Ontologies for Representing and Measuring City Performance (multiple projects) **(*New - Fall 2018*)**
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Cities use a variety of metrics to evaluate themselves. With the introduction of ISO 37120, which contains over 100 indicators for measuring a city's quality of life and sustainability, it is now possible to consistently measure and compare cities, assuming they adhere to the standard. The goal of this PolisGnosis Project is to automate the longitudinal analysis (i.e., how and why a city's indicators change over time) and transversal analysis (i.e., how and why cities differ from each other at the same time), in order to discover the root causes of differences. But for PolisGnosis to analyse a city's indicator, it first needs to understand the definition of the indicator. Hence we need to translate the ISO definition from English into a computer understandable representation – this requires an ontology. Second, the engine needs to understand a city's specific indicator value and the data used to derive it. This information may be available in PDF files or spreadsheets but needs to be translated into a computer understandable representation – this too requires an ontology. Third, the engine needs to understand a certain amount of city "common sense" knowledge in order to analyse the data properly - this too requires an ontology. The project focuses on developing an ontology to represent an indicator theme knowledge, and the definitions of the theme's indicators. There are several projects available. One for each of the following ISO 37120 themes: Urban Planning, Governance, Waste Water, Solid Waste, Water & Sanitation, and Economy.