





The importance of innovation in micro and small enterprises (MIPES) in León, Guanajuato, Mexico

La importancia de la innovación en las micro y pequeñas empresas MIPES de León, Guanajuato, México

Serrano-Torres, Ma. Guadalupe<sup>a</sup> & Kaczmarek-Chavarría, Marcela<sup>b</sup>

<sup>a</sup>  Universidad Tecnológica de León •  LMN-4724-2024 •  0000-0003-2229-6925 •  679788

<sup>b</sup>  Universidad Tecnológica de León

SECIHTI Classification:

Area: Social Sciences  
Field: Negotiation and Management  
Discipline: Administration and management  
Subdiscipline: Business administration

 <https://doi.org/10.35429/JBS.2025.11.27.2.1.7>

History of the article:

Received: July 25, 2025

Accepted: November 10, 2025

\*  [\[gserrano@utleon.edu.mx\]](mailto:gserrano@utleon.edu.mx)

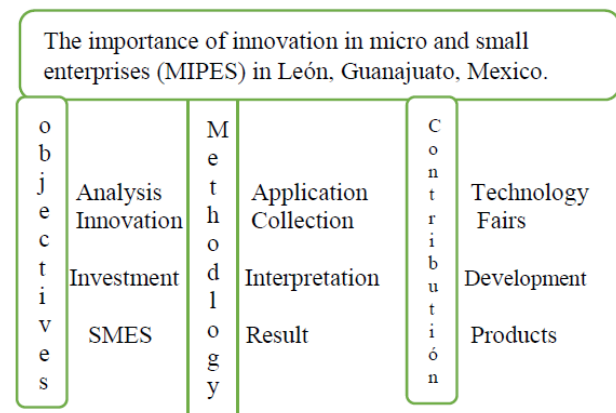


Abstract

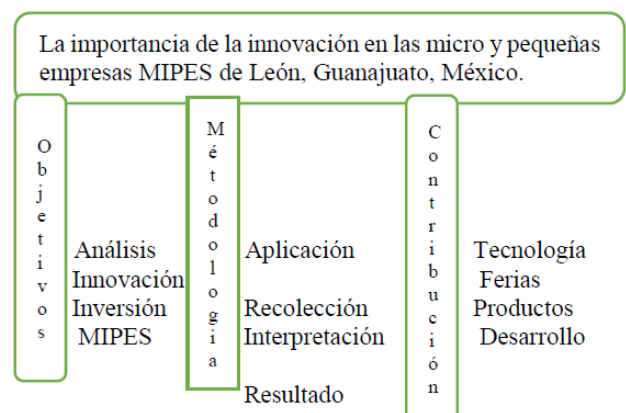
Innovation is very important for companies in general. After the pandemic, it became even more strategic for their operation and survival. This research aims to demonstrate the importance of innovation in micro and small enterprises (MIPES) and to answer the research question: Why analyze the importance of innovation in micro and small enterprises in León, Guanajuato, ¿Mexico? The methodology used is mixed; quantitative, with 429 surveys applied to obtain results and create graphs, and qualitative, because part of the grounded theory is contrasted with findings from other national and international studies. The results show that MIPES do make full use of innovation. It is concluded that investment in technology, training in organization management, and attending fairs and conferences increases their levels of innovation.

Resumen

La innovación es muy importante para las empresas en general, después de la pandemia se hizo aún más estratégica para la operación y supervivencia de las mismas, es así que la presente investigación tiene por objetivo mostrar la importancia de la innovación en las micro pequeñas empresas (MIPES) y dar respuesta a la pregunta de investigación ¿Por qué analizar la importancia de la innovación en las micro y pequeñas empresas de León, Guanajuato, México?, la metodología utilizada es mixta, cuantitativa se aplicaron 429 encuestas para obtener los resultados y elaborar las gráficas, cualitativa porque parte de la teoría fundamentada se contrasta con hallazgos de otras investigaciones nacionales e internacionales, los resultados muestran que las MIPES si utilizan la innovación al máximo, se concluye que la inversión en tecnología, capacitación en la administración de la organización, en asistir a ferias y congreso incrementa sus niveles de innovación.



