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REVISIÓN DE TEMA

Taxonomy of Outsourcing Alternatives Through Systematic Literature Review

Taxonomía de las alternativas de outsourcing mediante revisión sistemática de literatura

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Abstract

Objective: To facilitate supply chain management and decision-making processes. The case of Latin America as an outsourcing option is analyzed to illustrate its application.

Methodology: A taxonomy supported in Systematic Literature Review is presented to determine the logistics outsourcing strategy that a company or supply chain should develop, along with the alternatives of offshoring and nearshoring. To determine the decision criteria, a literature review is carried out and a characterization of the central criteria of the two strategies is provided.

Results: The offshoring alternative usually provides benefits related to lower manufacturing costs and is ideal for mass production. On the other hand, nearshoring is focused on greater flexibility, which makes it ideal for products with a higher profit margin to exclusive markets.

Conclusions: Currently, Latin America seems a great option for both offshoring and nearshoring, especially for the US, Canada, and European countries. To make this possible, governments and companies have to reformulate their political-private growth strategies focused on clear plans that promote the development of productive, logistical, technological, and innovation capacities, as well as the promotion of foreign investment, educational and scientific development, and the growth of regional demands.

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Keywords: Nearshore, Offshore, Onshore, Outsourcing.

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Resumen

Objetivo: Facilitar la gestión de la cadena de suministro y los procesos de toma de decisiones. Se analiza el caso de América Latina como opción de outsourcing para ilustrar su aplicación.
Metodología: Se presenta una taxonomía soportada en *Systematic Literature Review* para determinar la estrategia de outsourcing logístico que debe desarrollar una empresa o cadena de suministro, entre las alternativas de deslocalización y *nearshoring*. Para determinar los criterios de decisión, se realiza una revisión de la literatura y se proporciona una caracterización de los criterios centrales de las dos estrategias.
Resultados: La alternativa de *offshoring* suelen brindar beneficios relacionados con mayores capacidades productivas que inciden en menores costos de fabricación, lo que la hace idónea para la producción de productos masivos. Las ventajas de *nearshoring* se centran en una mayor flexibilidad, lo que lo hace idóneo para la producción de productos con mayor margen de utilidad a mercados exclusivos.
Conclusiones: Latinoamérica aparece en el momento como una gran opción tanto para *offshoring* como para *nearshoring*, especialmente para EE.UU., Canadá y los países Europeos. Para esto, los estados y las compañías deben reformular sus estrategias de crecimiento político-privado centrado en estrategias claras que promuevan el desarrollo de capacidades productivas, logísticas, tecnológicas y de innovación, el fomento a la inversión extranjera, el desarrollo educativo y científico, y el crecimiento de las demandas regionales.
Financiación: Universidad Pedagógica y Tecnológica de Colombia (UPTC).

Palabras clave: Nearshore, Offshore, Onshore, Outsourcing.

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INTRODUCTION

The economic and social dynamics of globalization processes and the consequent foreign investment have led companies and governments—including Latin America to reformulate their growth strategies. This implies the advancement of productive efficiency, innovation, human capital competitiveness, and market internationalization processes. Otherwise, the region may not be able to reach the productivity levels of developed economies within adequate time table works (Ruiz-Arranz *et al.*, 2018). Given the characteristics of organizations in the region, small- and medium-sized enterprises (SMEs) might constitute important factors within these social and economic processes, especially considering their large numbers and impact as the first source of employment in these countries (Liesch & Knight, 1999, Oviatt & McDougall, 2004).

For the decision makers of a company, the choice to outsource operations is important and complex since it affects the whole supply chain and affects both the investing company and the hosting country (Bunyaratavej *et al.*, 2008). Investing in foreign countries brings about the basic benefit of opening new markets and lowering logistic and manufacturing costs, and it represents changes in profitability and market position (Gylling *et al.*, 2015). However, outsourcing also implies some risks such as governability reduction and normative, and social and political instabilities, among others. Likewise, social and political costs are involved, especially regarding employment reduction in the country of origin. For their part, the economic costs involve the identification and operation of the company in the new country (Eden & Miller, 2004). It is worth mentioning that outsourcing is not only associated with goods but also services, which have become an important investment and development source in emerging economies.

