

Why Did They Divide the UK Innovation “Lake” into “Ponds”?



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What are the latest changes in the innovation policy in the UK?

In summary, recent changes in government direction have taken certain aspects of government to a local level but the innovation agenda has been moved back to central government.

In 2008 the Technology Strategy Board's own strategy (“Connect to Catalyse: A strategy for Business Innovation 2008-2011” TSB, 2008) identified the need to “simplify and streamline” innovation support mechanisms. A government White Paper put out by the then Dept for Innovation, Universities and Skills (DIUS) “Innovation Nation” (“Innovation Nation” DIUS White Paper presented to Parliament March 2008.) called for the standardization of vital components of the innovation system to enable pull-through of products and services and provide confidence to consumers and investors. The latter also suggested “innovation often does not obey artificial administrative boundaries” and proposed that the “challenge is to create a framework at national and regional levels where activities to support innovation are focused in cooperation between different the actors involved, are responsive to different places and spatial levels and work across administrative boundaries”.

The Sainsbury Report “Race to the Top” (Implementing “The Race to the Top” Lord Sainsbury’s Review of Government’s Science and Innovation Policies. DIUS. 2008.) tasked the Regional Development Agencies (RDAs) with leading economic development by promoting a regional dimension to the national economic performance.

RDAs promoted “Technopoles”, structures founded on people in a social environment that promote enterprise. The strength of a Technopole is defined by the region’s “Intellectual Capital” and the effectiveness of a region’s ability to manage and develop its assets related to knowledge creation and exploitation. This is a function of the critical mass of entrepreneurs and experienced management, the relevant

professional service provision, sources of the ideas and intellectual property, public and private sector funding and physical infrastructure such as innovation centres, incubators and science parks.

Technopoles, innovation ecologies, are innately unstable if one or more of the Intellectual Capital components is weak or missing. The creation of the administrative boundaries led to the UK innovation “lake” being divided into RDA “ponds” that [often] could not support complete knowledge-economy ecosystems.

The change of government in 2010 resulted in the planned closure of the Regional Development Agencies (from March 2012) and the establishment of Local Enterprise Partnerships (LEPs; from April 2011). One could suggest, indeed I have, that the LEP localism agenda risks dividing the ponds into “puddles”; in puddles, whole ecologies are unlikely to be sustainable.

So, with the change of government came a change in approach from an innovation support mechanism that had been driven at a local or sub-national level to one that is going to be driven from a national level from the Department of Business Innovation and Skills (BIS) with aspects of the strategy managed by the Technology Strategy Board (TSB). As well as creating LEPs the government has also dismantled Business Link which was a national structure run at a local level through the RDAs that provided business advice – some would say with limited success, especially for the tech-based sectors.

What may be achieved through these changes?

Assuming local interfaces can be achieved, which I believe should be through the UK’s science parks and innovation centres, the innovation agenda will then be addressed as the “lake” not the “puddle” – to help ensure complete innovation ecologies. Reduced duplication of support services and access to the best not just local support for the new ideas

How does the legislation regulate the innovation process?

Answer as above in terms of regulating the support for innovation... Other factors are fiscal measures such as corporate and personal tax incentives to encourage investment into R&D and the commercialisation of new innovative products and services. Recent cuts to the public sector funding has also resulted in severe limitation, if not cessation, of equity funds based on public monies.

What are the major participants in the innovation process in UK?

- Universities as a source of intellectual property;
- Individual entrepreneurs taking personal risk to get their ideas to market;
- Government through fiscal incentives, grants and (in the past) publicly-funded equity funds willing to invest in early stage technologies;
- Larger corporates through corporate venturing and by acting as a the ultimate route to market for technologies generated by start-ups;
- In the biotech sectors the pharma multinationals are particularly key;
- Incubators, innovation centres and science parks.

How important is the government role compared to that of the market forces?

