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RESEARCH CENTER INTELLECTUAL CAPITAL AND TECHNOLOGY INNOVATION: TRANSFERRING KNOWLEDGE TO UNIVERSITIES AND INDUSTRY

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ABSTRACT

Innovation management allows companies to be more competitive and positioned at the forefront of products and services offered, thereby providing greater income and development in organizations. The main objective of this research is to identify factors that stimulate, intellectual capital and innovation in research centers, and the transfer of knowledge to the productive sector and universities. Some 51 surveys were applied to five centers of public research. We conclude that innovation management is the result of interaction between organizational culture, leadership, the company's vision, the commitment of each member of the Organization and others. These elements can not act separately, they must be in sync with the market, technology as well as current and future needs of the client.

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KEYWORD*:* Technological Innovation, Intellectual Capital, Bonding

INTRODUCTION

The management of intellectual capital and innovation management is key to confront the technological challenges. The present investigates factors that stimulate the intellectual capital and innovation in universities, research centers and the transfer of knowledge to the productive sector. The main objective is to identify factors that stimulate, intellectual capital and innovation in research centers, and how to manage the transfer of knowledge to the productive sector and universities. Specific objectives are: 1. To identify which variables influence the organization to foster intellectual capital. 2. To identify the variables that influence the organization to foster innovation. 3. To identify variables that influence the organization to encourage the transfer of knowledge to universities and 4. To identify variables that influence the organization to encourage the transfer of knowledge to companies.

CONACYT contributed 3,930 million pesos, during 2014 through the program of incentives to innovation to encourage investment in innovations that would be turned into business opportunities. From January to July of 2014, 100% of that budget was channeled, from which 3,673 million pesos to support companies that were linked with universities and public research centers. In the first six months of 2014, 872 projects were supported, from 32 different federal entities. Some 646 of the projects were given to SMEs, focused mainly to industrial branches of chemistry, transport, food, machinery and equipment, plastic and rubber. (second review of Government 2014 p. 264) (Source: second report of Government Presidency of Mexico).

The contribution of this paper is to explore the variables in centers of research and development, which are part of the (CONACYT), National Council for Science and Technology. Most available studies focus on the analysis from the SMEs (Small and Medium-Size enterprises) point of view. This research is made up

of the following sections. The literature review identifies the state of the art, and evaluate various points of view on the subject, focusing on models of intellectual capital and innovation. The methodology steps were: the identification of variables, the sample was established, and the implementation of surveys for its interpretation. Finally the results are presented and the conclusion section closes the paper.

LITERATURE REVIEW

This section summarizes the existing literature. Doing so allows us to know the State of the art, and to evaluate and compare various points of view on the subject. These points of view focus on models of intellectual capital and innovation.

Manual of Frascati (2002) notes that technological innovation activities are a set of scientific, technological, organizational, financial and commercial stages, including the investments in new knowledge to generate new improvements of new processes and products. I + D is nothing more than one of the activities. The activities can be carried out at different stages of the process of innovation. They are used not only as a source of creative ideas, but also to solve the problems that may arise at any stage until its completion. On the other hand Nonaka and Takeuchi (1995) established that innovation is a continuous process of learning whereby companies create new technological knowledge. Likewise Drucker (2005) defines innovation as the organized and systematic search to change the opportunities that exist in the environment. Peter Drucker, says that innovation and the innovative entrepreneur raises five basic sources for innovation; 1. The unexpected: to surprise, 2. The illogical: the difference between what is and what should be. 3. The need to improve an existing process. 4. The breakdown of an industrial structure or demographic changes in the market and 5. The perception changes in form and meaning.

