**Inventor Characteristics according to the Types of Organization Where Patents were Invented: Evidence from the Korea Inventor Survey**

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**[Abstract]**

In recent years, patents have become the most common measure of innovation output. The patent data and indicators employed in the literature are drawn largely from the patent documents. For example, we can measure the technical values of patents through patent citations and number of claims. Also we can describe the directions and geographical extents of knowledge flows among inventors. However, information not contained in the patent documents is mostly unavailable. For example, we do not have much information about the inventors, R&D objectives and motivations which had led to those inventions. In addition, we do not know whether the patent is used or it is licensed, or it has further developed into a new product by the applicant. Lately, the most natural way of collecting such unavailable information is through inventor survey. Inventor survey was pioneered by PatVal-EU in 2005, followed by RIETI/GT in 2007.

This article aims to investigate the difference in inventing characteristics of inventors according to the types of organization (large firms, small firms, universities, public research institutes) where they are affiliated. A survey of the Korean inventors was conducted in 2010 by KISTEP. Its questionnaire primarily was benchmarked the RIETI’s and some additional questions were added.

Firstly, this article finds that small firms require fewer human resources from the initiation of the research to patenting the results and application than large firms/universities/public research institutes (PRI). Secondly, R&D for generating new business is more common in Korea, regardless of the organization types. It is quite different from the result of previous survey (RIETI/GT), which R&D in both US and Japan focused on strengthening existing businesses. And inventors of universities and PRI relatively perform more R&D for enhancing the technological foundation level over the long term than the small and large firms. Thirdly, only 14% of patents are developed by individual inventors, implying that the most inventions are the outcome based teamwork. However, only 44% of patents are developed in collaboration with other institution, while the majority of co-inventors(77%) belong to the same institution. Fourthly, inventors employed in both small and large firms prefer patent literatures more than scientific papers, while the reverse is the case for inventors of universities and PRI. Fifthly, in Korea, regardless of organization types, the inventors rank “satisfaction from solving technical problem” as the most important inventing motivation, while monetary rewards and prestige/reputation are not as highly ranked, which is similar to the results of previous surveys (PatVal-EU, RIETI, GT). Sixthly, the inventors of small firms consider “pure defense to ensure that the use of own technology not be blocked by others” as the most important reason for patenting the inventions. On the other hand, inventors in universities/PRI and large firms regard “licensing” and “commercial exploitation of the patented technology in own product/process in an exclusive manner” as the most important reason for patenting, respectively. Seventhly, we find that about 77% of patents of small firms have been used for their product or for their production, which is higher than those of large firms(53%), universities(15%), and PRI(25%). Finally, this article extends its discussion to make clear both the similarity and difference in characteristics of Korea, Japan, US and EU inventors by comparing the previous surveys (PatVal, RIETI, GT) and ours.

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