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SCIENCE PARKS AND VENTURE CAPITAL FUNDS

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CONTENTS

ABSTRACT

INTRODUCTION

FACTORS CONTRIBUTING TO THE SUCCESS OF HIGH-TECH CONCENTRATIONS

Growth and generation of new employment in modern technological societies is strongly driven by concentrations of new, small companies. Technological parks, be they government owned or a private enterprise, should thus attempt to form such critical masses of small technology driven companies. One way of doing so is by forming Venture Capital Funds, in co-operation with business and academia.

INTRODUCTION

All successful high-tech concentrations have achieved, as if by some magic, a critical mass, growing seemingly by themselves. Examples abound – Silicon Valley, Silicon Alley, Silicon Wadi, …How does this quasi chain reaction start, and how is it sustained? I shall start by trying to give at least a partial answer to this question, and then I'll have something to say about how you, as operators of science parks, can try to feed and accelerate this reaction.

FACTORS CONTRIBUTING TO THE SUCCESS OF HIGH-TECH CONCENTRATIONS

The following table, from the Boston Consulting Group, compares and grades centres of high tech excellence (scores are from 0 to 5, with higher being better).

The individual scoring in the table, which is fairly representative of other studies as well, can be argued, but clearly the contributing factors are as follows:

- The availability of ideas and of trained staff, both of which originate in universities or in established companies.
- Leadership, both from leading scientists, and from already successful entrepreneurs.
- Infrastructure – roads, telecomms, technology parks, etc.
- Quality of life, to attract new workers, and to keep old ones.
- A tradition of entrepreneurship, including mechanisms for the easy establishment of new companies, and for their demise.
- Venture capital.

	Silicon Valley	Boston	Tel Aviv	Munich	Austin, Texas	Nice
Distance from Universities	5.0	5.0	5.0	4.5	5.0	5.0
Human Capital	5.0	5.0	4.5	4.5	5.0	4.0
Venture Capital	5.0	5.0	5.0	4.0	4.0	3.0
Infrastructure	5.0	4.0	4.0	4.5	3.5	4.5
Quality of Life	5.0	4.5	3.5	5.0	5.0	5.0
Entrepreneurship	5.0	4.0	4.5	4.5	4.5	3.0
Leadership	5.0	4.0	5.0	4.0	4.0	3.0
Total	35.0	31.5	31.5	31.0	31.0	27.5

Table 1: Factors of Excellence in high-tech Centres

It is instructive to note that the two European sites shown in the table, Munich and Nice (Sophia Antipolis), are lacking in venture capital, entrepreneurship, and leadership. These are the main reasons why the high-tech boom seen in the US is less apparent in Europe (with some notable exceptions, namely the UK, Finland, Sweden).

When all the contributing factors are just right, the seed has been sown and the chain reaction started, it sustains itself: new ideas emerge from universities or from existing companies, which also supply the human capital. VC funds will fund the new company, which more often than not will tend to stay in the same area. This is important to remember: an entrepreneur leaving his old company to start a new one will be inclined to stay in an area he knows, where he's familiar with the available services, knows how to circumvent the traffic jams, etc. Providing the services and infrastructure are of sufficient quality.

If there are enough universities and established companies from which new ideas emerge, and if there is a sufficient pool of trained workers, and if the seed capital exists, then this mystical critical mass is reached, and the process sustains itself. (Provided the necessary conditions (ideas, funding, etc.) continue to exist.)

START-UPS AND SCIENCE PARKS

The question for science park operators is: what can they do to jump-start the process? How to attract a sufficient number of companies to their park so that the process can ignite?

Some things are self-evident:

- Be close to a cluster of universities.
- In an area with a good level of quality of life.
- Provide as good an infrastructure as possible.

Other possible actions are perhaps less obvious:

- Encourage entrepreneurs to adopt university programmes, and to foster strong relationships with universities and their students, in order to encourage budding entrepreneurs.
- Lobby government to make the environment more accommodating to entrepreneurs by, for example, making it easier to start and to terminate companies.

Last, but not least, it is suggested here that science parks establish venture capital funds.

SCIENCE PARKS AND VENTURE CAPITAL

By establishing and investing in a venture capital fund, the Science Park will be able to achieve two things:

• An investee company shall receive preferential treatment wherever possible, e.g. by paying a reduced rent, enjoying a higher level of services, etc. Thus, the likelihood that an investee company shall choose to establish itself in the park increases.

• If managed right, the fund shall be profitable, thus increasing the park's capital and enabling it to improve services, therefore attracting more residents to the park.

Some important things to note:

• It is not suggested that the Science Park establish an incubator. The park should not be involved in running the company. All relations between the park and the company should be of a commercial nature only.

• It is best if the fund's investors include local and national government, and academic institutions, as well as business interests. The wider the ownership, the wider is the network available to the investee companies to help them realise their goals, thus increasing the likelihood of success, and the benefits to the park. Connections to academic institutions can help in maintaining a sufficient deal flow. Note, however, the next two points:

• Applications for investment in the fund shall be considered without geographical restrictions. That is, the fund's investments shall not be restricted to local projects.

• The investment decisions of the fund shall be solely according to economic and business criteria. The park owner, be it government or a private enterprise, should have no word in investment decisions, even though most probably the park's investment in the fund shall come from its owner. Neither should the other investors in the fund – all investment decisions should be made by an independent investment committee.

This last point is especially important: if investment decisions are made without any foreign influences, the probability for success of the companies the fund invests in grows. Their life expectancy increases, as does their potential contribution to the critical mass, by increasing the likelihood that newer companies will spawn from existing ones, thus sustaining the chain reaction.