of the instrument was calculated using the Cronbach's Alpha index under the criteria of Hernández-Sampieri and Mendoza (2018). Subsequently, we proceeded to the inferential analysis of the information. For this, a simple linear regression model was performed to determine the influence of the predictor variable 'training' on the dependent variable 'worker productivity', and a multiple linear regression model to determine which training factors directly influence 'worker productivity'. Finally, the results obtained are presented for discussion, followed by the conclusions drawn from the research.

## Results

The instrument was applied in 30 service microenterprises, collecting a total of 60 instruments, 1 for the management (owner) and 1 for the workers in each microenterprise. The reliability of the diagnostic instrument, according to Cronbach's Alpha coefficient, was 0.879, which represents an acceptable reliability (Hernández-Sampieri and Mendoza, 2018).

Based on the information collected by the instrument, simple and multiple regression models were calculated to determine the influence of the predictor variables on the dependent variable. Tables 1 and 2 present the results obtained.

### Box 1

**Table 1**

Simple linear regression model

Productivity	R=.752		R <sup>2</sup> =.566		R <sup>2</sup> c=.559		F=75.662	
	Unstandardised coefficients		Typified coefficients		p=.000			
	B	Error	Beta			Sig.		
Constant	-.313	.508						.540
Training	1.036	.119	.752					.002

Source: own elaboration

### Box 2

**Table 2**

Multiple linear regression model

Productivity	R=.859		R <sup>2</sup> =.737		R <sup>2</sup> c=.701		F=20.443	
	Unstandardised coefficients		Typified coefficients		p=.000			
	B	Error	Beta			Sig.		
Constant	.401	.872						.648
Attitudes	.682	.108	.519					.000
Knowledge	.290	.066	.399					.000
Systematic process	.154	.083	.146					.070
Professional satisfaction	.098	.063	.122					.128
Skills	.066	.078	.068					.399
Job security	.046	.066	.053					.490
Organised process	.031	.051	.052					.545

Source: own elaboration

From table 1, the simple regression model showed a coefficient of determination  $R^2=0.566$  and  $p=0.000$ , which indicates that the predictor variable explains 56.6% of the model and that the model is statistically significant, making the model viable. The typed coefficient Beta of the training variable presented a value of 0.737 and  $p=0.000$ . This shows that the predictor variable significantly influences the dependent variable by 75.2%.

In relation to the multiple regression model presented in Table 2, the results indicate that it is viable, since its corrected  $R^2$  was 0.701, indicating that the predictor variables explain 70.1% of the model and that at least one directly influences the dependent variable, being significant with a value of  $p<0.05$ .

Looking closely at the standardised Beta coefficients, it was identified that the factors attitudes and knowledge had an influence of 51.9% and 39.9% on the dependent variable, being statistically significant. The rest of the factors showed a weak influence, being only representative for the variable 'worker productivity'.

The results obtained from the inferential analysis show that training does have a significant influence on worker productivity, with attitudes and knowledge being the most significant factors.

In the first instance, it is highlighted that the attitude of the worker to be willing to undergo continuous training, to be evaluated and to receive feedback from their superiors is a determining factor in their productivity. Maintaining a mentality that is resistant to change limits the personal and professional development of each individual, limiting their professional development. This leads us to understand that organisations should promote strategies to make staff understand the importance of receiving training, explaining clearly the advantages and benefits it represents. A passive and reluctant attitude to receive training promotes low productivity, as staff often prefer to consider themselves indifferent and even avoid continuing their professional development, given the idea that by receiving training they will be subjected to more work and greater demands. At this point, a good quality of communication and the creation of meaning for each activity are important to achieve a positive and favourable attitude towards organisational processes such as training programmes (Rodríguez et al., 2018).

