

Develop a successful methodology for proposal in stimulus programs innovation in Mexico

Metodología para elaborar una propuesta exitosa en programas de estímulos a la innovación en México

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Abstract

Derived from the phenomenon of globalization in Which companies are current Immersed, Where the market context is dynamic and highly competitive, a decisive factor for success and permanence in the market is the creation of a competitive advantage through innovation. The objective of esta paper was to Provide the reader with a methodology and guidelines to be able to compete Within the main program encourages innovation in Mexico That: PEI, with the expectation of being able to improve increase the probabilities of being beneficiaries. The structure of esta methodological guide was divided into three sections: 1. Application registration, Which details the dynamics to follow to register an application; 2. The filling of the application That Explains the way to do it, and 3. Process of evaluation of the Proposals submitted in the call.

Innovation, Stimuli, Competitive Advantage, Project, R & D, Methodolog

Resumen

Derivado del fenómeno de la globalización en la que se encuentran sumergidas las empresas actuales, donde el contexto del mercado es dinámico y altamente competitivo, un factor decisivo para el éxito y permanencia en el mercado es la creación de una ventaja competitiva mediante la innovación. El objetivo del presente trabajo fue proporcionar al lector una metodología y lineamientos para poder concursar dentro del principal programa que incentiva la innovación en México: PEI, con la expectativa de poder mejorar las probabilidades de ser sujetos beneficiados. La estructura de esta guía metodológica se dividió en tres apartados: 1. Registro de solicitud, en el cual se detalla la dinámica a seguir para registrar una solicitud; 2. El llenado de la solicitud que explica la forma de hacerlo, y 3. Proceso de evaluación de las propuestas sometidas en la convocatoria. Todo lo anterior enfatizó la importancia de brindar apoyos gubernamentales a las empresas.

Innovación, Estímulos, Ventaja Competitiva, Proyecto, I+D, Metodología

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Introduction

Current and comprehensive in the world times, a topic hotly debated in the literature is the role of government support in the performance of companies. Examples of this are: the provision of knowledge, trade, interconnections between bribes, political network, just asitencia, distributor search, export insurance and training, he said(Durmusoglu SS, Apfelthaler G. Nayit, 2012); In this context the Productivity Project World Bank seeks those responsible for global policies focus on the measurement and determinants of productivity, as it is represents half of the differences in per capita GDP among countries. In the first volume of the series, The paradox of innovation capacities of developing countries and the promise unrealized technological recovery, focuses on about half of overall productivity growth driven by companies adopting new technologies, products and processes explained(W. Maloney, 2017).

This research was central question what are the steps to follow in order to compete successfully in the PEI program that encourages innovation in Mexico? Is derived from, the goal was to design a methodology and guidelines to compete in the main program, which encourages innovation in Mexico: PEI, with the expectation to improve the odds of being subject beneficiaries.

The main issue identified for this study focused on how to access the resources of PEI program (government support for innovation) by applicants entrepreneurs, lack of knowledge to enter their projects to the appropriate platform and collect necessary requirements. In addition to this problem is the lack of innovation in Mexico reflecting a low capacity to absorb technology by companies, a culture of innovation and poor short-term vision that prevents conceptualizing the importance of generating own technology. The private sector is one of the weakest links in the chain of joint innovation system. Mexico's industrial ecosystem is mainly dominated by companies employing up to 10 people, there are more than 4.5 million are in the formal economy, while the number of companies employing more than 51 people is extremely small.

These companies employing up to 10 people in general are not innovative, they use infrastructure that is sometimes outdated and of poor quality, its contribution to total production value is low, particularly in the manufacturing and services sectors.

([Http://www.economia.gob.mx/files/comunidad_negocios/innovacion/Programa_Nacional_de_Innovacion.pdf](http://www.economia.gob.mx/files/comunidad_negocios/innovacion/Programa_Nacional_de_Innovacion.pdf), 2011)

Theoretical Framework

According to studies by the Organization for Economic Cooperation and Development (OECD, 2012) it has found that there is a close relationship between innovation and spending on research and development (R & D) as well as levels of productivity in Mexico and their integration into global value chains. However, despite recent changes in public policies that promote investment in R & D by the actors of the National Innovation System (SNI), the private sector remains the actor with major constraint to allocate resources to innovation . This restriction is due more to the industrial structure, ie the low and medium technology which has translated into a weak productivity and limited opportunities for new sources of growth.

