

34 Greek Patent Protection System and the impact on Information Technology Industry

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34.1 ABSTRACT

Our era can be characterized as the era of knowledge proliferation and bountifulness. That has marked our era as the era following the pace of the Information Society Development. Information Society has also brought about a remarkable IT development pace over countries. Thereby, it is greatly important all that raw knowledge to become mind figments, ideas and even inventions and innovations. It is also essential to highlight that such a beneficial process will ensure the continuity of the IT development. The only way to achieve that goal is to find a way to secure all that aforementioned knowledge which is in essence an intellectual property. That has made countries to set up a patent system with appropriate legislative and regulative system. That paper sheds light upon the European patent system in comparison with the patent system of Greece and provides a proposal for ameliorating the Greek patent system taking into account some useful economic indicators.

34.2 Introduction

An invention can be characterized as a more effective composition, device, or process. A pre-existing model or a brain figment can lead to an invention. Each brain figment will be deemed as an invention only whether its application brings about an important breakthrough. In the same respect, discoveries, scientific theories or mathematical methods are not classified as inventions. The same holds true for aesthetic creations and any presentation of an item of information. An invention will be viewed as new (reaching innovation) only if it does not form part of the state of the art meaning that its outcome is not been propagated to the public. The following section summarizes the theoretical framework of modern competitive relationship with the knowledge and innovation . The next section focuses on the determinants of technological absorption and innovation, and the patent protection system in Information technology Industrial. Here the correlation factors with structural-functional-sectoral and institutional characteristics of the business environment to evaluate the contribution of the respective conditions in the technological and economic performance. Finally, in light of the conclusions of the analysis highlights the need to adopt institutional and structural reforms for competitive growth advantages of knowledge and innovation by firms and national - regional innovation systems.

Intellectual property refers to the mind figments with “no physical” property elements. In essence, such figments are ideas with incorporated knowledge. As with any property that

knowledge should be secured in a way that anyone from using that knowledge for commercial purposes without the endorsement and approval of the owner of the idea.

The legal aspect of an invention is cardinal in the legislative sector known as “patent law”. Thereby, it is important to scrutinize the term invention analogically to the term patent. The term patent refers to the set of exclusive rights that is granted to inventors by a State. Each country has set up a specific legislative and regulative system concerning patents. That system includes requirements, national laws and international treaties. In some cases, the term patent can move forward to include the parallel term intellectual property rights. The role of a patent is remarkable since it facilitates the bountifulness of the technological evolution. Such a system is not only national but also global. Therefore, the appropriateness of a patent system is a key to success in the section of Information Society and the parallel sector of IT development. The Patent is a title that recognizes the legitimate copyright an invention or discovery and ensures the inventor or applicant, a temporary monopoly on the exploitation of the invention to which the patent. Provided by such national or international agencies patents. The invention is a creation of thought that is often confused with innovation (Innovation), namely, successful use and application of this knowledge practice. The invention become a technical innovation only when it leads to a new product or service that can be exploited commercially and sold to consumers. That is, it draws an important part of its value from entrepreneurship.

34.3 The Legislative System

34.3.1 Generic overview of the Greek patent system

The Key figure in the Greek patent system is the Hellenic Industrial Property Organization (HIPO). This organization aims to promote the IT development of Greece by handling the country's patents. (Law 1733/87), concept of law:

1. Patents are granted for new fabrications that are susceptible of industrial application and contain inventive activity. The invention may refer to a product, method or an industrial application.
2. No inventions are considered within the meaning of paragraph 1:
3. An invention is considered as new if it doesn't belong to the state of art. As state of art is considered everything that is known by written or oral description or with any other way, before the date of filing the patents or the priority date.
4. An inventions contains inventive activity if, during a specialist's judgment, it isn't apparent with an obvious way to an already existing state of the art.
5. An invention considered susceptible of industrial application if its subject cannot be produced or used in any sector of industrial activity.

34.3.2 European patent policy implications

A balanced score card is often used to evaluate the overall performance of the business and its progress towards objectives. Recent studies and leading management theorists have advocated that strategy needs to start with stakeholders expectations and use a modified balanced scorecard that includes all stakeholders.

