

OF COMPETITIVENESS IN THE AMERICAS

2014

A stylized graphic of a building facade, featuring several rectangular panels in various colors (red, blue, yellow, green) with abstract patterns and shapes. The building is shown from a low angle, making it appear to rise steeply towards the right.

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SIGNS OF COMPETITIVENESS IN THE **AMERICAS** **2014**

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The era of fast and innovative technology development is allowing countries, and regions within countries, to fight economic stagnation by creating jobs and improving the economy. Intellectual prowess is not limited to any country, so all countries can take advantage of their homegrown talent. The next step is then to encourage this talent to take on a proactive entrepreneurial role to create jobs and wealth; a supportive national strategy is essential on the issues of entrepreneurship and the commercialization of innovative technologies.

Many countries have been successful, to varying degrees, in developing entrepreneurship and enhancing economic performance. In developing a viable and sustainable strategy, it is important not to simply copy what has worked in other places, but to adapt those successes to the countries' unique environments in Latin America.

A model in the US (and worthy of being replicated) that has been successful in bringing innovative technologies to market, while creating high paying jobs and contributing to the local and national economy is the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programme. This programme has successfully been in place in the United States since the 1980s. All agencies participating in the programme do so by setting aside a percentage of their budgets for the programme (e.g. 2-3% at National Science Foundation).

The SBIR/STTR programme has been an instrumental driver of new business creation and industry-changing technology development. This funding is available exclusively to small high-tech companies working towards the commercialization of their innovative technologies

through non-dilutive grants or contracts dependent on the specific agency. This is a highly competitive programme that can be attributed to the requisite of the challenging combination of developing innovative technology, while having a strong commitment to commercialization.

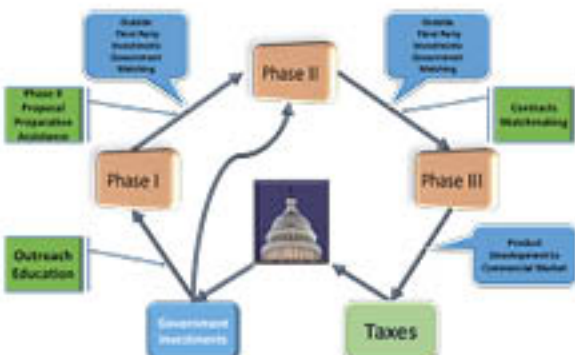


Figure 1 depicts the SBIR programme highlighting its key components.

The SBIR programme provides non-dilutive funds for early-stage research and development (R&D) at small businesses (defined in the US as <500 employees). This R&D should be based on transformational technology with high technical risk and potential for significant broader societal or commercial impact.

By providing non-dilutive funds, governments are definitely taking the responsibility of bridging the gap between pure research of a technology and the development of the technology, while encouraging the company to focus on raising additional (possibly dilutive) funds to engineer the technology into a product or a service. The Governments role is thus to de-risk the technology and spark the nascent entrepreneurship part

of the society. The constantly morphing Venture capital industry has become more and more risk averse and is more focused on larger, less risky investments than funding innovative technology projects. Venture capitalists have become more focused on market risk than they are on technical risk. By providing support to innovative technologies based in companies, Governments are also providing a technology "seal-of-approval" to their participants giving the investment community more peace of mind to move them forward and create jobs and wealth.

In the US, the SBIR programme is constituted in the following way:

SBIR Phase I: this funding is typically for a feasibility study. The company should work on overcoming the technical hurdles that could prevent a successful commercialization. This study is usually six months long ending with a final report that will be part of a Phase II submission where the company asks for additional funds towards commercializing the idea.

SBIR Phase II: with funding mostly about five times what the feasibility study phase provides it funds the development of a commercial prototype. The prototype development should be completed within two years. The level of success in the company's Phase I effort and a good commercialization plan will be key in the decision to fund this commercialization phase.

Award sizes range from \$150,000 for Phase I to \$1 million for Phase II; the amounts vary by agency. A key element of this programme is the number of investment matching initiatives that incentivize the small business to partner with investors. These incentives could add up to several thousands of more non-dilutive funds.

When evaluating proposals in the US system, they typically go through a peer-review process with representatives from academia, industry and commercial. This makes the technology, as well as the commercial potential, the guiding factors in supporting a company and its technology. To that end, evaluators are asked to assess all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and
- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

Mentoring is a critical path item to commercialization. Even in the review phase, the reviewers are asked to provide suggestions to help the company improve their success rate. Mentoring, however, is one place that even the US SBIR programme, in spite of its success, falls short. Because the government is taking risks on the technology and the new leadership team, it is important to minimize these risks by assisting these companies with commercialization training and support. The level of funding provided in these two phases is typically not enough and the startups are encouraged to look for investment from the private sector.

Although the SBIR programme has seen successes in the past, specific improvements can be made by Latin American countries while adapting and tailoring the SBIR programme to the local needs and realities. Few countries have the size and entrepreneurship tradition of the US does, so in our hemisphere, countries with same interests should pool resources and talents, and work towards implementing the programme in regions in order to produce the targeted outcome; jobs and wealth creation. This pooling of resources will bring the funds, talent and innovative ideas critical mass for successful implementation.

Critical to any entrepreneurship efforts in Latin America, as well as anywhere in the world, is mentoring. It is important that government efforts are not limited to just funding the activities but it also provides mentoring by experienced entrepreneurs and investors. This action will increase the probability of commercial successes. A true commitment from all components of a new entrepreneurship society should be present; from the governments and their agencies, universities, entrepreneurs and investors.