In Mexico, the establishment of public policies that promote and strengthen innovation in production processes and services to leverage the competitiveness of the national economy over time, is in charge of the National (SE, 2011 Innovation Program (NIP)) whose efforts initiated since the nineties through the implementation of various programs and projects that promote science and technology in the country.

These include: national programs to promote innovation programs promoting innovation statewide programs promoting innovation through development banks, programs for human resource training high-level funds private equity, programs to promote university-industry linkage, programs to promote intellectual property and programs promoting innovation internationally (FCCyT, 2016). For this work we worked with the main program to encourage innovation offered by the CONACYT: Incentives Program Innovation (PEI).

The PEI is the program to support companies operating on Research, Technological Development and Innovation (RTDI) and invest in projects aimed at developing new products, processes or services whose aim is to encourage, at the national level, investment companies in activities and projects of this nature by granting complementary to develop stimuli, individually or in association with public institutions of higher education or private national (IES) and / or Centers and Institutes national public Research (CI) business opportunities that will significantly impact on the competitiveness of the national economy. Aimed at companies with National Register of Institutions and Scientific and Technological Enterprises (RENIECYT)

Modality	Addressed	Maximum Amount (Pesos)	Linking
Technological Innovation for Small and Medium Enterprises (Innovapyme)	Dedicated only to proposals and projects whose proponent is MSMEs	15 million	Single or linked to at least one IES / CI.
Technological Innovation for Large Companies (INNOVATEC)	Dedicated only to proposals and projects whose proponent is big business.	25 million	Single or linked to at least one IES / CI.
Oriented network projects Innovation (PROINNOVA)	Companies of any size	19 million	Linked to at least two or more IES / CI.

Table 1 Method PEI

Source: Prepared based on CONACYT (2017)

Methodology

This study aimed to provide the reader with detailed methodological guide relevant information to be provided in a proposal submitted within PEI, in order to thereby increase the chances of being beneficial. The structure of this guide is divided into three sections, the first of which details the dynamics to follow to file an application; After filling this detailed, to finally add some recommendations. Finally, the evaluation of proposals submitted in the call explained.

Results

Registration of an application. To register an application, you need to be accessed PEI platform system from the CONACYT website, under the heading of funding and support. You must first log the Legal Representative (RL) with your username and password (if you do not have one, the user can be generated right there); you need to select the call which is to participate (PEI-year), the number of RENIECYT of the company, the profile (role) user and click the Request button. The system displays a pop-up window, release of liability statement, which must accept the legal representative; once accepted will be filled three tabs presenting platform, as shown in Table 2:

Eyesh	Content	Detail	
Contextualización	general	Application title	
		Modality	
	Project Headquarters	Type of proposal	
		Federal entity	
		Delegation or municipality	
	Proposal supported by another call **	Location	
	Industrial project area **	Area	
		Division	
	Knowledge Area **	Area	
		Discipline	
subdiscipline			
Keywords	Specialty		
Description	Type of innovation	Dude innovation posed by the proposal? **	
		Degree of innovation posed **	
		Market that cater **	
		Brief description of the proposal	
		Main activities to be developed	
		Committed major deliverables	
		Overall objective	
		Expected results	
		Description of how framed with technology strategy	
		Technical Feasibility	Background
State of the Art 1	monitoring Technology		
State of technique 2	Patent applications and patents		
State of the art 3	Research papers and publications		
State of the art 4	available technologies		
State of the art 5	Products, processes or services on the market		
commercial viability	Company / Team	Original source of technology	
		origins	
		Structure	
		goals	
		competences	
		Compliance with critical management functions	
		Experience technical manager, key staff and consultants hired	
		Record of successful marketing or research projects of the company and / or members of the project team	
		Draft	Level Technology Development (NDT) **
			Level of product innovation, process or service **
technical risk of the project **			
Budget overview			
Market	Market	Project general description	
		Availability of the company or network	
		Industrial protection plan	
		Specify the means of generating income	
		Market Overview	
		Business model and market acceptance **	
		Price of the product	
		Market projections	
		Approach market insertion	
		Target customer	
Linking / strategic alliances	Linking / strategic alliances	social, educational or scientific benefits	
		Groups or companies outside the project that offer the same product or are developing	
		Existing products or services in the patent literature or are emerging from research	
		Describe the barriers to market entry	
		Reasons for the association **	
		Company or some members of the Network have experience in marketing synergies **	
Participating institutions	Type of bonding	Company or some of the Network members have expertise in technological synergies **	
		Company or some members of the Network synergies experienced in production / processing **	
		Does the linkage contemplates the use of laboratory infrastructure or other equipment related institution? **	
		Does the linkage includes design and prototyping activities? **	
		Does the link requires the completion of tests, assessments, characterizations, validation, functional testing, etc.? **	

