INTEGRATING SUSTAINABILITY IN A REGIONAL DESIGN SECTOR

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ABSTRACT

Recent developments in European design policy are strengthening the links between design and sustainable development. Therefore, it increasingly important to understand evolving perspectives on sustainability and develop new approaches to building competencies amongst designers so they are in a position to respond and remain relevant. The potential mix of competencies is diverse and is challenging traditional perspectives on the role of the designer.

This paper discusses interventions to build sustainable competencies in the design sector. It does this by presenting some insights from the early stages of developing a knowledge exchange programme in a region that has no existing programmes for sustainability in the design sector. This programme development was led by the Ecodesign Centre and was supported by the Welsh Assembly Government. The preliminary insights are drawn from two co-development workshops with designers in Wales and additional research undertaken by the Ecodesign Centre. The paper doesn't set out generalised policy recommendations but indicates some key areas for further discussion based on early empirical insights.

INTRODUCTION

Sustainability is pervasive. It is a decades old framework that is increasingly part of mainstream discussion. We are seeing traditional sustainability issues such as poverty, climate change, well-being, sustainable consumption and resource efficiency being debated at the highest level of policy and economic development. In addition to this, European innovation policy makers are developing a wider understanding of the role design plays in sustainable development, as opposed to a traditional emphasis on a technological push. These recent policy discussions place a greater emphasis on the role of design within the innovation system both as a facilitator of innovation adoption and adaptation and as a key response to the challenges of sustainability. These two issues, sustainability and innovation, are now being drawn closer together than ever before.

Innovation, in its broadest sense, has always been central to sustainable development but there is a greater interested and emphasis on the need for open, systemic and potentially disruptive innovation. This emerging systemic context requires interdependent approaches to innovation alongside new innovation models, policy mechanisms and forms of governance. There is a need to find new ways to bring about innovations, incremental or radical, and products and services that are better adapted to the new context of climate change and economic instability.

Design can improve the sustainability performance of existing products and services while framing new key challenges, humanising technology and influencing positive consumer behaviour. While this is well understood in the literature, there is still much to learn from a policy and commercial perspective on how design and innovation interact and mutually reinforce each other to create net positive outcomes.

Designers are expected to acquire new competencies in terms of design management, innovation, service and strategic design. Designers are also expected to develop new competencies in terms of transformation and participatory design, socio-entrepreneurship, user-

centred and ethnographic design, ecodesign, eco-innovation and responsible design.

Many regions attempt to build competencies through public or semi-public infrastructure and private sector oriented policy measures. More recently, regional policies are taking a systems perspective by developing an infrastructure for linkages and co-operation between actors and agents with a particular region or network of regions (O'Rafferty & O'Connor 2010). The last few years have seen an increasing amount of discussion on the role of "design thinking" as a strategic dimension to design practice i.e. design doing. Much of the new expectations on design still fall outside of the traditional skill sets of designers (e.g. ideation, prototyping, needs defining, user insights). There is also some debate about whether these new competencies are being nurtured effectively by design education or driven by the market. These are clear challenges that are in part being tackled by some national governments and intermediary organisations.

METHODOLOGY

This paper adopts a multi-methodological approach, utilising a variety of different data sources and methods to provide insights (Figure 1). Data was collected through a literature review, best practice scanning of other regional programmes, scoping discussions with policy makers, and workshops with designers. These workshops were delivered during a feasibility phase of developing a regional design programme. Thus the methodology did not follow a linear process. Instead it was performed according to an iterative process, evolved by interaction between a theoretical foundation (knowledge transfer, capacity building) and empirical material (literature review workshop outputs).
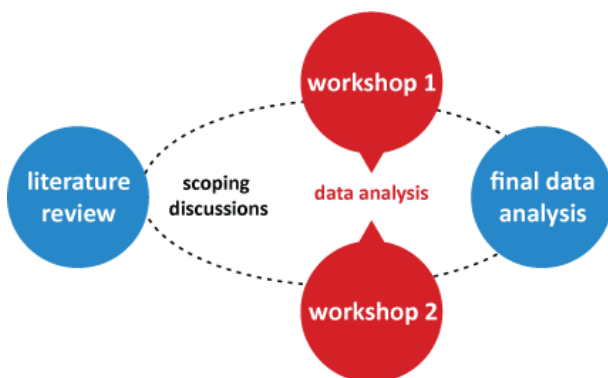

