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Title: A Data Model for Semantic Interoperability between Government Agencies Delivering Tax Services in Kyrgyzstan

Abstract:

Semantic interoperability is one of the most challenging aspects of the interoperability framework. Due to the decentralised nature of government agencies, lack of data standardisation, lack of resources, and lack of throughout work on this aspect, most of the data between government agencies still mismatches, is outdated, missed, or duplicated. This thesis looks at the semantic interoperability between the government agencies delivering tax services to businesses on the cross-agency and cross-border levels in Kyrgyzstan. As the tax agency is one of the core agencies in any country, because it generates most of the revenue for the State, semantic interoperability of this agency with other agencies is of high importance.

In order to solve this issue, thesis proposes data models for semantic interoperability between the government agencies delivering tax services to businesses. Government agencies, administrating service delivery to businesses, can use the data models to build their databases in a way that will make data exchange more accurate and efficient. This will further improve semantic interoperability between agencies and countries and also help them reach internal operational efficiency and deliver better and more efficient services to businesses.

More importantly, solutions propose an idea of the unification of public agencies by taking a holistic view of interoperability in business registration and in operations of the tax and customs agencies, unlike many studies researching interoperability in these public agencies separately. By unifying public agencies by means of semantic interoperability, it can be ensured to a greater extent that the data related to businesses and shared between the government agencies and countries is accurate and up to date. As the data is automatically retrieved from the agencies responsible for the specific data, only relevant data will be presented. As well, solutions help to reach transparency and accountability between the involved public agencies and businesses as there will be a high dependency on each other's data.