		Does the linkage involves a pilot plant escalations? **
		Does the linkage considers the creation of a joint working group between company staff and the institution linked? **
		Does the link considered a transfer scheme or commercialization of technology developed? **
		Main activities to be developed
		Committed major deliverables
		Description of participation
		Responsible for the proposal of the institution
Group project work		User*
		Academic degree*
		Product generated
		relevant participant information
		Specific activities developed within the project
Human resources specialist ***	Program linking the company with academia **	If he is a graduate in industry, indicate the PNPC **
	CVU student who participate *	
Detailed work plan		Start and end date
		Overview of the work plan for the fiscal cycle
		Description and justification of activities
		Products of step
		Description of the later stages
Budget		Current expenditure
		Investment spending
		Linking spending
Advisory / consultancy		Question 1 **
		Question 2 **
		Question 3 **
		Question 4 **
Responsible		Technical
		Legal
		Administrative
Attachments ***		

* Information loading platform CONACYT directly from your database

** Select an option

*** Optional

Table 2 Registration Project

Source: Prepared based on CONACYT (2017)

As shown in Table 2, the requested information platform, there is information that is loaded directly into the tabs on the database CONACYT, one that must be captured according to information from the company and finally another must selected according to the preset option that most closely matches the company and its situation. In paragraph Registration of the company, in the section founding date of the company, it must correspond to the date of commencement of operations specified in the Certificate of Tax Status issued by the SAT with higher 1 year old.

With regard to paragraph Drawing of the company, must be selected industry according to the catalog NAICS (Industry Classification System North America) loaded into the system and the industrial subsector will be compared with the strategic priority sub-sectors of each state (CONACYT, 2017B). For the section Calculation of company size, the RL shall provide information (fields) required and the system automatically classify the company in Small, Medium or Large Company according to the classification of the Ministry of Economy (SE, 2017). Then it passed to empty in the section Financial Information The breakdown of expenditures, investment and income of the current fiscal year, in national currency.

For the section Calculation of company size, the RL shall provide information (fields) required and the system automatically classify the company in Small, Medium or Large Company according to the classification of the Ministry of Economy (SE, 2017). Then it passed to empty in the section Financial Information The breakdown of expenditures, investment and income of the current fiscal year, in national currency. For the section Calculation of company size, the RL shall provide information (fields) required and the system automatically classify the company in Small, Medium or Large Company according to the classification of the Ministry of Economy (SE, 2017). Then it passed to empty in the section Financial Information The breakdown of expenditures, investment and income of the current fiscal year, in national currency.

In characterizing part of the company, the RL should respond to each section or question, select the option that describes the current situation of the company. For the following sections, brief description of the technology strategy of the company, should be explained what is the program used to manage technical change within the company, negotiation and absorption of technology transferred and practice activities to develop innovation; in paragraph brief description of the main lines of products, processes and / or services must provide information concerning these lines.

Finally for the section brief description of the main technological heritage of the company, it refers to the technological heritage of the company, Once filled and stored the information in the first tab, General Data Company, proceed to the registration of project managers, second tab. In this part of the RL shall discharge the Technical Manager (RT) entering the caller, which is linked to the Curriculum Vitae Unique (CVU) and then save the record; Importantly, you can register as many RT necessary, remembering that project can only be one.

Finally, on the third tab, Summary of projects the number of projects registered for the company and its status is displayed. This section can not enter any information other than display the total proposals. Once the RL finishes to register the company, you must leave the PEI system. 2. Filling application.

