

Determinants of the Competitiveness of the State of Michoacán, Mexico, in the Framework of Nearshoring

Jorge Víctor Alcaraz Vera¹ & José Héctor Espino Ortiz¹

¹ Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Michoacán, México

Correspondence: Jorge Víctor Alcaraz Vera, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Michoacán, México. E-mail: jorge.alcaraz@umich.mx

Received: August 20, 2026

Accepted: September 20, 2026

Online Published: September 30, 2026

doi:10.5430/ijba.v17n3p1

URL: <https://doi.org/10.5430/ijba.v17n3p1>

Abstract

The aim of this study is to analyze the influence of territorial factors associated with infrastructure, strategic location, and connectivity (ISC) on the territorial competitiveness of the state of Michoacán (Mexico) in the context of nearshoring. The research was conducted using a quantitative, explanatory approach with partial least squares structural equation modeling (PLS-SEM). Data was obtained through a survey administered to companies and strategic stakeholders involved in productive activities and investment in the state. Results show that the ISC construct exerts a positive influence on territorial competitiveness. The study thus demonstrates the importance of territorial factors for the state's level of competitiveness and concludes that strengthening infrastructure, connectivity, and territorial conditions are key strategic elements for increasing Michoacán's competitiveness and improving its capacity to capitalize on the opportunities that may arise from nearshoring.

Keywords: nearshoring, territorial competitiveness, PLS-SEM, Michoacán

1. Introduction

Globalization has fostered the international fragmentation of production processes, allowing companies to reduce costs and improve operational efficiency by leveraging global supply chains. However, recent global disruptions have revealed the inherent vulnerabilities of such broadly extended networks. The COVID-19 pandemic, ongoing tensions between the United States and China, and frequent interruptions of supply chains all underscore the fragility of distant production and logistics systems, while the rising logistics costs and intensified pressure on global supply chains have prompted numerous companies to reassess their strategies. Indeed, many businesses are adopting nearshoring practices –relocating their manufacturing activities closer to key markets– to mitigate the risks associated with geopolitical conflicts, health crises, and logistical delays. Key objectives of this shift are to improve supply chain resilience, achieve more reliable delivery times, and better adapt to evolving global economic uncertainty (Canals, 2023).

Mexico has positioned itself as one of the main potential beneficiaries of this process due to several strategic factors: its geographic proximity to the U.S., the U.S.-Mexico-Canada Agreement (USMCA), its manufacturing experience, and its integration into multiple global value chains (Gobierno de México, 2026). These conditions have fostered new investments and the expansion of production operations in various regions of the country, particularly in states with robust industrial and logistical infrastructure, such as Nuevo León, Coahuila, Chihuahua, Querétaro, and Jalisco (Banco Interamericano de Desarrollo [BID], 2025).

Data from 2025 confirms that foreign investment required to restructure global supply chains through nearshoring is directly benefiting Mexico (Secretaría de Economía [SE], 2026).

- Exports: Mexican exports grew by 7.6%, reaching \$664,837 million US dollars (USD).
- New companies: Approximately 400 new foreign companies were registered, relocating their operations from Asia and other continents to Mexican territory.
- Demand for space: The absorption of industrial warehouses broke records, generating almost full occupancy in the main logistics corridors of the country.

However, the distribution of investments related to nearshoring has been uneven across Mexico's states. Regional

variations in territorial competitiveness significantly influence a state's ability to attract, retain, and develop economic activities and these differences determine the capacity of distinct regions to emerge as strategic centers for attracting foreign investment, driving economic growth, and pursuing innovation. Conversely, some regions face difficulties when they seek to integrate into processes of global production relocation, and this hinders their economic development and competitiveness in the overall spatial economy (Porter, 1998; Instituto Mexicano para la Competitividad [IMCO], 2025).

In this scenario, Michoacán represents a particularly interesting case because it possesses several attributes that could favor its integration into relocation processes driven by nearshoring: the port of Lázaro Cárdenas, considered one of the most important on Mexico's Pacific coast; its location along strategic logistics corridors; the relative availability of labor; and a growing array of infrastructure linked to industrial and logistics activities. Despite the importance of these factors, empirical evidence regarding their impact on the territorial competitiveness of states like Michoacán remains limited. Most research related to nearshoring in Mexico has focused on states that are already heavily industrialized, leaving relatively unexplored the specific conditions that characterize regions with potential for industrial and logistics development but that remain in the consolidation process. This situation highlights a knowledge gap in the territorial factors that can contribute to strengthening state and regional competitiveness in specific contexts. In response to this problem, our work seeks to analyze the influence of territorial factors associated with infrastructure, strategic location, and connectivity on the territorial competitiveness of Michoacán in the framework of nearshoring.

To this end, a quantitative approach based on PLS-SEM models is employed to empirically evaluate the relations between these three key factors and territorial competitiveness. Our hypothesis posits that the territorial factors grouped under the ILR construct exert a positive influence on the territorial competitiveness of Michoacán. Based on the above, the rest of this document is divided into five parts: the first outlines the nature of nearshoring and presents a theoretical approach to the basic concepts of this phenomenon, productive relocation, and territorial competitiveness, and the factors considered in this research that influence them; the second outlines the methodology; the third analyzes and interprets the results; the fourth elucidates the discussion; and the fifth addresses the conclusions.