Figure 1: Methodology

RATIONALE FOR COMPETENCE BUILDING

The main rationale for government intervention in the economy has been market failure rationale. In the market failure approach, market mechanisms must fail to efficiently (or effectively) deliver on public policy objectives and any intervention must lead to an improvement of the condition (O'Rafferty & O'Connor 2010). In his report to the UK treasury, Sir Nicholas Stern suggested that climate change "is the greatest and widest-ranging market failure ever seen" (Stern 2007). The author would suggest that in combination to this, the sustainability challenges we face in terms of material scarcity, pro-sustainability behaviour change, ageing societies, poverty and health form part of a strong rationale for intervention to build competencies in design for sustainability. In addition to this strategic rationale there are other key rationales to consider. These include;

FRAGMENTATION OF COMPETENCIES
Within different design methodologies and standards there are a number of management frameworks and tools that provide insights on the outcomes or analytical processes of designing in a more sustainable manner. These include full life cycle analysis, full life cycle costing, new material considerations and increased standardisation. These frameworks are often challenging for designers and design managers as they incorporate processes and technical requirements outside of traditional design expertise. In the context of sustainability designers are also required to consider new social contexts such as social exclusion, poverty, gender parities and politics. There are a number of areas that often remain overlooked in the literature such as adaptations needed for business organisations to put this knowledge into practice and the key capacities and competencies required by designers to implement these frameworks and tools.

It is accepted that to design in the context of sustainable innovation an organisation or company requires more than design process modifications or additional data analysis. The organisation requires a strategic understanding of the multi-stakeholder context and to initiate organisational learning and cross-functional integration. This is a challenge for traditional design management systems, as it requires communication feedback across groups that would not traditionally be integrated. If companies can facilitate these strategic changes they set the conditions for proactive and agile design processes capable of sustainable innovation.

UNDER REPRESENTATION OF DESIGN IN GOVERNMENT INTERVENTIONS
The design sector is often under-represented in public support programmes for innovation. This means there is a significant gap in how regional governments can encourage the development of environmentally superior and sustainable products and services. This creates a significant risk of market failure whereby the objectives and strategic priorities, in terms of sustainable development and innovation, will be difficult to achieve. Therefore, there is a need to understand the needs of the regional design sector and explore the best options for knowledge exchange on sustainability.

INSIGHTS FROM WALES

THE DESIGN SECTOR IN WALES

Wales is a small nation within the United Kingdom (UK) and it is one of handful of countries worldwide that has built sustainable development built into its constitution. The industrial legacy of Wales is strongly linked to mining, quarrying and textile manufacturing. As Wales continues to make the transition to a post-industrial society, there is an increasingly strong policy focus on the creative industries as a sector for prosperity.

While Wales contains approximately 5% of the UK population it accounts for only 3% of its design business, with approximately three and a half thousand designers (Design Council 2010). A study undertaken by the Ecodesign Centre and Cardiff University in 2007 suggested that of 250 welsh companies with a self specifying design capacity surveyed approximately 50% use some form of external design consultancy (O'Rafferty et al. 2008). This would suggest that many businesses in Wales undertaking new product or service development do not have in-house design capacity

The design industry in Wales covers a very broad group of activities and includes interior, product, packaging, furniture, web and digital media, graphic, spatial, apparel, fashion and service design. These include companies offering consultancy services on new product or service development, innovation and packaging.

There are a handful of intermediary organisations and grassroots networks supporting the design sector in Wales. These include the Ecodesign Centre, Design Wales, SEE Project, some knowledge exchange programmes run by universities and design sector-led activities.

KEY INSIGHTS FROM DESIGN WORKSHOPS

The Welsh Assembly Government contracted the Ecodesign Centre to explore the feasibility, scope and potential for a knowledge exchange programme on sustainability for the design sector in Wales. The purpose of a knowledge exchange programme would be to build sustainable competencies and literacy among designers.

The Ecodesign Centre organised two co-creation workshops in Cardiff to engage the designers in defining this network. During the first co-development workshop, approximately fifteen design companies from the Swansea, Cardiff and Mid-Wales areas came together to collaborate and share experiences. The workshop was divided in two parts. The first part involved inspirational talks from leading practitioners with an informative and challenging questions and answers session. The discussions placed broad sustainability issues in the context of design practice and challenged the designers in terms of personal perspectives, commercial expectations and potential social-political complacency.

The second phase of the workshop included a "60 minute design challenge". This workshop was structured around three conceptual themes;

- Purpose – This theme was to address the key needs of the sector and what the opportunities the sector could gain from engaging in a knowledge exchange on sustainability
- Solutions (issues to tackle) and
- Ingredients (Values, inspiration, action)

This structure allowed for a deeper discussion and exploration on the needs and aspirations of the design sector. The process for the workshop included generation of ideas using post-its and recording of these on flip chart sheets, discussions and prioritisation, preparation of group priorities (oral or visual format) and presentation back to the whole group.