To register a proposal as making filling and capture of information, the RT must enter the PEI system in the same way it did the RL, by login with your username and password and identifying their profile or role as such. Once inside the system IEP platform screen displays three tabs, 1) General Company, 2) project registration and 3) sending information. The first tab is read only, because the only person authorized to modify such information is the RL. On the second tab of the RT should enlist and record the project to be submitted in the PEI call; You click on the Add button new project, the statement Harmless that appears after the registration is accepted and proceeds to fill the registration information for the project, Table 3.

		or commercialization of technology developed? **
	Main activities to be developed	
	Committed major deliverables	
	Description of participation	
	Responsible for the proposal of the institution	
	User*	
GROUP PROJECT WORK	Academic degree*	
	Product generated	
	relevant participant information	
	Specific activities developed within the project	
HUMAN RESOURCES SPECIALIST ***	Program linking the company with academia **	If he is a graduate in industry, indicate the PNPC **
	CVU student who participate *	
	Start and end date	
	Overview of the work plan for the fiscal cycle	
DETAILED WORK PLAN	Description and justification of activities	
	Products of step	
	Description of the later stages	
BUDGET	Current expenditure	
	Investment spending	
	Linking spending	
ADVISORY CONSULTANCY /	Question 1**	
	Question 2 **	
	Question 3 **	
	Question 4 **	
RESPONSIBLE	Technical	
	Legal	
	Administrative	
ATTACHMENTS ***		

* Information loading platform CONACYT directly from your database
 ** Select an option
 *** Optional

Eyeshash	Content	Detail
CONTEXTUALIZACIÓN	general	Application title
		Modality
		Type of proposal
	Project Headquarters	Federal entity
		Delegation or municipality
		Location
		Proposal supported by another call **
	Industrial project area **	Area
		Division
	Knowledge Area **	Area
Discipline		
subdiscipline		
	Specialty	
	Keywords	
DESCRIPTION	Type of innovation	Dude innovation posed by the proposal? **
		Degree of innovation posed **
		Market that cater **
		Brief description of the proposal
		Main activities to be developed
		Committed major deliverables
		Overall objective
		Expected results
		Description of how framed with technology strategy
TECHNICAL FEASIBILITY	Background	
	State of the Art 1	monitoring Technology
	State of technique 2	Patent applications and patents
	State of the art 3	Research papers and publications
	State of the art 4	available technologies
	State of the art 5	Products, processes or services on the market
	Original source of technology	
commercial viability	Company / Team	origins
		Structure
		goals
		competences
		Compliance with critical management functions
		Experience technical manager, key staff and consultants hired
		Record of successful marketing or research projects of the company and / or members of the project team
	Draft	Level Technology Development (NDT) **
		Level of product innovation, process or service **
		technical risk of the project **
		Budget overview
		Project general description
	Market	Availability of the company or network
		Industrial protection plan
		Specify the means of generating income
		Market Overview
		Business model and market acceptance **
Price of the product		
Market projections		
Approach market insertion		
Target customer		
social, educational or scientific benefits		
Linking / strategic alliances	Groups or companies outside the project that offer the same product or are developing	
	Existing products or services in the patent literature or are emerging from research	
	Describe the barriers to market entry	
	Reasons for the association **	
	Company or some members of the Network have experience in marketing synergies **	
PARTICIPATING INSTITUTIONS	Registry	
	Type of bonding	Does the linkage contemplates the use of laboratory infrastructure or other equipment related institution? **
		Does the linkage includes design and prototyping activities? **
		Does the link requires the completion of tests, assessments, characterizations, validation, functional testing, etc.? **
Does the linkage involves a pilot plant escalations? **		
	Does the linkage considers the creation of a joint working group between company staff and the institution linked? **	
	Does the link considered a transfer scheme	

Table 3 Registration Project

Source: Prepared based on CONACYT (2017)

As mentioned in the previous section, the filling of the proposal on the platform is by recording specific information, select any of the options provided by the platform and autofill database of CONACYT. It should be noted that in paragraph contextualization, the section Key as an area of knowledge word is essential to select the three words and the area that best describe the project because based on this CONACYT looking and forward proposals to evaluators, people specialized in the area; not rank well area of knowledge or generic keywords register the project in its final impact assessment can be evaluated by a person with knowledge in other areas.

Knowledge is important to the reader, that everything described in the proposal should be well substantiated and correlated; ie activities to develop as committed deliverables must correspond (be the same) with those raised in the description of the proposal, Participating Institutions, the Working Group Budget and the detailed work plan.

