



FACILITATION COLLABORATION WITH INDUSTRY AND GOVERNMENT THROUGH INNOVATION

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WHAT IS INNOVATION?



"Innovation is the lifeblood of any organization. Without it, not only is there no growth, but, inevitably, a slow death."

- Don Sheelen





DEFINITIONS

Classic definitions of innovation include:

- ▶ **The act of introducing something new: something newly introduced (The American Heritage Dictionary).**
- ▶ **The introduction of something new. (Merriam-Webster Online)**
- ▶ **A new idea, method or device. (Merriam-Webster Online)**
- ▶ **The successful exploitation of new ideas (Department of Trade and Industry, UK).**
- ▶ **Change that creates a new dimension of performance -Peter Drunker (Hesselbein, 2002)**



CU-EIE DESIGNED PODIUM





The *creativity* and *inventiveness* of our people is our country's greatest asset and has always underpinned the UK's economic success. But in an increasingly global world, our ability to invent, design and manufacture the goods and services that people want is *more vital to our future prosperity than ever*.

Hon. Tony Blair, UK Former Prime Minister





This means that the UK should be a country famed not only for its outstanding record of discovery but also for innovation, a country that invests heavily in business R&D and education and skills, and exports high-tech goods and services to the world. We also want to be a country with strong science and technological links with the best research around the world, so that we can stay always at the leading edge.



Lord Sainsbury, Former Minister for Science and Innovation



GOVERNMENT AND INDUSTRIAL COLLABORATION THROUGH INNOVATION

- Collaboration as a powerful engine.
- Acting in isolation, academia cannot achieve its primary goals of knowledge creation and dissemination
- Synergies between academia and industry secure and influence additional resources for institutions, promote innovation and technology transfer.





The linkages between academia, industry and government can take various forms and involves different intensity of engagement.

- Traditionally, this includes programs like SIWES, CUIITS etc.
- Staff exchanges to more complex partnerships such as business and technology incubators, industry sponsored and the like.





Academia- Industrial linkages can be either formal or informal.

- It could be with organized formally with liaison offices and technologies transfer offices .
- It could be the establishment of science parks on or near campuses to facilitates such interaction





THREE MODELS FOR ACADEMIC-INDUSTRY-GOVERNMENT LINKAGES

- **The National System of Innovation (NIS) framework.**

- Views innovation as a collective process in which firms do not innovates in isolation but within a large system involving firms, universities, research centres, government agencies and others. This system considers economics and institutional structure of a country that influences the development diffusion and use of innovations.





- **The triple Helix Model.**
 - Developed by Etzkowitz and Leydesdorff in 1997. Views innovation as a product of interaction between three main actors: academia, industry and government.
- **Mode II Knowledge Production.**
 - In these model ,innovation is viewed as context driven, problem – focused and interdisciplinary. Knowledge is produced in the context of application, quality control, social accountability, reflexivity and heterogeneity organizational diversity



THE CORE ELEMENTS NEEDED FOR COLLABORATION

A. UNIVERSITY LEADERSHIP IS VITAL

- Must make University–Industry partnership a strategic priority and communicate the message regularly to the entire academic community.
- Must create a joint streaming group including senior academics and company executives.
- Make the goals and benefits of partnership clear to the entire faculty.
- Design incentives for University faculty and provide resources to manage a cultural shift that does not undercut basic research but put a clear priority on engaging with industry for mutual benefit of society.



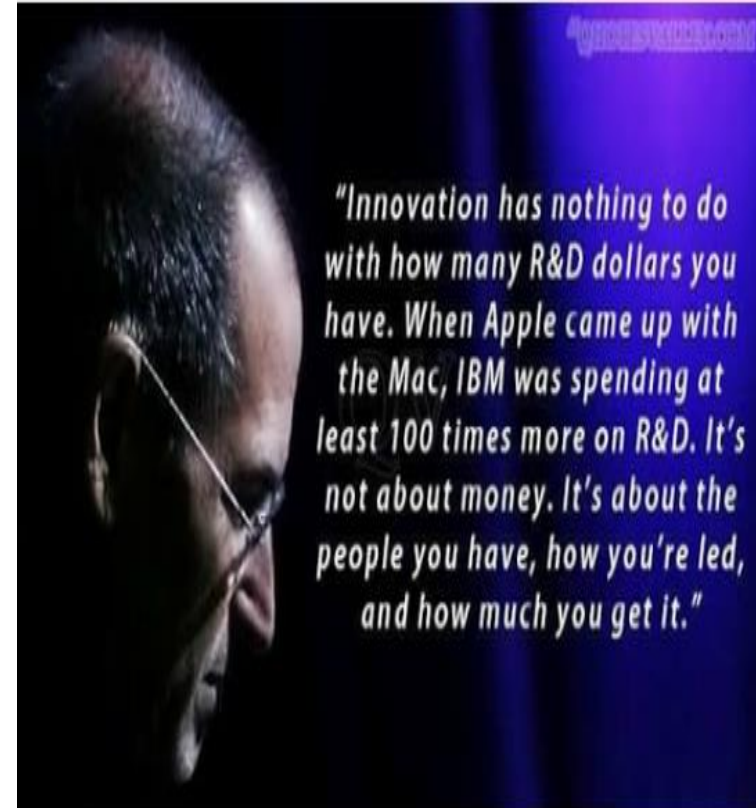
LONG-TERM STRATEGIC PARTNERSHIPS WITH BUILT-IN FLEXIBILITY.