The patent strength affects innovators by giving limited incentive on the ground that they cannot assess the value of their innovation; therefore, weak patents create an environment in which competitive firms are not well aware of the capabilities of their competitors. These patents are included in one of several categories. Patents that are legally questionable and subject to litigation by competitors. Patents based on “first impression” that can lead to a ubiquity of private information. Weak patents increase the cost of disclosing knowledge. Weak patents force firms to rely on secrecy and augment the cost of secrecy dependence. The lack of strength in a patent can bring in imitation of the “naked idea” or “raw figment”. Weak property rights reduce the prize available to a patent holder; Patent damage awards have become an increasingly important feature of business strategy in the USA over the past 20 years. While jury awards in excess of \$100 million were relatively rare before 1990, they are now quite common. These large awards usually arise when damages have been calculated using a lost profits approach. Increased competition from an infringer can cause a patent holder to lose profits in several ways. By far the most important source of lost profits is the sales that the patent holder lost to the infringer. Absent the infringement (often termed the ‘but-for’ world), the patent holder would have made some or all of the sales that the infringer made. The damages associated with these lost sales are the incremental profits that the patent holder would have made on the sales.

A second important source of lost profits is what is often called ‘price erosion’. Intellectual property rights are exclusive rights, often temporary, granted by the state for the exploitation of intellectual creations. Intellectual property rights fall into two categories: rights relating to industrial property (invention patents, industrial designs and models, trademarks and geographical indications) and those relating to literary and artistic property (copyright). The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) covers the main categories of intellectual property law. In an unsteady patent protection environment, revealing of innovation can cause the buyer to freely expropriate the invention. The lack of strength in a patent can increase the cost of infringement (not the one paid by the infringer but the one aggravating the inventor). The company may also have an unfair advantage over competitors whose paper products do not reflect the cost of installing pollution control equipment. A strong patent system doubles up the benefit of an employee for remaining silent without disclosing the information regarding the innovation before its implementation with no “shop rights” established an employer can freely expropriate an employee liable invention. The extent of the incentive given to innovators the range of liable litigation of an innovation and the extent of private information ubiquity depend from the cost of disclosing knowledge. Knowledge disclosure plays a central role in models of economic growth. In this paper, we provide a theoretical model that evaluates the conditions supporting disclosures of privately funded knowledge through scientific publication, patenting, or both. Our analysis is grounded in the conflicting incentives facing researchers and their funders: scientists have incentives to disclose discoveries through scientific publication while firms have incentives to protect their ideas through patenting or secrecy. We focus on the strategic interaction between researchers and firms bargaining over whether (and how) knowledge will be disclosed. We evaluate four different disclosure strategies: secrecy, commercial science (patenting), open science (scientific publication) and patent-paper pairs (disclosure along both dimensions).

Our model then derives the conditions under which each of these outcomes emerges and offers insights into the determinants of the disclosure strategy of a firm. Importantly, we find that patents and publications are complementary instruments in facilitating the disclosure of scientific knowledge; thereby providing a microeconomic unpinning of assumptions commonly made in endogenous growth models as well as a framework for understanding the impact of patent protection on the openness of science. The cost of secrecy

dependence. The cost of infringement. Patent infringement in the commission of a prohibited act with respect to a patented invention without permission from the patent holder. Permission may typically be granted in the form of a license. The definition of patent infringement may vary by jurisdiction, but it typically includes using or selling the patented invention. In many countries, a use is required to be commercial (or to have a commercial purpose) to constitute patent infringement. The benefit of an employee remaining silent.

The extent to which patent policy system affects the inter-organizational structure; the patent strength affects innovators by giving limited incentive on the grounds they cannot assess the value of their innovation; the extent of the incentive which given to innovators creates an environment where in competitive firms are unaware of the capabilities of their competitors; the range of liable litigation of an innovation. Within the general framework for the support measures designed to improve the patent system, we have the promotion of intellectual property rights (IPR), especially the promotion of the intellectual property rights of patents which is a part of the framework of the Lisbon strategy for growth and employment as it uses innovation as the driving force for European growth. In 2008, a separate and complete announcement regarding the intellectual procedure rights is predicted. This announcement complements the current one and raises the main issues with a non-legislative and horizontal character in all fields of intellectual property.

34.3.3 Effects

Patents can have a positive impact on competition “when they enhance the entrance to the market and the creation of companies, and to enhance the technology spillovers”. Patenting is the equivalent of revealing inventions that an inventor otherwise, would have kept secret. Industrial research shows that the reluctance of companies to (enshrine) their inventions with patents mainly stems from the fear of giving information to their competitors. The research by OECD/BIAC in 2003 into the perception of patents in companies confirms this fact. Patents can also ease the transactions on markets with technology products.

