

InfoQ Evaluation Checklist

InfoQ Dimension	Checklist
1. Data Resolution	☐ 1.1 Is the data scale used aligned with the stated goal? ☐ 1.2 How reliable and precise are the measuring devices or data sources? ☐ 1.3 Is the data analysis suitable for the data aggregation level?
2. Data Structure	☐ 2.1 Is the type of the data used aligned with the stated goal? ☐ 2.2 Are data integrity details (corrupted/missing values) described and handled appropriately? ☐ 2.3 Are the analysis methods suitable for the data structure?
3. Data Integration	☐ 3.1 Are the data integrated from multiple sources? If so, what is the credibility of each source? ☐ 3.2 How is the integration done? Are there linkage issues that lead to dropping crucial information? ☐ 3.3 Does the data integration add value in terms of the stated goal? ☐ 3.4 Does the data integration cause any privacy or confidentiality concerns?
4. Temporal Relevance	☐ 4.1 Considering the data collection, data analysis and deployment stages, is any of them time-sensitive? ☐ 4.2 Does the time gap between data collection and analysis cause any concern? ☐ 4.3 Is the time gap between the data collection and analysis and the intended use of the model (e.g., in terms of policy recommendations) of any concern?
5. Chronology of Data & Goal	☐ 5.1 If the stated goal is predictive, are all the predictor variables expected to be available at the time of prediction? ☐ 5.2 If the stated goal is causal, do the causal variables precede the effects? ☐ 5.3 In a causal study, are there issues of endogeneity (reverse-causation)?
6. Generalizability	☐ 6.1 Is the stated goal statistical or scientific generalizability? ☐ 6.2 For statistical generalizability in the case of inference, does the paper answer the question "What population does the sample represent?" ☐ 6.3 For generalizability in the case of a stated predictive goal (predicting the values of new observations; forecasting future values), are the results generalizable to the to-be-predicted data? ☐ 6.4 Does the paper provide sufficient detail for the type of needed reproducibility and/or repeatability, and/or replicability?
7. Operationalization	Construct operationalization: ☐ 7.1 Are the measured variables themselves of interest to the study goal, or is their underlying construct? ☐ 7.2 What are the justifications for the choice of variables? Action operationalizing: ☐ 7.3 Who can be affected (positively or negatively) by the research findings? ☐ 7.4 What can the affected parties do about it?
8. Communication	☐ 8.1 Is the exposition of the goal, data and analysis clear? ☐ 8.2 Is the exposition level appropriate for the readership of this journal? ☐ 8.3 Are there any confusing details or statements that might lead to confusion or misunderstanding?