In the section of Technical Feasibility, in the state of technique 1 Technological Monitoring procedures should be included for information on technologies that are being developed or patented in a certain area, technical standards and relevant regulations for the organization, emerging technologies that are appearing, analysis of technology trends, among other issues (FPNTi, 2015). In the other states of the art should refer to similar or technologies related to the proposed project.

Regarding the Participating Institution, shall be a record for each of the CIES / IES ú OTT (according to the mode in which it is participating). It is important once captured the proposal, each of the participating institutions accept the collaboration through the entrance to the platform, in the same way it does the RL and RT, choosing his role as technical manager of the institution. No validation (acceptance) of any of the institutions linked to the proposal will not be finalized so it can not be sent the proposal for evaluation.

For the Working Group, you must register all participants who will be on the development of the proposal, both the company and the related institutions, entering user of each and detailing the information requested (see Table 2) for each; in this section the wage or salary to be received or working group be appointed, which should correspond with the amount recorded in the Budget section. Tab of specialized human resources should be filled belong to one of the two programs CONACYT: Graduate Studies in the industry and incorporation of teachers and doctors in the industry.

Finally, the tab Responsible, it will register the administrative manager (RA) and corresponding information be provided (see Table 3); the RL and RT will find recorded in the proposal for the above steps. It should be noted that a person may not have the profile or role of the three responsible for the proposal; however, you can have the profile of two of them, as long as their functions do not create conflict of interest, ie, a person may not have the role of technical and administrative officer. Any other combination provided they do not exceed two roles can be done.

Once filled the application in its entirety as validation of each of the participating institutions may be sent of the proposal. In case of missing any information or validation of the proposal, the platform will generate a detail missing or inconsistencies within it, and can not be sent until the errors are amended. 3. Evaluation process.

According to CONACYT (2017) will be committed to evaluating the proposals that meet the regulatory requirements (at least 3 accredited appraisers and registered in the QSAR) where the probability of the proposal to achieve the objectives and goals as well as establish consistency between technical and commercial feasibility, desired objectives and economic proposal. The minimum passing score is 75 points;

	Innovapyme		Innovatec		Proinn
	untied	related	untied	related	ova
Technical Feasibility	40%	35%	40%	35%	35%
Commercial Viability	40%	35%	40%	35%	35%
Feasibility Of Implementation	twenty%	10%	twenty%	10%	10%
Linking	Does not apply	twenty%	Does not apply	twenty%	twenty%
Additional Items	15 pts	15 pts	15 pts	15 pts	15 pts

Table 4 Evaluation Proposal

Source: Prepared based on CONACYT (2017)

Alignment with priority economic sectors, SEZs as a continuation of previously supported projects are some of the additional items that can add 15 extra points to the final grade obtained. Proposals whose final score is 75 points or more, pass to the next stage; proposals that are aligned to priority sectors proposed by CONACYT be beneficiaries of the National Stock Exchange (federal). Those who have reached the minimum qualification but have not been subject to support from the national stock exchange and have not been beneficiaries of some last call, pass state bags. Notably, both national and state bag bag, proposals may be approved or approved with funding in reserve; that is to say,

Discussion

This study was conducted in order to design a methodological guide to identify the steps to be followed in order to increase the chances of being beneficiary on a proposal submitted within PEI. Had its main limitations to find other related design a methodology similar studies, however, this limitation filed the relevance and principal rationale for this research. thorough theoretical exploration and practice first performed to identify steps that can lead to success is proposed and subsequently present a detailed description or methodological guide was presented in the results.

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Among the main competing theories are (Li and Zhang, 2007). They noted that "In emerging economies, the extent of the political network that set entrepreneurs is also a factor that increases the chances that companies receive more government support" (P.792). In this point it should be noted that to diversify the productive matrix and transforming economies, it requires companies to innovate. In developing countries, innovations that have these effects need not be something new for the world. Although its scope is the market can have a significant impact associated with firm-level performance and increases in total factor productivity at the national level, so they said. (Jung, and Karsacian, 2017).