Nearshoring and offshoring are two different outsourcing modes for companies and characterize by contrasting geographical locations. While offshoring refers to outsourcing in distant countries from the headquarters of the company, nearshoring is adjacent outsourcing, (i.e., it takes place in neighboring countries with shared geographical limits and cultural affinity) (Bock, 2008).

Both nearshoring and offshoring constitute supply chain logistic and productive strategies with profound implications on the profitability and operation of a business within the larger network wherein it is immersed (García Cáceres & Escobar, 2016, Riopel *et al.*, 2005, Rodado *et al.*, 2017). The selection of a pure or mixed alternative is of particular interest in supply chain management contexts, both in theoretical and applied contexts. According to (Hahn *et al.*, 2011), although services and production processes (especially nearshoring) are considered important and contemporary topics in the study of supply chain management, they have not been sufficiently studied. (Kedia & Mukherjee, 2009) acknowledge this as a sensitive decision which should be based on the type of activities to be offshored and the relative importance of the specific hosting country and its human capital.

METHODOLOGY

The current work is structured as follows: First, a review of the literature on the topic highlights the central characteristics of outsourcing strategies; second, a novel development is introduced, which determines the criteria to be considered in this type of decision; third, an outsourcing decision model and its corresponding test compare nearshoring to offshoring in Latin America; and, finally, conclusions and recommendations are drawn.

This work is supported in the Systematic Literature Review (Xiao & Watson, 2019) whose deployment is presented below.

- Search the literature
- Extract data
- Analyze and synthesize data
- Report findings

SEARCH THE LITERATURE

Offshoring

Since the early 1990s, regardless of the adopted governance mode, offshoring has become one of the most widely implemented strategies on the part of western manufacturing companies to maintain or enhance their competitive advantage (Contractor *et al.*, 2010). These strategies are primarily based on scale economies resulting from the high manufacturing capacities, low cost and increasing skillfulness of offshored labor, which can be specially found in Asian countries with large populations.

Offshoring (also known as "offshore sourcing") has been defined as the outsourcing alternative in which the activities that an organization subcontracts, including both manufacturing and services, take place in a distant foreign country with a significantly different culture (Di Gregorio *et al.*, 2009, Kehal & Singh, 2006, Schmeisser, 2013). As a management practice, offshoring originated in the late seventies (Lewin & Peeters, 2006). For example, India and China can be considered "offshore"for both the United Kingdom and the United States. In essence, offshoring refers to the cross-border relocation of a firm's value chain activities, which were once carried out somewhere like the firm's home country, to distant locations, seeking to serve an increasing global demand (Doh *et al.*, 2009, Lewin *et al.*, 2009, Pfannenstein & Tsai, 2004, Stephan *et al.*, 2008). This practice has been associated with an overall economic benefit in terms of productivity, quality, and customer satisfaction. As companies face strong pressure to reduce costs and improve efficiency, offshoring has become one of

their most popular operational strategies (Gottfredson *et al.*, 2005). However, it poses significant challenges (Levy, 2005) arising from cultural barriers related to different ways of doing business in the countries involved. These issues can negatively affect asset ownership, management control, or intellectual property (Lampel & Bhalla, 2011). Besides, there are other economic risks such as production and logistic process halts and the loss of innovative inertia in the production process, among others.

Offshoring opens new opportunities for different-sized companies seeking to transcend from regional to global domains. The availability of low-cost communications, the commercialization of technologies, and the ease of access to global human resources have allowed many companies to implement offshore services in cheaper emerging markets (Donaldson, 2014).

