# The Growth of Open Innovation

Tim Francis, PhD





# Introduction

- Open innovation and its growth
- Open innovation in practice
- Facilitating Open Innovation JISC project





### **Open Innovation**

#### Open Innovation

Henry Chesbrough, Haas School of Business, University of California, Berkeley

"The use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology."

#### **Closed Innovation**

The traditional model of innovation that occurs within the boundaries of the organisation, typified by the large inward-looking R&D departments of global technology companies

JISC



# **Closed Innovation**

IISC





# **Open Innovation**





JISC

# The Era of Open Innovation

- Abundant knowledge
- Mobility
- Venture capital
- Fast time to market and short product life





# **Open Innovation in Practice**





# InnovationXchange (IXC)

#### **Connecting clients to organisations and technology to create business opportunities**

- IXC is a global knowledge network designed to help firms, universities and research institutes exchange insights, ideas and innovations.
- Formed in 2003 in Australia by John Wolpert
- IXC UK is part of the global expansion of the original Australian network
- The main features of the model are:
  - Highly qualified staff (Technology Intermediaries) embedded in client for up to 3 months
  - Absolute commercial neutrality
  - Absolute confidentiality
  - Databases of people and companies





### InnovationXchange

- 250% growth in client base in last 12 months
- Evaluation identified
  - Attractiveness of combination of commercial neutrality with absolute impartiality
  - Ability to find and introduce them to opportunities from outside clients' disciplinary and sector boundaries
  - Extra resource, fresh perspective, new information, contacts and links and contribution to shaping the strategic direction of research



### InnoCentive

#### **Prize-based open innovation**

- Venture capital arm of Eli Lilly founded the company in 2001 and spun it off in 2005
- InnoCentive expanded by partnering with many different companies to serve clients in a variety of industries
- Connects companies, academic institutions, public sector and not-for-profit organisations via an Open Innovation Marketplace<sup>™</sup>
- The InnoCentive web platform for open innovation allows companies (seekers) to post challenges against identified scientific problems or needs on the web-site
- Solvers respond to the challenges from around the world with their solutions
- Solutions are evaluated by the company and the most innovative ideas (solvers) are rewarded with a monetary prize ranging from \$5,000 to \$1,000,000





### InnoCentive

- To date
  - Total Solvers: 180,000+
  - Total Challenges Posted: 897
  - Total Award Dollars Posted: \$22.1 million
  - Total Solution Submissions: 14,690
  - Total Awards Given: 472 with a value of \$4.42 million
  - Average Success Rate: 45%



### **Spreadshirt**

#### User innovation for "personal branding"

- Founded in 2000 in Leipzig
- Spreadshirt enables individuals to get their ideas and creative designs on to t-shirts
- The ideas/designs submitted to the site are processed and printed and shipped by Spreadshirt
- Platform has widened to enable people to sell their designs in their own Spreadshirt online shop
- Designers set the commission on products and the commission received on every printed design is credited directly to the designers account
- The platform has evolved a sense of community as designers, creative minds and business people communicate openly





# Spreadshirt

- To date
  - 500,000 Shop Partners have registered with Spreadshirt
  - 1,302,383 t-shirts shipped in 2008
  - Average commission set by Marketplace designers per design sold in 2008 was €0.73
  - Average monthly earnings of the five most successful private Spreadshirt Shop Partners in 2008 was €4,894



# **Centres of Industrial Collaboration (CICs)**

#### Enabling collaboration and innovation amongst business and universities in Yorkshire

- CIC programme was established in 2006 by Yorkshire Forward
- £11 million initiative to help businesses collaborate and harness innovation and expertise from universities within the region
- CICs accredited for six main industrial sectors including Healthcare, Pharmaceuticals, Chemicals and Biotech, Aerospace, Digital and Electronic, Food and Drink, Automotive.
- Each CIC has a Commercial Manager, a Centre Director and a Scientific Advisory Board
- The centres deliver
  - Business solutions through short-term analysis and testing
  - Independent validation of technology
  - Process improvement
  - R&D projects
  - New product development
  - Longer-term strategic partnerships