2. Background

Nearshoring is a practice that has experienced a notable increase in popularity in recent months, especially in nations located close to significant consumer markets, such as Mexico. According to Mexico's Ministry of Economy (2023), nearshoring involves relocating the production chain, or part of it, to sites closer to end consumers. This strategy offers companies the opportunity to reduce the risks, time, and costs associated with production and distribution. According to Zegarra and Cado (2023), though not a new trend, nearshoring is gaining importance in the executive decisions of numerous companies. This phenomenon materializes when an organization decides to relocate part of its production process to a country near its borders, with the aim of optimizing its supply chains and maximizing mutual benefits. Among the key advantages of this practice are cost optimization and reduction for international companies, job creation and a boost to economic development in the host country.

Mexico's Institute for Competitiveness (IMCO, 2023) addresses nearshoring as a strategy adopted by transnational companies to relocate essential production activities to countries that are both geographically and ideologically close. This approach emerged as a response to the disaggregation of production chains during globalization that intensified after the 2008-2009 global crisis and the 2019 COVID-19 pandemic. The goal of nearshoring is to concentrate production activity in nearby nations in efforts to strengthen supply chains, especially in view of situations of crisis or economic volatility.

According to Schott and Goodman (2021), nearshoring represents a unique opportunity for attracting foreign investment to the countries that implement it, helps modernize their production processes, generates quality employment, and boosts economic growth. Moreover, it facilitates production for corporations in low-cost manufacturing environments while maintaining short supply chains. This supply chain strategy is designed to improve the overall efficiency of product delivery and operational adaptability by facilitating faster, higher quality supplier contributions that, in turn, reduce inventory needs and optimize resource management in the supply network.

According to Carrasco (2024), nearshoring has become a key response to the disruptions in global supply chains caused by events such as the pandemic, trade disputes, and geopolitical tensions. This strategy allows organizations to improve their responsiveness and agility by establishing closer ties to key markets and strategic partners. Consequently, it promotes greater operational efficiency and fosters more effective communication, faster decision-making, and stronger collaboration at all levels of the company. Oropeza (2024) expands the definition of

nearshoring by highlighting that it also responds to geopolitical imperatives and adds that the confrontation between the U.S. and China has accelerated the need to relocate supply chains outside China to closer, more secure regions, such as Mexico.

The nearshoring strategy seeks to optimize operating costs, mitigate the risks associated with excessive dependence on specific regions, and strengthen the resilience of global supply chains. Chiquiar and Tobal (2024) argue that it involves relocating production and business processes closer to key markets to reduce transportation costs and delivery times. Mexico has established itself as a leading destination for nearshoring thanks to significant economic growth driven by the development of specific infrastructure and political reforms. These initiatives seek to attract skilled labor and stimulate foreign direct investment (FDI) to further enhance its manufacturing capabilities and economic stability. Therefore, nearshoring in Mexico contributes to the development of a more resilient, efficient global supply network, while fostering sustainable economic development. According to these authors, nearshoring offers an opportunity to transform local production structures and increase the nation's competitiveness in global markets.

For international private sector institutions, such as Banco Base (2025), nearshoring initiatives in Mexico contribute significantly to the country's economic development by attracting more FDI, fostering investment, and improving productivity levels. These measures also stimulate job creation in various sectors, thus boosting overall industrial growth. However, nearshoring also presents several challenges that require careful management. In particular, rising labor costs can reduce the competitiveness of local industries, while the demand for better infrastructure to support the expansion of industrial activities is intensified. Consequently, while nearshoring offers significant economic benefits, it also demands strategic planning to address the pressures associated with infrastructure and labor markets to sustain long-term growth.

Zegarra and Cado (2023), meanwhile, argue that nearshoring entails optimizing supply chains in response to global disruptions; while for Oropeza (2024) it is a response to geopolitical imperatives; for Chiquiar and Tobal (2024) it implies a positive impact on GDP and the need for adequate infrastructure; and for Banco Base (2025) it is an engine of economic development that offers specific benefits and challenges. This holistic view of nearshoring is relevant to our research because it highlights the importance of this approach as a key strategy for improving resilience and competitiveness in the current global economic context. In summary, nearshoring is a multifaceted strategy that encompasses economic, geopolitical, and structural aspects.

2.1 Nearshoring and Production Relocation

Organizations are increasingly shifting from traditional offshoring models to nearshoring strategies in response to the growing complexity of global supply chains and recent disruptions caused by geopolitical tensions, pandemics, and logistical challenges. In adopting this shift enterprises seek to improve supply chain resilience, reduce lead times, and optimize responsiveness to market fluctuations, thereby fostering more agile and reliable production and distribution networks in today's constantly evolving international environment (Canals, 2023; Gereffi, 2020). In North America, Mexico has become one of the main potential beneficiaries of this trend due to its geographic proximity to the United States, the existence of the United States-Mexico-Canada Agreement (USMCA), its manufacturing expertise, and its integration into various global value chains (Gobierno de México, 2026). These conditions have generated favorable expectations for attracting FDI and strengthening export-oriented industrial sectors, but the capacity to capitalize on the opportunities that nearshoring may offer depends on the specific conditions of each territory. Infrastructure availability, logistical efficiency, connectivity with strategic markets, and local production capacities are all factors that influence companies' decisions regarding location (BID, 2025). Consequently, analyzing the territorial factors associated with competitiveness is especially important for understanding the capacity of different regions to achieve integration into contemporary processes of production relocation.