MSMEs, Innovation, Strategy



MIPES, Innovación, Estrategia

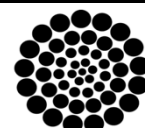
Area: Advocacy and attention to national problems

**Citation:** Serrano-Torres, Ma. Guadalupe & Kaczmarek-Chavarría, Marcela [2025]. The importance of innovation in micro and small enterprises (MIPES) in León, Guanajuato, Mexico. Journal of Business and SMEs. 11[27]1-7: e21127107



ISSN 2444-5010 /© 2009 The Authors. Published by ECORFAN-México, S.C. for its Holding Spain on behalf of Journal of Business and SMEs. This is an open-access article under the license CC BY-NC-ND [<http://creativecommons.org/licenses/by-nc-nd/4.0/>]

Peer review under the responsibility of the Scientific Committee [<https://www.marvid.org/>]-in the contribution to the scientific, technological and innovation **Peer Review Process** through the training of Human Resources for the continuity in the Critical Analysis of International Research.



**RENIECYT**  
Registro Nacional de Instituciones y  
Empresas Científicas y Tecnológicas

**1702902 CONAHCYT**

## Introduction

To delve into the topic of innovation, we will broadly analyse Mexico's economy, which has been hit hard by the COVID-19 pandemic. This is because it was during this pandemic that innovation had to be used immediately to operate and carry out purchasing and sales activities in a different way than before the pandemic.

Although the country's economy currently achieved a significant quarterly GDP increase of 1.1 net, with a 1.5 increase in tertiary activities and a 0.7% increase in secondary activities, the GDP of primary activities decreased by 3.2% in the first quarter of 2023. This is shown by studies carried out in the first quarter of the year by INEGI (2023). This economic progress exceeds the median of 11 economic analysts surveyed by Reuters. El Economista (2023).

In 2020, GDP experienced one of the largest declines in history, with per capita GDP falling to 2010 levels. As a result, businesses and consumers rapidly shifted to digital and online channels to cope with social distancing measures. The aim was to be able to continue commercial operations, secure income and remain operational during the COVID-19 pandemic. CEPAL (2022).

Innovation was the main strategy used by companies around the world, operating differently while in lockdown to prevent the spread of COVID-19. Most companies operated behind closed doors, finding ways to deliver their materials by placing orders online, with staff working from home and distributing their products and services to customers' homes (Garcia, 2021). This was the innovation used immediately and rapidly to survive the economic crisis caused by a health pandemic such as that experienced in 2020 and 2021. Companies hired parcel delivery services or people to perform this function in order to make their deliveries. Well, these types of strategies will be the focus of our study.

It is very important to start from the research carried out by Cardona (2022), where he mentions that 'innovation is any new policy undertaken by a company to reduce costs, to find a new source of supply, to find a new market, used as a survival strategy'.

Thus, during the COVID-19 pandemic, companies faced an emerging challenge: either they made significant changes to their traditional way of operating, or it would simply not be possible to remain in business and they would have to close their doors temporarily or permanently.

Now, for Manzano (2021), innovation equals productivity, that is, increasing productivity by using innovation in each of the activities from the idea to the completion of the business. It is very important for MSMEs to continue to overcome the economic crisis left by the current pandemic.

The companies in our study had to make changes to their daily activities and processes in order to operate remotely and maintain their productivity, thereby guaranteeing the income necessary to cover their operating costs.

However, many of these SMEs continue to face barriers that prevent their implementation, such as digital illiteracy and financial inclusion [UNESCO, 2023].

Below is the global innovation index, which shows that Mexico ranks 58th out of 139 countries in terms of progress in invention and increase in education.

However, it is very important to mention that in 2021, this country ranked 55th out of a total of 132 countries analysed, and in 2020, it ranked 55th out of a total of 131. It is noteworthy that we have currently lost three places in overall innovation compared to the IMI in 2022.

This places us in a position where we need to work hard to continue advancing and recover the places lost after the pandemic. Now, by 2025 compared to 2020, we have fallen seven places, so Mexico must invest more in innovation to recover its global position before the pandemic.

