



“Avoiding Analytical Rigor: How to Ensure Your Experiment Fails”

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Preparation

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- Do not conduct a literature search
 - No one has ever conducted an identical experiment
 - Your sponsor doesn't really care about the literature
 - Findings from literature searches are often inconsistent and confusing
 - A literature search demands precious time
- Build the smallest, most specialized team possible
 - Multi-disciplinary teams
 - Slow down the process
 - Muddy the waters
 - Peer Reviewers and Study Advisory Teams
 - Cost money and time
 - Interfere with the Principle Investigator's role and processes



Planning

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- Develop a rigorous schedule as early as possible
 - This makes budget planning much easier
 - It ensures you will generate valuable products early
 - Casting your schedule in concrete increases the strength of your demands for money, venues, participants, and other resources
 - Having multiple events close together maintains project visibility
- Budgets, like schedules, need to be tight
 - Obligate your funds fully as early as possible
 - Do not keep a reserve
 - Plan for the experimental event itself to require at least 80% of the funds



Technical Design

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- Avoid having a baseline
 - It wastes precious resources
 - Baselines sometimes prove embarrassingly difficult to out perform
- Build compound hypotheses
 - For example, “IF A, B, and C occur, THEN X, Y, and Z can be expected
 - This approach increases the efficiency of the experimentation by allowing you to deal with multiple issues in the same experiment
- Never conduct proficiency tests on the capabilities of the subjects to use the systems or approaches on which you are experimenting
 - Such tests are difficult and expensive to create
 - Regardless of the level of proficiency, you will have to use all of the available subjects, so these tests do not provide useful information



Data Collection and Data Analysis Plans

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- The Data Collection Plan should be as elaborate as possible
 - The experimentation team will need to know everything possible
 - An elaborate data collection plan demonstrates the professionalism of the team
- Use survey questions whenever possible
 - They are quick and easy to create
 - They do not need to be pre-tested
 - They can be scored rapidly
 - They make the subjects feel important
- Avoid behavioral measures
 - They make people uncomfortable
 - They are difficult to collect and analyze



Data Collection and Data Analysis Plans (cont'd)

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- Do not create data collection instruments or procedures that require training the collectors
 - Collection should be intuitive
 - Training data collectors costs money and time
- The data analysis plan can be developed after the experiment when it is very clear
 - What data is really available and
 - What the client really wants
 - This is best done by the statistical analysts, who are different from the domain experts who should build the data collection plan



Conduct of the Experiment

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- Avoid Pre-Tests
 - They are costly
 - A clever design by an experienced team makes them unnecessary
- Maximize the interactions with the subjects
 - Introduce senior VIPs to them whenever possible in order to maximize their motivation
 - Close contact with the experimenters ensures the subjects have no questions
 - Close contact with the subjects will give the experimenters greater understanding of what has happened during the experiments



Reporting the Experiment

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- Focus on the “Hot Wash” or immediate reporting
 - Senior personnel always want the results immediately
 - Anything not reported then will be forgotten anyway
- Ensure that the results are captured in ways that are easy to remember
 - Lots of graphics
 - A good story
- Do not allow anyone except the core team to examine the data from the experiment
 - Outsiders are constantly looking to find fault
 - Those not familiar with the whole experiment are likely to misunderstand or misinterpret the results
 - Data needs to be held closely so the conclusions cannot be challenged