- The most fertile starting point for a partnership is one that allows industry to do something it can't do itself.
- The world leading technology multinationals have dozen if not hundreds of strategic partnerships with universities.
- The growth of these alliances reflects the evolution of corporate R&D away from basic research towards research that is much nearer to the company's immediate needs.
- Long-term strategic partnerships focus the University creativity and talent on enabling future innovations that can be taken to market by industries and deliver benefits to the society within 5 to 10years.



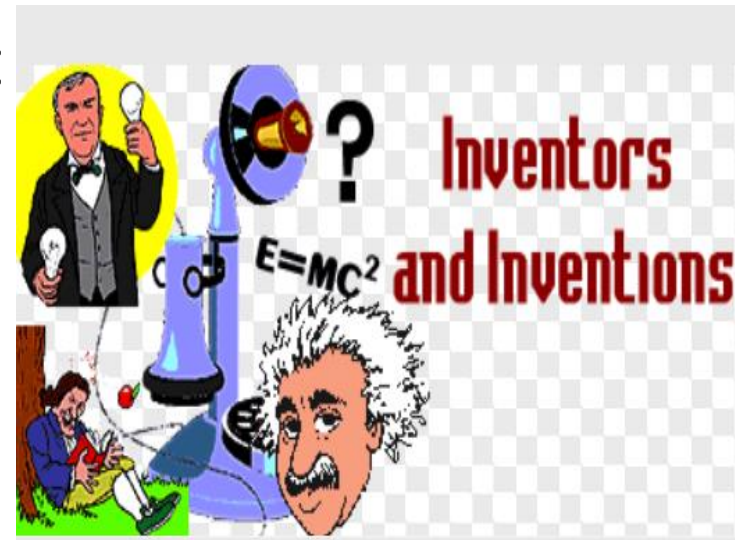
START WITH A SHARED VISION AND DEVELOP A STRATEGY.

- The first step to a healthy collaboration with industry and government partnership is accessing the core academic strength of the University and the core research competence of the company to identify promising opportunities for collaboration.
- Senior executives and University experts should map out together the key questions and research challenges that are a high priority for both. Encourage sufficient high level exchange of information and brainstorming to enable common areas of interest to emerge.



3 DIFFERENT TYPES OF POSSIBLE PARTNERSHIPS

- Strategic, Operational and Transactional
- Strategic means a partnership that runs for 5-10yrs and need a broad flexible agreement.
- The knowledge produced by the collaboration is likely to influence the Universities future research and teaching and company's strategy.



- Operational partners have a research project with a division or a particular R&D Lab and run for one to three years (NCC research grants with M2M lab. in EIE). They can be valuable for building ties that leads to a strategic partnership.
- Transactional Partnerships are lesser interactions, such as an executive agreeing to teach a course, which may lead to doing more and bigger project together in the future. These, too, can ultimately give rise to a strategic partnership.



PUT THE RIGHT PEOPLE IN CHARGE – THOSE WHO CROSS BOUNDARIES

- People determine the success or failure of industry–University partnerships. To attract industry involvement, Universities must have people capable of building and managing partnerships. Collaborations only work well when they are managed by people who have a deep understanding of the two cultures they need to bridge.
- University programmes need to be strongly oriented towards helping solve the scientific and technological challenges that companies care about. That means breaking down barriers inside the University and engaging faculty who have industry experience.



KICK-START THE DIALOGUE – ENCOURAGE CROSS-FERTILIZATION OF IDEAS

- There is no short cut to cultivating personal ties that can lead to the most creative and promising collaborations
- We should be able to create opportunities for academics and company researchers and executives with shared interest to come together and develop a dialogue informal exchange over lecturer or seminars that bring both sides together can spark conversations and lead to new relationships.



DON'T GET HANG UP ON INTELLECTUAL PROPERTY

- We should develop a broad over searching framework agreement and work out details on a case-by-case basis.
- A framework agreement saves time and avoids acrimony that often results from too narrow a focus on who own what.



SIGNED MoU's

- For most of our signed MoU's the management should form an executive board and meet regularly to encourage strong two-way communications between academics and senior company's officials.
- The chair should follow-up regularly with members to keep dialogue flowing and encourage impromptu feedback on the project from both sides at any time.
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- Executives tend to walk away from Universities that have too inflexible an approach to IP, no matter how good the science.
- IP is important, but must not be viewed as the centrepiece of Industry University should be entangled in providing solutions for the economy. The income stream will be greater and benefits wider.
- Often times the role of IP is over-emphasised, the true value in R&D is often the tacit knowledge it produces.



DON'T GET HANG UP ON MEASURING THE RESULT OF A STRATEGIC ALLIANCE

- The most fruitful partnerships take time to bear fruit. Setting up artificial metrics to measure can undercut the alliance and fail to capture the unanticipated benefits that accrue when a strategic relationship is built by people who understand both words.
- Both parties should avoid measuring relationship value in metrics such as paper published or patent applications filed. The quality and nature of scientific breakthrough vary, and volume does not automatically equate with value.



