



scottish universities insight institute

mobilising knowledge for a better Scotland

Cultures of Innovation

Cross-cutting Themes

“... prosperity on a national scale – mass flourishing – comes from broad involvement of people in the process of innovation: the conception, development and spread of new methods and products – indigenous innovation down to the grassroots.”¹

Introduction

In 2016 the Scottish Universities Insight Institute (SUII)² and partners³ supported a programme focused on the theme of fostering cultures of innovation – one of the strands in Scotland’s Economic Strategy. Applicants for the programme were asked to address one or all of the following questions:

- What are the main features of vibrant and effective innovation systems and cultures, which combine both creativity and practical implementation?
- How best can these features be stimulated and developed?
- What are the most effective ways of assessing progress in developing cultures of innovation?
- What are the implications for policy makers and practitioners (in the public, private and third sectors), who are trying to foster a culture of innovation and be more innovative themselves?

This paper aims to draw out some of the broad cross-cutting themes which emerged from the five projects in the programme⁴:

- Rewriting the rulebook of landownership: analysing and assessing the economics of community land ownership (Dundee and St Andrews)

¹ “Mass Flourishing: How Grassroots Innovation Created Jobs, Challenge, and Change” Edmund Phelps, Princeton (3013)

² The Scottish Universities Insight Institute (SUII) is a joint venture between seven of Scotland’s research intensive universities (Dundee, Edinburgh, Glasgow School of Art, Heriot Watt, St Andrews, Stirling and Strathclyde). It supports multi-disciplinary, multi-institutional teams of researchers, to come together with policy makers, practitioners, end users and overseas experts, to share knowledge and ideas to address the challenges and opportunities faced by Scotland and the wider world.

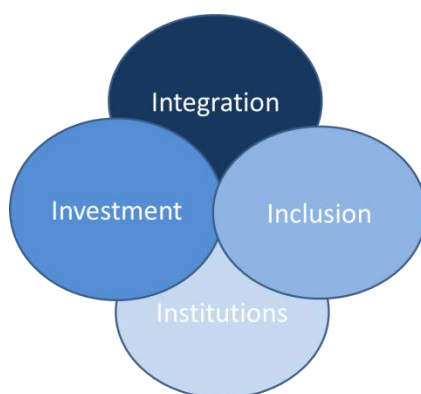
³ An informal steering group guided the programme, SUII is grateful for the involvement of the following organisations in the group: Scotland’s Futures Forum, Scottish Environmental Protection Agency, Scottish Enterprise, Scottish Parliament, Scottish Government, Audit Scotland, SCVO, Oxfam Scotland, Volunteer Scotland, Cultural Enterprise Office and EDAS.

⁴The projects represent a significant body of work to which it is impossible to do justice in one paper. More information on the programme and all the projects can be found here:

<http://www.scottishinsight.ac.uk/Programmes/Innovation2016.aspx>

- Adoption of stroke rehabilitation technologies by the user community (Strathclyde and Heriot Watt)
- Understanding, forming and fostering a culture of transformative innovation in health and social care (Dundee and St Andrews)
- Progressive and creative practice in workplace innovation (Strathclyde and Glasgow School of Art)
- Fostering a culture of collaboration and innovation to drive the circular economy in the Scottish bioeconomy (St Andrews and Strathclyde)

Despite the diverse focus of the projects four broad, cross-cutting themes have been identified that emerged across all five to some extent – Investment, Inclusion, Integration, and Institutions.



Investment

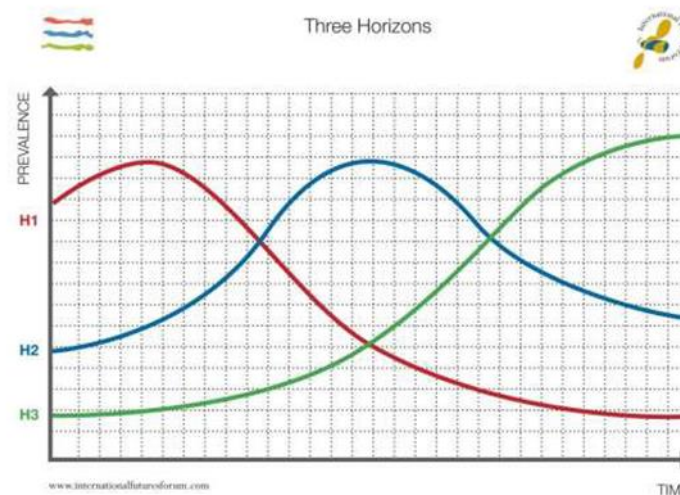
Innovation is in essence an investment process which if successful will generate future returns to individuals, firms, organisations and society as a whole, which result from an increase in productivity and the more efficient and effective use of resources.

