

Exercise Sheet 3: Research Design

Considering the empirical evaluation assigned to your team,

1. Identify the research design by answering the following checklist. For each answer, you must provide the section, page, and paragraph numbers in which you have found the corresponding information.

Item	Question	Hints
Research design		
Goals	- What are the research goals?	Specify the research goals in terms of independent, dependent, cofounding, and control variables.
Experimental Units	- What is the target population? - How is the sample drawn from the population? What is the rationale for drawing the sample? - How are subjects assigned to treatments?	
Experimental Material	- What experimental materials are used? - What is the rationale for selecting those materials?	
Tasks	- What tasks are performed by the subjects? - What is the rationale for selecting those tasks?	
Hypotheses, Parameters, and Variables	- What are the research hypotheses? - What are the constructs of interest and their operationalization?	Identify and specify the research hypotheses and their type. Specify the operationalization of independent, dependent, cofounding, and control variables.
Design	- What type of experimental design is chosen? - What is the rationale for chosen it?	
Procedure	- How is the experiment performed? - What data collection methods (e.g., instruments, materials, tools) are used and how?	Draw a diagram explicitly showing the experimental groups, treatments, procedures (i.e., steps and tasks), and data collection methods.
Analysis Procedure	- How is raw data analyzed? E.g., what tools are used for data analysis? What statistical tests are performed to test hypotheses?	Identify tools used for statistical analysis. Identify statistical analysis performed per variable type. Identify statistical tests used for testing hypotheses.

2. Critically discuss the current research design focusing on the:
 - a. Completeness, traceability, and consistency of the hypotheses specification.
 - b. Sampling strategy and sample.
 - c. Experimental materials, tasks, design, and procedures
3. Propose solutions for addressing the identified problems.

Hint: Each team should submit their solutions to Silverio.Martinez [a] iese.fraunhofer.de **until June 29th**. Solutions should be submitted using **PowerPoint** format for facilitating the discussion during the exercise class.