2.2 Territorial Competitiveness

The term territorial competitiveness refers to the capacity of a specific geographic region to effectively attract, retain, and maximize investment, human capital, and economic activity (Krugman, 1994). This concept underscores the importance of creating an enabling environment that fosters economic growth, innovation, and integration into global value chains. Key factors that influence territorial competitiveness include infrastructure quality, institutional stability, workforce skills, and technological advancement. A highly competitive territory can improve its economic resilience and prospects for development by continuously increasing its attractiveness to investors and skilled labor. Ultimately, territorial competitiveness plays a crucial role in shaping a region's sustainable development and its capacity to participate actively in the global economy.

It is from this perspective that IMCO (2025) considers that competitiveness is not limited to individual performance, but incorporates structural factors associated with the territorial environment in which they operate. In this sense, numerous organizations have highlighted the impact of territorial factors on regional competitiveness and sustainable development. The Organization for Economic Co-operation and Development (OECD, 2021), for instance, assumes that these factors encompass a broad spectrum of elements, such as infrastructure, connectivity, human capital, and institutional quality, each one of which plays a fundamental role in fostering economic vitality. In this regard, VISE (2024), Flores (2024), Crescenzi and Rodríguez-Pose (2008), propose that infrastructure provides the essential framework necessary for the efficient movement of goods, services, and people; thereby reducing operating costs and improving overall productivity. For Ravelo y Mendoza (2023), connectivity, both physical and digital, improves accessibility and integration within and between regions, which facilitates trade, innovation, and the exchange of knowledge. In addition, human capital, which includes the skills, education, and health of the workforce, is a crucial driver of innovation and adaptability in dynamic economic environments. Finally, institutional quality –that is, governance, regulatory frameworks, and the rule of law– ensures stability, transparency, and an enabling environment for investment and entrepreneurship (van Hassel et al. 2022).

Taken together, Suárez (2024), assumes that these territorial factors acquire special relevance in processes of production relocation because they influence the capacity of a region to attract investment –domestic and foreign–, stimulate economic growth, and improve the overall wellbeing of its inhabitants. By strengthening these components, regions can enhance their competitive advantage, foster resilience to economic crises, and promote equitable development outcomes (Dunning, 1998). Consequently, policymakers and stakeholders prioritize investments in these areas to ensure long-term prosperity and social cohesion in their jurisdictions. In the context of nearshoring, territorial competitiveness takes on even greater importance, as companies search for territories that have the capacity to offer favorable conditions for establishing new production and logistics operations.

To summarize, a region's capacity to develop adequate infrastructure, strengthen its connectivity, and leverage its territorial advantages becomes a fundamental element for increasing its attractiveness compared to alternative sites (United Nations Conference on Trade and Development [UNCTAD], 2025). Under this logic, it is assumed that territorial competitiveness arises from the complex interaction of economic, institutional, and geographic factors that together influence a region's capacity to attract investment, integrate into global value chains, and sustain long-term economic development. Following Contreras and Ríos (2026), this multifaceted dynamic determines the overall economic vitality and growth potential of a given region. Hence, analyzing territorial factors related to infrastructure, strategic location, and connectivity holds the key to understanding the elements that affect Michoacán's competitiveness in the current context of a broad movement toward the adoption of strategies based on nearshoring.

2.3 Infrastructure, Strategic Location, and Connectivity: Factors of Territorial Competitiveness

Infrastructure represents one of the most pertinent components of economic development and territorial competitiveness. According to the OECD (2021), physical infrastructure facilitates the mobility of goods, people, and information, reduces operating costs, and contributes to increasing the productivity of economic activities. Likewise, the existence of industrial parks, road networks, energy infrastructure, and efficient logistics systems directly influences the capacity of a given territory to attract investment and generate competitive advantages (Bekele and Bogale, 2024). Clearly, the integration of distinct territories into national and international markets depends largely on the connectivity facilitated by logistics corridors, seaports, rail networks, and multimodal transport systems (Soler, 2024), all of which are essential for optimizing supply chain efficiency, minimizing transit times, and ensuring the free movement of goods across borders (Crescenzi and Rodríguez-Pose, 2008). In addition, a strategic location can represent a significant advantage for a territory when it facilitates access to markets, suppliers, consumption centers, and logistics platforms. The integration of Michoacán into strategies of production relocation driven by nearshoring is, then, significantly impacted by its strategic geographic location and infrastructure assets, especially the port of Lázaro Cárdenas, a crucial gateway for international trade and logistics that provides essential access to global markets and supports the rapid movement of goods.