Many innovation processes involve significant spill-overs, which will have a wider impact beyond those making the investment⁵. For example the contribution of workplace innovation to increasing the competitive performance of a firm through realising the potential of its employees and with it contributing to overall economic performance, while at the same time improving societal wellbeing by improving the quality of life for employees. Given the range and scale of potential spill-overs the public sector has a key role to play in working alongside private and third sector interests to understand, capture and support these positive externalities.

The various projects within the programme demonstrated that innovation takes many forms, from the relatively short term changes that can help sustain activities, to the longer

⁵ See for example “How important is business R&D for economic growth and should the government subsidise it?” Rachel Griffith, Institute for Fiscal Studies (2000)

term investment required for systemic transformation of a sector or area. The three horizon model used in the Health and Social Care project is one way of helping clarify the type of innovation being undertaken and the appropriate objectives and time frame over which it should be assessed. In brief Horizon 1 is the current system, Horizon 2 involves innovations to help maintain the current system and move to the transformed system in horizon 3⁶.



This sort of model helps clarify the nature of any innovative process and the objectives by which it can be assessed. It also highlights the importance of choosing the right discount rate and time frame for any investment appraisal.

Investment appraisal is a critical enabling process. The appraisal model developed in the Community Land project emphasises the importance of using a broad range of criteria covering, economic, social, environmental and governance dimensions to ensure that investment is optimised. It is important to recognise that different interests might have different valuation methodologies – a good reason for being as inclusive as possible upfront in any innovation process.

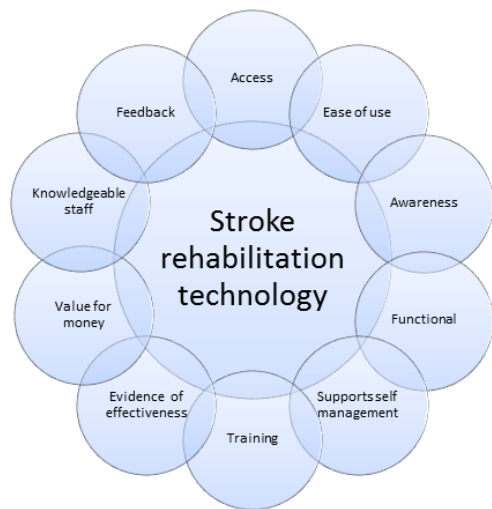
Inclusion

Stakeholder inclusion is critical for developing and sustaining cultures of innovation (in communities, workplaces, industries, public services etc.) and through it improving overall socio-economic performance⁷. The involvement of a broad range of stakeholders can be a stimulant to creativity in helping generate ideas - it can also help ensure that any design that results from the innovation is best suited to meeting objectives⁸.

⁶ <http://www.internationalfuturesforum.com/three-horizons>

⁷ See “Why Nations Fail: The Origins of Power, Prosperity and Poverty”, Daron Acemoglu and James A. Robinson, Profile Books (2012) for an analysis of the contribution the improved performance of more inclusive societies.

⁸ This relates to one of the broad conclusions that emerged from the SUII Wellbeing programme in 2014 concerning the importance of actively enabling, empowering and engaging citizens to be more actively involved in setting direction, deciding priorities, developing policies, identifying measures and monitoring progress.



This was demonstrated in a very practical sense by the Stroke Rehabilitation project, which bought together engineers and technologists with stroke sufferers and carers to identify needs, generate ideas and test possible solutions. One of the project's recommendations was for an annual technology fair to increase awareness and provide opportunities for new ideas,

influence and feedback. This would go hand in hand with an on-line rating website to provide more immediate feedback.

As well as helping generate ideas and realise potential, stakeholder inclusion in the innovation process can also help ensure any resulting developments are more likely to be accepted than if they are suggested or imposed from outside, by helping build understanding and buy in to the inevitable change that innovation involves. This is particularly important given the power of 'loss aversion', whereby people tend to put greater weight on perceived losses than potential gains and 'reactive devaluation', where people are heavily influenced by who is proposing the change.⁹

The framing of issues and ideas can also have a significant influence on how ideas are developed and introduced. The Health and Care project developed terms such as 'Live Well Centres' to help capture the need to transform the current system from one which was focused on cure to one which was promoting wellbeing and the prevention of illness rather than more costly remedial action.

Careful framing can also help normalise new ideas, particularly where this is aligned to understandable examples from elsewhere and the experience of those who can be identified with. Linked to the framing of ideas in an understandable way is the need to make evidence genuinely accessible and usable to help enable and empower as wide a group of stakeholders as possible to get involved.

