



Skill-shortages as Impediment to Innovation
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The purpose of this paper is to find out how manufacturing firms (Survey of innovation 1999) and business units in selected service industries (Survey of innovation 2003) in Canada perceive the lack of qualified personnel as an obstacle to innovation. The lack of skilled personnel slowed-down or otherwise hindered innovation in more than one out of three innovating manufacturing provincial enterprises in the 1997-1999 period and one out of five establishments in service industries reported that its innovation activities were slowed-down or hindered by this obstacle over the 2001-2003 period. The high-tech manufacturing industries and services are afflicted by skill shortages more often than those with more traditional technologies.

Manufacturing industries

The probability that a provincial enterprise encounters skill-related problems in the course of innovation activities is influenced by the technology sector and region to which the enterprise belongs, by its size and by a host of innovation related variables. Large firms are affected by the skill shortages less frequently than SMEs. Innovators with a world-first product or production process are more likely to encounter skill-related obstacles than the less original ones. The technically more advanced provincial enterprises that conducted R&D and/or those that introduced the original world-first innovations were also more likely to face skill-shortages.

Services industries

The skill shortages in service industries are reported less frequently than in manufacturing. The dependent and independent establishments perceive the skill related obstacles to innovation quite differently. There is also an important difference between how various industries report the lack of qualified personnel and to what degree this constitutes an impediment to innovation.

As regards the probability whether or not a establishment will indicate a lack of qualified personnel as an obstacle, the dependent establishments consider it to be more of an impediment than the independent ones. There are two common conclusions to all of our regression analysis. First, the transport industry shows a larger probability of indicating that a lack of qualified personnel slowed down or caused problems to their innovation activities. Second, those establishments developing export markets are less likely to indicate a shortage of skilled workers.

Unfortunately, there is no reliable information in either of the surveys on the percentage of firms that did not introduce an innovation because of the lack of skilled personnel.