On the other hand, López M and Vázquez (2007) argue that innovation is a process that generates new knowledge and generates new technologies that can be applied to products, production and management processes. Technology is defined as a set of susceptible industrial techniques to be applied to a production process. According to the Oslo Manual, (2005) 3rd Edition we describe the concepts of innovation and its types. Innovation is the introduction of a new, or significantly improved product (good or service), a process which is a new method of marketing or a new organizational method, internal business practices, the Organization of the workplace or foreign relations. Innovation is the main driver of growth and the creation of wealth, the increase in competitiveness, greater participation in global markets and production networks, improvements in the quality of life of citizens and to face global challenges. The Oslo Manual is a guide for carrying out measurements and studies of scientific and technological activities that define concepts and clarifies the activities considered as innovative. Table 1 contains the definition of models of intellectual capital and innovation models.

Tabla 1: Modelos Principales de Capital Intelectual, Innovación Dimensiones y Definiciones

Panel A: Models of Intellectual Capital	
Autores	**Definition**
Thomas Stewart, 1991)	"Intellectual Capital is anything that can not be touched but it can do to earn money to the company."
Jonson 1996	Intellectual Capital is hidden inside a book, traditional concept called Goodwill. The difference is that traditionally the Goodwill stresses common but little real assets such as brands of the factories. In comparison the Intellectual Capital seeks still less tangible assets, such as the ability of a company to learn and adapt".
Annie Brooking 1996	"The term intellectual Capital refers to the combination of intangible assets that allow you to run the company".
Leif Edvinsson Sullivan 1996	"Intellectual Capital is the knowledge that can be converted into profit in the future and that is formed for resources such as ideas, inventions, technologies, software, designs and processes."
Leif Edvinsson Michael Malone 1997	"The possession of knowledge, applied experience, organizational technology, relationships with customers and professional skills that provide a competitive advantage in the market".

Bradley 1997	"Intellectual Capital is the ability to transform knowledge and intangible assets on resources that create wealth both in the companies and countries"
Sveiby 1997	"Intellectual Capital is made up of all those explicit or tacit knowledge that generate economic value for the company."
Ross y Ross 1997	"Intellectual Capital is the sum of the expertise of its members and of the practical interpretation of that knowledge, i.e., their trademarks, patents and procedures."
Stewart 1998	"Intellectual Capital is made up of gray matter: knowledge, information, intellectual property, material experience which can be used to create wealth"
Malhotra 2000	"Intellectual Capital represents the collective of intangible assets that can be identified and measured".
Roos et al 2001	"The Intellectual Capital of a company is the sum of the knowledge of its members and the practical interpretation of the same."
Nevado Peña López Ruiz 2002	"It's the set of assets of the company which, although they are not reflected in the financial statements, generate or generate value for the same in the future, as a consequence of aspects related to human capital and other structural, capacity for innovation, relations with customers, the quality of processes, products and services, as the communicational and cultural capital allows a company to better opportunities than others"resulting in the generation of future benefits.
Batista Canino Melián González Sánchez Medina 2002	Intellectual Capital is the combination of assets immaterial or intangible, including the knowledge of the staff, the ability to learn and adapt, relationships with customers and suppliers, brands, names of products, internal processes, and the ability of r & d, etc., of an organization, which although they are not reflected in the traditional financial statements, generate, or they will create value in the future and which can sustain a sustained competitive advantage".
Bueno Campos E. 2003	Accumulation of knowledge that creates value or cognitive wealth owned by an organization, consisting of a set of intangible (intellectual) assets or resources and capabilities based on knowledge, that when put into action, according to specific strategy, in combination with physical or tangible capital, is capable of producing goods and services and to generate competitive advantages essential for the market for the organization.
Mario L. Bermudez 2008	Set of expertise scientific, technological, artistic and commercial applicable for generating social wealth available to an individual, organization or community