Box 1

Table 1  
Global Innovation Index 2025

Index and Country	Index and Country
1 Switzerland	71 Colombia
2 Sweden	72 Costa Rica
3 United States	73 Kuwait
4 Republic of Korea	74 Republic of Moldova
5 Singapore	75 Seychelles
6 United Kingdom	76 Tunisia
7 Finland	77 Argentina
8 Netherlands	78 Mongolia
9 Denmark	79 Uzbekistan
10 China	80 Peru
11 Germany	81 Kazakhstan
12 Japan	82 Panama
13 France	83 Jamaica
14 Israel	84 Barbados
15 Hong Kong, China	85 Belarus
16 Estonia	86 Egypt
17 Canada	87 Botswana
18 Ireland	88 Brunei Darussalam
19 Austria	89 Senegal
20 Norway	90 Lebanon
21 Belgium	91 Namibia
22 Australia	92 Bosnia and Herzegovina
23 Luxembourg	93 Sri Lanka
24 Iceland	94 Azerbaijan
25 Cyprus	95 Cabo Verde
26 New Zealand	96 Kyrgyzstan
27 Malta	97 Dominican Republic
28 Italy	98 El Salvador
29 Spain	99 Pakistan
30 United Arab Emirates	100 Cambodia
31 Portugal	101 Ghana
32 Czech Republic	102 Kenya
33 Lithuania	103 Paraguay
34 Malaysia	104 Rwanda
35 Slovenia	105 Nigeria
36 Hungary	106 Bangladesh
37 Bulgaria	107 Nepal
38 India	108 Tajikistan
39 Poland	109 Lao People's Democratic R
40 Croatia	110 Côte d'Ivoire
41 Latvia	111 Bolivia
42 Greece	112 Zambia
43 Türkiye	113 Ecuador
44 Viet Nam	114 Trinidad and Tobago
45 Thailand	115 Algeria
46 Saudi Arabia	116 Cameroon
47 Slovakia	117 Togo
48 Qatar	118 Benin
49 Romania	119 Honduras
50 Philippines	120 Madagascar
51 Chile	121 United Republic of Tanzania
52 Brazil	122 Myanmar
53 Mauritius	123 Guatemala
54 Serbia	124 Uganda
55 Indonesia	125 Malawi
56 Georgia	126 Burkina Faso
57 Morocco	127 Burundi
58 Mexico	128 Mozambique
59 Armenia	129 Zimbabwe
60 Russian Federation	130 Nicaragua
61 South Africa	131 Mauritania
62 Bahrain	132 Lesotho
63 North Macedonia	133 Guinea
64 Montenegro	134 Ethiopia
65 Jordan	135 Mali
66 Ukraine	136 Venezuela
67 Albania	137 Congo
68 Uruguay	138 Angola
69 Oman	139 Niger
70 Iran (Islamic Republic of)	

Source: own elaboration with data from the Global Innovation Index

It is worth mentioning that in the current global innovation index table, there are countries that no longer appear in the ranking due to their setbacks in innovation after the pandemic. Such is the case of Yemen, as well as our country, which fell seven places. Other countries also fell, and each of them will take the time necessary to recover their economies to pre-pandemic levels and use innovation as a very effective strategy.

Theoretical framework

Innovation is creating something new, modifying, distinguishing, producing a good or providing a service in a different way from the competition. Innovation is the beginning of competitive distinctions; it is an excellent ally and one leads to the other. (Moncada, 2019). Now, for;

For Haro et al (2017), innovation is a creation, a successful change or a process that needs to be improved in a product or service. Inventions and changes are not always successful at first and will require adjustments and improvements.

However, for Garcia (2021), innovation is adding value to a product or service, improving a process, which allows for optimisation of the result and, in turn, becomes a business strategy that allows us to face economic adversity. The emergence of new trends leads us to be competitive. Doing things differently from our main competitors. (Burgos & Rojo, 2018).

However, for this research, innovation in many companies was an essential requirement in order to continue operating and not close their doors permanently.

[This research is organised into an abstract, introduction, methodology, results and conclusion.

Methodology

This research has a cross-sectional design with a quantitative approach. The objective of this research was to analyse the importance and use of innovation by managers and owners of micro and small enterprises. It is supported by the research question:

Why analyse the importance of innovation by managers and entrepreneurs of micro and small enterprises (MSEs) in León, Guanajuato, Mexico? For the quantitative analysis, a data collection instrument was applied by the entire RELAYN network in Mexico and Latin America in 2024. In the case of León, Guanajuato, Mexico, they were administered by students from the León Technological University Campus I and Campus II, in the economic-administrative area. A total of 465 surveys were administered and 429 were validated correctly.

This research project has a cross-sectional design, with a quantitative approach, and is exploratory, descriptive and correlational in nature. A simple random probability sample was taken of MSMEs in León, Guanajuato, with between 2 and 50 employees, seeking a 95% confidence level, with a 5% margin of error and an estimated probability of  $p= 0.5$  or 50%. A total of 451 surveys were administered. Using a survey-type measurement instrument, it was administered to the directors and owners of this type of business by students from the universities that are part of the Relayn network.

The research questions that were asked are as follows:

1. Development or payment to innovate my production or distribution processes,
2. Development or payment to innovate the products or services i offer,
3. Development or payment to innovate the way i sell my product or service,
4. Development or payment to innovate the way I organise the company
5. I attend fairs, courses, conferences or other business-related activities.

Results

The answers to the research questions are presented below.

We begin with the first research question shown in the following table.

Box 2

Table 2

Should I develop or pay to innovate my production or distribution processes?

