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SIMURG_CITIES: Meta-Analysis for KPI's of Layer-Based Approach in Sustainability Assessment

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ABSTRACT

"SIMURG_CITIES" is the research and development project that is developed under the main project named SIMURG: "A performance-based and Sustainability-oriented Integration Model Using Relational database architecture to increase Global competitiveness of Turkish construction industry in industry 5.0 era", is a relational database model that is currently being developed in a dissertation for performance-based development and assessment of sustainable and sophisticated solutions for the built environment. This study aims to analyze the key performance indicators (KPIs) at «Cities Level» for the smart city concept that is referred to as «Layers» in the master project. KPIs for the concept of a smart city are determined by using the meta-analysis technique. Hence, the three most reputable urban journals issued from 2017 through 2020 are reviewed in this study. In addition to this, models of smart city frameworks/assessment tools/KPIs are reviewed within the context of this paper; environment, economy, and governance were found to have domain themes on urban sustainability according to the literature review. Consequently, efficient and integrated urban management, environmental monitoring and management, public and social services of urban development, and sustainability are found to be the most important dimensions in urban and regional planning. SIMURG_CITIES evaluation models for urban projects can use the findings of this paper.

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1. Introduction

With globalization, individuals living within the same community which has different demographics structures, and understanding of life have increased and also lifestyles and expectations of these individuals have changed. The characteristics of built

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