Panel B: Models of Innovation

Authors	**Dimensiones**	**Definitions**
Robertson (1971)	Change in consumption habits.	Continuous innovations: very weak modification of modes of consumption. Semi-continue innovations: modification slightly more important modes of consumption. Discontinuous innovation: break deep in modes of consumption.
Booz, Allen y Hamilton (1982)	Novelty for the company vs. New to the market.	"New to the world" products (new-to-the-world): products that create new categories. New lines of products: products that are not new to the market, but are for the company. Extension of ranges: new products that are included in existing product lines. Improvements of existing products: strengthening of the realizations of a product and an improvement of its image. New positioning: new applications of existing products. Cost reductions: products which, in equal quality, are less expensive than existing products
Gobeli y Brown (1987)		Incremental innovations: weak technological content and weak side benefit for the consumer. Technological innovations: use of an innovative technology without major changes in benefits. Innovations in terms of applications: substantial increase in profits without technological changes. Radical innovations: use of an innovative technology with a significant increase in benefits
Kleinschmidt y Cooper (1991)		Completely new products: radically new products for the company and consumers. Technological break: using innovative technology without big changes for consumers. Break for the market: novelty of the benefits with the use of existing technology.
Chandy y Tellis (1998)		Incremental innovations: weak technological content and weak modification of benefits for the consumer. Technological break: using innovative technology without major changes to the level of benefits. Break for the market: substantial increase in benefits with the use of existing technology. Radical innovation: use of an innovative technology with an increase
García y Calantone (2002)	Two discontinuities, technological vs. for the market) by macro vs. micro perspectives	Radical innovations: break on the four dimensions (two discontinuities by two economic prospects). Completely new innovations: discontinuity at the macroeconomic level. Incremental innovations: changes to the level of activity of the enterprise or consumer practices.
Miller y Miller (2012)	This classification largely has been used by the ARI team at the University of Toledo.	Disruptive innovations: innovations in sustainability, which can be one or the other (for example, transformational), but not necessarily disruptive continuous. Architectural innovation: existing technologies with new modes. Radical innovation: the creation of new technologies that make new things possible. Incremental innovation: making improvements to existing technologies. Modular innovation: the creation of new technologies to solve existing problems.

Source development Dra. Norma Maricela Ramos Salinas. 'management of technological innovations and their overcrowding' article 2014 authors Ramos N. M Urbiola A. E y Gonzales E. This table explains the different approaches to the development of innovation adapted from Ziamou (1999); García y Calantone (2002); Miller y Miller (2012).

Martínez L. (2011) in his book "Training for Innovation" carried out an analysis of the contributions of A. Schumpeter (1885-1950) in his "theory of economic development.' This theory remains current, despite the fact that it has been more than 100 years since their contributions. The theory of economic development, has been summarized with the term 'Innovation', due to its emergence from the economic analysis and considered the economic life changes. The Nobel Prize in Economy of Robert Solow designates "innovation as the main source of employment and productivity. "The new revolution of knowledge platform are education and the peak is the same innovation that arises from the combination of art, science and technology" (Muñoz, R, 2014 p. 35). Ordoñez defines creativity "as the ability to think about new solutions to an existent problem ". Creativity can observed as leaps that brings us to imaginary proceedings, and thus overcome the barrier that the problem represents. Creativity occurs when an idea coincides and has a positive effect. (Ordonez, r., 2011, p. 88).

Innovation was synonymous with technological innovation, and the responsibility of innovating resides mainly in the I + D departments and engineers according to studies conducted by IBM. The Global CEO Study based on 765 interviews with CEOs and business leaders. To a large extent, the most significant sources of ideas comes from employees, customers, and partners. Other sources of ideas are consultants, the competition, trade shows, e-Sales Department Conference, and I+D of the firm. Finally universities and academies, and in many cases sometimes provide ideas. Innovation does not always require new technologies. But, to take advantage of important technologies, 3M company has 18 technologies and have managed to generate more than 2000 products. When the company is limited to addressing innovation detached from technology or it's I+D Department, it is missing the creative potential of their workers. (Philip K; Trías, f. 2011 p. 20-21)

How to Create Knowledge

To understand innovation, a new theory of organizational knowledge creation is needed. In this new theory, the key to creation of knowledge is the mobilization and conversion of tactical knowledge to a explicit one. To do this, it is necessary to pass through four stages: socialization, externalization, combination and internalization. These stages constitute the engine of the knowledge creation process, since they are the stages that individuals experiment in such a way that individual knowledge is shared and transferred through the organization. Knowledge, unlike information, is of beliefs and commitments. It is a position, perspective, or particular intention of knowledge. Action is for the generation of organizational knowledge. Creation theory takes from the traditional definition of knowledge that is considered a "justified true belief". (Nonaka, f.; Takeuchi. H. 1990, p. 64).

