

## **Development of Framework to Assess National Spatial Data Infrastructure (NSDI)**

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Research sub-objectives:

- To define SDI
- To find a theoretical background for SDI assessment
- To formulate NSDI assessment framework (considering key variables, assessment indicators and criteria)
- To test the framework
- To apply the framework
- To determine success/failure factors

Theoretical approach and methods:

In this research it is assumed that the main obstacle for SDI assessment is its complex and dynamic nature. Therefore firstly, The Complex Adaptive Systems (CAS) theory is used to better explore and understand the nature of SDIs. As a result of it is concluded that CAS theory is applicable to describe SDIs. Secondly, the principles of assessing Complex Adaptive Systems are used to formulate the assessment framework for SDIs. As a result, A Multi-view SDI assessment framework. The framework is scientifically based in CAS theory and acknowledges complex and dynamic nature of SDIs. The potential strength of the framework lies in its flexibility, its multidisciplinary view on SDI and a reduced bias in the assessment results. Thirdly, In order to apply the framework we selected 21 national SDIs and assessed them using the Multi-view SDI assessment framework. The results show that the framework application gave a strong evidence about the "real" NSDI status and performance. Also the methods used to apply the framework were valid. The initial list of potential factors that contribute to the success or failure of SDIs could also be made. Based on the results of the framework application it can be assumed that it is a valid way of assessing SDIs. Fourthly, the framework is also used in a specific case of formulating a goal - oriented approach to assess the implementation of GIDEON - a Dutch SDI strategy. The initial results of this action confirm the usability of the framework however the final results are still unknown.

Expectations to the workshop.

Other theory-based researches / ideas for assessing various aspects of (N)SDIs and for determining success and/or failure factors.