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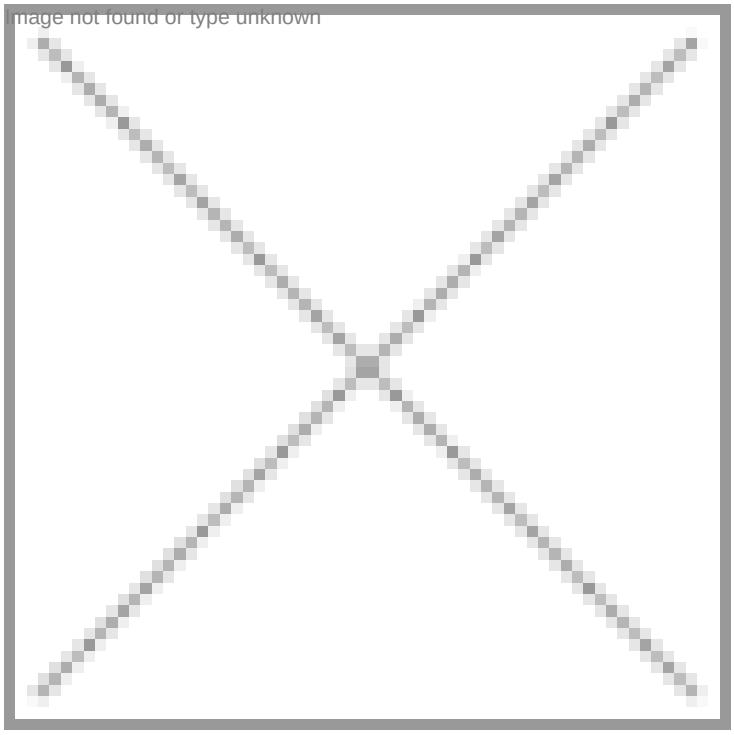

"Spin-Offs Have Yielded Lucrative Revenues to Universities or Their Corporate Parent"

-Dr Geeta Gupta, founder and director, Life Science Partners Ltd.

Dr Gupta is currently heading business development for the Technology and Life Sciences Team at Lloyds TSB Corporate. Her role ranges from outlining strategy for new business, forming strategic links with life science investors, businesses and technology transfer organizations and defining group policy for biotechnology. Dr Geeta Gupta shares her views on the prevailing spin-out trends in the UK.

What is the scenario of spin-outs now in the UK?

In the UK spin-out activity is a result of spin-offs from either the universities or the corporates.

The former activity is largely more predominant with several universities spinning-out companies that have either raised several venture capital rounds of investment and exited via trade sale or IPO on London Stock Exchange (LSE) or the technology rich alternative market AIM. In either cases, these spin-offs have yielded lucrative revenues to universities or their corporate parent with the result that universities are investing in technology transfer, intellectual property and patent generation offices, entrepreneurship courses and commercialization arms.

East of England is a prime example as the most mature and prestigious biotechnology cluster in the UK. The city of Cambridge represents its hub, with a strong science base that comprises not just the University, but also Addenbrooke's hospital, the Medical Research Council Laboratory of Molecular Biology (MRC-LMB), the Sanger Centre and the Babraham Institute and over 250 biotechnology companies. As other bio-cluster cities in the UK, the success of Cambridge is due to several factors:

Training and courses are available to turn scientists into entrepreneurs. On a national level, research councils have a number of initiatives aimed at encouraging the commercialization of research. BBSRC provides a range of training opportunities such as the Biotechnology Young Entrepreneurs Scheme (YES Competition) jointly run with the University of Nottingham, the bioscience business plan competition is run to increase awareness and help the formation of new bioscience ventures by providing training, mentoring, and advice on knowledge transfer, innovation, and business issues. In addition, the BBSRC's Industry Fellowship Scheme and Knowledge Transfer Partnerships are designed to establish and enhance links between industry and academia. Cambridge has joined forces with the MIT and is in the seventh year of running for £50,000 and £1,000 competition that has led to the creation of several entrepreneurs
and ventures.

Regional networks including Biology in Business (BiB), the East of England Biotechnology Initiative (ERBI), and the Cambridge Network are crucial in bringing together scientists, business managers, property developers, and financial investors.

Cambridge has a specialized Technology-Transfer department where professionals are available to help bio-entrepreneurs consider the available commercialization options either via licensing or company formation.

An outcome of biotechnology clusters is the emergence of Incubators that are aggregates of early stage companies sharing resources such as equipment, laboratory space, meeting rooms and cafÃ©'s. Such specialist concepts provide the correct environment for entrepreneurial thinking, networking opportunities and low cash burn due to shared facilities.

Support infrastructure such as early stage investors, lawyers, bankers, auditors, consultants and patent attorneys with specialist sectors skills are in abundance in Cambridge. The University Challenge Fund (UCF) for example, is a Cambridge University fund that can offer up to £60,000 research funding and £250,000 seed funding, as well as support. Most regions also have business angels, groups of individuals with relatively small amounts of money (up to £0.5 million) to invest in early-stage companies. The Cambridge area is particularly well-served, with the Great Eastern Investment Forum (GEIF), the Cambridge Angels (CA) and Cambridge Capital Group (CCG).

