

Grey in the Innovation Process

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Structure

- Innovation
- Background
- The Hypothesis
- Proposed Architecture
- Conclusion



Innovation

Innovation is the development of **new customers value** through solutions that meet new **needs**, inarticulate **needs**, or old customer and market **needs** in **new ways**.

(Wikipedia)



IDENTIFY NEW NEEDS

DEVELOP NEW WAYS

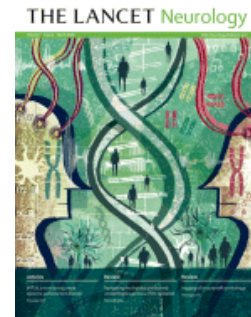


Background

- Need to justify research funding:
 - Wealth creation
 - Improvement in quality of life
- Through Innovation
- Industry R&D
 - Supported by government
- Government R&D
 - Supported by industry
- Research spend
 - Gross R&D spend
- Research intensity
 - R&D spend as % of GDP

The Hypothesis: Understanding innovation requires:

- Measures
 - Outputs
 - Outcomes
 - Impacts
- Contextual relationships
 - Funding
 - Institution
 - Project
 - Person
 - Facility / Equipment
- Temporal relationships
 - Provenance
- Geospatial relationships



➔ Causality

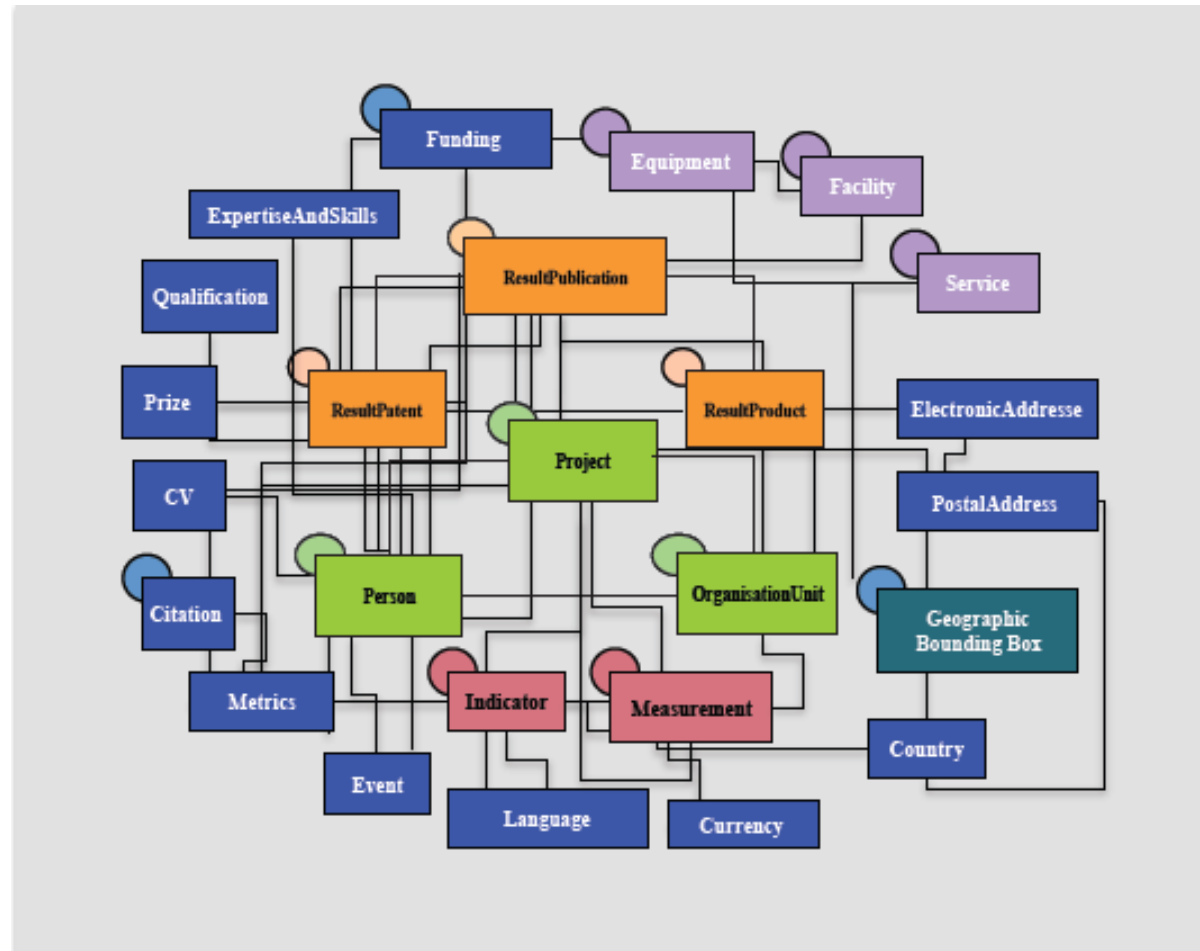
The Hypothesis: GREY is part of this

- Documented original idea
 - Lab notebook
 - Internal report
- Document process of development
 - Lab notebook
 - Internal report
 - Workshop presentation
- Management control of IP