Combined with Michoacán's advantageous geographic position, these factors contribute to its attractiveness as a destination for manufacturing and supply chain activities. The ILR (infrastructure, location, connectivity) model encompasses these elements, while highlighting the importance of comprehensive infrastructure development, optimal regional positioning, and robust connectivity networks to enhance territorial competitiveness. Empirical validation studies, like those by Suárez y Zuñiga (2022), Porter (1998), the OECD (2021) and Tovar (2025), demonstrate that these components do not operate in isolation but, rather, interact synergistically in a given territory to increase its competitiveness. For Michoacán in a nearshoring scenario this translates into quantifiable

improvements in logistical efficiency, cost reductions, and market access, while also confirming the proposal that strategic utilization of resources, strengthening infrastructure, an advantageous location, and connectivity are all fundamental elements for integrating the region into global production networks. Consequently, Michoacán's participation in nearshoring initiatives is strengthened by these infrastructural and logistical advantages, which position it as an increasingly competitive center for manufacturing and distribution activities in the context of regional economic development.

3. Method

3.1 Research Design

This research was conducted using a quantitative approach, as it sought to measure and analyze the relation between the key factors outlined above and territorial competitiveness through statistical procedures. It was also framed in an explanatory scope, since its purpose was to identify the influence exerted by the territorial factors evaluated. From a methodological viewpoint in the context of PLS-SEM, several authors recommend integrating conceptually similar constructs when there is theoretical evidence of interdependence and functional overlap (Hair et al. 2019). This strategy allows for more parsimonious measurement, reduces collinearity problems among latent variables, and improves the stability of the structural model, especially in exploratory research with moderate sample sizes, as is the case here. In accordance with this, for our study, the factors of infrastructure, strategic location, and connectivity were integrated into a single construct, called ILR, to capture the territorial competitiveness of Michoacán in the context of nearshoring. The research design was non-experimental and cross-sectional, as the variables were observed in their natural context with no deliberate manipulation, and data were collected at a single point in time. This design is suitable for analyzing causal relations between latent variables using structural equation modeling (Hernández-Sampieri et al. 2018).

3.2 Population and the Sample

The study population consisted of companies and strategic stakeholders linked to, and identifiable in, a nearshoring context with productive, logistical, and investment attraction activities in the state of Michoacán. The units of analysis were determined on the basis of such factors as investment magnitude, the physical size of installations, and the number of employees. Subsequently, a comprehensive census was applied in 34 companies that met these inclusion criteria. This approach was adopted due to the characteristics of the population, which limited the number of eligible organizations, thus allowing for a thorough analysis of each entity within the defined parameters. To strengthen the representativeness of the results and enrich the perspective of the phenomenon analyzed, eight additional strategic stakeholders from business organizations, Chambers of Commerce, industrial associations, and institutions related to nearshoring in the state were included. Consequently, the unit of analysis comprised a total of 42 participants. The decision to use a census allowed us to obtain direct information from all subjects identified as relevant to the study, reduced the risk of biases associated with sampling processes, and strengthened the validity of results.

3.3 Measurement Instrument

The information was collected using a structured questionnaire specifically designed to assess the factors associated with Michoacán's territorial competitiveness in the context of nearshoring. The instrument consisted of items grouped into theoretical constructs previously identified through a review of specialized literature. The items were evaluated using a 5-point Likert scale, where "1" represents a very low level of agreement and "5" a very high level of agreement. This type of scale allowed us to quantify participants' perceptions of Michoacán's territorial and competitive conditions. The pilot test of the instrument yielded a Cronbach's alpha coefficient of 0.8638, indicative of a high level of internal consistency and reliability. This result suggests that the instrument effectively measured the target constructs with sufficient conceptual clarity, thus ensuring its suitability for use in the study (Hair et al., 2022).

3.4 Research Model and Hypothesis

The conceptual model proposed posits that territorial factors associated with infrastructure, strategic location, and connectivity influence Michoacán's territorial competitiveness in the context of nearshoring. The following research hypothesis was formulated based on the theoretical framework presented above: H: the territorial factors grouped in the ILR construct exert a positive influence on Michoacán's territorial competitiveness in the nearshoring framework. During the stage of statistical analysis, conceptual and empirical relations were identified among the dimensions of infrastructure, strategic location, and connectivity. Thus, following methodological recommendations for the treatment of highly related constructs in PLS-SEM models, these dimensions were integrated into a construct called

ILR. The structural model evaluated is thus represented by the following relation: ILR $\rightarrow$ territorial competitiveness (COMP).

3.5 Data Analysis Technique

The PLS-SEM methodology was used for data analysis due to its capacity to analyze complex models composed of latent variables, and its suitability for exploratory and explanatory studies with moderate sample sizes (Hair et al., 2022). The statistical analysis and model validation process using SmartPLS comprises two basic stages. Initially, the internal consistency, reliability, and validity of the measurement model are evaluated using various metrics, such as Cronbach's alpha, composite reliability (CR), mean variance extracted (AVE), variance inflation factor (VIF), and the heterotrait-monotrait ratio (HTMT). These tools ensure the robustness and suitability of the constructs. Subsequently, the structural model is examined through path coefficient analysis, the determination of R^2 values, the calculation of effect sizes (f^2), and the application of bootstrapping techniques. This comprehensive approach facilitates the evaluation of the significance and strength of the hypothesized relations in the model. By applying this methodology, we were able to determine the explanatory power of the model and empirically evaluate the influence of territorial factors on the territorial competitiveness of Michoacán in the context of nearshoring.