Nearshoring

An emerging trend against offshoring has been observed mostly in the last decade. Some companies that had moved their production to distant nations have brought it to their home or neighboring countries (Ellram *et al.*, 2013, Kinkel, 2012). The literature has not sufficiently explored this emerging alternative, even though companies locate approximately one in five overseas projects in a nearshore location (Hahn *et al.*, 2011). According to (Bock, 2008), nearshoring is outsourcing located in neighboring countries with shared geographical boundaries and/or economic and social similarities. These shared aspects facilitate the adaptation of the new location in aspects such as language, culture, and respect for intellectual property, among others.

Nearshoring is characterized by two primary components, namely physical proximity and trade agreements, which promote the integration of the countries and the regional economy (Hahn *et al.*, 2011). According to these authors, said integration not only facilitates access to services and productive capacity investments in the destination country, but also removes transaction cost barriers. Likewise, they consider that shared legislation features smooth the mobility of human talent between countries.

The practice of nearshoring selects locations that are not thought to represent the highest cost savings but do bring about staff mobility savings and lower risks. Interest in nearshoring is manifold: Taking advantage of technical knowledge; lack of language barriers with local workers and clients (who therefore are more likely to understand cultural aspects); and shared time zones. All these aspects facilitate the whole coordination of operations. In this way, companies generally maintain similar socioeconomic and political conditions, which reduces risk-control-related costs in the practice of nearshoring as compared to offshoring.

Whereas nearshore locations may be less prone to significant changes in the business environment, companies may reassess offshore plans due to certain concerns (Drezner, 2004). For example, considerations about the quality and reliability of some services, as well as infrastructure deficiencies in locations such as India, make it difficult to keep pace with demand.

Table I. Offshore, Nearshore and Onshore compared production of a pair of Jeans

Outsourcing mode	Case	Location	Transport time (days)	Cost USD	China (base case)
Offshoring		Bangladesh	30	10.68	-11 %
		China	30	12.04	0 %
Nearshoring	USA	Mexico	2	10,57	-12 %
Onshoring		USA	na	14,05	17 %
		Bangladesh	30	9,94	-20 %
Offshoring		China	30	12,46	0 %
Nearshoring	Germany	Turkey	3-jun	12,08	-3 %
Onshoring		Germany	na	30,36	144 %

Source: The authors.

However, determining the right strategy is a complex decision. In this regard, table **I** shows the calculated cost of producing a pair of jeans and importing them to the USA or Germany as framed in the different outsourcing strategies in question: Nearshoring, offshoring and onshoring (the latter can be seen as an extreme case of nearshoring, i.e., producing in the home country). The results show that for Europe the unit costs are significantly lower when manufacturing in Bangladesh (offshore) than in Turkey (nearshore). Contrarily, in the case of the US production costs in Mexico (nearshore) are a little lower than in Bangladesh (offshore), and delivery time reduces from 30 to 2 days.

A consulting study on the topic (Andersson *et al.*, 2018) allowed for the rejection of the hypothesis that offshoring minimizes costs in and of itself. Instead, it is necessary to conduct rigorous analyses of outsourcing alternatives on a case-by-case basis, addressing economic, productive, and sustainability considerations.

Extracting data

Contrasting nearshore and offshore strategies

The following is a review of the literature on the topic, seeking to deepen the study of the criteria and conditions that influence the decision to undertake offshoring or nearshoring strategies.

Service offshoring, commonly defined as the international relocation of service provision, has become a relevant phenomenon in business. (Pisani & Ricart, 2016) have systematically reviewed, mapped, and evaluated the literature on the topic. A total of 79 studies conducted between 1990 and 2014 have been identified and analyzed from a selected group of 14 scientific journals.