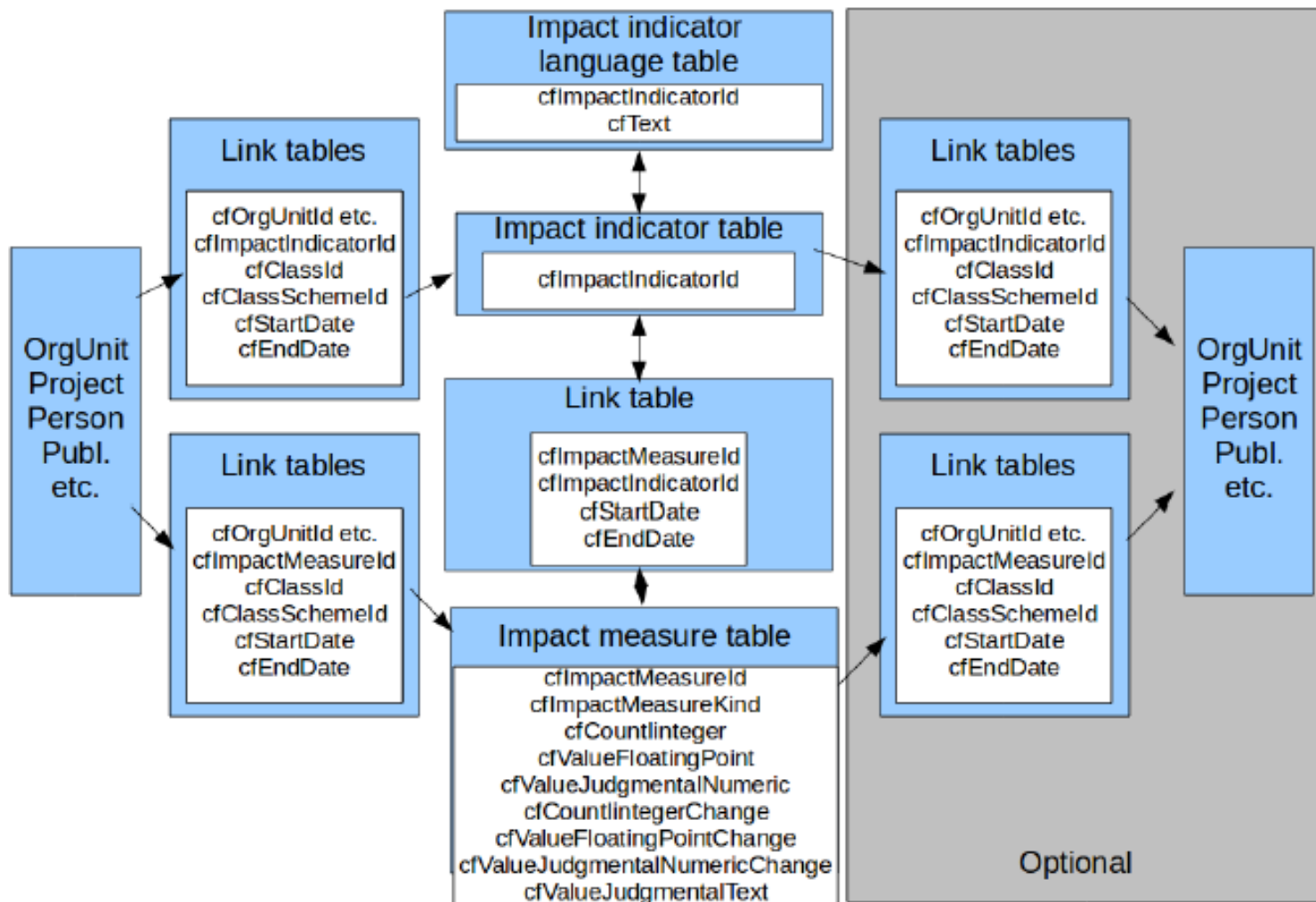
Proposed Architecture: CERIF

- Describe
 - Outputs
 - Outcomes
 - Impacts
- Record
 - Contextual relationships
 - Temporal relationships
 - Geospatial Relationships
- Deduce or Induce
 - Causality



