

Identification of the Technology Commercialization Strategies of High-tech Small Firms

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Purpose

Small, highly innovative companies have been at the forefront in creating the industries of the future, but finding highly innovative companies is often difficult. The goal of this study was to discover the range of business strategies adopted by small firms that focus on commercializing an innovative technology. A unique method was used to find these companies: searches of innovative terms on their websites.

Overall Findings

Searching for innovative terms on firms' websites determined that high-tech strategies could be found on known high-tech small firms but not on the control group. This indicates that this method holds promise for gaining insight into finding highly innovative firms.

Highlights

- "Serial innovators" (small firms with 15 or more patents in a five-year period) do not fit easily into business industry classifications.
- Small firm websites tend to be geared more to describing the firm, or creating an image, than seeking customers. This transparency about the firm enables researchers to evaluate their websites to determine the firms' business strategies.
- High technology small firms tend to have common strategies, while their less-innovative competitors tend to have varied strategies.
- Factor analysis showed that search terms could be created to categorize firms into the following groups:
 - science-based product/service firm,
 - R&D organization or contractor,

- product solutions provider,
- highly specialized component/module/consumable or raw materials supplier, and
- specialized subcontractor.
- The web searching method presented in the paper holds promise for capturing more than just business strategies, and in some circumstances could be a cost-effective way to replace surveys and reduce respondent burden.
- Further research is needed to find out if this search method can determine categories for random individual firms.

Scope and Methodology

The study used six classes of firm technology strategies to evaluate which category firms match.

From 80 small firm websites, 67 terms were identified as being strategy indicator terms. Using Internet search programs, the terms were run on 407 serial innovators and a control group. The serial innovators, also referred to as high-tech small firms, were found by using a previous study identifying small firms highly involved in patenting. Hoover's Company Capsules was used to find competitors to those firms for the control group.

Of the 67 search terms, 43 keywords were useful, and the number of pages mentioning the terms was captured and normalized by size of website. Factor analysis was used to detect patterns of the keywords on the websites for both groups.

This report was peer reviewed consistent with the Office of Advocacy's data quality guidelines. More information on this process can be obtained by contacting the director of economic research at advocacy@sba.gov or (202) 205-6533.

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