(Lahiri & Kedia, 2011) provide an integral framework outlining various institutional and organizational factors that co-evolve to enable the participation of clients and suppliers in an offshore operation. Thus, customers must help suppliers to co-evolve as long-term business partners, while suppliers must address sources of concern related to high levels of labor turnover, insufficient generation of mid-level managers, and inadequate security measures. An offshoring analytical framework (Kedia & Mukherjee, 2009) suggests that companies should embark on the strategy when they perceive three interrelated sets of advantages: Disintegration advantages (D), location-specific supply advantages (L) and externalization advantages (E). These result in the Disintegration-Location-Externalization (DLE) framework. Companies tend to embark in offshoring strategies only when they perceive location-specific advantages in the form of supporting infrastructure, low wage rates or better quality of intellectual capital (ibid.).

In surveying and evaluating current nearshoring practices and prospects in the Baltic region, (Slepniov *et al.*, 2013) observed that small distances, both geographical and psychological, play an important role in the location of business branches. For instance, they found that the European Union has focused nearshoring practices in places such as the Czech Republic, Hungary, Poland, and the Baltic countries, whereas the United States is increasing nearshoring operations in Mexico, Costa Rica, and even Canada.

Nearshoring requires the possibility to save on freight tariffs and customs duties when exporting to closer countries (Andersson *et al.*, 2018). (Ruivo *et al.*, 2015) have introduced a policy development framework to enable the growth of nearshoring IT services. (Pranto & Coelho, 2019) compare nearshoring to offshoring IT service outsourcing through analysis by the proximity-based delivery method.

(Panova *et al.*, 2016) have identified and analyzed factors that support European manufacturing nearshoring or offshoring towards Russia and China. They consider factors such as labor cost, inflation, exchange rate, and labor productivity, which are analyzed through deterministic models to identify logical dependencies.

The development of the decision model introduced by the present work implies, in the first place, the characterization of the two outsourcing strategies in question. For this purpose, a detailed comparison was carried out between the available outsourcing alternatives for the US, which may correspond to Latin America (nearshoring) and Asia (offshoring). Said contrast was established through a series of relevant aspects: Labor and productive capacity, political risk, resource funding, infrastructure, education, business culture, costs, operational risks, taxes, intellectual property, cultural affinity, operational control, and energy costs (table **II**).

Table II. Comparison between nearshoring and offshoring

Criterion	Offshoring	Nearshoring
Location distance	Longer distance to destination country	Shorter distance to destination country
Labor and productive capacity.	Cheaper and highly qualified.	Cheaper than the US, but more expensive than Asia.
Governmental policy	Varies across countries, from lower to higher values of specific indicators (see Table III).	Usually high, with few exceptions (Venezuela).
Personnel rotation	Strong competitiveness leading to higher rotation.	Usually a more stable labor force, but less productive than in the USA, India, or China.
Technological infrastructure	Varies by country. Susceptible to natural phenomena and availability of infrastructure. Elevated telecommunication costs to and from the US.	It is usually very good but also susceptible to natural phenomena and infrastructure availability (i.e., electric power)
Education	Strong cultural differences with western education. Medium to high educational quality.	Western education, more adjusted to American than Asian culture. High to low educational quality. On average, it is lower than Indian or Chinese education.
Organizational culture	Medium adaptability to American business culture. Medium to low compatibility with the American political system.	Similar to Western culture. Most companies are driven by the Western calendar of activities.
		High to medium compatibility with the US political system.
Production costs	Low production costs. Elevated logistic costs.	Medium production costs. Low logistic costs.
Tax rates.	Low customs duty fees. Medium regulatory, and social and economic instability.	Low customs duty fees. Medium regulatory, social and economic instability. There are no special regulatory constraints.
Respect for intellectual property rights	High to medium risk of industrial espionage.	Low risk of industrial espionage.
	High to medium risk of intellectual property right violation.	Low to medium risk of intellectual property right violation.

