**Developing regional Circular Economy innovation capability: A programme Community of Practice approach.**

Gary Walpole, Katie Beverly & Sue Smith

Director, CEIC Wales & Principal Lecturer

School of Management

Cardiff Met

gwalpole@cardiffmet.ac.uk

**ABSTRACT**

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Keywords: Circular Economy, Innovation capability, regional innovation, social learning theory, communities of practice, open innovation, challenge-led programmes.

Authors: Gary Walpole, Sue Smith & Katie Beverley.

**Abstract**:

Public services have recently experienced a ‘perfect storm’, dealing with challenges including the task demands of COVID-19, increased financial pressures derived from the pandemic and its impact on future revenue flows, obligations to meet 2030 Net Zero targets, and Brexit repercussions. These challenges have highlighted the requirement for public service organisations (PSOs) to enhance their innovation capabilities (Arundel et al. 2019). This paper reports on a regional HEI executive education programme being delivered in Wales, the Circular Economy Innovation Communities (CEIC) project, that aims to develop the innovation knowledge and skills of senior practitioners in public sector organisations through inter-organisational ‘Programme Communities of Practice’ (PCoP)(Smith et al, 2018). The CEIC programme simultaneously develops practitioners circular economy (CE) knowledge by supporting practitioners to develop new service solutions that reduce the carbon footprint of their organisation, through a ‘challenge-led’ approach. This paper presents empirical data from five case studies of new service solutions co-prodcued by groups of practitioners within the HEI facilitated PCoP. The empirical data suggests the novel pedagogical approach and the theoretical content within the programme is effective at developing practitioners innovation capabilities and creating regional innovation networks.

**Literature**

Existing literature evidences the value of supporting open innovation in the public sector (Mergel & DeSouza, 2013), the value of Communities of Practice (CoPs) within formal development programmes (Smith et al. 2018), and the efficacy of design thinking in developing new service solutions in collaboration with users (Harhoff & Lakhani, 2016). However, limited formal programmes are available to PSOs that enhance the capabilities required to develop solutions to their current challenges (Zheng et al, 2022). Contemporary learning interventions with participative pedagogies aim to support participative approaches to learning as proposed by Hodgson and Reynolds (2005) whereby the learner co-constructs the ‘curriculum’ and learning to enable a greater impact on the challenge they face within the workplace. Such a collaborative and participative approach to learning relies on the dialogical creation of meaning and construction of knowledge (Hodgson and Watland, 2004).  Transformative learning seeks to stimulate a learner’s questioning of underlying assumptions and to restructure the way the learner sees the world and acts within it (Laros, 2017).

Education in general is dominated by an approach to learning which sees knowledge as something to be acquired. Freire (1970) refers to this as the banking concept of education whereby education is an act of depositing, in which the students are the depositories, and the teacher is the depositor. It is important to highlight this as the dominant view because contemporary pedagogies resist the didactic approach we are used to in the classroom, i.e. the teacher or expert imparting knowledge to a less knowledgeable source (the student). They rely less on the tutor(s) as the “sage on the stage” but as the “guide on the side” (Jones and Steeples, 2002). Such approaches reduce learning to a form of transfer and tends to miss the socio-cultural environment the learner is in, whether that be at school or in the workplace. This view of learning sees knowledge as socially constructed. Howorth, Smith & Parkinson (2012) argued establishing learning communities are more effective at changing management practices. This paper shall contribute to the nascent literature around learning communities as effective mechanisms for facilitating inter-organisational innovation netowrks.

**The CEIC Programme**

The ‘Circular Economy Innovation Communities’ project is informed by seminal work for developing dynamic capabilities (Teece, Pisano and Shuen, 1997; Teece, 2007)through the development of inter-organisation CoPs that facilitate innovation and collaborative regional working. CEIC builds on concepts proved within two Welsh Government funded predecessor projects, Open Innovation Communities of Practice (OICoP) and Developing Innovation Performance of Firms and Supply Chain Clusters (DIPFSCC). The CEIC programme (Walpole et al, 2022) launched in March 2020 and is EU funded to create inter-organisational regional innovation networks or Communities of Practice (CoP) in the Cardiff Capital City Region and the Swansea Bay Region. The CEIC programme lasts approximately ten months and introduces participants to circular economy principles and innovation tools and techniques. Each cohort forms a CoP around a theme, such as ‘decarbonation of housing stock’ and participating practitioners are supported to co-produce new service solutions that achieve Circular Economy (CE) impact within the regions. Social learning within multi-actor innovation networks is identified as crucial for addressing sustainability in regional development contexts, allowing practitioners to observe a diverse range of perspectives, interests and values to instigate sustainable practices and policies (Sol, Beers and Wals, 2013). CEIC participants co-produce new service solutions within the region wide innovation CoPs facilitated by the programme, that leverage economies of scale and knowledge, whilst enhancing collaborative regional working partnerships.

**Methodology**

The research question is “*does a PCoP approach develop the innovation skills of practitioners and support the development of new circular economy processes and practices (new service solutions)?*”. To answer the question a mixed method research methodology was adopted by developing case studies from the groups developing new CE processes (Yin, 2018; Eisenhardt, 1989) within an action research framework (Somekh, 2005). The study gathered survey data from participants prior to their participation, during and on exit from the programme. The study also gathered qualitiative data from semi-structured interviews and foucs groups which was augmented with presentations from participant groups. This study will draw on data from five participant groups and focus on the presentation of one group to provide granular data on the impact of the programme on the five indiviuals within the group as well as the outputs and outcomes for the in depth group case study. The participants presentations (secondary documents) enabled the triangulation and crosschecking of data sources (Yin, 2018; Eisenhardt, 1989), and increased data robustness. Thematic content analysis was conducted (Braun and Clarke, 2006) with key themes generated, actively categorised (Grodal, Anteby and Holm, 2021) and confirmed within the research team. The data was collected over a year long period, between the autumn of 2021 and 2022.

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