MICE

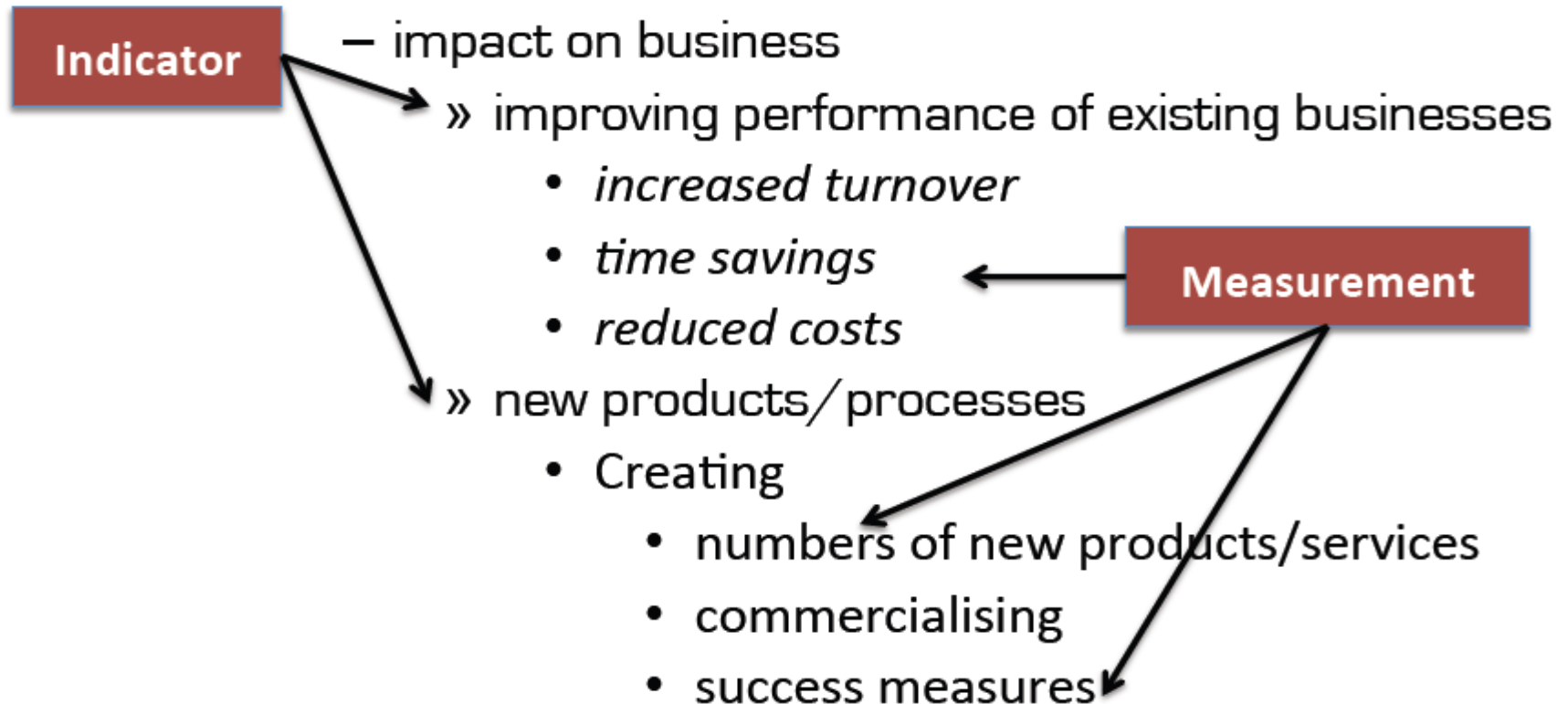
Measuring Impact under CERIF



Example of Commercial Innovation Indicators and Measures

– economic and commercial

- economic



CERIF Data Structure



Is an Aggregation Entity

cfMeasureIdentifier
 cfCountInteger
 cfCountIntegerChange
 cfValueFloatingPoint
 cfCountFloatingPointChange
 cfValueJudgementalNumeric
 cfValueJudgementalNumericChange
 cfValueJudgementalText
 cfValueJudgementalTextChange
 cfURI

Conclusion

- CERIF provides data structure for innovation
 - Including within the GREY process
- It is being used in significant systems
 - Tracking outputs, outcomes, impact
 - Related to contextual, temporal, geospatial metadata
- euroCRIS has an Indicators Task Group
 - New scientometrics (includes bibliometrics)
 - New methods for detecting impact (backward chaining)
- Acknowledgements
 - euroCRIS
 - Especially MICE project