Table II continued from previous page

Criterion	Offshoring	Nearshoring
Cultural affinity	Low to medium. Culture, political system, and religion are significantly different from those of the USA.	High. Culture, political system, and religion are similar to American ones in most cases.
Operative control	Medium. Shared property in the case of China. In the other countries, there are property rights.	High operative and managerial control.
Energetic costs	High. Great dependence on external fossil fuels.	Medium to low. High availability of thermoelectric energy.
Resource cooperation among companies	Low. Building strategic alliances with destination countries is tough, especially due to lack of confidence for product development.	Medium to low. Building strategic alliances with destination countries is difficult, especially due to the non-alignment of key technological competencies in product development with Latin American companies.
Linguistic ability	High to low in India. Low to medium in China.	Higher linguistic ability than most Asian countries, especially China. Lower than India.
Timely delivery rates	Medium to high. Due to long distances, timely delivery rates are higher and more susceptible to logistic breakages.	Proximity with destination countries and shared ways of doing business. However, there is low regulatory stability for business conduction.
Ease of doing business	Differences in culture, economy, political ideology, and business practices can be difficult to overcome.	Proximity with destination countries and shared ways of doing business. However, there is low regulatory stability for business conduction.
Availability of raw materials	Most raw materials are lowly available.	Most raw materials are highly available.
Local currency strength	High. Asian currencies are usually strong.	Medium. Latin American currencies are relatively weak.

Source: The authors.

Analyzing and synthesizing data

Outsourcing location decision

This section introduces the current outsourcing models or decision frameworks as found in the literature.

Using Data Envelopment Analysis (DEA), (Bunyaratavej *et al.*, 2008) examined the offshore service attractiveness of hosting countries. They assessed which of them used their resources or inputs more efficiently to produce attractive offshoring outputs. They found that China, India, Ireland, the Netherlands, Pakistan, Slovakia, Spain, and the United Kingdom are particularly attractive locations, since they stand out in at least one of the key competence variables for creating input related efficiency (DEA inputs): Wages, education, and infrastructure (ibid.).

(Bock, 2008) states that, unlike the wage savings factor, which is easy to estimate, costs resulting from lower worker skills in potential outsource locations are difficult to estimate. This author proposes a model that considers the salary level, the different types of collaborators and their working skills as important outsourcing location decision-making factors. In analyzing surveyed data, (Ellram *et al.*, 2013) explored factors affecting the location decisions of organizations, who were observed to give more weight to supply chain issues and strategic factors.

(López & Ishizaka, 2019) proposed a model based on Fuzzy Cognitive Maps (FCM) and Analytic Hierarchy Process (AHP). The model allows estimating the impact of the location decision on the offshore outsourcing process. (Gerbl *et al.*, 2015) developed a BPO (Business Process Outsourcing) structure by integrating certain characteristics of the company (internal availability of resources and capacity to outsource clients) with the attraction factors of a given location (distance, human capital, and government policy) to choose between onshoring, nearshoring, and offshoring.

In summary, the current literature review shows few works addressing the problem of outsourcing through decision support systems. This is certainly a relevant deficiency, especially considering that mathematical programming and multi-criteria decision methods, which constitute steadily developing basic and applied research fields, can aid such systems. The criteria considered in outsourcing decisions are presented in table **III**.

The multi-criteria decision process proposed in this paper gathers at least 20 criteria to which the decision makers usually refer when selecting between nearshore and offshore outsourcing alternatives (table **IV**). The table presents the level of favorability (+ or -) of the different criteria for each of the decision alternatives, under the dominant conditions during the study. Said favorability must be assessed by the decision makers of the companies as they apply it to the countries where the outsourcing strategy is to be developed.

Table III. Outsourcing decision model

References	Criterion	Indicator	Nearshoring	Offshoring
(López & Ishizaka, 2019), (Kedia & Mukherjee, 2009), (Lahiri & Kedia, 2011), (Graf & Mudambi, 2005), (Bunyaratavej *et al.*, 2008).	Technological infrastructure	Infrastructure quality	-	+

