

Methodology Architecture

Building a problem statement

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Summary

1. Where do we want to get to
2. A starting point
3. What are the gaps?
4. Who are the users?
5. Discussion

Where we want to get to



A starting point

- Statistical methods refer to *how* we carry out statistical activities
- Statistical methods are used both in statistical production, as well as statistical design and analysis
- Key to describe how statistical products are conceived and built

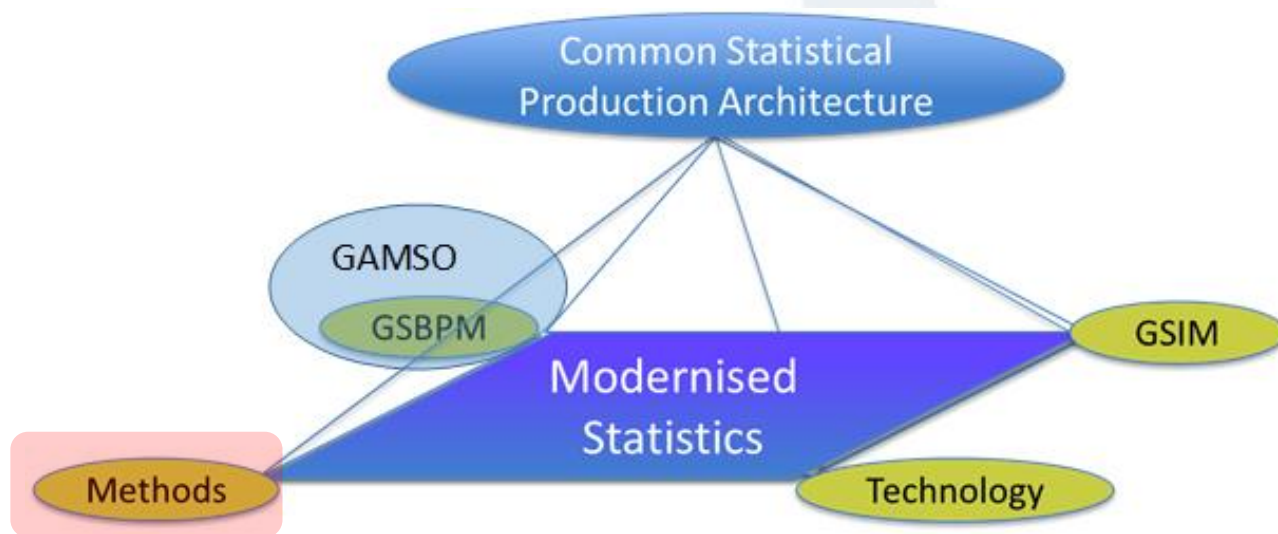
A starting point



A starting point

- Statistical method architecture needed to:
 - Explain statistical methodology to external users
 - Provide common language within & across NSOs
 - Interface between methodologists & other roles
 - Support statistical production & data analysis
 - Facilitate interoperability
 - Support statistical corporate memory
 - Plan statistical methodology development & statistical methodology support

What are the gaps?



We can describe and agree on information, activities, application architecture... except what defines our industry...

What are the gaps?

What activities are relevant for statistical methods?

How are statistical methods described?

How do they relate to applications?

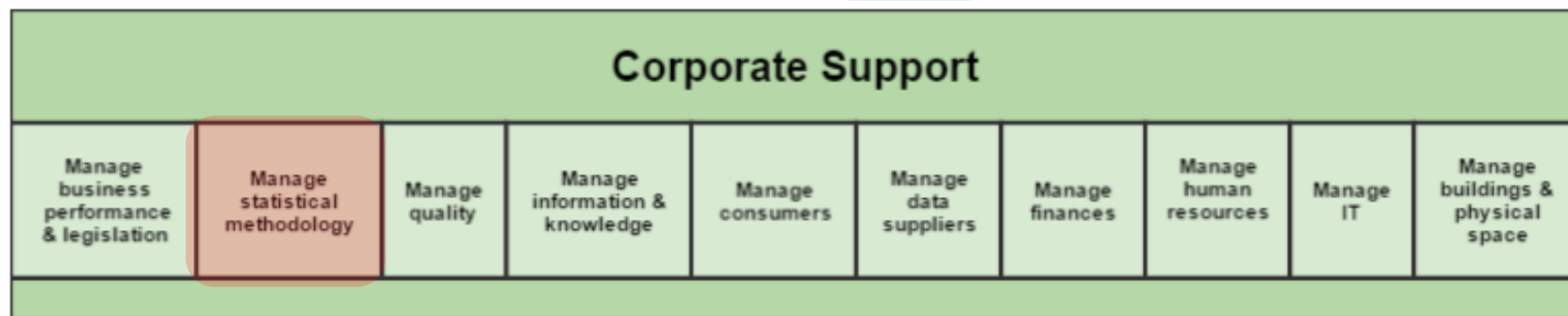
What is a statistical method lifecycle?