Also innovation policies can not be insulated must be coordinated with others, aimed at promoting business competitiveness and improve the complex environment in which companies develop their activity. (Duràn, C, Camacho, M., Jung, A., & Karsacian, D., 2016). However, the interaction between policies can generate unintended effects, since new instruments are introduced in contexts where there are already other policies (P. Cunningham, E. Jakob, Kieron F., and L. Philippe, 2013).

There is a positive relationship between innovation and economic growth. In most developed countries, innovation is impacting two-thirds and three-quarters of the observed growth rates for GDP between 1995 and 2006. A country with strengths in the field of innovation will be better able to increase their productivity and face the uncertainties generated by the current environment of global competition. (Ministry of Economy, 2015).

All the above emphasizes the importance of providing government support to enterprises, but also the need to provide the necessary resources to entrepreneurs to access them.

Referencias

Carballo R. (2006). *Innovación y Gestión del Conocimiento*. España: Díaz de Santos.

Charoensukmongk P. (2016). *Las interconexiones entre sobornos, contactos políticos, apoyos gubernamentales y sus consecuencias en el rendimiento exportador de pequeñas y medianas empresas en Tailandia*. Springer Science+Business Media.

Li and Zhang. (12 de Agosto de 2007). Role of managers' political networking and functional experience in new venture performance: evidence from China's transition economy. *Strategic Management Journal*, 28(8), 792.

Cunningham P., Jakob E., Kieron F., y Philippe L. (November de 2013). *Innovation Policy mix and instrument interaction: a review*. Nesta working paper 13/20, 13-20.

Duràn, C, Camacho, M., Jung, A., & Karsacian, D. (2016). *Aportes para una discusión de políticas de fortalecimiento de PYMEs innovadoras y dinámicas en América Latina*. Programa de Políticas Sociales y Económicas para América Latina.

Durmusoglu SS, Apfelthaler G. Nayit. (2012). The effect of government-designed export promotion service use on small and medium-sized enterprise goal achievement: a multidimensional view of export performance. 4(4), 680-691.

Garcia Fernando. (2013). http://www.acofi.edu.co/wp-content/uploads/2013/08/DOC_PE_Conceptos_Innovacion.pdf. Obtenido de acofi.edu.co.

<http://codex.colmex.mx:8991/exlibris/>. (s.f.). codex.colmex.mx. Recuperado el 11 de 12 de 2017

http://www.economia.gob.mx/files/comunidad_negocios/innovacion/Programa_Nacional_de_Innovacion.pdf. (2011). www.economia.gob. Obtenido de Programa Nacional de Desarrollo.

<https://www.weforum.org/es/agenda/2016/10/que-es-la-competitividad/>. (10 de 2016). www.weforum.org. Recuperado el 05 de 12 de 2017

Jung, y Karsacian . (17 de marzo de 2017). *Apoyo público e innovación a nivel de firmas*. *Journal of Technology Management & Innovation*.

Maloney W. (2017). <http://www.worldbank.org/en/topic/competitiveness/brief/the-world-bank-productivity-project>. Obtenido de www.worldbank.org.

Mathison L., Gándara J., Primera C., García L. (JULIO de 2007). INNOVACIÓN: FACTOR CLAVE PARA LOGRAR VENTAJAS COMPETITIVAS. Obtenido de file:///Users/socorro Diaz Nieto/Desktop/Innovación:%20factor%20clave%20para%20lograr%20ventajas%20competitivas.webarchive: Desktop/Innovación

Saavedra E.E. y Sánchez M.T. (21 de 09 de 2007). Minería y espacio en el distrito minero Pachuca-Real del Monte en el siglo XIX. Departamento de Geografía Económica, Instituto de Geografía, Universidad Nacional Autónoma de México.

Secretaría de Economía. (02 de 07 de 2015). <https://www.gob.mx/se/acciones-y-programas/industria-y-comercio-innovacion?state=published>.

Tapella E. (2004). Reformas estructurales en Argentina y su impacto sobre la pequeña agricultura. ¿nuevas rivalidades nuevas políticas? Universidad de San Juan, Instituto de Ciencias Socio Económicas de la Facultad de Ciencias Sociales, XXII:66.

Urias M. (1979). nexos.com.mx. Obtenido de <https://www.nexos.com.mx/?p=3407>.

www.eumed.net/cursecon/ecolat/mx/2013/competitividad.html. (s.f.). Recuperado el 10 de 12 de 2017, de eumed.net.