XBRL analytics with OIM

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1   Extended abstract

Historically, XBRL has suffered from a tight connection with its syntax representation, which has complicated analysis and impaired comparability. Different processors and different filing regimes have taken divergent views on which features of XBRL are semantically significant. Are duplicate contexts allowed? Does it matter whether dimensions are placed in the 'segment' or the 'scenario'? Should id attributes be preserved?

The XBRL Open Information Model (OIM) defines a logical, syntax-independent model for XBRL instance documents. OIM resolves the questions above and many others, establishing an authoritative view of which features from the original XML should be preserved by processors and considered significant by recipients of XBRL documents.

The Open Information Model also defines JSON and CSV alternatives to the original XML representation. Both of these can be used for either input or output, and both aim to simplify production and consumption, though each has its own unique merits.

OIM JSON provides a denormalised representation of the model, with all relevant information immediately available on a fact-by-fact basis. We will briefly examine some alternative JSON representations considered by the Working Group, and the factors leading to the selection of the current format.

The CSV representation builds on the work of the W3C's 'CSV on the Web Working Group', with an ordinary CSV file supplemented by JSON metadata expressing additional information about the table and columns – in our case, associations with taxonomy concepts, dimensions and members, along with fact level metadata: units, accuracy and footnotes.

This presentation will note the progress of the OIM working group, and consider how the Open Information Model will evolve from here. We will outline the challenges of defining semantic models for XBRL taxonomies and weigh the merits of applying JSON-LD and RDF.

We will explore the potential of OIM for streamlining the visualisation and analysis of XBRL data, from individual documents up to data sets containing millions of documents and billions of facts.