SMALL BUSINESS

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# RESEARCH SUMMARY

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## Small Firm Innovative Success: External Resources and Barriers

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## Purpose

The objective of this study is to investigate the factors that contribute to small business innovative success. The research is directed toward enhancing the innovative capabilities of small businesses. The study discusses a broad range of theories about the importance of location for innovative firms especially for new product commercialization--which is very different in small and large firms.

In addition, the study explores the spatial patterns of innovation by analyzing the distribution of innovation among metropolitan areas and attempts to determine the most innovative cities. The study also includes case studies of changes in innovation in three metropolitan areas--Philadelphia, Pittsburgh and the Baltimore-Washington area.

## Highlights

Small companies appear to have significant advantages over large companies in the following areas:

They are often to make changes that lead to a revised version of the same product or result in an entirely new product, or income cases an improvement in the production process.

Small firms appear to have developed close relationships with their customers and their suppliers. These linkages provide ideas for new product innovation but even more importantly, provide sources of expertise that further the commercialization process and contribute to small firm innovative success.

Innovation for the small company is the product of collaboration with research agencies, technical institutions, suppliers, equipment manufacturers, customers and even competitors.

R&D activity is integral to the operation of the innovative small firm.

The primary factors that determine a firm's innovative success appear to be the type of firm's product market and the firm's location--especially the latter which provides access to external resources.

Small companies are also frequently organized around a new product innovation.

Small companies create a niche for themselves by providing products or services that are too specialized for larger corporations to supply profitably.

Based on counts of innovations by metropolitan area and percent of national innovations--New York-Northern New Jersey is the most innovative area with 18.5 percent of the total.

Based on innovations per capita--the most innovative metropolitan areas are San Francisco-Oakland, Boston-Lawrence, New York-Northern New Jersey, and Philadelphia-Wilmington.

## Scope and Methodology

The study attempts to investigate the factors behind location and innovation for small firms. To accomplish this, the SBA Innovation Citation Data, supplemented by data from the Census of Manufactures, is used to document the location patterns of small firm innovation for three- and four-digit SIC manufacturing industries. The SBA data contain a total of 4,476 innovations in manufacturing industries, of which 3,868 were product innovations. This data set also contained the address of the company introducing the innovation.

This information was used to identify innovative agglomerations that have developed a competitive advantage in specific industries. Innovation location quotients and other measures of locational concentration are computed. Three innovative city-industry agglomerations--Philadelphia, Pittsburgh, and Baltimore-Washington--are selected for further study based on their policy relevance, economic importance, and intrinsic interest. The intent is to investigate the relative importance of factors explaining small firm innovations across industries.

In addition, the study examines new product commercialization in small companies based on interviews with companies in the three innovative city-industry agglomerations. Small companies were selected which had introduced new products to the market in 1982 and were located in a region which had developed a comparative advantage for their industry. In 1982, the companies ranged in size from 1 to 120 employees with an average of 2.7 employees per firm. In 1993 the companies ranged in firm size from 1 to 450 employees with an average size of 10.4. Over this period the average annual rate of growth was 16.2 percent although there was significant variation by geographic area and industry.

Random samples of firms in three metropolitan areas--Philadelphia, Pittsburgh and Baltimore-Washington--were selected from the 1982 U.S. Small Business Innovation Database. These included 20 firms in Philadelphia, 16 firms in Pittsburgh, and 43 firms in the Baltimore-Washington area.

## Summary

Small companies appear to have significant advantages over large companies in several ways. First, one of the outstanding features of the small company lies in its technical uniqueness with respect to its product. Small companies create a niche for themselves by providing products or services too specialized for larger corporations to supply profitably.

The small company can be self-reliant in smaller or incremental product but research which is concerned with more significant types of innovations appears to require the help of private or university research laboratories, technical institutes and professional societies. Locational proximity seems to facilitate these types of interaction.

## Ordering Information

The complete report is available from:
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