

Plan validity

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7. Plan validity
- (a) General: check plan against Høst and Runeson's [73] **checklist** items for the design and the data collection plan (also in Appendix A of this book).
 - (b) Construct validity—show that the **correct operational measures** are planned for the concepts being studied. **Tactics** for ensuring this include using **multiple sources** of evidence, establishing **chains of evidence**, **expert reviews** of draft protocols and reports.
 - (c) Internal validity—show a **causal relationship between outcomes and intervention/treatment** (for explanatory or causal studies only).
 - (d) External validity—identify the **domain to which study finding can be generalized**. Tactics include using theory for single-case studies and using multiple-case studies to investigate outcomes in different contexts.

Threats to Validity

Construct Validity

- Evaluation took place only after the development and establishment of the framework and was originally not planned
- Different Scrum teams led by different architects proceeded marginally differently
- Author was solution architect in the team at the time of the framework development and included in the development. She may be biased

Conclusion Validity

- + Significant results compared to control group, but
- Sample overall small
- Control group extremely small
- Control group with slightly different internal structure
- + Control group with the same unit leader
- Low questionnaire response rate (about 50% test group, 80% control group => ToDo: calculate exactly)
- Study participants could evaluate too positively, since no previous processing of these tickets occurred. The developer morale may be enhanced by the "tackling of TD at all".

Internal Validity

- Effects could also occur if a different TD Management approach is chosen.
- Perhaps it is already enough that the topic of TD is dealt with at all.
- The impact depends significantly only on the conscious decision-making process (decision between optimal and sub-optimal solution), which can also be achieved with other frameworks.

External Validity

- + Investigation took place in practice
- + Framework has been used for a long time
- Observation period is short compared to project runtimes, even if it seems long
- However, it would also have to be tested in other units/companies, domains, countries