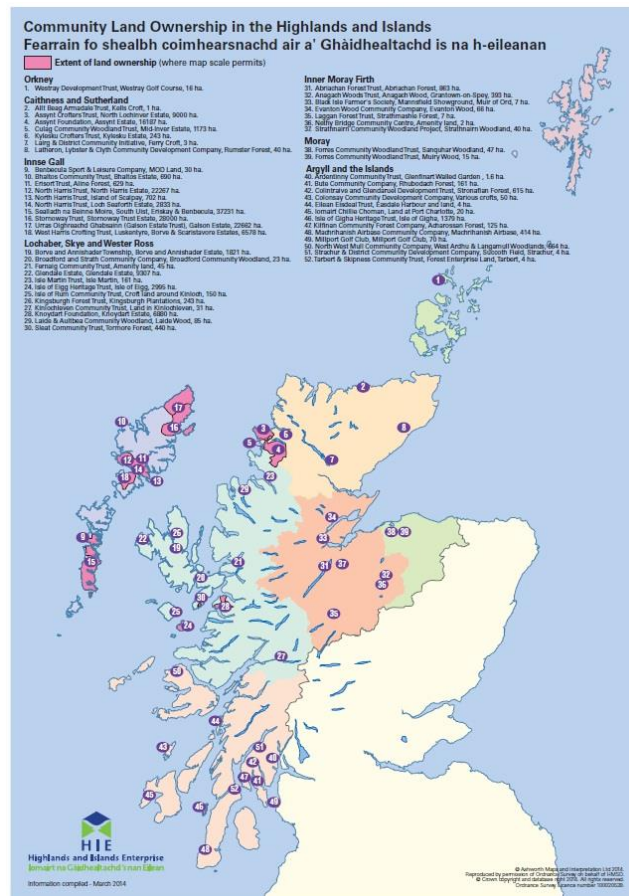
A focal point, be it community, sector or issue, can help stakeholders identify with an issue and generate options for moving forward. For example, the acquisition of land by a local community is a significant stimulus to thinking afresh about how it is best managed.

It was argued that will have a double benefit - it will directly enhance wellbeing by making people feel more in control of their own destiny and at the same time it will improve policy and practice by making it more relevant to people's needs.

"Improving lives in Scotland – a wellbeing approach" Charlie Woods and Donald Jarvie
https://www.strath.ac.uk/media/departments/economics/fairse/backissues/Fraser_Economic_Commentary_Vol_39_No_2.pdf (p137)

⁹ See "Thinking Fast and Slow" Daniel Kahneman, Penguin (2012) for a summary of the various ways in which subconscious thinking influences judgement and decision making.

The community Land project worked with a number of stakeholder groups in different parts of Scotland (Western Isles, Argyll and Highland) to explore the development of a set of socio-economic criteria to appraise the performance on community owned land.



The ownership and control of assets (including those generated by innovation) is also important in developing and sustaining improvements - not least it is a way of ensuring as many people as possible feel they are genuinely involved and can share in the ownership of benefits that will be result from the innovation e.g. returns to intellectual property. Perhaps one of the challenges of developing genuinely innovative cultures is to wrestle with how we can develop a stronger, more open 'innovation commons' to generate wider inclusion, more innovation and ensure the greatest overall societal wellbeing.

Integration

Innovative cultures tend to be integrated so that the whole is greater than the sum of the parts. The workplace is an environment where many aspects of innovation come together and where cultures of innovation can be nurtured with benefits both to individual firms and society as a whole.

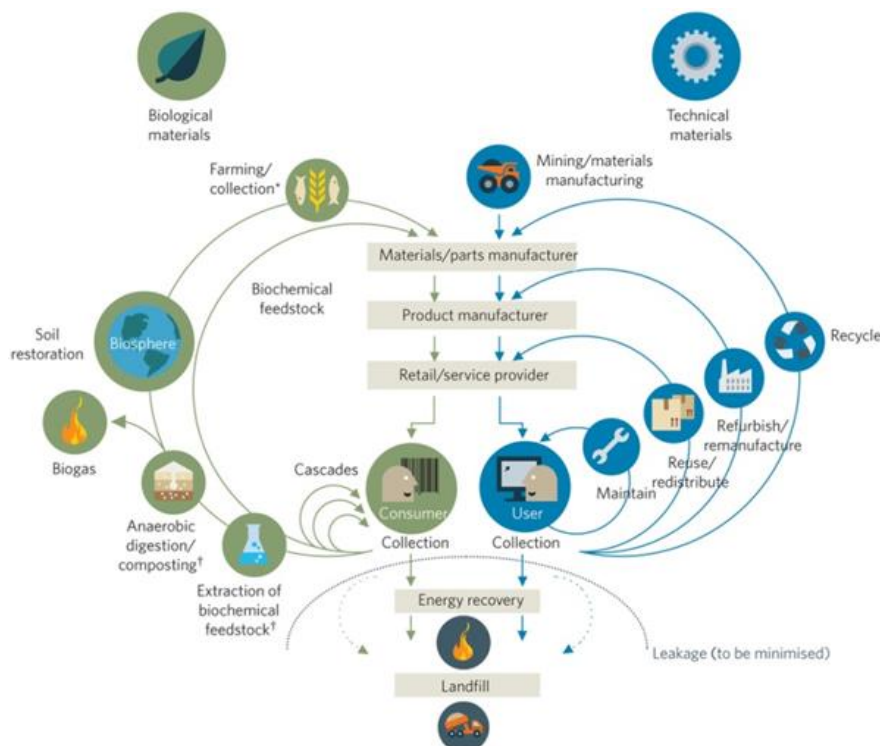
The Workplace Innovation project drew on the experience of innovative workplaces in Scotland to learn lessons for wider application. Amongst other things it identified ways to develop people at work, workplace practice and the work place itself to be more innovative and emphasised how in successful organisations each element was only part of a more

