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Co-creating urban environments to engage citizens in a low-carbon future

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Abstract

As cities try to lower their carbon footprints, the concept of transforming brownfield sites into ‘eco-precincts’ has gained substantial traction. There is not yet however, an established way of combining technological innovation with social and behaviour change. The design, and operation of an ‘eco-precinct’ requires the cooperation of a wide variety of disciplines and stakeholders. Without this cooperation, there is often a disparity between the aspirations for these precincts and the final outcomes. Co-creation is increasingly being looked-to to support precinct development in that it facilitates deeper user engagement in the design process. There a number of challenges to applying co-creative models to larger scales of development. One of which is defining the user in greenfield or brownfield development. This complexity is added to by the perceived risk to budgets and timelines due to the uncertainty associated with the feedback loops of the co-creation process, and the complex power dynamics and process challenges between various professional and non-professional actors. This paper suggests that addressing these challenges is critical in facilitating a shift from ‘consultation’ (both professional and public) being considered as a discrete event (noun), to an ongoing and iterative process (verb) that can facilitate the creation of innovative user centred low-carbon urban environments.

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1. Introduction

As cities try to lower their carbon footprints, the concept of transforming brownfield sites into 'eco-precincts' has gained substantial traction. There is not yet however, an established way of delivering these precincts that combines technological innovation with the social and behavior change that is necessary to ensure their successful operation.

The design and operation of an 'eco-precinct' requires the cooperation of a wide variety of disciplines and stakeholders. These stakeholders are both professional and non-professional (e.g. local governments, consultants, community groups, residents, etc.). Without this cooperation, there is often a disparity between the aspirations for these precincts and the outcomes that are achieved. The Adelaide Living Laboratory project, as a part of the Cooperative Research Centre for Low Carbon Living (CRC-LCL) and the European Network of Living Laboratories (ENoLL) is testing whether the use of a co-creation methodology, where end users, industry and researchers are able to collaborate in an iterative process, can lead to an improvement in outcomes. It is also anticipated that the participatory nature of this process will help to facilitate behaviour change alongside design innovation.

To date, the co-creation approach has been most commonly applied at the scale of individual product or service development, and not at the scale of an urban development [1]. There have been various calls in the literature, and by ENoLL itself, to test co-creation at this scale [2 - 5]; but, to date there is little evidence for its application. In 2013, Concilio et. al. tested co-creation in urban applications in Finland; however, the integration of co-creation into the processes can be argued as being enhanced consultation rather than collaboration.

This paper outlines the context in which the Adelaide Living Laboratory project is applying co-creation to urban development, describes some of the key challenges being faced, strategies for addressing these challenges, and highlights areas for further research.

2. Context

2.1. The wicked problem of low-carbon development

As cities try to lower their carbon footprints, the transforming of brownfield or grey field sites into medium- and high-density mixed-use precincts is increasingly cited as a significant way of reducing the carbon impact of Australian cities. However, there are multiple logistical, political, and social challenges associated with the transformation of these sites that combine to make their development a wicked problem. Like the terms creativity and innovation, the definition of a 'wicked problem' has become blurred with its adoption and use within many discourses. In 1967, Rittel's ideas were published in Churchman, defining wicked problems as 'a class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing.' [6]

Urban development in general, but particularly low-carbon urban development with its added complexity is closely aligned to this definition of a wicked problem. Rittel and Webber went on to explore wicked problems in the context of urban environments, suggesting that the difficulty in dealing with urban development is that there are no right or wrong answers, only good or bad, better or worse. [7] There are a vast number of ways of understanding and addressing carbon impact, but it can be argued that the existence of the problem itself is symptomatic of a higher-order problem in the relationship between people, cities and the environment.

2.2. Urban renewal

In recent years, the term 'urban renewal' has become popularised as a way of describing brownfield development. A brownfield site is defined by the United States Environment Protection Agency as an "abandoned, idled, or underused industrial or commercial facility where expansion or redevelopment is complicated by real or perceived environmental contamination" [8]. Brownfield sites are often in close proximity to existing transport and other city infrastructure. This means that despite remediation costs, in Australia, the redevelopment of brownfield sites into residential areas has been shown to be more financially viable than continuing greenfield developments on urban fringes [8].

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