They can be bought and sold as title deeds or even be subject to licensing agreements that allow the owner of the license to use the patented invention in exchange for a reward (Arora Fosfuri & Gambardella 2001). Finally, the enhancement of technology spillovers is the goal to give them with licenses to the companies which will develop them further and commercialize them. During the last two decades, most patent offices have faced a great increase in patent application. New technologies incited the greatest rate of increase and to some extent, the economies that currently have an important position in the international technology landscape like Korea and Taiwan. The legal aspect of a patent does not refer to the prerogative given to the inventor to make use of its invention. On the other hand, patent is a mean of excluding others (except the pioneer) from manipulating the invention. In the same respect, patent is a governmental entitlement given to inventors to disseminate the outcomes of their invention among the public. There are three principal ways to obtain a patent:

- **Selling:** the owner sells all exclusive rights for the manipulation of the invention
- **License providence:** the owner endorses or approve the manipulation of his/her invention at a specific time under specific circumstances.
- **Technicity transfer contract:** the technicity owner propagates technicity over an individual or institution.

34.4 Model

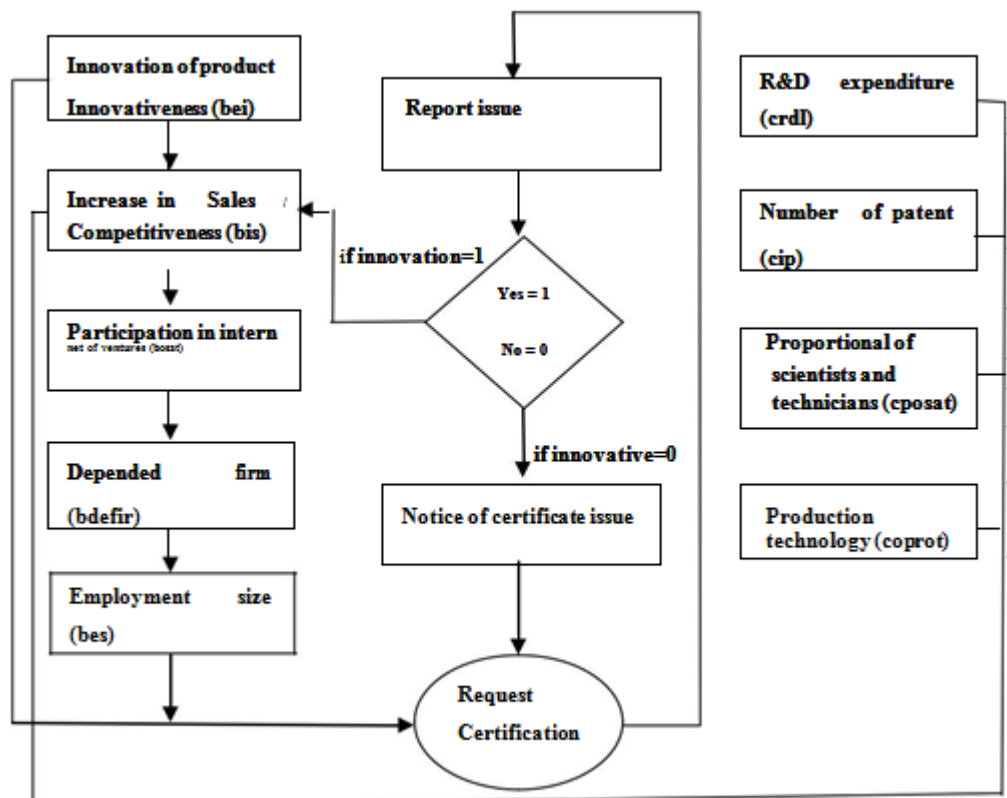


Figure 6. The model

Calculating the Variables (bei) and (bis), takes values between 1 = innovation 0 = not innovative for to see when: Increase in Sales / Competitiveness (bis), and Innovation of product Innovativeness (bei). In this model we can see that the expenditures from innovation / innovativeness function of ICT patent confirm that both endogenous as well as and exogenous factors can affected positively the innovative capacity of business to a significance level of 99%, however in this model we can see also that indigenous technological effort has a significant effect on the external input technology innovativeness of the company.

Estimate the innovation / innovativeness in the function of cost of Information Technology Patent.

