

Role of Consulting in Teaching and Research

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Role of Consulting in Teaching and Research

- **Positive view of consulting:** Enhance your academic career by sharpening your professional skills in your area(s) of interest.
- Depending on your field, you can almost always learn something new and relevant to your field from consulting, provided you pick your projects carefully and do a good job with the project.
- **Negative view of consulting:** It's "Moonlighting."



Role of Consulting in Teaching and Research

- Virtually all universities allow or encourage consulting both in the business and engineering schools, subject to certain rules and limits.
- Fundamental belief is that consulting experience will enhance classroom teaching and potentially lead to research.



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Example:

Major appliance & consumer electronic goods manufacturer

→ research grant (multi-floor facility layout)

→ summer consulting for graduate student

→ research publication + award-winning dissertation

→ commercial facility layout code

→ consulting project with commercial/school furniture manufacturer

→ term-project for senior-level facility planning course

→ consulting project with major Korean electronics manufacturer



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Example:

(Asst. Prof.) Major apparel manufacturer

- consulting project
- research grant
- further research ideas
- NSF Career Award
- Publications



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- **Credibility in class**; effectiveness in teaching in Business (BBA, MBA) and Engineering (BSE, MSE/PhD) classes.
- **Anecdotes and short stories** (not formal case studies).

“Around 1997, when P&G tried a variation of this particular approach to inventory control, they discovered that safety stock levels were overestimated because _____.”

“We tried this particular algorithm in a multi-floor facility GE used to manufacture _____. Congestion due slow lifts forced us to take a closer look at them.”



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Another form of consulting: **Expert witness.**

- It can be very challenging and a unique experience. (Have you ever been deposed as an expert witness?)
- Chances are (99.99) it will not lead to a research grant, though you will learn and get a chance to put your knowledge to work provided it's the right case.
- No matter what the attorney says, if you feel it's a poor fit with your expertise, do not take the case. Often, you can refer the attorney to another person/organization who can help.



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Another form of consulting: **Expert witness.**

- Remember, in the long-run: If you are good under pressure, you can help others with your knowledge.
- If you don't step up, people far weaker or less knowledgeable than you will be happy to take the witness stand for the attention and the money.
- It's your decision but go very easy as an Assistant Professor.
- Given your area, do you think you'll ever be asked to serve as an expert witness?



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Another form of consulting: **Expert witness.**

- Unique aspect: Since you get to see mistakes in such cases, it can be a tremendous learning experience, which you can share with your colleagues and students, after the case is settled or decided.
- Be very careful with privileged information and confidentiality.
- Be prepared to deal with the opposing side's expert witness(es) and attorney(s).



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Some important things to remember:

- If you “mess up,” you’re on your own (the University will not provide you with legal representation).
- Make sure you have a disclaimer and warranties in the proposal.
 - Disclaimer to spell out that you cannot be held liable for any types of losses the company may incur as a result of using, or being unable to use, your recommendations.
 - In your warranty, assure the client that your conduct, your methods, and your recommendations will meet professional standards established for the IE/OR/MS profession.



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Some important things to remember:

- Do not over-commit but be prepared to deal with conflicting deadlines and schedules.
- Avoid COI best you can but look for research opportunities.
 - One consulting/research project led to a well-regarded paper and a dissertation that won two prestigious awards.
 - Another consulting project, led to a brand new problem not addressed in the literature before.



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Some important things to remember:

- When it makes sense, get your students involved. It can help the client (financially and/or with manpower) and it can be a big learning experience for your student.
 - Be careful with visa restrictions for international students. Can be done as curricular practical training provided certain conditions are met and the project enhances the student's education.
 - It's much better if the client pays your student directly, without the money going through you.



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Some important things to remember:

- If you decide to do consulting, pick your project very carefully. The project content, the client, the type of industry, their location, can all make a big difference in how much you can help them and what you learn from the engagement.
- Do not over-commit with respect to deliverables and with respect to timing. (Often the client needs the results “yesterday.”)



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Some important things to remember:

- Don't pretend you know more than you do. When appropriate, admit lack of practical knowledge but do some learning on your own. Don't be arrogant either.
- Unless it gives you a major tax advantage, or it reduces your liability (LLC), do not start your own consulting firm as a junior faculty member. That can wait; you can do it later.



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How to find a consulting project?

Local industry.

Find out who in your department answers the phone.

What does the department/university web site say?

- If you feel consulting **is not for you**, but you wish to enrich your lectures with real-world stories, and/or industrial relevance of your research is important to you, then you can subscribe to leading **trade journal(s)** in your field of interest. Example, Modern Materials Handling, Traffic World (Logistics), and so on.



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Be professional.

Best of luck.

Have fun!