4. Results

4.1 Evaluation of the Measurement Model

Prior to analyzing the proposed structural relations, the reliability and validity of the constructs that comprise the model were evaluated. Internal consistency was analyzed using Cronbach's Alpha and composite reliability. Results showed values above the thresholds recommended by the specialized literature for both constructs. ILR obtained a Cronbach's Alpha of 0.847 and a composite reliability of 0.886, while competitiveness (COMP) reached values of 0.879 and 0.905, respectively; hence, they demonstrate adequate internal consistency for the scales used. The measurement model showed satisfactory properties that indicated its suitability for subsequent structural analysis. Specifically, the reliability metrics –Cronbach's alpha and composite reliability values– exceeded acceptable thresholds, which confirmed their internal consistency. Convergent validity was established using AVE, which exceeded the reference value of 0.50, suggesting that the indicators adequately represent their respective constructs. Discriminant validity was confirmed using the HTMT ratio, which remained below the critical value of 0.85, demonstrating that the constructs are sufficiently distinct from one another. Finally, these analyses revealed no evidence of multicollinearity among the measurement variables, as indicated by VIF values that fell within acceptable limits. Taken together, these findings provide strong evidence that the measurement model is robust and reliable; hence, they validated its use for structural model assessment and for ensuring the integrity of the subsequent analytical procedures.

4.2 Evaluation of the Structural Model

Having validated the measurement model, the proposed structural relations were evaluated using PLS-SEM. Findings show that the ILR construct had a positive effect on the territorial competitiveness of Michoacán, as it yielded a structural coefficient of $\beta = 0.380$. This result indicates that improvements in the territorial factors associated with ILR are related to increases in the levels of territorial competitiveness perceived by the study participants. Regarding the explanatory power of the model, the coefficient of determination obtained for the dependent variable, COMP, was $R^2 = 0.373$, which indicates that the model can explain 37.3% of the variability observed in the territorial competitiveness of Michoacán. This is deemed a moderate level of explanation in applied research in the field of international business and territorial competitiveness. In addition, the effect size analysis showed that the ILR construct has a score of $f^2 = 0.205$ for territorial competitiveness. According to the criteria proposed by Hair et al. (2022), this indicates a moderate effect, which shows that the territorial factors considered in the study do, indeed, constitute a relevant contribution to the explanation of competitiveness in Michoacán.

4.3 Testing the Research Hypothesis

The research hypothesis established that the territorial factors grouped in the ILR construct exert a positive influence on Michoacán's territorial competitiveness in the nearshoring framework. Our results support this hypothesis. The positive structural coefficient ($\beta = 0.380$) observed demonstrates the existence of a direct relation between the territorial factors represented in the ILR construct and territorial competitiveness. In practical terms, this implies that strengthening physical and logistical infrastructure, improving connectivity, and leveraging the advantages associated with territorial location can all contribute to increasing Michoacán's competitiveness in the context of the opportunities that arise from contemporary production relocation processes. This is reflected in Figure 1 below, which presents the structural model estimated using PLS-SEM.

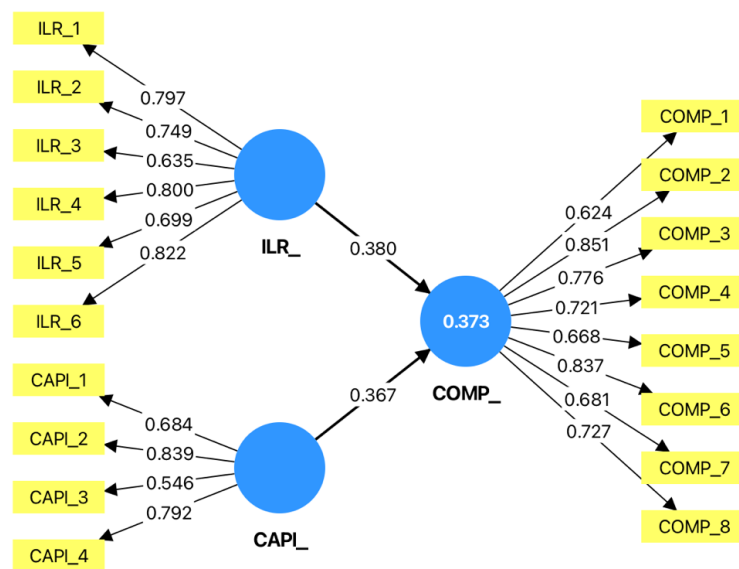


Figure 1. Structural model estimated using PLS-SEM (elaborated by the authors)

In addition, the explanatory power achieved by the model ($R^2 = 0.373$) and the moderate effect size observed ($f^2 = 0.205$) confirm the importance of territorial factors in explaining the state's level of competitiveness. Consequently, the empirical evidence obtained allows us to accept the research hypothesis and assert that the ILR construct constitutes a relevant determinant of Michoacán's territorial competitiveness in the context of nearshoring. The main statistical indicators used to evaluate the quality of the measurement and structural models were obtained from the model estimation. In general, as Table 1 shows, results display adequate levels of reliability and validity for the constructs analyzed, as well as a moderate explanatory power of the model with respect to Michoacán's competitiveness.