Table III continued from previous page

References	Criterion	Indicator	Nearshoring	Offshoring
(López & Ishizaka, 2019), (Kedia & Mukherjee, 2009), (Gerbl *et al.*, 2015), (Graf & Mudambi, 2005), (Bunyaratavej *et al.*, 2008).	Governmental policy	Political Stability Index	+	-
		Control of corruption.		
		Government Efficiency		
(López & Ishizaka, 2019), (Bunyaratavej *et al.*, 2008).	Cultural affinity	Affinity level	+	-
(López & Ishizaka, 2019).	Tax rates	Actual amounts to be paid as taxes	-	+
(López & Ishizaka, 2019).	Linguistic ability	High linguistic ability	+	-
(Boardman Liu *et al*, 2008), (Kedia & Mukherjee, 2009), (Lahiri & Kedia, 2011), (Amiti & Wei, 2009), (Dibbern *et al.*, 2008), (Farrell, 2005), (Bunyaratavej *et al.*, 2008).	Production costs	Marginal production cost	-	+
(López & Ishizaka, 2019), (Boardman Liu *et al*, 2008)	Timely delivery rate	% of orders delivered in time	+	-
(Buss & Peukert, 2015).	Respect for intellectual property rights	% of violated patents	+	-
(Gerbl *et al.*, 2015).	Easiness for doing business	Level of easiness	+	-
(Ho *et al.*, 2012), (Gerbl *et al.*, 2015), (Kedia & Mukherjee, 2009), (Lahiri & Kedia, 2011), (Stephan *et al.*, 2008), (Lewin *et al.*, 2009), (Graf & Mudambi, 2005), (Bunyaratavej *et al.*, 2008)	Labor and productive capacity	Performance level	-	+

Table III continued from previous page

References	Criterion	Indicator	Nearshoring	Offshoring
(Gerbl *et al.*, 2015).	Location distance	Km	+	-
(Kedia & Lahiri, 2007), (Kedia & Mukherjee, 2009), (Mudambi & Tallman, 2010), (Tallman & Fladmoe-Lindquist, 2002), (Vivek *et al.*, 2009).	Resource cooperation among companies	Level of cooperation	+	-
(Bock, 2008), (Hahn *et al.*, 2011).	Operative control	% of compliance with procedures established by the company	+	-
(Bunyaratavej *et al.*, 2008).	Education	% of literacy, Coefficient of Effectiveness	+	-
(Lahiri & Kedia, 2011)	Personnel rotation	% of personnel rotation	+	-
(Copuš *et al.*, 2019).	Organizational culture	Degree of motivation of employees	+	-
(Kamal *et al.*, 2019).	Energy costs	Energetic intensity	+	-
		Energetic efficiency		
(Ferro & Bonollo, 2019).	Raw material availability	Raw material inventory levels	+	
(Shahzad *et al.*, 2018).	Local currency strength	Big Mac Index Gross Domestic Product (GDP) CICR system (Currency Index Cross Referencing)		+

Source: The authors.

Report findings

The Latin American case

India, China, Taiwan, and Malaysia are the main centers of global outsourcing (Javalgi *et al.*, 2009). In recent years, countries from Latin America, Africa and the Middle East have been increasing their participation in outsourcing processes (Bianchi *et al.*, 2019). As regards the Latin American case, coun-

tries such as Argentina, Brazil, Chile, Colombia, Peru, and Mexico have been carrying out outsourcing processes in recent years, with a particular emphasis on IT services (Vidal & Correa, 2007).

Table IV. Conditions for doing business in Latin America

Criterion	Advantages	Disadvantages	Nearshoring	Offshoring
Location distance	Geographical proximity with the United States and Canada; relative proximity with Europe. Similar time zones.		+	
Cultural affinity	Cultural affinity with the United States		+	
Language skills	Portuguese and Spanish skills, having English as a second language		+	
Power costs	Adequate energy infrastructure		+	
Government policy		State and private corruption		+
Tax rates	Significant tax incentives		+	
Labor and productive capacity	Lowly competitive labor		+	
Technological infrastructure		Medium communications infrastructure		+
Production costs	Low and medium cost labor		+	
Raw material availability	Abundant raw material sources		+	
Respect for intellectual property rights	Medium to high respect for intellectual property depending on the country			
Ease to do business		Similar business doing styles, although contrasted by high regulatory instability		+
Local currency strength		Weak regional currencies		+

