Benefiting a regional economy with societal-driven innovation adoption in high-tech small firms

Dr Brendan Galbraith, Senior Lecturer
Kirsty McManus, Director Centre for SME Development
Ulster University Business School
Overview:

- Rethinking Innovation
- The Big Societal Challenges
- Rethinking the Start-up Model
- Societal Innovation Models
- Innovation adoption in the social sector
- Policy and future developments
The Linear View of Innovation

- Policy emphasis on inputs & outputs. Easy to measure
- Accepted wisdom of RBV of firm & large internal R&D capabilities
- European Paradox. Lack of innovative SMEs & collaboration
- Linear view too simplistic – does not capture complexity of innovation
- Line between R&D is blurred, 1:1000 ideas = commercial success
The Big Societal Innovation Challenges

Europe 2020 strategy - €29 billion allocation for societal challenges

*Complex & risky* problems call for diverse types of knowledge, resource, participation and collaboration.

Behaviour change requires the motivation of millions of individuals and their communities; solutions cannot be pushed. *Eg Nokia SMS*

No matter what functionality a product offers its the *ease of use that is the key differentiator* particularly in relation to technology-based products and services.

New, distributed and highly participatory systems imply new roles for public and private spheres: demand/user/citizen driven open RDI enabled by ICT for service creation.
Re-thinking the Traditional Start-Up Model

Have an Idea
- Get Idea Validation
- Get Set-Up Guidelines

Develop a business plan

Source Funding/Resources

Launch Business

Pre-Start

Post-Start
Rethinking innovation: European Paradox

Phase 0 Research
Phase 1 Solution proposal
Phase 2 Prototype
Phase 3 Pre-commercial product/service
Phase 4 Commercial product/service

Research push
Innovation "no man’s land"
Market pull
Attempts to prematurely scale is No 1 reason that ambitious business start-ups fail (Source: Start-up Genome)
Start up culture helps innovation adoption

Alignment vs. Management
Organizational Attributes

STARTUP  ←  MANAGEMENT PRACTICE  →  MATURE

ALIGNMENT OF INTERESTS

CONSEQUENCES
Life or Death  Bonus or Promotion

COMMITMENT
Total & Personal  Professional

CULTURE
Intense, Unified, Personal, Team  Routine, Branded & Less Personal

COORDINATION
Informal & Intuitive  Programmed, Managed & Measured
If market and technology are the only factors, the outcome will have low acceptance among people.

If only market and society filters are included, the result will be old-fashioned.

If technology and society in turn are included, the solution may be uneconomical.

Societal Innovation: Users, Technology & Market
Societal Innovation Business Model
Innovation Space Program: Arizona State University

Useful, useable and desirable to consumers

What’s desirable?

Integrated Innovation

What’s possible?
Appropriate technology & materials

What’s good?
Improve society and the environment

What’s valuable?
Create real market value
1. **Community** helps to identify user needs to inform **academic** activities

2. **Academics** can facilitate knowledge transfer preparatory activities

3. **Business** develops products and services **in-place** in the community

**Quadruple Helix**
- State-Bus-Acad-Users

**Example: Ulster Living Lab**

- User-driven
- Appropriation
- Bottom-up seed project

**Innovation Models**

- Academic
- Business
- Community
- Well-being

**Knowledge & Technology Transfer**

- User Needs
- Economic Benefit

**Community**
- Groups
- Charities & Carers
- Health & Education
- Regional Government

**Business**
- SMEs
- Business Development Agencies
- Mentors
- Entrepreneurs

**Academic**
- Sport
- ICT
- Business
- Health Care

**Example:** Ulster Living Lab - User-driven, subject, appropriation, bottom-up seed project.
Innovation Adoption in the Social Sector

More than $1 trillion annually flows through nonprofit organizations in the US

An important intermediary between firms and government

*Source of innovative ideas and policies*
Source of alternative delivery mechanisms
Bottom up, vs. top-down

What distinguishes effective nonprofits/social enterprises?
What distinguishes effective social enterprises?

“The secret to *success*...*[in nonprofits]* has more to do with how *nonprofits work outside the boundaries* of their organizations than how they manage their own internal operations”

Grow with authenticity” by:

“Remaining focused on your core mission”

“Be on purpose, stay on purpose”

“Spend a lot of time on how you measure social impact”

“Do what you are good at & partner the rest”

“Clear criteria on who you partner with… baby steps”

*(International social franchise service providers, Emerge 2014)*
What distinguishes effective social enterprises?