Table 1. General results of the PLS-SEM model evaluation (elaborated by the authors).

Indicator	Result obtained	Acceptance criterion	Evaluation
Cronbach's alpha	0.723 - 0.879	>0.70	Adequate
Composite reliability (rho_c)	0.811 - 0.905	>0.70	Adequate
Mean extracted variance (AVE)	0.524 - 0.567	≥ 0.50	Adequate
Maximum HTMT	0.558	<0.90	Adequate

5. Discussion

This study corroborates Porter's (1998) assertion that the competitiveness of a given region depends fundamentally on its infrastructure and connectivity, elements that play a crucial role in increasing productivity, reducing operating and logistical costs, and promoting seamless market integration. By strengthening these fundamental aspects, regions can improve their economic performance and attractiveness, thereby fostering sustainable growth and long-term competitiveness in an increasingly interconnected global economy. The findings for the state of Michoacán suggest that these conditions continue to play a significant role in the ability of regions to compete for investments associated with production relocation processes. Our results also underscore the importance of infrastructure and connectivity as fundamental drivers of regional development and economic competitiveness. Efficient transportation networks, logistics facilities, and communication systems are vital components that facilitate the movement of goods, services, and

information and, hence, improve the overall efficiency of economic activities in the region. These findings are similar to those reported in the study by Crescenzi y Rodríguez-Pose (2008). Moreover, in the context of Michoacán, these elements constitute strategic assets that can significantly strengthen the state's integration into national and international markets. Improved infrastructure not only reduces transaction costs but also attracts investment by creating a more favorable environment for business operations.

Finally, in line with the OECD's vision (2021), robust connectivity supports the development of local industries by facilitating access to broader markets, fostering innovation, and promoting the diffusion of technological advances. In short, for Michoacán, prioritizing investments in transportation and logistics infrastructure can catalyze sustainable economic growth, improve regional competitiveness, and contribute to the state's long-term socioeconomic development in the global economic framework.

6. Conclusions

The results of this study show that Michoacán's competitiveness in the nearshoring context is directly linked to strengthening such structural factors as infrastructure, strategic location, connectivity, and human capital. In this sense, empirical evidence confirms that territorial competitiveness does not depend on one single, isolated element, but on the systemic interaction among logistical capacities, territorial conditions, the availability of human talent, and institutional conditions that enable the state to increase its capacity to attract productive investment and integrate efficiently into global value chains. The general hypothesis proposed, which states that Michoacán can increase its competitiveness in the framework of nearshoring by strengthening factors related to infrastructure, strategic location, connectivity, and human capital was empirically confirmed through the results obtained from the estimated structural model. The structural coefficients showed positive relations between the constructs analyzed and competitiveness, allowing us to conclude that these variables are relevant explanatory factors in the proposed model. Likewise, the reliability indicators, convergent validity, discriminant validity, and structural fit all met the methodological criteria established in the PLS-SEM literature.

Furthermore, the R^2 value for the dependent construct showed that the model has moderate explanatory power in a territorial and exploratory research context, consistent with the complex, multifactorial nature of regional competitiveness. Consequently, the results support the idea that strengthening the state's structural capacities is an important mechanism for increasing Michoacán's competitiveness and improving its opportunities to achieve integration into the economic dynamics of nearshoring. In addition, regarding Michoacán's currently low level of competitiveness in the nearshoring framework, our findings suggest that this situation is mainly linked to structural limitations in infrastructure, connectivity, logistical integration, and the availability of specialized human capital. Although the state has important territorial advantages, insufficient coordination among these factors limits its capacity to establish itself as a fully competitive destination for national and foreign investment. In this sense, Michoacán can significantly boost its regional competitiveness by implementing coordinated infrastructure improvements.

In this regard, effectively leveraging nearshoring opportunities requires a comprehensive public policy that strengthens logistics corridors, industrial infrastructure, territorial connectivity, the development of human talent, and institutional coordination. This recommendation is based on results which reveal that, in states like Michoacán, territorial competitiveness cannot be understood solely through geographical advantages, but requires a thorough analysis of the territory's systemic capacity to create suitable conditions for productive development and efficient integration into global value chains.

Turning to the limitations of the study, although the research allowed us to identify and analyze various factors that explain the competitiveness of the state of Michoacán in the context of nearshoring, it is important to recognize that competitiveness is a multidimensional and dynamic phenomenon, one influenced by multiple economic, institutional, social, political, and territorial variables that can vary as conditions—both national and international—evolve. In this sense, one of the main limitations of the research lies in the fact that the structural model proposed focused specifically on variables related to infrastructure, strategic location, connectivity, and human capital, because these aspects stand out in the specialized literature as fundamental factors in processes of territorial competitiveness and in attracting investment. However, other elements that may also significantly influence the state's competitiveness were not incorporated into the model we applied. These include variables related to public safety, institutional governance, political stability, regulatory quality, environmental sustainability, technological innovation, institutional capacities, and perceptions of legal certainty, all of which should be contemplated in future research in order to expand the model's explanatory scope and deepen our understanding of Michoacán's territorial competitiveness.