Importance is in terms of helping to manage early stage risk – market failure where the private sector finds the activities too risky. Public funds help address the equity gap. That said there comes a point where government's role should end and the private sector needs to take over, so that the market forces can exert Darwinian selection to ensure the new products and services are truly commercial.

What helps and what hinders the development of innovation system in UK?

A mature venture capital community helps as does a strong university research base. UK tax system helps and an increasing number of experienced CEO's and senior managers.

The lack of true early stage risk taking by VCs hinders start-ups. In

Oxford it is the technology clusters that have developed around the two world class universities over the last 30-40 years. Other hot spots are driven by universities or centres of technology including multinational companies – e.g. pharmaceutical.

How do you explain it?

The effect of clustering, the aggregation of all the necessary components – people with ideas and technology primarily driven by university dons but also from people exiting large corporate as a results of mergers, acquisitions and/or downsizing, people with relevant commercial experience and people with funds to invest.

What were the areas where innovation failed to produce breakthrough despite efforts so far?

In areas dominated by the old/sunset industries such as heavy engineering and manufacturing.

knowledge-based communities operating within a geographic location.

It is interesting to link urban locations and science parks: The importance of “New Century Cities” in tomorrow's economy is increasingly being recognized and this is translated into Knowledge Quarters in cities around the world. The future plans for the development of science parks such as Birmingham Science Park Aston are directed at offerings that promote knowledge-economy led recovery as a consequence of their/our urban location. Either as part of a national initiative, or as a locally inspired one, such parks will create and operate a knowledge-driven growth hub, to promote regeneration in and around Birmingham.

Could you dwell upon the most improved innovation parks in UK?

Lead ones in UK: Cambridge/Milton (Oxford), Manchester/Guildford and for a biotech focus BioCity in Nottingham. There is a new generation of parks based on unique R&D facilities such as Harwell (ex UK Atomic Energy Research Station) or alongside big company R&D facilities – Martlesham (BT); Colworth (Unilever) and a new one in Stevenage (Biocatalyst on the GSK campus).

I also believe our plans for a Science Park Without Walls will be seen as innovative in the coming year or two.

What is your forecast for the development of innovation system in UK?

Science Park WILL become of increasing importance as a focus for activities but with three differences...

Increasingly centred near corporate rather than academic centres of excellence;

Increased focus on urban locations as drivers of urban regeneration;

Connected urban development as a consequence of the fact that the availability quality and efficiency of the web infrastructure will determine the strength of digital communities: the strength of digital communities will determine the pace of innovation and as the pace of innovation determines the effectiveness of the “science park” digital connectivity rather than geography will increasingly become the reason why a given location will be successful at driving the innovation agenda.

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comparison to the USA the fact that equity funding is drip-fed as small sums into ventures is a significant problem as it means numerous investment rounds are required with concomitant dilution of founders and the early investors interest in the ventures. Lack of timely major investment means founders exit relatively early to protect their returns but then do not see the businesses grow as UK companies. These ventures are then often bought by overseas investors with deeper pockets. There is concern over the fact that whilst UK produces many technology opportunities and SMEs, a number of them gazelles, few become big gorillas – UK has not yet produced a Google, Facebook or PayPal.

What are the main innovation regions in the UK?

In terms of innovation the key clusters are: London, Cambridge and Oxford. In terms of London it is driven by strong universities and access to the financial markets. In Cambridge and

What was the reason?

Lack of relevant expertise and experience/competencies in the knowledge-based economies – as management experience around low tech or mass manufacturing and work-force skill sets not relevant to the new industries. In many such areas overall education attainment levels also lower than in the more successful areas.

Lack of tech-savvy investors – note 70% of UK venture capital spent in the Greater South East (defined as the Cambridge/London/Oxford triangle).

How important are technological (innovation) parks?

Biased view but I would say crucial, especially going forward – science parks are generally recognized world-wide having a proven to be a driving force for accelerating entry of products and services into the market and are often at the heart of technopoles. They are seen to stimulate and accelerate innovation through agglomeration of talent, technology and finance creating