A few months later the Ecodesign Centre hosted a second workshop. This second workshop allowed for the refinement and further development of the issues discussed during the first workshop. On the basis of the preliminary insights we selected and filtered out the most relevant and pertinent points for developing a regional intervention. Some of the key reasons why, in the view of the designers, a knowledge exchange network should be developed in Wales were to;

- Identify key sustainability issues (internationally and nationally) and define hurdles
- Share knowledge and learning (including with policy)
- Develop knowledge portal / open source / knowledge sharing / network of suppliers
- Disseminate leading edge thinking
- Share common problems
- Solve local problems (collective creativity)
- Support Independent verification (accreditation) for designers
- Develop Wales' hub of sustainable design
- Develop Welsh brand of sustainable design
- Provide peer review for work
- Provide endorsement through accreditation
- Support skills development and education
- Add value to the eco debate
- Enable inter disciplinary collaboration
- Provide a collective / unified voice for the design sector
- Tap into academic knowledge access research

Some of the key issues that the designers wanted the network to tackle included;

- Materials resources
- Procurement opportunities
- Joint projects / Consortium bids

- Tackle big issues (climate change, waste) through small actions
- Build confidence
- Promote action and demonstrate that it is "not as scary as you think"
- Share suppliers (approved suppliers / welsh suppliers)
- Subsidised resources (learning or knowledge)
- Community based projects

Some of the principles through which the network should be delivered include;

- Inclusive (language and technology)
- Back to basics
- Create an atmosphere for sharing
- Transparency
- Trust
- Tangible outputs
- Collective vs networking
- Scale vs survival
- Common interests around mixed disciplines

CONCLUSIONS AND DISCUSSION

It is clear that designers in Wales believe sustainability is a strategic design issue and building competencies in this area could create competitive advantage. The workshops suggested that there is a consistent set of macro, meso and micro level barriers to the implementation sustainability in the design sector. These include;

- Low levels of control over the design brief
- Low confidence to introduce sustainability considerations to design specification
- Poor availability readily accessible and useful information
- Incoherent and inconsistent drivers from the public sector e.g. procurement

In order to overcome these barriers, interventions need to be drawn from this multi-level perspective. In practical policy terms, there is a need to move beyond traditional strategies of 'picking the winners' and generalised individual business support. These multi-level interventions require a combination of;

- Networks / meta-networks and knowledge exchange
- Clear market signals – pricing, reducing risk and legislation
- Procurement process that are supportive of small business constraints
- Collaborative pitching and open innovation

There were a number of additional recommendations developed through these workshops. These recommendations can be clustered under broad themes.

STRUCTURED CO-ORDINATION AND PERMEABILITY

It is understood that SMEs, especially in the design sector, are idiosyncratic and heterogeneous. This increases the complexity of developing regional interventions. There is a need to facilitate the structured co-ordination of the regional design system in a manner that facilitates multi-level and demand-led interventions.

The development of multi-level interventions that facilitate structured co-ordination of the regional design system will be challenging for most regional policy makers. Therefore there is a need to address short-term permeability between existing and future interventions to support innovation and sustainability in wider business sectors. This can be achieved through a strategic review of inter-sectoral synergies within which design can be embedded and a horizontalisation of interventions. This horizontalisation can be achieved on a cross-departmental basis or a thematic strategy based on regional priorities.

PROXIMITY AND TRUST

The role of proximity in facilitating knowledge diffusion and spill-over in regional innovation systems is well understood. This understanding generally rests on the relative importance of tacit versus codified knowledge in innovation. The key role of the regional government in developing appropriate multi-level interventions will be to create platforms through which these regional actors can collaborate while developing face-to-face relationships. It will be important to understand within which regional actors (and design companies) significant sustainability knowledge is embedded.

In practical terms, it will be essential to gain buy-in and commitment from all the relevant actors while developing trust-based relationships. It will be important for all regional actors to agree on the main points of the medium to long term vision of any intervention.

While proximity is a key consideration, there is a latent demand to develop meta-networks that connect regional networks and facilitate transnational knowledge exchange between designers, intermediary organisations businesses and policy makers.

OPEN INNOVATION NETWORKS

Designers tend to be embedded in multiple networks but perpetually encounter the problems of scale and effectiveness. For example, designers struggle to target larger public sector contracts or have high search costs for new knowledge and expertise. Open innovation networks can improve the efficiency and effectiveness of knowledge exchange while overcoming problems of scale. Networks that facilitate an open innovation approach give designers consultancies stronger incentives to collaborate, access to a wider pool of knowledge, a broader contact base and improved competencies.

There is a need to capture and capitalise on the growing range of social technology and open innovation platforms and embed these within regional interventions. If the knowledge exchange remains codified within intermediary organisations and universities it will be difficult to move beyond incrementalism towards design-led radical or disruptive innovation.

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