

Required CSO characteristics	Optional CSO characteristics	Incorrect CSO characteristics
Researchers explicitly define comparable design variants.	Lab and field settings are both appropriate.	Compares design to status quo only, outside the context of the study.
Researchers derive participant tasks based on formative research.	Participants use a talk aloud protocol.	Runs an open-ended field test with no comparisons.
Participant exposure to tasks and design variants meets experimental design best practices.	Quantitative data informs qualitative data.	Omits comparable tasks or experiences.
Participants experience at least two design variants within the study.	Researchers generate testable hypotheses.	Omits participant reflection on comparable experiences.
Participants compare and reflect upon their experiences with each design variant.		Omits researcher observation and reflection on participants' experiences.
Researchers observe participants' experiences directly or through other rich data sources.		Focuses only on performance metrics.
Researchers emphasize gathering qualitative data.		
Researchers conduct post-hoc interviews.		