Description	Number	Percentage
Strongly agree	190	44%
Agree	155	36%
Disagree	6	1%
Strongly disagree	5	1%
Indifferent	73	18%
	429	100%

Source: Own Creation

In the table above, 80% of MIPES managers responded that they strongly agree with investing in innovation in their production processes. This was necessary after the COVID-19 pandemic, as the companies that survived used innovation as a survival strategy and utilised technology in their production and distribution processes.

The results of question number two are shown in the following table.

Box 3

Table 3

Should I develop or pay to innovate the products or services I offer?

Description	Number	Percentage
Strongly agree	200	47%
Agree	137	32%
Disagree	9	2%
Strongly disagree	4	1%
Indifferent	79	18%
	429	100%

Source: Own Creation

In the table above, 79% of the executives and entrepreneurs of the companies analysed responded that they strongly agree with investing in their products or services to innovate and be at the forefront of innovation. One of the most important investments is in the product or service offered, in order to provide a competitive advantage over the main competitors and to have frequent customers who keep the business going and growing.

The results of question number three are shown in the following table



Box 4

**Table 4**  
Should I invest in development or pay to innovate the way I sell my product or service (design, packaging, promotion, pricing, etc.)?

Description	Number	Percentage
Strongly agree	250	58%
Agree	137	32%
Disagree	1	01%
Strongly disagree	3	1%
Indifferent	38	9%
	429	100%

Source: Own Creation

The table above shows that entrepreneurs developed or paid to innovate in the way they offer and sell their product or service, i.e., investing in its design, packaging, promotion, and pricing. This question had the highest percentage (90%), indicating that managers considered this aspect of innovation to be very important. This question had the highest percentage, showing us that the entrepreneurs in the analysis developed the way they make their sales. This phenomenon occurred in most businesses after the pandemic, as they found themselves needing to use social media, online sales, and home delivery services. For entrepreneurs who use these innovation tools, it will be very easy to survive for many years, while those who do not will be at risk of disappearing.

The results for question number four are shown in the following table.

Box 5

**Table 5**  
Development or payment to innovate the way I organise my company?

Description	Number	Percentage
Strongly agree	230	54%
Agree	116	27%
Disagree	13	3%
Strongly disagree	6	1%
Indifferent	64	15%
	429	100%

Source: Own Creation

The table above shows that 81% of entrepreneurs developed or innovated the way they organise their businesses in terms of staffing and how they manage, run and organise their companies. This is one of the most important questions that owners and managers of micro and small enterprises must consider. After the pandemic, both internal and external changes and variables will have an impact on the company, but to a greater extent, the administrative and management success of this type of business will depend on internal factors and the organisation of the company.

The answer to question number five is given below.

Box 6

**Table 6**  
I attend trade fairs, courses, conferences and other business-related activities.

Description	Number	Percentage
Strongly agree	218	51%
Agree	112	26%
Disagree	18	4%
Strongly disagree	22	5%
Indifferent	59	14%
	429	100%

Source: Own Creation

The table above shows that 77% agree that they invested in attending trade fairs, conferences or business innovation activities. This question represents the lowest percentage of the five questions analysed, which gives us an area of opportunity for managers and owners to invest in attending events that provide them with new ideas to improve their product or service. Currently, there are chambers and organisations that schedule trade fairs and conferences for different business sectors, with the aim of supporting the development and sustainability of MIPES companies in León, Guanajuato, Mexico.

Conclusions

Other analyses and studies precede this article in 2021, 2022 and 2023, analyses were carried out against the global innovation index to measure and compare the progress or setbacks suffered by the country, and now, four years after the first study, Mexico has fallen seven places from 51st to 58th in the global ranking.

Undoubtedly, innovation is a necessary and urgent tool within MSMEs in Mexico, the state and the city of León, and the following comment is supported by research question number three: development or payment to innovate the way I sell my product or service (design, packaging, promotion, pricing, etc.)? With the highest percentage of responses from the 429 entrepreneurs surveyed in the city of León Guanajuato, the way products and services are marketed after the COVID pandemic is undoubtedly no longer the same. Sales through social media, apps, the internet, and home delivery have innovated the way marketing is done throughout the country, and León, Guanajuato, is no exception.

### Conflict of interest

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

### Contribution of the authors

The first author contributed to the development of the article in terms of the results and conclusions, and the second author contributed to the state of the art and methodology of the article. Both authors contributed to the preparation of this research article.

### Availability of data and materials

The data obtained as results are made available to anyone who requests them and are available to any researcher from other universities who requests them by email.