A change of paradigm must be emphasized. This change gives insight to the firm and gives the client decision power. Another paradigm that must change is in universities. By creating more laboratory incubators and promoting entrepreneurship, innovative is where you stimulate critical thinking, collaborative problem-solving, decision-making, teamwork and innovation (Muñoz, R 2014. p48-49 p.). What is innovation? Innovation distinguishes both a process and result. As a process it is characterized by, "a transformation of the industrial processes execution to design, to make and distribute products and services. As a result, it designs the product (object or service) that is introduced in the market." It is in these ways we look at innovation. Although, the authors used different terminologies, in the vast majority of classifications of innovations (Table 1) it is agreed they need to be new from the point of view of the company, from the point of view of the consumer, or both. On the other hand, it highlights the fact that there is not an emphasis on groups and practices of consumption or a distinction by consumer groups and geographic regions. Table 2 shows the dimensions and definitions of innovation models.

Research Centers in México

CONACYT (2014) was created by order of the H. Union Congress on December 29, 1970, as a public decentralized body of the Federal public administration. It is a member of the education sector, with a legal personality and with its own patrimony. It is also responsible for drawing up science and technology policies in Mexico. From its creation until 1999 two reforms were presented and a law to coordinate and promote scientific and technological development was enacted June 5, 2002. The goal is to consolidate the national science and technology systems to respond to priority demands in the country, giving solution to problems and specific needs, and to contribute to raising the standard of living and welfare of the population. This requires: 1. To have a State policy on the subject. 2. To increase the scientific and technological capacity of the country. 3. To raise the quality, competitiveness and innovation of enterprises. Their mission for the 2025-year is to promote and strengthen scientific development and technological modernization of Mexico, through the training of high level human resources, the promotion and support of specific research projects and the dissemination of scientific and technological information. Source (CONACYT, 2014).

The CONACYT (2014) centers' system is a set of twenty-seven research institutions. According to its objectives and specialties, they are grouped into three main areas: ten of them in Natural Sciences, Social sciences and Humanities, eight are more specialized in development and technological innovation, and another one in the financing of postgraduate studies. The target in accordance with the programme of science and technology 2001-2006, issued guidelines objectives of the CONACYT public centers that are: 1. Disseminating science and technology in society. 2. To promote local technology and to implement it. 3. To promote local technology and to adapt it to foreign technologies. 4. To innovate in the generation, development, assimilation and application of science and technology knowledge. 5. To link science and technology in society and the productive sector to address problems. 6. To create and to develop mechanisms and incentives that promote contributions of the private sector in the scientific and technological development. 7. To incorporate students in scientific and technological activities to strengthen their academic formation. 8. To boost the institutional capacity for scientific, humanistic, and technological research. 9 To foster and promote the scientific, humanistic and technological culture of Mexican society. Source: (2014 CONACYT).

DATA AND METHODOLOGY

The research problem addressed here important because management of intellectual capital and innovation allows us to be more competitive, and to position ourselves at the forefront of products and services that are offered thereby giving us greater income and development. We investigate these issues to determine the variables and indicators that allow us to develop the management of intellectual and innovation capital in the public research center and subsequently so that they are established as a culture in the company. The present research carried out a case study, using the quantitative methods where the phenomenology seeks to discover, describe and interpret how individuals or actors perceive the social world according to their experience (Hernández R experience; Fernandez, C. & Baptista p. 2006). A total of 51 surveys were conducted in five research centers. Surveys were applied to employees who have links with universities, companies, and that have participated in the past with innovation funds of CONACYT or any other federal or State Government that promotes the transfer of knowledge through bonding which significantly reduces sample.

