

Corporate technology out-licensing: Motives and scope

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Abstract

Recently, technology licensing has become a broader trend in many industrial companies. As this increase has not been sufficiently reflected by research, we lack a detailed understanding of the motives for corporate technology out-licensing. Moreover, the insights into the current scope of corporate out-licensing activities are strongly limited. Therefore, this paper presents the results of a questionnaire-based study into the patent and non-patent technology out-licensing activities of 154 European firms across industries. Thus, the present study provides large-scale empirical evidence for the current scope of corporate out-licensing activities. In addition, it deepens our understanding of corporate out-licensing strategies by examining in detail the motives of firms for licensing out technology. After an introduction to the topic, the design of the empirical study is described. Then, the results of the survey are presented, and implications for theory and practice are discussed.

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1. Introduction

Due to the imperfections in the markets for technology, technology licensing is much more difficult and complex than commercializing products and services [1,2]. Despite the managerial difficulties that result from these imperfections, a substantial increase in the technology licensing activities of firms across industries could be observed in recent years [3]. As this increase has not been sufficiently reflected by academic research, we lack a detailed understanding of the motives for corporate out-licensing. Moreover, the insights into the current scope of corporate out-licensing activities are strongly limited [4]. At an aggregate industry or country level, there are recent empirical data, which show the existence of markets for technology [5].

By contrast, descriptive company-level data, which give an overview of the development of technology licensing in recent years, do hardly exist. There is mainly anecdotal evidence that corporate out-licensing increased during the 1990s. The most popular example is IBM, whose licensing revenues amounted to more than US\$ 1.9 billion in 2001,

up from US\$ 30 million in 1990 [6,7]. Against this background, the present study aims at deepening our understanding of out-licensing activities at the firm level. Moreover, an integrated view of the motives for out-licensing and of their relative importance is presented.

At present, two rather contradictory facts emphasize the need for research into out-licensing. Firstly, out-licensing activity is increasing against the background of the imperfections in the markets for technology [8,9]. Secondly, many firms experience substantial difficulties in managing their out-licensing activities, whereas some pioneering firms realize enormous benefits [10,11]. Therefore, the present article presents the results of a questionnaire-based study into the out-licensing activities of 154 European companies across industries. In Section 2, the design of the empirical study is described. In Section 3, the results of the survey are presented. Section 4 focuses on the study's theoretical and managerial implications, whereas Section 5 concludes.

2. Research design

As a result of the high confidentiality of technology licensing, it was important to sufficiently legitimate the

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empirical study. Therefore, it was supported by the Licensing Executives Society (LES), an organization of practitioners in the field of intellectual property management. After analyzing the literature and conducting exploratory interviews, we directly contacted LES industry members in Germany, Switzerland and Austria. To address a cross-section of middle and large industrial firms in these countries, we additionally considered companies ranked among the 500 largest firms in Germany, the 100 largest firms in Switzerland and the 100 largest firms in Austria based on revenues. Due to the importance of the corporate intellectual property department in technology licensing, the heads of these departments were contacted. In firms with a dedicated licensing function, the head of this unit was contacted.

Thus, the study examined firms whose main business is the application of technological knowledge in own products. Accordingly, it has focused on licensing agreements based on patented or unpatented technological knowledge. Other intellectual property licensing, e.g., trademarks, has not been taken into account. Moreover, I have analyzed neither start-up companies nor firms that mainly provide R&D services. Due to the focus on technology-oriented industrial companies and due to a considerable overlap between the LES member firms and the top 500 or top 100 firms, 412 companies were identified as potential participants. Data collection was undertaken via a detailed questionnaire, which was administered in English and pre-tested with 15 persons. The relevant sections of the questionnaire are presented in the [Appendix](#). A total of 155 firms participated in the study which corresponds to a response rate of 37.6%. Of the 155 questionnaires, data were sufficiently complete from 154 firms.

The companies in the sample are relatively large with an average number of employees of 15,431 and average revenues of EUR 3912 million. Regarding the technology intensity of the companies, the R&D intensity is 6.9% on average. However, caution is required with regard to interpreting the mean of R&D intensity because it is influenced by the high values of some rather small companies. With regard to the country of origin of the firms, about 70% of the companies are based in Germany, 19% have their headquarters in Switzerland, whereas the remaining 11% are based in Austria. Concerning the distribution of the firms across industries, about 42% of the companies are active in the automotive/machinery industry, 28% in chemicals/pharmaceuticals, 18% in electronics/semiconductors, whereas the major business of the remaining 12% of the companies is in other industries.

3. Findings

3.1. Motives for out-licensing

In most cases, out-licensing transactions are not realized for one particular motive but for a combination of various motives. Therefore, a systematization of the motives for technology licensing has been developed based on the liter-

ature review and the exploratory interviews. Concerning the importance of the different motives, the results are rather surprising from a traditional view of technology licensing in the literature. Most prior works have focused on the monetary benefits of out-licensing, and most examples of successful firms, such as IBM, concentrate on monetary performance. However, the motive of *generating revenues* is mentioned by the firms in the sample only as the seventh most important motive for licensing out technology ([Fig. 1](#)).

By contrast, six of the nine strategic motives for out-licensing that were identified are considered more important. The strategic motives may be further classified into three main categories: product-oriented, technology-oriented and mixed strategic motives. *Product-oriented* out-licensing activities are mainly aimed at supporting a firm's product and/or service strategies. A product-oriented licensing strategy that has been used for a long time is *entry into foreign markets*, which is ranked as the third most important function of out-licensing. Another product-oriented aspect of licensing strategies, which is also considered more important than generating revenues, is the objective to *sell products and/or services* in addition to licensing out technology which may become the main driver of an out-licensing deal. Moreover, a company may have to actively find external adopters of its technologies due to the need to *set an industry standard*.

The *technology-oriented* motives for out-licensing are directed primarily at strengthening the firm's technological position. The aim of *guaranteeing freedom to operate* refers to a specific type of cross-licensing agreements, in which intellectual property rights are used as 'bargaining chips' in order to avoid potential patent infringement lawsuits. The motive of gaining freedom to operate is of outstanding importance for the firms in the sample. In addition,

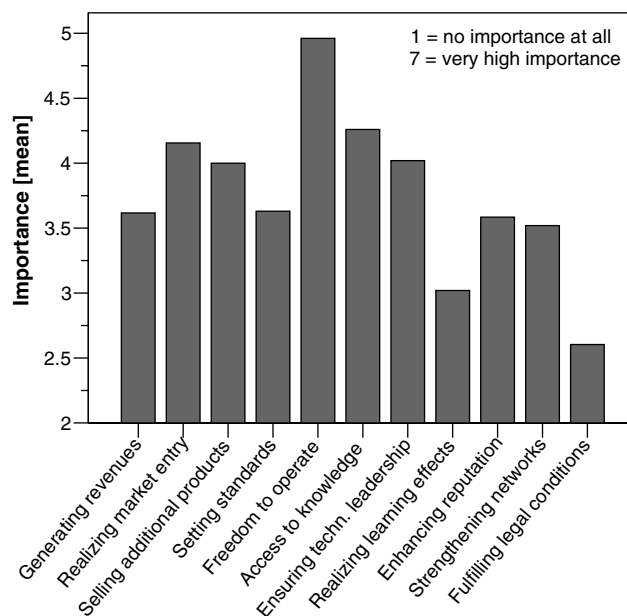


Fig. 1. Motives for out-licensing.

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