### Funding

To carry out this research, the Technological University of León contributed by allocating time in hours for the completion of this research article, which is extremely important for raising awareness among entrepreneurs, the government, and public and private companies to invest in innovation in the country and in companies.

### Acknowledgements

Our sincere recognition and gratitude to the University of León UTL for its support in terms of the time allocated to carry out this article. Many thanks for all the support provided, especially to the research department. Thank you very much.

### References

- Cardona, V. (2022). La innovación como herramienta estratégica de las organizaciones para gestionar los principales desafíos tras la crisis originada por la pandemia de COVID-19.: <http://hdl.handle.net/10654/43626>, <https://repository.unimilitar.edu.co/handle/10654/43626>
- CEPAL (2022), Acerca de Microempresas y Pymes. <https://www.cepal.org/es/temas/pymes/acerca-microempresas-pymes>
- CEPAL (2022). Recuperación económica tras la pandemia COVID-19 Empoderar a América Latina y el Caribe para un mejor aprovechamiento del comercio digital. [https://repositorio.cepal.org/bitstream/handle/11362/47308/1/S2100678\\_es.pdf](https://repositorio.cepal.org/bitstream/handle/11362/47308/1/S2100678_es.pdf)
- García -Madurga, M.A., Grilló-Méndez, A.J., y Morte-Nadal, T. (2021). La adaptación de las empresas a la realidad COVID: una revisión sistemática. Retos Revista de Ciencias de la Administración y Economía, 11(21), pp. 55-70. <https://doi.org/10.17163/ret.n21.2021.04>. [file:///C:/Users/gserrano/Downloads/4738-Texto%20del%20art%C3%ADculo%20\(anonimizado\)%20\(obligatorio\)-32668-1-10-20210329.pdf](file:///C:/Users/gserrano/Downloads/4738-Texto%20del%20art%C3%ADculo%20(anonimizado)%20(obligatorio)-32668-1-10-20210329.pdf)
- Garcia (2019) Innovación organizacional como factor de competitividad empresarial en mypes durante el Covid-19. versión impresa ISSN 2219-7168. Recuperado de: [http://www.scielo.org.pe/scielo.php?script=sci\\_arttext&pid=S2219-71682021000200099](http://www.scielo.org.pe/scielo.php?script=sci_arttext&pid=S2219-71682021000200099). <http://dx.doi.org/10.33595/2226-1478.12.2.500>

García, J. A. C., & Betancur, F. J. (2007). Una aproximación metodológica y prospectiva a la gestión financiera en las pequeñas empresas\*. Contaduría Universidad De Antioquia, (50), 93-118. Retrieved from <https://bdbiblioteca.universidadean.edu.co:2083/docview/198667434?accountid=34925>

Burgos & Rojo (2018) Burgos, J. E. & Rojo, A. A. R. (2018). La innovación comercial y la filosofía empresarial como factores de éxito en la empresa familiar SAPRIET: una experiencia ecuatoriana Business innovation and business philosophy as success factors in the family business SAPRIET: An Ecuadorian experience. Espacios, 39(3), 25. <https://www.revistaespacios.com/a18v39n03/a18v39n03p25.pdf>

Haro Carrillo, F. A., Cordova Rosas, N. C., & Alvarado Garces, M. A. (2017). Importancia de la innovación y su ejecución en la estrategia empresarial. Innova Research Journal, 2(5), 88-105. 10.33890/innova.v2.n5.2017.167

INEGI., Censos económicos (2020), Instituto Nacional de Estadística, Geografía e Informática, México 2015.

INEGI (2023) Estimación Oportuna del Producto Interno Bruto primer trimestre de 2023. [https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2023/pib\\_eo/pib\\_eo2023\\_04.pdf](https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2023/pib_eo/pib_eo2023_04.pdf)

Instituto Nacional de Estadística y Geografía INEGI. (2022). Resultados definitivos Censos Económicos (2020). [https://www.inegi.org.mx/contenidos/programa/sce/2022/doc/pprd\\_ce2022.pdf](https://www.inegi.org.mx/contenidos/programa/sce/2022/doc/pprd_ce2022.pdf)

El Economista (2023). Economía mexicana sorprende con una expansión de 1.1% en el primer trimestre de 2023. <https://www.eleconomista.com.mx/economia/Economia-mexicana-sorprende-con-una-expansion-de-1.1-en-el-1T-2023-20230428-0024.html>

Moncada Fernando, Á., Montoya Monsalve, J. N., & Rocío, O. P. S. (2019). Desarrollo de un modelo de competitividad para la consolidación del clúster aeroespacial colombiano. <http://editorial.ucentral.edu.co/editorialuc/index.php/editorialuc/catalog/book/453>