PERA The Innovation Network

### **Centres of Industrial Collaboration**

- CICs have
  - Worked on more than 1500 projects with business
  - Grossed more than £38m of income
  - Created or safeguarded 1400 jobs



# Social Innovation Lab for Kent (SILK)

#### **County Council User Innovation**

- A unit of Kent County Council to enable the Council to match its strategies and policies to residents' changing needs
- Expert social researchers facilitate the use of external inputs to the design of Council services
- SILK's activities are based on the following principles
  - Insights and ideas can and should come from anywhere and everywhere
  - People are usually the experts of their own lives, their families and communities
  - The more people are involved, the greater the chance of making it stick
  - Collaborative working using various platforms and tools.
- Takes stakeholder engagement back to the design stage, rather than post-design outcomes on which comments are requested



### **Social Innovation Lab for Kent**

SILK projects are structured along the following stages:

- Initiate creates a detailed project plan
- Create has an emphasis on getting many ideas from a variety of sources
- Refine refining, prototyping and testing concepts with project stakeholders
- Define a report capturing the service vision and opportunities identified or project initiation documents for a new project/service innovation



# **Facilitating Open Innovation: Landscape and Feasibility Study**

**JISC Project** 





# Aims and Objectives

- To conduct a landscape study investigating the current and recommended future state of OI practice, models and tools used by HE/FE institutions and external partners in collaboration
- To describe successful types of co-development between institutions and external partners
- To proposes measures to overcome barriers to co-development
- To examine the feasibility of enabling a virtual market place for online institutional-external partner co-development of knowledge assets



## Methodology

•

- Secondary research to review the open innovation literature
  - Identifying and analysing a wide-range of sources
  - Provided the background and context
- Primary research to gather open innovation user opinion
  - Survey of over 150 individuals
  - 30 experts in the field interviewed
  - 5 focus groups of open inovation practitioners
- Representation from a broad spectrum of individuals and sectors





# **Findings – Enabling Conditions**

- 1. The organisation and its capability
  - Motivation
  - Value creation
  - Information management
  - Absorptive capacity
  - Ambidexterity
  - Marketing
- 2. Applied research, development and demonstration arrangements
  - Financial incentives
  - Results management
  - Standards
  - User innovation
  - Customer relationships



### **Findings – Enabling Conditions**

- 3. Engagement at organisational level
  - Human capital
  - Support for interaction
  - Harmonisation of agendas
  - Technology markets
  - Use of intermediaries
  - Regional clusters
- 4. Entrepreneurship

- Access to private finance
- Public procurement of R&D and its outcomes
- Implementation routes for commercial or non-commercial application



### **Findings – Enabling Conditions**

- 5. Science policy
  - Appropriate funding levels
  - Focus on quality
- 6. Education
  - General stimulation
  - Entrepreneurship education
- 7. Labour markets
  - Flexibility, expertise exchange and commercial roles
- 8. Competition
  - Global connection





### **Findings – Critical Factors**

- Intellectual Property
  - Reason not to engage
- Culture
  - Different goals
- Defining the problem
  - Features and benefits
- Finding the right people
  - Difficulties with large organisations
- Trust
  - Fundamental to collaboration





### **Schematic of Enabling Conditions and Critical Factors**







"Do you believe an on-line portal providing a variety of information and resources aimed at encouraging and enabling engagement with Open Innovation would be a good idea?"



- Dissatisfaction with current systems
- Too many websites
- Under used websites
- Difficulties with relationship building
- Analysis of existing systems
  - Trust in the platform: Clarity of purpose, IP situation, Reward, Validation of partners
  - User requirements: Ease of engagement, Fit, Project scoping/details of requirements



- Overcoming issues of trust
  - Matching by technical capability, innovation and personality
  - Validation of personal data
  - Personality information
  - Feedback mechanisms
- Overcoming cultural differences
  - Mediating the 'differing' languages
  - Intermediaries

JISC



- Defining the problem
  - Online creative workshops
  - Finding the right people

٠

- Aggregated databases
- Skills database with third party content



Facilitating Open Innovation: Landscape and Feasibility Study can be downloaded from:

www.jisc.ac.uk/media/documents/programmes/bce/facilitatingopeninnovationstudyfinalreport.pdf