Formulating

bis: increase in sales / competitiveness

This variable determines the technological capacity and economic performance of enterprises in modern conditions of the new economy and international competition.

bei: innovation of product innovativeness

Analyzing the innovation capacity of firms, we focus the importance and interaction of exogenous and endogenous factors. The results show that the efforts of businesses to

develop endogenous technology are important for innovativeness by exogenous technological licensees

bosat: participation in international networks of ventures

This access and business involvement in local and international networks technological cooperation and its potential in the size and type of operation. Demonstrated that the greater of business involvement in such networks, giving more opportunities for technological upgrading and innovation

bdefir: depended firm

The economic performance and competitiveness of companies examined in light of innovative capabilities in consideration of dependent structural and functional-institutional conditions environment in which they operate.

bes: employment size

For the role of firm characteristics such as size and operational status (independent or subsidiary) in innovative and competitive ability, the empirical evidence relevant research show that small firms grow technology differently than large ones. The small size restricts investments in technology and R & D and access to information and technological developments. The developing access to external resources and partners are crucial to overcome the obstacles posed by small business size.

crdl: cost of R & D expenditure

The existence of strong statutory base R & D plays a key role in adoption of advanced knowledge and advanced technology

cip: number of patent

Identify entrepreneurial innovativeness and exogenous factors that primarily consist of technological inputs from outside to the company sources. These inflows recorded predominantly in patents and licenses technology that the company purchases and implements

cposat: proportional of scientists and technicians

The endogenous technology requires regular in-house activity R & D, high proportion of scientists at all staff, and utilization of personnel in technological process development

coprot: production technology

Upgrading production systems by skilled low-cost production, technological dependency rates modernization market.

On the basis of the conceptual framework developed in this section presents the aggregated results of data analysis of the research study on innovativeness and protection from a

potential legal framework to safeguard intellectual property rights of high-tech low-u Member States to the European Union. In primary research on SMEs in Europe, the statistically documented direct and indirect correlations between factors innovativeness and competitiveness of business specified in the following econometric system of simultaneous formulas:

The formulas are defined as:

$$bis_{(i)} = \alpha_1 + \beta_1 bosat_i + \gamma_1 bei_i + \delta_1 bdefir_i + \mu_1 bes_i + \lambda_{1i} \quad [1.1]$$

$$bei_{(i)} = \alpha_2 + \beta_2 crdl_i + \gamma_2 cip_i + \delta_2 cposat_i + \mu_2 coprat_i + \lambda_{2i} \quad [1.2]$$

(i)=the firm,

λ_{1i} and $\lambda_{2i} \Rightarrow$ non – interpreted part of the functions

Business sectors compared (High Technology) and (Low Technology) of information technology Systems as below :

- Increase in Sales / Competitiveness (bis),
- Innovation of product Innovativeness (bei)

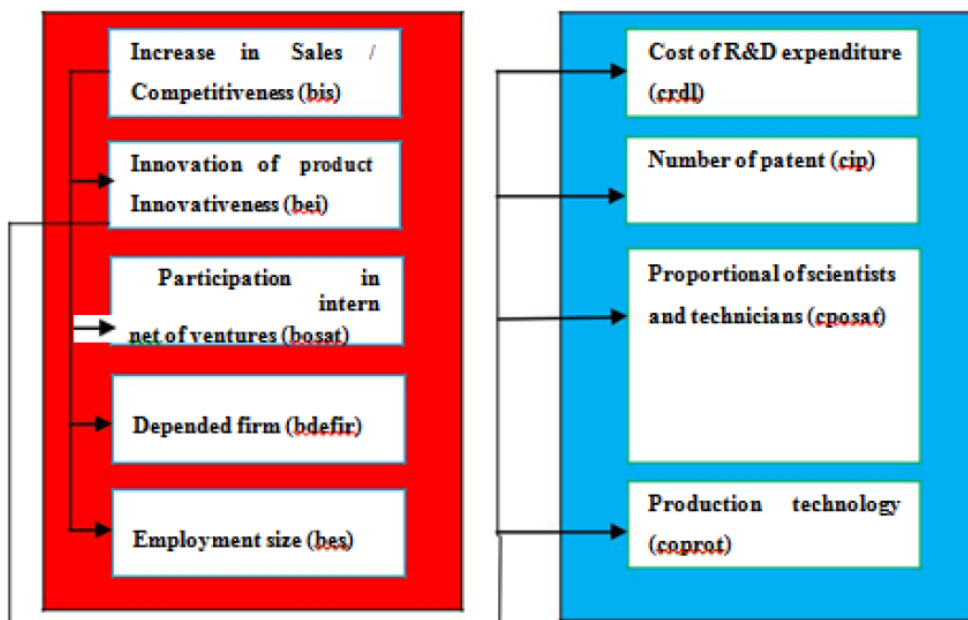


Figure 7. Business sectors compared (High Technology) and (Low Technology)