

Data Mining Case: Dealing With Limits

SI 310 Case 9 Additional Advice

Fall 2019

Some students have asked me how to deal with stakeholder desires. You don't know all these desires and won't before the memo is due. The memo is about how you will come to know. Question 3 from the case says: "Given the stakeholders you identified in (1), characterize the nature of biases that each one might have that could influence either their requirements for your tool, or the conclusions they might reach from its output." The word "might" makes it speculative, "constructive speculation" about what to look for. If a stakeholder says, "We want X" and you know X is impossible, you conclude the stakeholder doesn't know what's possible. You might follow up by asking how do it. If they say, "Just use AI," but AI can't do this, you can add a lack of knowledge about AI. The bias in this case is inflated expectations, including about AI. The reverse can be true, too: the stakeholder might not know of recent advancements and declare, wrongly, that it can't be done. Is there a spectrum of bias, from expectations too low to expectations too high? There often is. Frequently it is too positive because the stakeholders have been watching too many ads filled with puffery.

The objective of the project is not to provide value from all the data the I-Bank has or can collect. (They might think this but they must be corrected.). The objective of the project is to set things up to *find out* if there is value in all the data the I-Bank has or can collect. If not, and the project is done right, we will know there isn't enough value in the data to make further investment worthwhile. In the oil industry everyone involved in exploration knows that there are more "dry holes" than productive wells. If so, and the project is done right, we can move toward exploitation. In any case, investment in exploration pays off. Which stakeholders do you identify, what do you think their interests might be, what are you going to look for, and how are you going to get the information? Think about stakeholders who aren't principals, like the users of the web site. Maybe you need to talk with them, too.

Similarly, you do not have all the information on trade-offs. You do have some. You will have six months elapsed time and two people to help. Whatever time you have is *not enough*. Whatever work you envision is *not enough*. This is how it feels when in the "crunch." You must be cold-blooded to avoid project growth through "requirements creep" or "mission creep." If you add X you have to get rid of Y. This must be clear in the psychological, social, and formal contracting or you will have an expectation failure when you don't deliver what stakeholders expect. Some trade-offs are lopsided: you give a lot to get a little, or give a little to get a lot. Think it through. What information on trade-offs will you need, and how do you plan to get it?

Wait a minute, you say – this is beginning to sound like requirements. That's because it *is* requirements. Missing or poor requirements usually result in bad projects. The case and the write-up are a step toward nailing down the requirements. You are being asked to write a memo about the next step. Number 6 from the case says: "The people mentioned above will read and consider this memo. If they find the document useful they will probably give it to other key people, important people who can influence your welfare over time." The memo is your entry device. What do you want to get after you are inside?

As a hint at how to approach this, consider that you are asked to write a memo of no more than 500 words that helps you *begin* a six-month project. The memo lays out the stakeholders you'll start with (you might add to the list as you go), what stakeholder interests there might be (you'll talk with them to determine this), what information infrastructure is in place (you'll check on this as you go), what the I-Bank's capabilities are (you'll talk to the experts there), what ethical issues might arise (you'll learn more as you go), what you have to look out for (*e.g.*, legal stuff), what techniques might be relevant, etc. These and other factors (some of them from the case) help you shape the requirements for the work. The memo creates that essential "first impression" of you among these key people. You can think of the memo as part of the project because, without the things the memo addresses, there cannot be a successful project. But the memo is not the project. For one thing, nothing in the memo allows the I-Bank do what they need to do. For another, it is premature to state precisely what the work is because the requirements are too unclear. The memo addresses steps to be taken (possibly followed by more steps) to get the requirements more clear. Learning to do projects like this one is part of later classes. The purpose of 310 is to help you get ready for project work.

Remember the (possibly apocryphal) story from early in the class? Beethoven is dancing badly with his niece. She says it's easy. He responds that it isn't easy if you don't know how. This is not easy work if you don't know how. It's learning-by-doing. Do it.