

Work closely with the client to uncover the real needs for the project

1. *Ask as many questions as necessary but be mindful that the client is a busy professional.*

The statistician should be able to extract from the client thorough information about the data and the aim of the project. This may not be accomplished during the first meeting as the clients themselves may not be prepared to answer all necessary questions. The job of the consultant then is to motivate the client by asking the right questions about what he /she needs to know to get the job done. The consultant should be constantly prepared to work proactively and cover for the client's lack of purpose, organization and management.

2. *An important, and yet a difficult step, in planning a study is very often, the determination of the sample size*

Since good planning is a key issue in cases like this, a statistician should have information about the goals of the particular study. One step in this process is eliciting an effect size of interest. This is not up to the consultant to decide but it is his/her responsibility to elicit this information from the client

3. When the right, and correctly phrased, questions are asked, the client will end up getting also well prepared for the next consulting session
4. *Do not work with clients who insist that you should produce their desired outcome*

When approached by a client who is adamant that you should produce their desired outcomes:

Plan A: Educate the client on what you can produce (e.g., results supported by the data).

Plan B: Inform the client that you are not the type of consultant who delivers desired outcomes.

It is worth considering Plan A first. If the client doesn't respond positively to Plan A, then the consultant can adopt Plan B.

5. *What happens in the case that the statistical analysis results in mixed findings?*

When the findings are mixed or unexpected, it is crucial to involve the client in the interpretation of these findings. The subject matter expertise of the client may enable them to come up with reasonable interpretations. Can we express this in point form?

6. *When delivering mixed findings to the client:*

- Engage their subject matter expertise to strengthen the interpretation of the findings
- Use abduction to highlight unique opportunities for acting on these findings
- Point out novel ideas, techniques and collaborations that could be inspired by these findings

Inform the client on possible approaches for solving their problem and use your professional experience. Remember that in Statistics, *intuition is not your friend*

1. Statisticians are quite used to hearing how challenging this subject is to most people, which makes this effective communication attempt even more challenging for them. The clients want to know what the core message is and how it relates to their concerns (Derr, 2000)

2. *concepts that may need to be thoroughly explained can be:*

- Statistical significance
- Correlation
- Bias
- Odds ratios
- Multicollinearity
- The difference between independent samples and matched pairs
- A continuous versus a binary response

3. *Effective tools:*

- an effective conversation,
 - a presentation,
 - organizing information in charts, tables and graphs
 - producing detailed but comprehensible technical reports.
4. It is always important to identify the kind of audience that we are addressing and prepare the above tools in such a way that is especially helpful to the particular audience
5. The communication/ presentation style should be very simple and to the point and should not contain useless technical details.
6. It is important to be proactive and get well prepared before talking to the client. A handout or copies of the visuals or other supplementary material will improve the client's understanding of what the consultant has to say.

References:

Derr J., 2000, *Statistical Consulting: A guide to effective communication*, Duxbury Press

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