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The costs of patenting in Mexico

L.R. Vega-González[a,*], I.J.H. Jardines[b]

[a] Centro de Ciencias Aplicadas y Desarrollo Tecnológico, UNAM, Mexico City, Mexico
[b] Universidad Autónoma Metropolitana, Mexico City, Mexico

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Abstract Many researchers and scholars do not know that the total costs to obtain a patent are considerable and that the implementation of a logistics system and specific management to carry out the process successfully is required. The aim of this paper is to show, through empirical evidence, that patenting costs are considerable. The methodology is the analysis of selected and representative cases of the total costs over the project routes, incurred by an R&D Center of the National Autonomous University of Mexico (UNAM), during the processes performed to obtain patents for some academic inventions. The findings are that the costs that were incurred to obtain two national patents were quite significant, but much more in the case of patent applications abroad, either by direct application or through the Patent Cooperation Treaty (PCT).

We also found that the process time takes an average of three to six years, depending on the type of patent application. Finally, the costs shown could be considered as *reference costs* for budget preparation. Nevertheless, the process does not guarantee obtaining patent titles in all cases.

PALABRAS CLAVE
Costo de patentar;
Instituciones públicas;
México

Los costos de patentar en México

Resumen Muchos investigadores y académicos desconocen que los costos para solicitar y obtener una patente son considerables y que se requiere de la implantación de un sistema logístico y de administración especializado para llevar a cabo el proceso con éxito. El objetivo de este trabajo es mostrar que los costos de patentar no son bajos a través de evidencia empírica. La metodología es el análisis de casos seleccionados y representativos de los costos vertidos en las rutas de tiempo en los que incurrió un Centro de investigación y desarrollo de la

* Corresponding author at: Coordinación de Vinculación y Gestión Tecnológica, Centro de Ciencias Aplicadas y Desarrollo Tecnológico, UNAM, Circuito Exterior S/N, Ciudad Universitaria, A.P. 70-186, Delegación Coyoacán, C.P. 04510 Mexico City, Mexico.
E-mail addresses: lrvg@servidor.unam.mx, roberto.vega@ccadet.unam.mx (L.R. Vega-González).

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Universidad Nacional Autónoma de México (UNAM) durante los procesos de patentamiento para algunas invenciones seleccionadas. Los hallazgos son, que los costos en los que se incurrió para obtener patentes nacionales y patentes solicitadas en el extranjero, tanto por solicitud directa, como a través del Tratado de Cooperación en materia de Patentes (PCT) fueron significativos. También encontramos que el proceso, desde que se somete la solicitud, hasta la obtención del título, tomará entre tres a seis años en promedio, dependiendo del tipo de patente solicitada. Finalmente, los costos mostrados se pueden considerar como *costos de referencia* para la realización de presupuestos, aunque se debe considerar que no en todos los casos en los que se solicite una patente, se obtendrá el título.

Introduction

The large growth of the economy in *developed countries*, particularly in the United States of America, as well as the proliferation and steady growth of the number of patents applied for and granted, have generated stress and tensions in companies, organisations and individuals that seek to remain globally competitive.[1] The patenting strategies followed by responsible institutions or sector heads seek to facilitate the global positioning of countries in a given technological area,[2] and prioritise the use of federal funds for research and development in those inventions that have economic potential.[3]

Universities play critical roles in first world society as they have the triple mission of training human resources, researching and contributing to innovations that boost the economy. However, they do not develop or commercialise their inventions completely, but generally establish licensing agreements with firms in the industrial sector.[4]

On the other hand, Academic Medical Centres (AMC) have a major impact on the health sector because they have the mission of teaching health professionals, as well as conducting biomedical research and obtaining new discoveries and medical technologies, for which they receive significant government funding.[5] With the emergence of the Bayh Dole Act in 1980, scholars from both universities and public health institutions were given the authority to patent and exploit discoveries in research financed by federal funding.[6]

The situation in developing countries is substantially different. Although it is true that their governments now recognise the importance of Research, Development and Innovation (R&D&I) activities and that innovation can be understood as the engine of economic development that produces important benefits and favourable social impacts, the rates of patents applied for and granted have been very low until recent years.

In Mexico, the 2014–2018 Development Plan and the Special Science and Technology Programme (PECyT in Spanish) mention the importance of inventors of organisations, companies, different economic and social sectors; as well as universities and public research institutions, to develop technology and patent it.[7] Naturally, public institutions must assume these mandates in their institutional development plans, in addition to the topics related to training human resources. They also refer to the increase of their patents and technological transfers in the chapter on strengthening links with the production, business, public and social sectors.[8,9]

Therefore, assuming that today, either due to their mission or technological strategy, public institutions with a high social impact, such as hospitals, health institutes, and universities, among others, must patent and transfer their technologies. Why patent? Patents are property titles through which the state grants the monopoly of exploitation to inventors, and are used by firms to implement and consolidate commercial strategies, such as delaying the entry of generic drugs into the market as long as possible,[10] developing a family of patents to extend the exploitation period of an invention,[11] or even abandoning patents.[12]

Patent management is not only a technological and legal problem, but also an administrative and costs one. For example, at the end of the last century, the National Institutes of Health (NIH) of the United States of America, after applying for a first patent to claim ownership of genes in the human genome, was at a crossroads of deciding whether or not to claim 2375 additional gene fragments[13] – which only represented 5% of human genes. The point here is the size and cost of the patent, whose extension would probably be several hundred sheets of sequences that would require the work of multiple, very high-level specialists and a highly specialised patent law firm. The matter does not end with obtaining patents. When inventions have a high commercial potential, the time comes for lawsuits from other interested parties,[14–17] which involve even greater costs if no reasonable agreement is reached between the parties.

Entering the world of patents requires planning and budgeting to meet the costs that institutions will incur. It is a long journey in which everything *starts* with the application process and obtaining a patient which we can call *simple*. For this reason, the objective of this study is to perform an analysis of the costs involved in different patenting processes through the empirical evidence from selected case studies.

In their daily work, academics, students and the support staff of schools, centres and public health research institutes of developed countries,[18] as well as the public

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