A second significant limitation is the transversal nature of the research since the data reflect the perception of the

units of analysis at a specific moment in time. Consequently, our findings constitute a contextual approximation of the phenomenon under study and may change as the economic, logistical, and productive dynamics associated with nearshoring evolve, both in Mexico and internationally. For future research, beyond the other explanatory variables mentioned, it will be pertinent to conduct comparative studies across various states in Mexico.

Acknowledgments

This project was supported by the Universidad Michoacana de San Nicolás de Hidalgo (UMSNH).

Authors' contributions

Alcaraz was responsible for study design and revising; Alcaraz and Espino were responsible for data collection and analysis; Espino drafted the manuscript, and Alcaraz revised it. All authors read and approved the final manuscript.

Funding

Not applicable.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned, externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. They are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

References

- Banco Base. (2026). Perspectiva económica de México 2t 2026. Banco Base. Retrieved from https://resource.bancobase.com/uploads/Perspectiva_economia_de_Mexico_Enero_2026_9c55356b51.pdf?_gl=1*1ih3i3v*_gcl_au*MTMyMDg1MjUxMi4xNzg2OTA1NjQ2*_ga*MTUwMjMzNzY4xNzg2OTA1NjQ3*_ga_XKKYSVWB9Y*cZ3ODY5MDU2NDYkbzEkZzEkdDE3ODY5MDU3MzYkajMwJGwwJGgw
- Banco Interamericano de Desarrollo. (2025). Informe macroeconómico de América Latina y el Caribe 2025: Oportunidades regionales en medio de cambios globales. Banco Interamericano de Desarrollo. Retrieved from <https://publications.iadb.org/es/informe-macroeconomico-de-america-latina-y-el-caribe-2025-oportunidades-regionales-en-medio-de>
- Bekele, T., & Bogale, M. (2024). Strategic Importance of Location for Export Competitiveness: A Systematic

- Literature Review. *American Journal of Theoretical and Applied Business*, 10(2), 33-46. <https://doi.org/10.11648/j.ajtab.20241002.12>
- Canals, J. (2023). The future of global supply chains and nearshoring strategies. *IESE Business School*. <https://www.iese.edu/faculty-research/faculty/jordi-canals/>
- Carrasco, C. A. (2024). Perspectives on nearshoring: Recent developments and the challenges for Mexico. *Latin American Policy*, 15, 339-350. <https://doi.org/10.1111/lamp.12340>
- Chiquiar, D., & Tobal, M. (2024). Nearshoring: possible scenarios of its size and impact on Mexico's economy (Policy paper #32). Georgetown Americas Institute (GAI) - CAF- Development Bank of Latin America. Retrieved from <https://americas.georgetown.edu/publications/nearshoring-possible-scenarios-of-its-size-and-impact-on-mexico-s-economy>
- Contreras, I., & Ríos, E. I. (2026). Factores de políticas públicas para promover la competitividad regional en México. *Análisis Económico*, 41(106), 45-64. Retrieved from <https://www.scielo.org.mx/pdf/ane/v41n106/2448-6655-ane-41-106-45.pdf>
- Crescenzi, R., & Rodríguez-Pose, A. (2008). Infrastructure endowment and investment as determinants of regional growth in the European Union. *European Investment Bank Papers*, 13(2), 62-101. Retrieved from https://researchonline.lse.ac.uk/id/eprint/23323/1/Crescenzi_Infrastructure_endowment_investment_2008.pdf
- Dunning, J. H. (1998). Location and the multinational enterprise: A neglected factor?. *Journal of International Business Studies*, 29(1), 45-66. <https://doi.org/10.1057/palgrave.jibs.8490024>
- Flores, A. J. (2024). Estrategias de conectividad y accesibilidad territorial desde el fortalecimiento de las infraestructuras locales bajo una perspectiva multimodal e intermodal. Caso de estudio: cinco municipios del Bajo Putumayo (Orito, Puerto Asís, Puerto Caicedo, San Miguel y Valle del Guamuez). (Tesis de maestría, Universidad Nacional de Colombia). Repositorio Universidad Nacional de Colombia. Retrieved from <https://bffrepositorio.unal.edu.co/server/api/core/bitstreams/4cbeebc4-903c-421d-9359-c272454e426e/content>
- Gereffi, G. (2020). What does the COVID-19 pandemic teach us about global value chains? The case of medical supplies. *Journal of International Business Policy*, 3(3), 287-301. <https://doi.org/10.1057/s42214-020-00062-w>
- Gobierno de México. (2026, 17 de junio). Proyectos México Oportunidades de Inversión. Relocalización. Gobierno de México. Retrieved from https://www.proyectosmexico.gob.mx/banco_del_conocimiento/nearshoring-relocalizacion/
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). Retrieved from https://www.researchgate.net/publication/354331182_A_Primer_on_Partial_Least_Squares_Structural_Equation_Modeling_PLS-SEM#fullTextFileContent
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to Use and How to Report the Results of PLS-SEM. *European Business Review*, 31, 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hernández-Sampieri, R., & Mendoza, C. P. (2018). Metodología de la investigación: Las rutas cuantitativa, cualitativa y mixta. Retrieved from http://www.biblioteca.cij.gob.mx/Archivos/Materiales_de_consulta/Drogas_de_Abuso/Articulos/SampieriLasRutas.pdf
- Instituto Mexicano para la Competitividad. (2023). Índice de Competitividad Estatal 2023. Retrieved from <https://imco.org.mx/indice-de-competitividad-estatal-2023/>
- Instituto Mexicano para la Competitividad. (2025). Índice de Competitividad Estatal 2025 Claves para aprovechar el Plan México. Retrieved from <https://imco.org.mx/indice-de-competitividad-estatal-2025/>
- Krugman, P. (1994). Competitiveness: A dangerous obsession. *Foreign Affairs*, 73(2), 28-44. <https://doi.org/10.2307/20045917>
- Organisation for Economic Co-operation and Development. (2021). Regional development and infrastructure competitiveness. OECD Publishing.
- Oropeza, H. A. (2024). Nearshoring. La oportunidad de un nuevo desarrollo económico y social para México. Retrieved from

