Replicating the Cambridge Phenomenon

What is the Cambridge Phenomenon?

The development and growth over the last 30 years of a significant number (a cluster) of high tech businesses in a university town not previously known for its entrepreneurial spirit.

The Context

Thirty years ago Cambridge was a market town with a population of 100,000 people. The city housed a world class University but very little entrepreneurial business. In 1978 there were 20 high tech companies employing about 100 people and the sub region was one of the poorest in the UK.

But in 2006:-

- Amongst wealthiest sub regions in the UK.
- 40,000 people employed in knowledge based businesses.
- 1500 ‘high tech’ companies. (Only 200 of which directly or indirectly are related to the University).
- 70 stock market quoted companies as against 1 in 1990.
- Although the City of Cambridge and the adjacent district of South Cambs accounts for only .8% of UK population business resident in these two districts currently have 8% of UK VC funding invested in them.

What factors assist the growth of a cluster?

Academics such as James Gibbons from Stanford, Anna Lee Saxonian and others have identified factors necessary for the development of a successful cluster. These can be summarised:-

- Universities and other Centres of academic excellence.
- Entrepreneurs with marketable ideas and products.
- Business Angels and established seed funds.
- Sources of early stage venture capital.
- Core of successful large companies.
- Quality management teams and talent.
- Supportive infrastructure.
- Affordable space for growing businesses.
- Access to capital markets.
- Attractive living environment and accommodation.
In a European context there is often an economic strategy with financial support from Regional Development Agencies or National Government or both which underpins the development and growth of the cluster.

How far and to what extent were the above factors present at the outset (1978) of the Cambridge Phenomenon?

In 1978 when Barclays Bank decided to proactively support the development of the high tech firms:-

- The University was academically world class but, with the exception of a few individuals, was not interested in commercialisation or entrepreneurship.
- Entrepreneurship was not acceptable in the community at large.
- There were no business angels or established funds (Barclays provided “equity through overdraft”).
- No core of successful large companies apart from Marshalls. However, the technical consultancies (Cambridge Consultants, PA, TTP and Scientific Generics) played a significant role in the development of the cluster.
- An absence of quality management teams.
- RDAs and government support and leadership did not exist.
- There were no Innovation Centres. The Science Park had been established in 1970 but it was virtually empty and was targeted at attracting larger businesses to Cambridge from outside the region.
- London as a capital market was only 40 miles away but there was very little interest from investors in the “high tech” sector.
- Attractive living environment? Good schools but poor quality housing and countryside flat and wet!


- The potential was identified by Matthew Bullock of Barclays Bank who persuaded the Regional Director of Barclays (Edmond Parker) that the Bank as a local business should adopt a positive policy towards “high tech” businesses.

- Walter Herriot was given the job on behalf of Barclays of creating and implementing a policy to help the existing businesses and encourage the growth of new ones. He:-
  - Provided business advice.
  - Ensured the bank adopted a positive approach to financing (equity through overdraft). When the bank’s track record was analysed it was found that the bank had actually lost less money as a percentage on “high tech” when compared to the rest of its local portfolio.
  - Attempted to involve the University of Cambridge. Not successful. It was only really from the late 1990’s with the advent of Alec Broers as Vice Chancellor that the University actually adopted a more positive approach.
- With Jack Lang created networks and a club – the Cambridge Computer Group. Over time this has been succeeded by a number of initiatives such as Cambridge Network, East Region Biotechnology Initiative, Enterprise Link, CETC, CHASE etc.
- Identified potential role models (Clive Sinclair, Herman Hauser etc).
- Obtained ongoing publicity in local newspapers to encourage the view that running a business, despite the risks, was an acceptable activity.

The result of the above was that the number of companies increased from 20 in 1978 to 365 in 1985.

**What did we actually do? The more formal approach (1986 - )**

In 1985 Barclays employed Segal Quince Wicksteed (SQW) a firm of economic consultants to evaluate what had been achieved. They branded the activities as “The Cambridge Phenomenon”. Following this report Barclays felt that their role had been fulfilled and withdrew support encouraging others to pick up the baton. Key initiatives which have sustained the Phenomenon have been:

1985 - Prelude (Venture Capital Fund).
1987 - St John’s Innovation Centre (Incubator), CRILL – a seed fund.
- Business Angel Groups formed (eg GEIF).
1998 - Institute for Manufacturing established.
- Cambridge Network formed.
- Greater Cambridge Partnership formed.
1999 - University of Cambridge Entrepreneurship Centre (Advice & Support for members of University of Cambridge).
- University Challenge Fund (Equity for University spin outs).
- EEDA (Regional Development Agency) established.
2000 - East Regional Biotechnology Initiative (ERBI)
- Library House
- Technopole.

**Is the Cambridge Phenomenon Replicable?**

The Cambridge Phenomenon has been very much a “bottom up” initiative. There has been no “cunning plan” but initiatives have evolved to meet need. Often these initiatives have involved key contributions from civic entrepreneurs ie people from the private sector who have not benefited directly themselves from the creation of wealth but have been able to use their support and influence to create initiatives to promote entrepreneurship.
Every region is different but if it has a competitive advantage eg in the case of Cambridge technology spinning out of the university, this can be exploited if:-

- The potential is identified and grants, equity and bank finance is available to achieve the potential.
- There is leadership to “get things done” at a strategic level.
- There are facilitators who operate at the level of the firm with advice and guidance.
- Networks are established to encourage shared learning and the ability to “do business”.
- The profile and importance of entrepreneurship and the cluster itself is raised to encourage others.

Summary

Although comparing Cambridge to Silicon Valley is like “comparing a humming bird to a vulture”, the cluster is significant in UK and European terms. The cluster is perhaps best now viewed as part of the London – Oxford – Cambridge Golden Triangle rather than in isolation.

The Cambridge Cluster achieved critical mass largely due to civic entrepreneurs using cost effective techniques (“Entrepreneurship on a shoe string”). It has, however, become professionalised over time and some of the supporting organisations such as ERBI, Cambridge Network and St John’s Innovation Centre are themselves regarded internationally as examples of best practice.

The Cambridge Phenomenon is of its time and place. It may be particularly ‘English’ in that until relatively recently central and regional government have not been particularly proactive. Indeed until the mid 1990’s the Phenomenon was a bottom up initiative almost entirely with no direct government participation. The Regional Development Agency (EEDA) however, now supports, for example, programmes run by the St John’s Innovation Centre as part of its Enterprise Hub Initiative. If, the cluster is to continue to thrive more such support is needed.

I hope, however, that the presentation demonstrates that there is much that individuals themselves can do to stimulate high tech businesses and the growth of clusters.

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