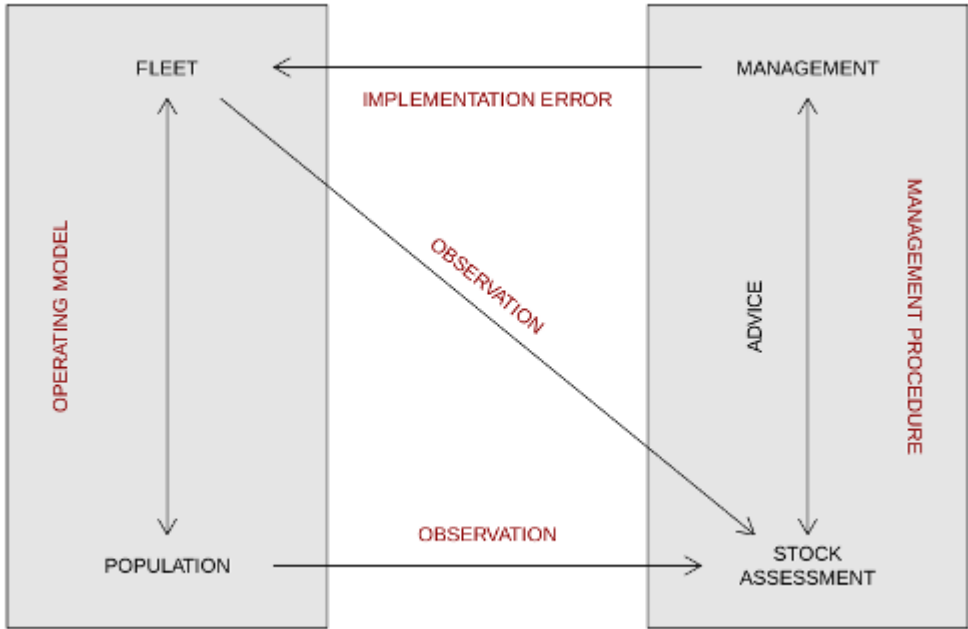


Discussion

MSE is a process !

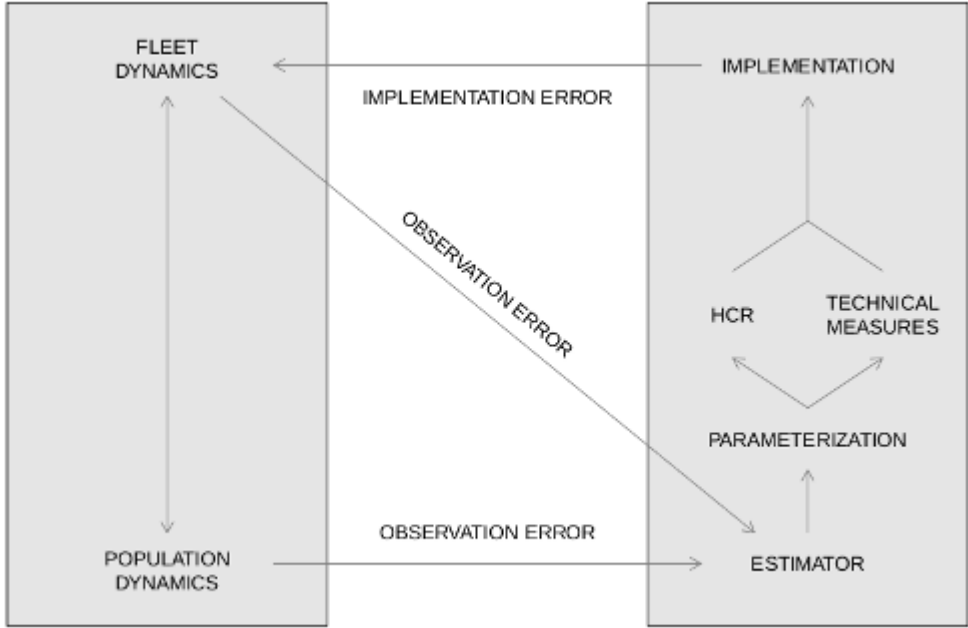
- ★ Discussion & conversation & collaboration with stakeholders.
- ★ Quantitative analysis to support discussion.
- Iterative until (hopefully) decision.
- Tends to be ad hoc, requires analysts to understand stakeholders and be creative to provide information.

MSE



MSE concepts vs FLR/a4a implementation

MSE a4a



OM vs MP

- MP is blind to the OM
- OM represents 'real' system, but since models are simplifications of that system we need to have several.
- MP is where the decision process is represented, and is the subject of discussion with stakeholders.

Assessment model OM vs MP

Single OM, single estimator

- Often presented as the 'base case'.
- Analysis will tend to be optimistic with relation to MP's performance.
- Robustness not tested !

Several OMs, single estimator

- Test estimator's performance for alternative representations of nature.
- Test estimator's robustness to unlike but plausible situations.
- In this case the OMs will use several stock assessment models and/or configurations for conditioning.
- Not testing alternative estimators.

Single OM, several estimators

- Test several estimators' performance. Several stock assessment models and/or configurations are tested.
- The best performing estimator may not be the 'official' assessment model and configuration.
- Analysis will tend to be optimistic with relation to MP's performance.
- Robustness not tested !

Several OMs several estimators

All of the above, which is what the analysis should be aiming for !

Robustness tests

- Runs of candidate MPs over suit of OMs which represent unlike but plausible situations.
- Statistics may be adapted to highlight specific problem, e.g. test robustness to deterioration of data quality, statistic may be probability of estimator non-convergence.

Workload and workflow

- Don't underestimate the time and computation required !
- Design the experiment and keep track of runs !
- Keep focus on the objectives of the analysis.
- There's more than one way to skin a cat !

Diagnostics

- Estimator convergence
- Estimator bias
- Module is doing what's expected.
- ...

Protocol

Follow the sequence of the course and MSE examples.