- Advocacy
- Collaborate with other Organisations
- Engage People
- Adaptation
- Shared Leadership
- Work with markets
- Collaborate with other Organisations

Source: adapted from Sources for Good
FP7 Project: MAPEER SME (Making Progress & Economic Enhancement a Reality for SMEs)

- 15 partners covering EU27 & Bosnia & Herzegovina
- Total Project value @ €1.5 million

- How to pave the way for SME-friendly R+D+I programmes?
- To identify, map and analyze all those programmes and initiatives that assist the collaboration between science and SMEs

**Inputs:** 185 R&D programmes, @800 SMEs surveyed, 30+ round table meetings, 4 x EEP meetings

www.mapeer-sme.eu
MAPEER SME Policies & NI Context

10 Open innovation – orientated policy recommendations voiced by SMEs

- Policies can promote quadruple-helix collaboration & seed bottom-up projects
- SME-SME collaborations have significant impact
- Universities perceived as of major importance for SME collaboration
- OI policies can recognise process of R&D&I not just linear – ‘inputs & outputs’
- Policy can help integrate & protect the tailored involvement of SMEs in R&D&I projects
- Spin research into existing SMEs (eg. Special Effects)
- UK University REF increasing emphasis on impact (economic and/or social)
21st ICE & IEEE International Technology Management Conference
22nd – 24th June 2015, Belfast, Northern Ireland

“Engineering Solutions for Societal Challenges”

Local organiser/Chair: Dr. Brendan Galbraith
Ulster University Business School,
County Antrim, Northern Ireland
b.galbraith@ulster.ac.uk

@ICE_Conference
www.ice-conference.org
The Business School has over 60,000 alumni, in over 120 countries.

Circa 400 of our undergraduate students go on placement each year.

Students rate us highly. The 2013/14 National Student Survey confirmed the Business School as:
- Number 1 in the UK for RBM for the second year running
- Number 1 in the UK for Management Studies
- Number 2 in the UK for Economics
- Number 2 in the UK for Food and Beverage Studies

We are Northern Ireland’s leading business school for research (Research Excellence Framework 2014).

The world leading economic and societal impact of the School’s research places us... 7th in the UK out of 101 business schools.

Knowledge Exchange Seminar Series (KESS)
SME CENTRE AT ULSTER UNIVERSITY BUSINESS SCHOOL

Vision:
“The Centre for SME Development (CSMED) is a trusted source of business growth expertise and support. We deliver leading practical knowledge and skills and develop long-lasting business networks through the active involvement of successful entrepreneurs and internationally recognised academics. CSMED will advance an agenda around innovation, competitiveness and other business values on behalf of the SME community”

Strategic Aims:
• Create and promoting flagship management and leadership programmes for growth orientated SMEs;
• Support innovation, capability building and competitiveness amongst SMEs;
• Become a thought leader and source of best practice for SMEs via our events, research and knowledge transfer activities and publications.
### Advocacy and lobbying
- On issues of relevance for SMEs by influencing relevant areas of public policy and resourcing and with the Centre position informed by relevant and credible research and monitoring of such issues.
- Developing the profile of the CSMED in influencing political agendas throughout Northern Ireland in order to help achieve benefits for SMEs in relevant strategic areas.

### Communication
- Internal communication: engaging with key academics and advisory board members to maximise the effectiveness of the Centre, in particular with winning the support of local SME businesses.
- External communication: communicating effectively with the wider business community and policy makers, Government and relevant state agencies and advisory board members.

### Networking
- Providing an effective network for SMEs in partnership with our advisory board members.

### Collaboration
- The CSMED has a number of important partners, in particular Invest NI, InterTradeIreland, Enterprise NI, Department for Employment & Learning and other relevant state agencies.

### Thought Leadership
- Providing strategic leadership thinking around SMEs and become a think tank for addressing the challenging environment in which SMEs currently operate.
Knowledge Exchange Seminar Series (KESS)

...is a forum that encourages debate on a wide range of research findings, with the overall aim of promoting evidence-based policy and law-making within Northern Ireland