- <https://biblio.juridicas.unam.mx/bjv/detalle-libro/7437-nearshoring-la-oportunidad-de-un-nuevo-desarrollo-economico-y-social-para-mexico>
- Porter, M. E. (1998). *The competitive advantage of nations* (2nd ed.). Retrieved from <https://archive.org/details/competitiveadvan0000port>
- Ravelo, R., & Mendoza, M. (2023). Competitividad territorial y desarrollo local. *Equidad Y Desarrollo*, 42, e1576. <https://doi.org/10.19052/eq.vol1.iss42.9>
- Schott y Goodman. (2021). Bringing Supply Chains Back to Mexico Opportunities and Obstacles. (PIIE Briefing 21-4). The Center for Strategic and International Studies (CSIS) and the Peterson Institute for International Economics (PIIE). Retrieved from <https://www.piie.com/publications/piie-briefings/2021/bringing-supply-chains-back-mexico-opportunities-and-obstacles>
- Secretaría de Economía. (2023). Invierte en México: Tu mejor opción hoy para el largo plazo. Gobierno de México. Retrieved from https://www.economia.gob.mx/files/gobmx/ied/dossier_inversion_esp.pdf
- Secretaría de Economía. (2026, 14 de agosto). Inversión Extranjera Directa. Gobierno de México. Retrieved from <https://www.gob.mx/se/acciones-y-programas/competitividad-y-normatividad-inversion-extranjera-directa>
- Soler, E. (2024). The Global Gateway: Connectivity and Competition in the Global Race for Infrastructures. In O. Costa, E. Soler, & M. C. Vlaskamp (Eds.), *EU Foreign Policy in a Fragmenting International Order* (pp. 177-202). Springer Nature. Retrieved from https://link.springer.com/chapter/10.1007/978-3-031-64060-5_7
- Suárez, S. (2024). La competitividad regional: oportunidades y retos del nearshoring. El caso de la Región Bajío México. In J. E., Issac (Coordinador) *Economía y territorio: procesos de cambio y reestructuración territorial*. Edit. Universidad Nacional Autónoma de México, Instituto de Investigaciones Económicas y Asociación Mexicana de Ciencias para el Desarrollo Regional (pp. 225-246). Retrieved from <https://ru.iiec.unam.mx/6490/>
- Suárez, S., & Zúñiga, V. del R. (2022). La conectividad un factor clave para la competitividad económica. El caso de la región del Bajío, México. *Entreciencias*, 10(24), 1-17. <https://www.scielo.org.mx/pdf/edsc/v10n24/2007-8064-edsc-10-24-e81673.pdf>
- Tovar, L. (2025). Spatial analysis of multimodal connectivity in Mexico to identify strategic states for nearshoring. *Georeview*, 35(1), 24-40. <https://doi.org/10.4316/GEOREVIEW.2025.01.03>
- United Nations Conference on Trade and Development. (2025). Trade and Development Report 2025. On the brink Trade, finance and the reshaping of the global economy. Retrieved from https://financing.desa.un.org/sites/default/files/2026-01/tdr2025_en.pdf
- van Hassel, E., Kindt, D., Neyens, K., Vandeborre, H., Vanelslander, T., & Kellens, S. (2022). Reconsidering nearshoring to avoid global crisis impacts: Application and calculation of the total cost of ownership for specific scenario. *Research in Transportation Economics*, 93, 101089. <https://doi.org/10.1016/j.retrec.2021.101089>
- VISE. (2024, 30 de junio). El impacto de la infraestructura en la competitividad económica y la globalización. VISE. Retrieved from <https://www.vise.com.mx/el-impacto-de-la-infraestructura-en-la-competitividad-economica-y-la-globalizacion/>
- Zegarra, C., & Cado, Y. (2023). Nearshoring: Una estrategia para mejorar la competitividad y resiliencia en la cadena de suministro. PricewaterhouseCoopers. Retrieved from <https://www.pwc.com/mx/es/archivo/202307-nearshoring-esp.pdf>