An instrument with a total of 31 variables was used. Variables examine the brainpower, innovation, enterprises and universities. These variables are analyzed using the experts method, a technique that is defined as a method of structuring a process of communication group which is effective in allowing a group of individuals as a whole, and treat it as a complex problem (Linstone, Turoff, and Helmer, (1975). The survey was applied directly in four research centers over a period of 3 months. The survey was sent by email. An average 9 surveys were administered in each center. The selected subjects were staff with experience in participation in calls which link to research centers universities and the productive sector

preferably of CONACYT funds. Once the data was obtained, the following tests were performed: a) To test the Anderson normality test - Darling was completed with the Minitab package. SPSS 15.0 was used for the Kruskal-Wallis test which is a non-parametric method to test whether a group of data comes from the same population. A regression analysis was performed between a dependent variable, and the independent variables Xi and a random term ε as follows: Y=aX +b.

RESULTS

The first hypotheses is as follows: H1 The centers of public research stimulate innovation and intellectual capital required to strengthen the following organizational variables: 1.1 The working environment. 1.2 relevance, 1.3 satisfaction of belonging to the organization, 1.4 Creativity fostering, 1.5 Adequate training and 1.6 innovative leadership. Table 2 presents descriptive statistics of the variables for our first hypothesis.

Table 2: Checking the H1 by Two Methods Kruskal-Wallis Test H1 and Regression Analysis

Test Statistic of Kruskal-Wallis H1						
Variables	**1.6**	**1.2**	**1.5**	**1.4**	**1.7**	**1.1**
Chi-Square	7.840	11.502	13.775	14.468	6.555	15.087
df	3	3	3	3	3	3
Asymp.Sig.	0.0490	0.0090	0.0030	0.0020	0.0880	0.0020
Test Statistic of Regression Analysis, R=0.7120 Dependent Variable 1.3						
Unstandardized Coefficients B	-0.1790	0.4430	0.2390	0.2250	0.139	0.1420
Standardized Coefficients Beta	-0.1600	0.3750	0.2730	0.1410	0.2180	0.1320
t	-1.058	2.875	2.010	1.544	1.019	0.896
Sig.	0.2960	0.0060	0.0510	0.1300	0.3140	0.3750
Variables Accepted		1.2	1.5			

Table 2 describes the values of variables obtained by the two methods taken as acceptance criteria in the regression analysis. S is lower than 6% and Kruskal-Wallis test the value of GIS. Being less than 5% are the variables that most impact the results for being significant with the 1.2 variable of relevance and 1.5 of adequate training.

The second hypothesis H2 is formulated as: stimulate the staff for the development of the intellectual capital required to strengthen the following technical variables: 2.1 Basic research 2.2 Applied Research. 2.3 Technological development 2.4 State of the art. 2.5 Technology forecasting 2.8 Feasibility studies 2.9 Realization of reverse engineering and 2.10 Intellectual Property Management. Table 3 presents descriptive statistics of the variables from the second hypothesis.

Table 3: Test results of H2 by Kruskal-Wallis and Regression Analysis

Test Statistic of Kruskal-Wallis H2							
Variables	**2.1**	**2.4**	**2.8**	**2.9**	**2.10**	**2.3**	**2.2**
Chi-Square	2.005	4.789	3.624	6.337	6.990	10.093	5.644
Df	4	3	2	4	3	3	4
Asymp.Sig.	0.5710	0.1880	0.3050	0.0960	0.0720	0.0180	0.1300
Test Statistic of Regression Analysis, R=0.589 Dependent Variable 2.5							
Unstandardized Coefficients B	-0.0510	0.2160	-0.2580	-0.1970	0.3020	0.3920	0.940
Standardized Coefficients Beta	-0.0570	0.2110	0.2140	0.1930	0.3140	0.2930	0.0850
t	-0.4020	1.500	-1.510	-1.357	2.123	2.159	0.5410
Sig.	0.689	0.1410	0.1380	0.1820	0.0400	0.0360	0.5910
Variables Accepted					2.10	2.3	

Table 3 describes the values of the variables by two methods taken as an acceptance criterion in the error tip regression analysis. S is lower than 6% and the value of GIS Kruskal-Wallis test. Asintot. Being less than 5% of the variables that most impact the result to be significant are 2.10 Intellectual Property Management 2.3 Technological Development.

