Management Control Design for Circular Cities: A Conceptual Framework

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Abstract for Conference EMAN Europe 2022

In the European Green Deal, the circular economy is recognized as key in the transition towards the first climate-neutral continent (European Commission, 2021). To make this transition happen, action is needed on all levels of governance and especially the local level. The reason for this is that 75% of EU citizens live in cities and consume huge amounts of resources (European Commission, 2021). Also, the impact of, for example, global warming materializes even more in cities. At the same time, they are in a unique position to bring together local stakeholders and use their public investments and policy programs to initiate the transition. This resulted in the emergence of the concept of 'Circular Cities' (CCs) as a new strategy for cities to become circular (Ellen MacArthur Foundation, 2017). But how to become a CC? New tools will be needed to put this strategy into practice and avoid the concept becoming another buzzword used for greenwashing and city-branding (Montenegro Navarro & Jonker, 2018; Prendeville et al., 2018). Local governments will have to adapt their management control (MC) to this new strategy to align actions with their objectives (Ferreira & Otley, 2009; Svensson & Funck, 2019). However, there is very limited knowledge on MC for CC. Therefore, the research question is: *How to design management control for Circular Cities?* The results will be visualized using a conceptual framework of the important controls for CC strategies, but also possible barriers, e.g. traditional financial accounting (Svensson & Funck, 2019). This framework is developed by gathering insights from academic publications. As a starting point, the theory of Malmi and Brown (2008) is used, considering MC as a package of interrelated control systems. In this research, the academic literature was reviewed to find existing insights. A systematic literature search identified 63 useful academic publications from both MC literature on the public sector and cities, as well as sustainability and the circular economy. Reviewing these resulted in defining a conceptual framework. A key preliminary finding is that cybernetic controls are still fundamental to MC, but that the culture, as an informal control, is crucial in providing a frame for all other controls in CC (Malmi & Brown, 2008; Svensson & Funck, 2019). At the same time, cybernetic control needs to go further than financial accounting and needs non-financial measures (Crutzen et al., 2017; Svensson & Funck, 2019). These measures should also be used for circular public procurement, as cities rely heavily on external partners (Svensson & Funck, 2019). Now that cities worldwide are adopting objectives of becoming circular, MC design has to be adapted. This framework provides an overview of existing literature and key controls to consider in future research and will help cities in their circular transition.

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