

WorldTrans WP4 | Defining fitness-for-purpose

Background

This is a survey for supporting the IAM fitness-for-purpose assessment activity conducted in WorldTrans WP4. The survey targets all consortium members and collected responses will inform the development of construct maps of key quality criteria underpinning model fitness. These construct maps will provide the theoretical foundations of the forthcoming metrological model that will be used to measure IAM fitness with respect to context and purpose.

Fitness-for-purpose framework

The survey is based on the fitness-for-purpose assessment framework developed by Hamilton et al. (2021) and incorporates model quality aspects documented in the scientific literature (e.g., Wilson et al., 2021; van Voorn et al., 2016; Nicolaidis Lindqvist et al., 2021; Cash et al., 2003

). According to this framework, fitness-for-purpose should be assessed from three contextual perspectives, each with different requirements on the model and the process of model development and use:

- The use and user context --> Usefulness
- The problem context --> Reliability
- The project context --> Feasibility

Underpinning the different requirements (Usefulness, Reliability and Feasibility) are a set of quality criteria that we aim to measure to assess model fitness. By answering this survey you help us define what constitutes these qualities and describe these in the form of jointly derived construct maps.

Thank you for taking the time to answer this survey.

Best,

Andreas Nicolaidis Lindqvist

1. E-post *

2. From a **use and user perspective**, model **salience** is a quality criteria that contributes to model **usefulness**.

A model is considered salient when it plays a significant role in understanding and solving the issue at hand; its inputs are relevant to the issue, and its outputs can help answering the question at hand.

Please describe with your own words **the experience you as a user would have when using/engaging with an IAM with low/intermediate/high salience**. Describe the experience using phrases like:

"A highly salient IAM is..."

"When using an IAM that lacks salience I feel..."

"High salience is indicated by..."

3. From a **use and user perspective**, model **accessibility** is a quality criteria that contributes to model **usefulness**.

A model is considered accessible when it can be easily used by the end user, model outputs can be interpreted and understood by the intended audience, and the inner workings and logic of the model can be understood (i.e. how the model translates inputs to outputs).

Please describe with your own words **the experience you as a user would have when using/engaging with an IAM with low/intermediate/high accessibility**. Describe the experience using phrases like:

"A highly/poorly accessible IAM is..."

"When using an IAM that lacks accessibility I feel..."

"High/low accessibility is indicated by..."

4. From a **problem context**, model **credibility** is a quality criteria that contributes to model **reliability**.

A model is considered credible when concepts and processes in the model are considered acceptable as an approximation of the modelled system.

Please describe with your own words **the experience you as a user would have when using/engaging with an IAM with low/intermediate/high credibility**. Describe the experience using phrases like:

"An IAM with high/low credibility is..."

"When using an IAM that lacks credibility I feel..."

"High/low credibility is indicated by..."

5. From a **problem context**, model **legitimacy** is a quality criteria that contributes to model **reliability**.

A model is considered legitimate if the users and/or decision makers/ stakeholders perceive that it was developed and presented in an open way, free of bias, and acknowledging divergent perspectives and worldviews.

Legitimacy also entails that there is an acceptance of the authority of the modelling process to influence decision making.

Please describe with your own words **the experience you as a user would have when using/engaging with an IAM with low/intermediate/high legitimacy**. Describe the experience using phrases like:

"An IAM with high/low legitimacy is..."

"When using an IAM that lacks legitimacy I feel..."

"High/low legitimacy is indicated by..."

6. From a **project context**, the **feasibility** of developing and/or applying the model within the practical constraints of the project is a key quality criterion. *A model is deemed feasible if it can be developed and/or applied given the practical scope and constraints of the project, including limitations in terms of money, time, data, expertise and other resources.*

Please describe with your own words **the experience you as a user would have when using/engaging with an IAM with low/intermediate/high feasibility**. Describe the experience using phrases like:

"Signs of high/low feasibility include..."

"When model feasibility is high/low, I experience the model development phase as..."

"When model feasibility is high/low, I experience of the model application/use phase as..."

7. Comments, thoughts and feedback on the presented criteria and exercise are welcome.

Det här innehållet har varken skapats eller godkänts av Google.

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