The third hypothesis, H3 posits that research public centers encourage staff to develop innovation required to strengthen the following technical variables: 2.6 Patent Search, 2.7 Writing patents and claims 2.11 Link between universities 2.12 Link with the industrial sector. Table 4 presents descriptive statistics related to the variables of our third hypothesis.

Table 4: Results of Tests on Strengthening Technical Variables

Test Statistic of Kruskal-Wallis H3			
Variables	**2.12**	**2.6**	**2.7**
Chi-Square	7.361	10.651	10.654
df	4	4	4
Asymp.Sig.	0.118	0.031	0.031
Test Statistic of Regression Analysis, R=0.516, Independent variable 2.11			
Unstandardized Coefficients B	0.277	0.246	0.175
Unstandardized Coefficients std. Error	0.158	0.133	0.125
Standardized Coefficients Beta	0.226	0.272	0.213
t	1.476	1.846	1.4
Sig.	0.087	0.071	0.168
Accepted Variables		2.6	

Table 4 describes values of the variables obtained by two methods that were acceptance criteria in the regression analysis. S is lower than 6% and Kruskal-Wallis test the value of GIS. Asintot. Less than 5% is the variable that most impact the result being significant is 2.6 patent search

The fourth hypothesis, H4 posits that: in order for the centers of public research to achieve the knowledge transfer to stimulate universities requires strengthening the following technical variables: 3.1 Technical competence divergent objectives. 3.3 Cultural Barriers. 3.4 Problems related to intellectual property rights. 3.6 Coordination difficulties. 3.8 problems related to confidentiality. 3.11 Problems related to intellectual property rights 3.12 Problems of responsibilities attribution. Table 5 presents the descriptive statistics carried out to the variables from the fourth hypothesis.

Table 5: Results of University Stimulation Variables

Test statistic of Kruskal-Wallis H4						
Variables	**3.4**	**3.8**	**3.1**	**3.6**	**3.12**	**3.3**
Chi-Square	12.648	13.882	1.41	14.969	8.835	1.145
df	3	3	3	3	3	3
Asymp.Sig.	0.005	0.003	0.703	0.002	0.032	0.766
Test Statistic of Regression Analysis, R=0.731, Dependent Variable 3.11						
Unstandardized Coefficients B	0.2270	0.1630	-0.0730	0.3310	0.2330	0.0560
Unstandardized Coefficients std. Error	0.1050	0.1060	0.1010	0.1040	0.1120	0.0960
Standardized Coefficients Beta	0.3050	0.1840	-0.0810	0.3550	0.2400	0.0660
t	2.6350	1.5360	-0.7260	3.1790	2.0910	0.5810
Sig.	0.0120	0.1320	0.4720	0.0030	0.0420	0.5640
Variables Accepted	3.4			3.6	3.12	

This table describes values of the variables obtained by the two methods that were used as acceptance criteria in the error tip regression analysis. S is lower than 6%, and the Kruskal-Wallis test sthe value of GIS. Being less than 5% is the variable that most impact the result to be significant is 2.6. Patent search.

The fifth hypothesis is: centers of public research to achieve the transfer of knowledge in companies require strengthening the following technical variables: 3.5 cultural barriers, 3.7 coordination difficulties, 3.9 problems relating to confidentiality, 3.10 problems relating to property rights, 3.12 problems of attribution of responsibilities Table 7 presents descriptive statistics to the variables of our fifth hypothesis.

