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## Understanding Financial Viability of Urban Consolidation Centres: Regent Street (London), Bristol/Bath & Nijmegen

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### Abstract

The concept of an urban consolidation centre (UCC) has been extensively researched. Despite the potential positive environmental and social impact, the main obstacle remains the lack of a sustainable business model. The goal of this paper is to understand how to organize UCC viability as a concept providing environmental and social benefits while at the same time providing a sustainable business model (social and logistical value propositions of multi-beneficial relations between the involved stakeholders). A research framework will be designed to analyse and evaluate financial viable UCCs. The framework consists of four main stream components, namely: organizational integration, revenue streams, key-resource provisioning and buyer-supplier relation. These four types of relations result in the so called ORKB-framework to analyse the created added value. The research framework is applied and evaluated for the following urban consolidation centres: Regent Street in London, Bristol/Bath, and BinnenStadService in Nijmegen. With the development of the framework we want to reveal some of the uniqueness for each specific situation in order to address the UCC-environment more effectively when the dynamics regarding value creation and the needs of the involved stakeholders are better understood.

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## 1. Introduction

Today's cities cover only 2% of the earth's surface, yet they consume 75% of all resources and produce 75% of all waste (UNFPA, 2007). The total world population is now in excess of 6 billion; more than half of them already living in urban areas (Heilig, 2012). By 2025, the urban population is expected to represent more than two-thirds of the global population. The quality of life in our cities therefore is increasingly under pressure. Cities all over the world are facing similar developments and are struggling to keep air quality, noise emissions and traffic safety to acceptable levels.

To address these challenges, the need for sustainable and integrated urban planning processes related to mobility is widely recognized (Givoni & Banister, 2013). For many years an answer to these challenges with respect to urban freight transport has been the concept of urban consolidation centers. Although the concept has shown positive effects for the city logistics stakeholders and on most sustainability issues (Browne et al., 2005; Quak, 2008; Verlinde, 2015), at least in theory, many implementations of UCC projects proved financially unviable (Browne et al., 2005; Marcucci & Daniels, 2008; van Duin et al., 2010; Wolpert & Reuter, 2012; Olsson, 2014). In case of successful implementations of UCC it is often a small scale, local demonstration of which the outcomes are only appropriate within the specific context (Quak et al., 2014). From a scientific perspective one could argue that the method of evaluation is often restricted and not based on a multi-actor evaluation framework, identifying the relevant impacts and measurable indicators that represent the key objectives of all stakeholders (van Duin, 2012; Balm et al. 2014).

The scientific discourse on the viability of UCC is also not clear. Some researchers share the opinion that an UCC should be able to be viable and to be self-funding (Allen et al., 2007; Marcucci & Daniels, 2008). However, other researchers state that the viability of UCCs can only be safeguarded by permanent governmental subsidies (Browne et al., 2005; van Duin et al., 2008; van Duin et al., 2010; Quak & Tavasszy, 2011). Also, Browne et al. (2005) believe that UCCs should be limited only to areas where delivery-related problems exist. Our research is definitively inspired by Partier and Browne (2010) who increased the consistency with which urban good innovations and projects are evaluated. The methodology has been developed in France and is based on a detailed examination of 15 projects comparing the wide range of criteria used in their evaluation. Their core indicators have to be taken into account in our study.

From the scientific perspective our research goal is to generate explanative knowledge on, and insights on the key-success factors for UCC viability, by conducting a case-study research on the empirical multi-beneficial relations between the UCC operating entity and the involved stakeholders & public authorities. The selected UCC cases show a big variety in age of existence which provides a good overview of the key values crucial for the viability of the UCCs.

Section 2 starts with a literature overview on business modelling followed by the description of a new business modelling framework. Section 3 shows the application of the framework on three UCC cases. Section 4 concludes with the main findings of this research.

## 2. Towards an evaluation framework of understanding UCC viability

This section starts with a literature overview on business modelling tools. In paragraph 2.2 the new value framework will be described.

### 2.1. Literature overview business modelling tools

In this research a viable UCC is defined as an UCC that has a positive business case (= price-cost is profit?) and is able to sustain over time. The goal of this research is to understand how to organize UCC viability as a concept providing social and logistical value propositions of multi-beneficial relations between the involved stakeholders (Allee, 2008). The viability of a UCC is determined by two important aspects:

1. If a business wants to survive over the years, money has to be generated. The revenues have to be higher than the expenses to make a profit and to be viable. In the case of UCC, it should generate enough revenues by setting a

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