Supporting SMEs' IP capabilities: Impact study of INPI pre-diagnosis through the use of the AIDA approach

Manon Enjolras*, Daniel Galvez, Mauricio Camargo, Laure Morel

University of Lorraine, ERPI (Equipe de Recherche sur les Processus Innovatifs), 8 rue Bastien Lepage, Nancy, 54000, France

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ABSTRACT

This article aims to evaluate the impact of a regional SME IP support programme in France led by the INPI (National Institute of IP) and the Lorraine regional government. The panel includes 150 regional SMEs. The data were collected through the use of the AIDA approach and a data analysis was carried out, including principal components analysis (PCA) and a hierarchical ascending classification (HAC). The data analysis shows that the INPI pre-diagnosis allowed enterprises to progress in their IP-management. The knowledge of IP and its issues increase very significantly and appear to influence the IP-related management of the companies studied.

1. Introduction

The link between the level of Industrial Property (IP) use and the innovation activity of a company is now irrefutable. Furthermore, numerous studies have shown that SMEs’ contribution concerning innovation performance is important for the European economy [1–3]. However, SMEs are disadvantaged compared to the large companies in regard to IP use, because of constraints induced by their size. They generally have a high potential of innovation, but the difficulty is that they cannot turn this potential into a competitive advantage. Even if SMEs use various IP rights and IP titles (IP titles are defined in this article as means to denote ownership of an IP right: patent, trademarks, industrial model …), they are not always aware of the variety of existing formal and informal protection mechanisms. Moreover, IP issues are generally not a priority, whereas innovation and knowledge are key factors affecting the competitiveness of firms. Indeed, the appropriation of innovation benefits makes it possible to generate profits and to capture value from an innovation [5]. The aim of appropriation mechanisms is to prevent and to delay imitation and, if preventive imitation is not possible, then to protect the innovative firm’s market position. There are therefore many stakes. IP enables an increase in the company’s value (financial valuation because IP rights are intangible assets, improvement of the company’s image …). Moreover, it aims at organizing collaborative relations because this is at the heart of partnerships. Finally, the management of IP can federate the companies’ efforts: IP titles are not sufficient, it is necessary to set up a real IP strategy, influencing the organization of the company as a whole (raising the employees’ awareness, trainings …). Nevertheless, the companies’ willingness to use IP as a source of competitive advantage may be limited by the costs [4,6]. For an SME, its budget is proportionally more important than for large companies. The lack of internal skills in terms of IP can also be a barrier [6]. It makes the effective management of IP actions difficult. Finally, a lack of knowledge concerning IP information and the way to use it, as well as the time needed to implement a strategy, are important problems [7]. SMEs, therefore, have to be assisted in the use of IP and this issue seems to be recurrent.

The protection and appropriation mechanisms are diverse, with different characteristics as well as advantages and disadvantages [8]. The main mechanisms are legal and strategic ones. Legal mechanisms are formal instruments that involve the legal registration of an innovation, which allows the inventor to obtain exclusive rights to exploit it (patents, industrial models …). The strategic mechanisms are rather informal tools (industrial secrecy for example). Previous researches studying the use of different appropriation mechanisms by firms [5,9] have shown that SMEs seem to be more familiar with the strategic mechanisms, and more particularly in the case of this study’s field of application, the Lorraine region in France [10]. We can also observe that the level of relevance of protection mechanisms depends on two types of factors: the structural factors (size, sector, age) and factors bound to the
innovation process, such as degree of novelty and type of innovation (process or product). These factors impact the company’s protection strategy. The use of legal mechanisms seems to be determined by structural factors, and the use of strategic mechanisms tends to depend on the innovation process. To sum up, an IP-related support service for SMEs has to integrate formal and informal methods of protection. SMEs should not be urged to patent in all circumstances, but rather to give them the possibility to manage a variety of protection methods. The IP support service should assist SMEs in acquiring the knowledge of the value of their industrial property and knowledge of all IP titles as well as their advantages and inconveniences. Finally, SMEs must be made aware of the fact that IP management is a part of innovation and business strategy [6].