Table 6: Results of Company Transfer Variables

Test statistic of Kruskal-Wallis H5				
Variables	**3.5**	**3.7**	**3.1**	**3.12**
Chi-Square	9.624	15.373	12.468	13.487
df	3	3	3	3
Asymp.Sig.	0.022	0.002	0.006	0.004
Test Statistic of Regression analysis, R=0.692, Dependent Variable 3.9				
Unstandardized Coefficients B	0.1520	0.3700	0.3130	0.1970
Unstandardized Coefficients std. Error	0.1270	0.1490	0.1390	0.1680
Standardized Coefficients Beta	0.154	0.331	0.286	0.162
t	1.197	2.475	2.248	1.173
Sig.	0.2380	0.0170	0.0290	0.2470
Variables Accepted		3.7	3.1	

Table 6 describes values of variables obtained by two methods that were taken as acceptance criteria in the error tip regression analysis. S is lower than 6% and the value of GIS Kruskal-Wallis test. Asintot. Being less than 5% variables that most impact the result to be significant are 3.7 3.1 coordination difficulties the technical competence.

CONCLUDING COMMENTS

The main objective of this research was identification of factors that stimulate, the intellectual and innovation capital in research centers. We also wish to identify the way to manage knowledge transfer to the productive and the universities sector. A quantitative identification of variables instrument was designed. A total 51 surveys were applied to five public research centers, obtaining the following variables as the most significant: 1. feeling of belonging to the organization. 2. adequate training to generate innovation and intellectual capital and 3. technological developments trainings, the intellectual property management design, the models, the brands, the franchises, and the copyrights. Patent search in the following patent offices: EPO, JPO, USPTO, IMPI, and the establishments of letters of agreements, particularly in the intellectual property treaties, and the activities of each of the members of the team and finally the linkage of each company.

In the Research Center, there are few people that have the knowledge and experience needed to make linkages between companies and universities, and to apply the innovation projects to the CONACYT platform. Another limitation is that the staff that was interviewed travels very often. Further research in this area might consider expanding the sample from the research centers to 70% of the total number of centers of CONACYT.

REFERENCES

CONACYT (2014) "*Antecedentes del CONACYT*" Retrieved 12 de Junio 2014 site www.conacyt.mx

CONACYT (2014) "*Centro Publico de Investigación*" Retrieved 12 de Junio 2014 site www.conacyt.mx
Drucker P. (2005) "La nueva sociedad" editorial sudamericana, Buenos Aires.

García, R. y Calantone, R. J. (2002), "A critical look at technological innovation typology and innovativeness terminology: a literature review", *The Journal of Product Innovation Management*, 19, 2, 110-132.

Hernández R., Fernández, C. & Baptista P. (2006). "Metodología de la investigación". México, McGraw Hill. 5ta Edición

Linstone, H. A., Turoff, M., & Helmer, O. (1975). "The Delphi method: Techniques and applications" Addison-Wesley Publishing Company, Advanced Book Program Boston, MA.

López N., Montes J. & Vázquez C. 1er (2007). "Como gestionar la innovación en las PYMES". Edición España: Netbiblo.

Presidencia de la Republica (2014) "*Segundo informe de gobierno"* Retrieved octubre 2014 site www.presidencia.gob.mx/segundoinforme P *264*

*Ramos N. M, Urbiloa A. E y Gonzales E (2014) "*La gestión de las innovaciones tecnológicas y su masificación*"*

Nonaka, F.,Takeuchi. H. (1990) "La organización creadora de conocimiento" editorial oxford university press, inc

Muños, R (2014) "Innovación a la mexicana" mundiales en lengua castellana Mexico.

Martinez L. (2011) "Formación para la innovación: el currículo ante las demandas de la nueva economía" ANUIES, MEXICO

Manual de Oslo (2005) "Guía para la recogida de interpretación de datos sobre innovación" grupo Tragsa México

Miller, L. y Miller, R. (2012), "Classifying Innovation", *International Journal of Innovation and Technology Management*, 9, 1. doi: 10.1142/S0219877012500046.

OCDE. (1993). "*Manual de Frascati"*. La medida de las actividades científicas y tecnológicas. París.

Ordoñez R., (2011) "Cambio, creatividad e innovación" Granica Argentina

Philip K,.Trías, F. (2011) " Gestión del conocimiento: innovar para ganar" Urano Barcelona

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