



An Analysis of Innovation Programmes in Wales, the Case of the Technium Network

Dr Lyndon Murphy (lyndon.murphy@southwales.ac.uk); Dr Brychan Thomas; Prof David Pickernell; Dr James Whitehead (all University of South Wales)

KIE Conference, London, UK, 10-13 September 2013

Study Aim

- To expose the presence and form of innovation existing at Technium centres.
- To identify the impact, if any of social capital upon traditionally measured, hidden and social innovation at Technium centres

The Technium Project

- Designed to provide an environment to nurture business-academic relationships
- First centre opened 2001 (currently 4 centres)
- Eligibility criteria and application process

Evaluation

- Inclusive nature of pluralistic evaluation is likely to mirror the multitude of outcomes, values and stakeholders enmeshed within a Technium centre (Palfrey et al, 1994; Diez and Esteban, 2000)

Social Capital

- Bonding social capital – ‘*getting by*’ (Putnam, 2000; Woodhouse, 2008)
- Bridging social capital – ‘*getting ahead*’ (Putnam, 2000; Woodhouse, 2008)
- Virtuous and vicious circles (Putnam et al, 2003)
- ‘*Fiendishly difficult*’ Dasgupta (2000)
- Multidimensional nature of social capital (Beugelsdijk and van Shaik, 2005)

Innovation

- **Traditional innovation** R&D activity and changes to products/services/processes
- *‘process which takes ideas to the market’*. Innovation a *‘bridge’* between the idea and the market (Clements, 2005)
- **Hidden innovation** - *‘innovation that goes uncounted by traditional indicators’* (Halkett, 2008)
- **Social innovation** - *‘new ideas, institutions or ways of working that aim to fulfil unmet social needs or tackle social problems’* (Young/NESTA Foundation, 2007)
- *‘new ideas that work in meeting social goals’* (Mulgan, 2006)

Research Methodology

- The approach adopted is a mixed methods analysis of social capital influences and evidence of innovative activity.
- Survey Responses 25 (38% of total), Interviewees 2 centre managers; 8 business tenants

Predicted - Impact Assessment

- 1,297 direct jobs predicted - worth £208.3m by the end of 2008
- 2008 762 indirect jobs predicted
- Combined value of the Technium infrastructure £45.2m
- Total rental income 2008 £6m
- Net present value of Technium £163.66m
- **Source:** Davies and Abbey (2007)

Traditionally measured innovation

- Most common factors kick-starting innovation: customers and technology
- significant changes to products and/or processes.
- proportionately high spend on R&D
- Technium centre business tenants appear to be producing outcomes associated with traditionally measured innovation

Hidden innovation

- introduction of new working practices to maintain acceptable levels of competitiveness - ICT Technium tenants.
- successful delivery of worthwhile training for the implementation of new products/services or processes – fundamental
- absorbing knowledge from outside the organisation .Arguably, this is to be expected given the industrial sectors of science and technology typical of Technium tenants.

Social innovation

- Technium business tenants don't actively focus their businesses directly upon social innovation outcomes,
- neither do they actively seek to damage social innovative activity. – neutral
- expected that successful business tenants will be constantly scanning the business environment for opportunities whether they have a social innovation bias or not

Bonding social capital

- primarily in the form of 'mutually enforceable agreements' and virtuous circles of activity
- may be due to most business tenants working in comparative isolation from their fellow tenants.
- tenant businesses may be currently or recently experiencing similar phases of growth to other tenants
- any perceived artificial engineering of inter-tenant relationship building may be considered to be burdensome and ineffective by business tenants.
- business tenants have positive relationships with others at Technium

Bridging social capital

- Primarily in the form of gaining access to external skills and networks at a Technium centre - survey
- Interviewees often refer to the inputs made by Technium centre staff to expose tenants to external opportunities. Such opportunities range from a 'learning journey' to the USA, to an introduction to the purchasing team at a local authority
- In generic social capital terms, trust is considered by all respondents to be fundamental to both cooperation and collaboration

- 
- survey data produced comparatively few positively correlated relationships between the presence of social capital and the presence of different forms of innovative activity.
 - Using Spearman's rho - indicators of cooperation, collaboration, and trust were positively related to innovative activity.

Conclusion

- establish a 'pipeline' of potential tenants. Such a pipeline would enable a throughput of tenants – Technium (2008) mantra of '*from big ideas to big business*' more likely to become a reality.
- It may be of little use having the physical and support infrastructure provided by the Technium network if there is an insufficient number of appropriate tenants.
- The challenge is to establish a sustainable pipeline of potential tenants – competitions
- '*Overambitious failed to provide adequate management assistance*' (Cooke and Clifton, 2005)

- 
- Technium centres are typically housed in state of the art buildings and facilities.
 - Technium centres have contributed to the renewal and localised development of former industrial sites.
 - arguably, the Technium centres have merely accelerated development that would have taken place on brown field sites regardless of Technium based intervention. Further, it may be possible to argue that if Technium centres had not been built then the sites may have been used for more productive purposes.
 - caution expressed by Cooke and Clifton (2005) is that Technium centres may be considered to be merely leased office space.

- 
- be more responsive to market need - a number of Technium centres are market orientated in their outlook and operations
 - there are others that are less customer-focused, more risk adverse, and lack market focus.