This article aims at estimating the influence of support service on SMEs’ progress in terms of management of their IP. An impact study of a support service (the INPI pre-diagnosis) was made through the use of the AIDA approach from the Henri Tudor Research Centre (Luxembourg) [11]. This methodology leads to the assessment of IP capabilities considering the company’s practices and competencies. The collected data were analyzed using statistical tools. This article is structured in the following way. In the first section, we present a benchmarking of the current international support services. Then, the AIDA approach (advantages and disadvantages) will be explained in the second section. In the third section, we present the methodology adopted for collecting the data and we will discuss the results obtained. Finally, we will present the conclusions and the perspectives of the present research work.

2. Comparative evaluation of international IP support services

The necessity to support SMEs with their IP-related activities is clearly an important research subject. In order to obtain a global vision of the adopted support strategies, a comparative review of IP support services designed for SMEs on an international level was conducted [12–15].

During this study, several types of services were identified, inspired by the classification of the World Organisation of IP (WIPO) [16]. Research indicates that the number of IP services amounted to more than 200. In Table 1 these services are classified according to four categories in order to identify “best practices”: raising awareness of SMEs, information provision, customized advice and financial assistance. The most recurrent categories are “customized advice” and “raising awareness of SMEs”, showing the interest in educating companies on IP strategies.

To define the “best practices” we tried to identify two types of indicators: quality indicators (what are SMEs’ expectations?) and performance indicators (what is the impact of the service?).

Regarding the quality results, we selected thirty services demonstrating "best practices" (Table 1).

The dominant quality factors from the point of view of the users are the following: the experts’ skills as well as the visibility and the accessibility of the service. The quantity and the quality of the supplied information also represent an important criterion, as well

### Table 1

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Concerned bodies</th>
<th>IP services</th>
<th>Categories</th>
<th>Proposed actions</th>
<th>Quality indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>German patent information centre Stuttgart</td>
<td>PIC (patent information centres)</td>
<td>Raising awareness</td>
<td>Customized advice to make them aware of IP issues</td>
<td>- Visibility: Good</td>
</tr>
<tr>
<td>Austria</td>
<td>National patent office of Austria</td>
<td>serv.up</td>
<td>Raising awareness</td>
<td>Information provision</td>
<td>- Experts’ skills: Excellent</td>
</tr>
<tr>
<td>Canada</td>
<td>Canadian Institute for IP (CIPO)</td>
<td>Bank of speakers initiative</td>
<td>Customized advice</td>
<td>For SMEs with very little knowledge about IP issues. Objective: having an IP experts pool across Canada Website, information about IP issues and press articles. Objective: showing that IP issues are essential for small businesses Free and confidential advice, delivered by retired or active businessmen</td>
<td>- Accessibility: Good</td>
</tr>
<tr>
<td>Denmark</td>
<td>National patent office of Denmark</td>
<td>Profitgate</td>
<td>Raising awareness</td>
<td>- Quality of information: Good</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>SCORE (Service Corps of Retired Executives Program)</td>
<td>Customized advice</td>
<td>- Experts’ skills: Very good</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>INPI (French National Institute of IP) and Lorraine</td>
<td>IP Pre-diagnosis</td>
<td>Raising awareness</td>
<td>Customized advice</td>
<td>- Accessibility: Good</td>
</tr>
<tr>
<td>Japan</td>
<td>Oséo and Technological Development Network</td>
<td>Prestation technologique réseau PI</td>
<td>Financial assistance</td>
<td>Contribution to cover the costs related to patenting (fees payable to IP experts)</td>
<td>- Accessibility: Good</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>Technology Watch Centre Henri Tudor</td>
<td>LIIP (linking innovation and IP)</td>
<td>Raising awareness</td>
<td>Customized advice</td>
<td>- Experts’ skills: Very good</td>
</tr>
</tbody>
</table>

Finally, we will present the conclusions and the perspectives of the present research work.
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