Another source of development funding may be charitable organizations such as Cancer Research UK that owns a technology-transfer company called Cancer Research Technology Ltd that encourages start-up companies to get partnered products onto the market. Wellcome Trust and Medical Research Council (MRC) have similar initiatives. NESTA is lottery endowment money that has funded several early stage technology and biotechnology companies. However it operates like a VC fund more than charity.

Corporate Spin-Off activity has been a result of either incubator parks or in house venture capital funds. Unilever has an incubator site in Colworth, Bedford that houses several internal and external early stage companies that have an interest in FMCGs. Unilever also has a venture arm called Unilever Ventures that invests in both internal and external deals. Most Pharmaceutical companies like GlaxoSmithKline and Novartis have venture funds that invest not only in internal spin-offs but also hedge by investing in external deal-flow. Johnson & Johnson pulled out their venture arm from the UK and have retracted their activity back to the US. The other reason for corporate spin-offs is when certain technologies do not align with the main platform technology of the company and are better exploited by spinning-ff as a separate company. Such examples are few.

What are the current trends?

The current trends have been governed by the funding environment being tight for early stage companies and providing professional commercial support and mentoring to early stage companies.

(a) Universities' Commercial arms/Technology Transfer have gone a step further and tried to set up their funds besides the Challenge Fund to fund their start-ups. For example, IP2IPO represents a new way of combining the resources of the public and private sectors by providing significant support for its university partners' IP commercialization activities and in particular, expertise in the identification of novel intellectual property with commercial potential, seed capital finance for spin out

companies and ongoing strategic and financial support for spin out companies to maximize their chances of success.

In January 2005, Biofusion signed a 10-year exclusive agreement with the University of Sheffield to commercialize all the University owned medical IP. Biofusion, founded in 2002 to commercialize university intellectual property, listed on AIM raising £8.2 million.

Imperial College London and its technology commercialization company Imperial Innovations jointly raised over £20 million from a private placement to institutional investors in April 2005. The private placement of shares in Imperial Innovations was the first by a UK university-owned technology transfer business. The College will use its £10 million from the sale to support its financial strategy of building freely disposable capital for its academic mission. Imperial Innovations will invest its £10 million back in the spin-out companies that it helps to generate, speeding up the process of formation, development and growth.

(b) More sophisticated technology transfer departments with mentoring: Institutes like Babraham Bioconcepts, a technology accelerator focuses on the translation of new technologies, offered by advances in bioscience and related disciplines, into investment-ready businesses. Babraham BioConcepts provides business and technology mentoring, office and fully equipped laboratory accommodation and access to a team of development scientists to catalyze the delivery of timely exemplification of new technologies in return for equity in the business.

- Cambridge Enterprise exists to help University of Cambridge inventors, innovators and entrepreneurs make their ideas and concepts more commercially successful for the benefit of society, the UK economy, the inventors and the University.

- Cambridge University Entrepreneurs Business Plan competition winners now present to a panel of angel investors who are likely to invest in the business should the idea impress the angels.

(c) Virtual Companies versus Licensing Strategy

With lack of funding, most spin-offs are using the virtual model to save fixed costs related to lease and overheads and maintain an outsourcing model, where they can identify expertise outside their organization for development of their technology. The other model is consolidation of technologies and IP within a single company vehicle as a more powerful offering. A number of universities have also gone back to licensing model rather than setting up a number of companies and taking overheads of several duplicates of management teams and lease costs. This approach can have a downside as out-licensing may only yield modest revenues compared to the upside in spinning off as a company.

Starting to fill the evidence gap

Tim Minshall from St. John's Innovation Centre and Bill Wicksteed, a Director of SQW, conducted a pilot research project funded by the Gatsby Charitable. A report, published in January 2005, highlights the ways in which university spin-out companies can deliver value to universities and regional economies. This issue continues to attract much interest from policymakers. Extracts from the report.

There are three clear categories of spin-outs, all of which have the potential to deliver value but in very different ways: (1) Spin-outs with identifiably high growth potential, capable of attracting venture capital investment; (2) Spin-outs that are likely to be serious businesses in that they create employment and generate profits, but which may have limited or slower growth potential; and (3) spin-outs that are commercial development vehicles for a technology which, in due course, is likely to be commercialized.

There are marked variations in numbers of spin-outs between the large, research intensive universities, and those with smaller research budgets. However, the number of spin-outs should not be interpreted as a free standing indicator of the relevance of the university's research to the commercial world. It should also not be used uncritically as an indicator of the level of entrepreneurial enthusiasm amongst staff and other researchers.

Different categories of universities will have different strategies for commercializing their research outputs, and they need to develop appropriate systems for doing so. Seeking generic approaches-and generic measures of success-across all universities may not be helpful.

There needs to be better data on the performance and impact of these spin-out companies to ensure that public policy is most effectively targeted.