How do we invest and plan?

What statistical methods exist?

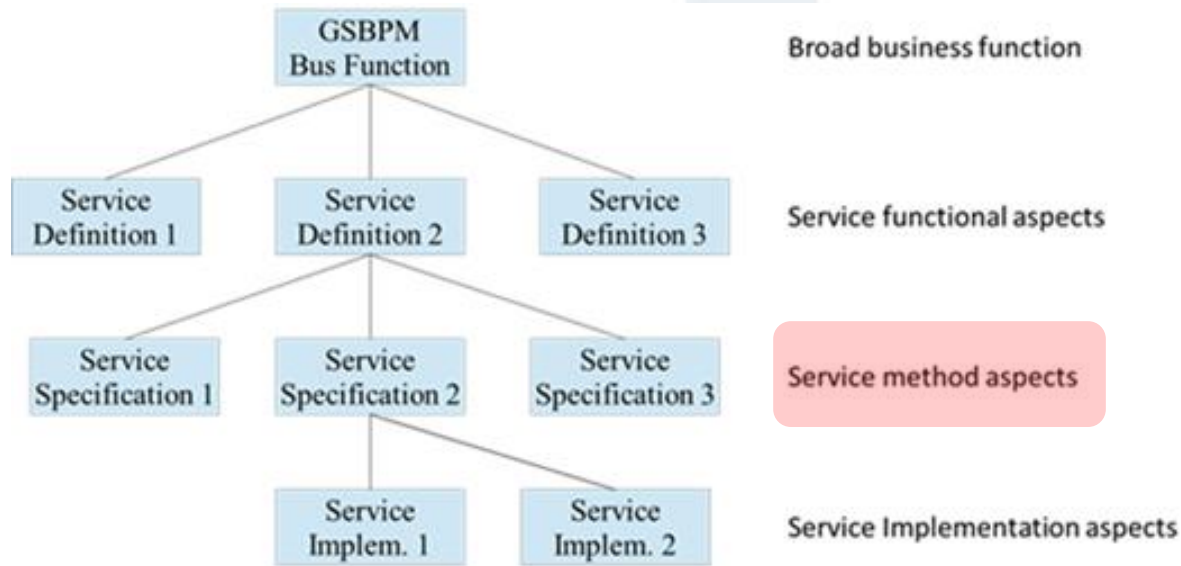
How are they related to each other?

What are the gaps?



“These activities manage the statistical methodology used to design and carry out the statistical production process. These include initiating and ensuring that standard statistical methods and practices for the processes and sub-processes are identified, put in place in the organisation, and reviewed...”

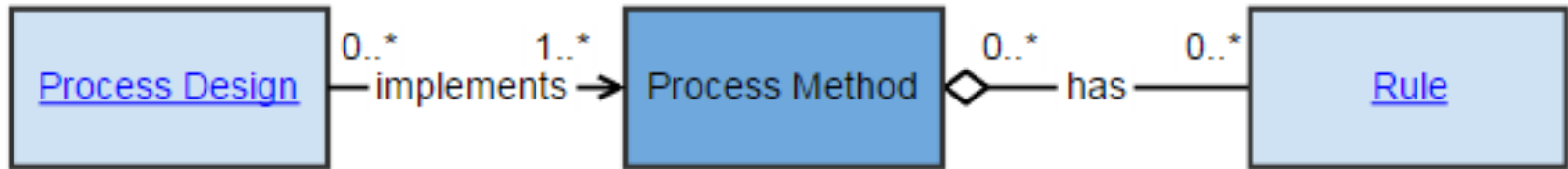
What are the gaps?



“Applicable Methodologies”

“Describe the statistical methods that may be implemented in this Statistical Service”

What are the gaps?



“The technique specified by a *Process Method* is independent from any choice of technologies and/or other tools which will be used to apply that technique in a particular instance... may require the application of specific *Rules* (for example, mathematical or logical formulas).

A *Process Method* describes a particular method for performing a *Process Step*.”

The users - external

- Citizens: can I trust these statistics?
- Government: are the methods reliable? is the statistic relevant to my policy concern?
- NSOs: what methods are available? who knows about method X?

The users - internal

- Statistical producers: what methods do we use? how do we apply these methods? are my methods fit-for-purpose?
- Statistical developers: what methods are available? how do I publish a method?
- Managers: what methods are needed? how are those methods resourced?

Useful references

- [Methodology Architecture](#) (several authors - consolidated by Poirier, 2016)
- [Memobust: Handbook on Methodology of Modern Business Statistics](#) (ESS, 2014)
- [Methodology Architecture: a roadmap for new methodological directions in the Australian Bureau of Statistics](#) (Tam, 2014)
- [Statistics Norway - Methods Library](#) (Foss, Langsrud & Seierstad, 2017)

Discussion

- Is this problem relevant to you?
- Am I missing anything?
- What next?