integrated picture. Realising the potential of employees requires a combination of empowering and enabling individuals, alongside providing space that is conducive to collaboration and creativity and supportive company-wide practice (summarised below)

People	Place	Practice
work as a collective	time and space	clear vision
reasons for action	creative use of physical space	question
take risks	move	practise
trust	consider the digital	embrace failure as learning
industry informed training	space to reflect need	fresh eyes
recognise and reward	supportive space	plan action
more than money	collaborate internally & externally	co-produce
	more interactive departments	staff flexibility
		connect

Systems thinking can play a key role in nurturing an innovative culture. Not least in helping grapple with the challenges of complexity and uncertainty and the inevitable unintended consequences of innovation in one part of the system on other parts. Better understanding of systems can help identify barriers and enablers of development and ensure that the key players are at a minimum communicating and are able to identify and undertake mutually self-reinforcing actions.

The Circular Bio-economy project highlighted the many dimensions of fully understanding the interrelationships within an economic system, in particular where firms in a particular market could find value in what others might consider waste and other symbiotic relationships e.g. baking and brewing.



Acknowledgement that different perspectives exist and providing voice to all is critical – the intersection of perspectives can often be where the most creative ideas are generated¹⁰. Reducing fear of loss and providing safe spaces to nurture collaboration can also be a great enabler.

Finding ways to think more systemically, embrace different perspectives, explore shared and different interests and understand both trade-offs and potential synergies is vital for effective integration. This highlights the importance of developing trusting, ongoing relationships in order to make the whole greater than the sum of the parts. The Health and Social Care project used role-playing amongst practitioners (many of whom already worked together in the current system) to model how a transformed system might be developed and to test how it might work in practice and identify potential benefits and challenges.

Institutions

The role of institutions, structures, governance and leadership is of great importance in developing cultures of innovation. The institutional landscape is very diverse, it can include: companies, trade bodies, industry associations, investors, service providers, regulatory bodies, development agencies, research and education institutes, third sector organisations, government at all levels etc. This diversity highlights the importance of close collaboration on a systematic basis to build on shared (if not always common) interests.

Building trust and effectively managing existing activities, while making space for the new, is a real challenge in enabling innovation and ensuring smooth transitions. Without a supportive institutional landscape that enables experimentation and shared learning it is difficult to undertake the trial and error needed to develop and test new ideas and it will be even harder to scale up from successful pilot projects.

The Health and Social Care project identified three new institutions that were felt to be critical to the transformation to a new system: ‘Live Well Centres’ (providing a user focus), ‘Local Care Exchanges’ (to integrate providers) and ‘Local Community Benefit Organisations’ (to provide system governance). Another example of a supportive institution is the role played by Community Land Scotland in helping community land owners to learn from each other in innovative ways, such as in the development of more rigorous appraisal models to help guide decision making.

¹⁰ For example in “The Medici Effect” (Harvard, 2004) Frans Johansson argues that innovation often emerges from the intersection of diverse industries, cultures and industries.

Conclusions

The five projects in the Cultures of Innovation programme have looked at innovation processes, from five very different perspectives; an industry, a public service, a technology and its potential user group, communities and workplaces. The resulting insights are valuable in their own right for the development of policy and practice. Together they have highlighted some more general themes. In summary the programme has helped demonstrate the importance of viewing innovation as an investment process, which is likely to be more successful if it is as inclusive as possible, integrates different elements within a system in a collaborative way and has supportive institutions to nurture it.

Charlie Woods

Director – Scottish Universities Insight Institute

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