Integrating of Multi-Criteria Decision Making (MCDM) and Spatial Data Warehouse (SDW) in GIS

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This work aims to develop MCDM and SDW methods which will be integrated into a GIS according to a "GIS dominant" approach. The GIS operating tools will be operational to operate the SDW. The MCDM methods can provide many solutions to a set of problems with various and multiple criteria. When the problem is so complex, integrating spatial dimension, it makes sense to combine the MCDM process with other approaches like data mining , ascending analyses , we present in this paper an experiment showing a Geo-Decisional methodology of SWD construction, On Line Analytical Processing OLAP technology which combines both basic multidimensional analysis and the concepts of Data mining provides powerful tools to highlight inductions and information not obvious by traditional tools. However, these OLAP tools become more complex in the presence of the spatial dimension. The integration of OLAP with a GIS is the future geographic and spatial information solution. GIS offers advanced functions for the acquisition, storage, analysis and display of geographic information. However, their effectiveness for complex spatial analysis is questionable due to their determinism and their decisional rigor. A prerequisite for the implementation of any analysis or exploration of spatial data data requires the construction and structuring of a spatial data warehouse (SDW). This SDW must be easily usable by the GIS and by the tools offered by an OLAP system.

Biography

I am Engineer studies at space technology center, I got a master's degree specializing in geographic information system. I am mainly interested in data mining and spatial olap. I use different techniques of spatial information system and solap. I have ease with data warehouse, and during my work I took a lot of interest in geomatics. In addition, I have been able to use several tools, through GIS software such as ArcGis and QGIS.