On the other hand, among the many benefits of training, one of the most important is to continue to expand knowledge, improve existing skills and develop new ones (Government of Mexico, 2018). It is therefore crucial that workers have the necessary knowledge to perform their jobs properly and efficiently, that they know how to safely and skillfully operate tools or machinery required for their performance, and that training is provided under the same principles of equality for both long-standing staff and new recruits.

In the globalised world, the organisations that stand out in the markets are those that have highly qualified personnel, with the appropriate knowledge for decision-making and problem-solving (Bermúdez, 2015). This will allow the organisation to generate more income and higher productivity because workers feel confident with what they know and how they do it, which will give them the security to contribute new ideas to achieve the objectives and high quality in their work and performance, which will allow them to excel in the work environment (Obando, 2020).

In addition, training will also be decisive in boosting staff productivity if the frequency with which it is carried out is continuous, if its formalisation is in accordance with planning, if its development is based on the real needs of the staff and if the trainer or training entity generates confidence and good expectations. In addition, nowadays, it is crucial for any organisation to train on safety at work. All personnel must know the safety rules and the risks to which they may be subjected in the workplace, and it is important that the training is given to everyone, highlighting also the importance of everyone complying with the rules without exception.

Finally, job satisfaction is largely achieved through the personal well-being of the worker. This implies being at ease with the work environment, with the work dynamics and with the recognition received for good performance. Highly competitive organisations are those whose staff are at ease and highly motivated, aspects that allow them to adapt to the changes and demands of the market, promoting a more humanised staff, with a high potential for teamwork and a greater capacity for resilience (Bermúdez, 2015). Therefore, training should also be oriented towards an integral wellbeing that includes the promotion of the worker's mental health, which, in turn, will pay off in better performance, higher productivity and good business profitability (Quiroz et al., 2020).

## Conclusions

Training will continue to be a topic of interest in the business world due to the social and economic impact it generates not only for companies, but also for workers and their environment.

The competitiveness of an organisation depends to a large extent on the productivity of its human capital and how well it is trained to perform its work with quality. For this reason, it is essential to develop training programmes, especially in micro, small and medium-sized enterprises, which represent the mainstay of the country's economy.

On the other hand, it is important to establish that training should be carried out according to the needs of the workers and their job. This principle will help staff to be more efficient in their activities and to specialise over time, thus meeting the objectives specified for their area of work and, at the same time, those of the company.

Managers and owners must see training as an investment for their company. Unfortunately, in MSMEs it is common that they do not see it this way, being more of an empirical process than a systematised one. Therefore, it is crucial that governmental, public and educational institutions actively participate in guiding organisations on the benefits of well-planned and structured training.

Achieving higher productivity and remaining competitive is becoming increasingly complex for all sectors. Society has new needs, technological development is growing at an ever-increasing rate, and available resources are becoming fewer and fewer. Against this backdrop, the best option for organisations to survive and endure over time is to keep their staff trained and updated, which will undoubtedly keep them at high levels of productivity and prepared to face the new challenges that lie ahead.

## Declarations

## Conflict of interest

The authors declare that they have no conflicts of interest. They have no known competing financial interests or personal relationships that might have appeared to influence the article reported in this paper.

### Authors' contribution

*Sarmiento-Paredes, Susana:* Contributed to the development of the research, in the development of the theoretical framework, design and application of the instrument, analysis of results, supervision and writing.

*Carro-Suárez, Jorge:* Contributed to the development of the research, inferential analysis, analysis of results and writing.

*Nava, Doroteo:* Contributed to the development of the theoretical framework, design and application of the instrument and analysis of results.

*Larios-Gómez, Emigdio:* Contributed to the development of the theoretical framework, design and application of the instrument and analysis of results.

### Availability of data and materials

The data for this research were obtained through a field study carried out in the companies under study.

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### Abbreviations

Coparmex	Employers' Confederation of the Mexican Republic
INEGI	National Institute of Statistics and Geography
mipymes	Micro, small and medium-sized enterprises
STPS	Ministry of Labour and Social Welfare

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