Table IV continued from previous page

Criterion	Advantages	Disadvantages	Nearshoring	Offshoring
Timely delivery rate	Timely delivery due to proximity with the USA		+	
Operative Control	Strong operative managerial control		+	
Education	Western education, strong ties and good understanding of USA commerce		+	
Organizational Culture.	Similar to western culture. Most companies follow the western calendar.		+	
Personnel rotation.	Usually a more stable labor force.		+	
Resource cooperation among companies	Similar time zones and cultures facilitate alliances among companies		+	

Source: The authors.

Latin American governments are currently promoting foreign investment through tax benefits. Although they have trained human capital and labor at reasonable costs, they lag in logistics, regulatory stability, and corruption levels. Nevertheless, North American and Western European firms have found an attractive nearshore or offshore destination in Latin America, especially due to cultural and ideological affinity and a remarkable ease of negotiating terms. In this regard, the outsourcing industry in Latin America is growing faster than in other regions (Bianchi *et al.*, 2019). This part of the continent is the third most popular destination in the world for outsourcing services or processes (KPMG, 2009). Among the nearshoring criteria for Latin America are costs, technology, skilled labor, economic stability, proximity to the U.S. and Europe, English and Spanish skills, and time zone alignment with the U.S. and Canada (Honeycutt *et al.*, 2012).

In terms of competitiveness, the region is highly heterogeneous. According to (Drezner, 2004), there are differences related to competitiveness, especially regarding institutions, infrastructure, labor markets, and innovation. Countries like Chile, Panama and Costa Rica have received the highest scores, while countries like Venezuela, Paraguay and El Salvador have got the lowest scores in the region for the different dimensions of the Global Competitiveness Index (GCI) 2017-2018. Intra-regional differences in terms of competitiveness are significant. While Chile ranks 33 among the 137 nations included in the GCI, Venezuela ranks 127. Globally, Latin America exhibits the greatest intra-regional

differences (Drezner, 2004). Table **IV** summarizes the conditions for doing business in Latin America as an outsourcing alternative.

Results and conclusions

Offshoring usually brings about higher production capacities and lower manufacturing costs, which make this an ideal strategy for large scale production. The advantages of nearshoring have to do with its greater flexibility, which makes it ideal for the manufacturing of high utility margin products for exclusive markets. Despite this production logic, the concentration of manufactures from all the world in certain regions, particularly in China, has generated controversy. This is due to multiple reasons that ultimately go beyond production and link to politics and macroeconomics.

The contrast shows that the decision must be made in a holistic manner and in a longer-term than usual. Just as well, it must focus on both the productivity and sustainability of enterprises and supply chains.

The present paper focuses on the development of a taxonomy that identifies relevant criteria affecting outsourcing decisions in an integral context linking administrative, legal, productive, political, and cultural dimensions. This context provides the input for decision support systems linked to MCDM (Multicriteria Decision Making) techniques. Given the strategic nature of public decisions and the importance of investment in these environments, special attention is paid to them. The decision makers must determine the relevance of the criteria to adequately interpret the results of the support systems and make more technical decisions.

In this sense, a series of aspects must be taken into consideration: Managerial control, respect for intellectual property, operative risk, product mixing in different factories around the world, strategic alliances with different suppliers in global and regional contexts and, finally, the balance between productive costs and logistic and electric power costs. In contemporary socio-political settings, corporate decisions are likely to be affected by political choices at national and economic block levels.

Latin America has become an attractive nearshoring and offshoring option, especially for European and North American countries. For this purpose, nations and companies need to reformulate their growth strategies to promote logistic, technological, productive, and innovative capacities, as well as foreign investment, scientific and educational development, and the growth of demand across regions.

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