

# TECHNICAL CONSULTING FOR A LIVING

Irwin Weitman, P.E.  
196 Cedrus Avenue  
East Northport, NY 11731

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## INTRODUCTION

An independent Consulting Engineer is a businessperson who provides technical services and advice to his client. The majority of successful consultants I know obtain their clients through previous employer relationships, colleagues or personal references from them. My own experience bears this out. The marketing effort on the part of these consultants is to inform these potential clients of their availability. To obtain new clients, the consultant must consider the needs of the potential client and "create" the opportunity for his or her skills to be applied. He must often envision the application of his skill in an area where that skill hasn't been applied before. Age and experience, with a dose of maturity, are fundamental requirements for building a consulting practice.

There are many other factors that need to be considered before choosing consulting as a career, and I will try to share these with you.

## WHO BECOMES A CONSULTANT?

The person who wants to take charge of his career and still do the things he was trained to do, often chooses to become a consultant. The kind of fellow that has always said, "Someday I will own my own business". The passive fellow, who would rather have someone tell him what to do, will not become a successful consultant. Sometimes an employee who has been doing some moonlight consulting for a former employer decides that he or she can get enough consulting work to replace his or her job. This person has a simpler task than the person whose company is moving to another state. The former has already started his business.

Some people view consultants as people who recently became unemployed. My view of a true consultant requires that the person has no intention of eventually becoming an employee. I would like to relate a phone call that one of the officers of the IEEE Consultants Network of Long Island recently received. The caller had just been laid off by one of the larger military contractors. He asked my colleague, "How long had he been consulting?". My colleague replied, "seven years!". His response to my friend's reply was "You mean you've been out

of work for seven years?". I think this individual has no idea what consulting is all about. He expounded on the security that employment gives. He had worked for one company for 14 years and was then laid off. He then worked for his last company for three years and was laid off. He believed this was security. I believe security is working for 3 or 4 satisfied clients at any one time. I had a similar experience when I first began consulting full-time. I sent announcement cards to individuals at companies that I thought could use my services. About a week later, I received a long distance call from a recipient who is the President of a company. After our greetings he exclaimed "Irwin! What happened?". He assumed that a consultant is someone who just lost his job.

## WHAT IS A CONSULTANT?

A Consultant is a person who has a special skill which he or she offers to the public for a fee. The public I am referring to here, is not the general public, but, any company or individual who needs the special skill that the consultant has to offer. The distinction between a consultant and an employee or job shopper is this availability to the public. (This definition is very close to the definition used by the Internal Revenue Service.) Most consultants have an office and some capital equipment, even if only a computer. They advertise their availability, and in general, conduct matters according to normal business practice. They take care of their own insurance, retirement plans, and office expenses. When setting their fee schedule, they must take these and other expense factors into consideration.

The psychological forces that are placed on the consultant are those that affect the businessman, rather than the employee. The consultant must be constantly alert to any marketing opportunity that may present itself. He must remember people he met years ago and link them to opportunities that he sees or creates. The consultant should maintain a backlog of work for next week, next month, and next year. At the same time, he must not promise to be available to a prospective client during an already committed time period. Very often the consultant must work evenings and weekends in order to satisfy his clients. When a client needs consulting services, he has little regard for the fact that another client may need the consultant at the same time. If a consultant has a problem dealing with the pressures of trying to meet the needs of several clients at the same time, then he should consider another career, such as being an employee. Being a successful consultant calls for

diplomacy, patience, hard work, and the ability to avoid panic.

If, as an employee, you resent being "tested" by your boss, you will have a rough time as a consultant. Be prepared to be tested all the time. Clients like to play the devil's advocate and will test your ideas and advice. Remember, the consultant represents a direct and visible outlay of money for the client. The consultant must set realistic goals and stick to them. Experience and maturity are critical in setting realistic goals. In short, the consultant must practice, "living by design, not living by default". Most important, the consultant must be of an optimistic mind set. He must be able to deal with periods of few assignments when the business climate is poor.

### PROFESSIONAL TASKS

- C DESIGN.
- C ADVISE.
- C DESIGN REVIEWS.
- C BE A MENTOR FOR LESS EXPERIENCED EMPLOYEES.
- C BRING A NEW TECHNOLOGY TO THE COMPANY.
- C PLAY DEVILS ADVOCATE ON PROJECTS AND PROPOSALS.
- C SOLVE OR ANALYZE A LONG EXISTING PROBLEM.
- C RESOLVE A CONFLICT WITH NEITHER SIDE LOSING FACE.

The fact that the consultant puts a great effort into getting an assignment from a particular company, only to be told that they are waiting for that big job to come in, is not very comforting. Bear in mind, if the client doesn't need a consultant now, he will not retain one. If he did, he wouldn't last long in the business world. If the consultant is not prepared for it, he will become discouraged at the slow rate at which his business expands. It takes years to develop a practice with a sufficient number of clients to allow the consultant to even slightly relax his marketing effort. He should never stop marketing.

### OTHER, NON-PROFESSIONAL TASKS

- MARKETING.
- SELLING.
- BOOKKEEPING.
- C SELF EDUCATION.
- INTERFACE WITH ACCOUNTANT, LAWYER, ETC.
- MAINTAIN A FACILITY WITH OFFICE EQUIPMENT, COMPUTER, TEST EQUIPMENT, PHONE, FAX, AND OTHER EQUIPMENT THE TECHNICAL SPECIALTY REQUIRES.

### ADVANTAGES OF BEING A CONSULTANT

1. Independence - be your own boss.
2. You can take time off without answering to anyone but your own conscience.
3. You can choose the work environment.
4. You can work 12 hours one day and then work 2 hours the next day. (You still must meet commitments.)
5. Some managers have more respect for their consultants than for their employees.
6. Less involvement in company politics or personality games.
7. The opportunity to stay current with the state of the art

### CHARACTERISTICS OF A SUCCESSFUL CONSULTANT

- SPECIAL TECHNICAL PROFICIENCY.
- PERSEVERANCE.
- DIPLOMACY.
- CONFIDENCE.
- OPTIMISM.
- ABILITY TO WORK HARD.
- HIGH ETHICAL STANDARDS.
- SENSE OF HUMOR.
- CONTROLS USE OF TIME.
- STAYS CURRENT WITH STATE OF ART.
- FOLLOWS RULE OF "THE CUSTOMER IS ALWAYS RIGHT".
- ABILITY TO SAY "NO!" WITHOUT TURNING THE CLIENT OFF.
- WORKS WELL WITH PEOPLE.
- ABILITY TO WORK ON MORE THAN ONE PROJECT IN THE SAME DAY.

### DISADVANTAGES OF BEING A CONSULTANT

1. Hard work.
2. Uncertainty of the business climate.

The consultant must bring practical solutions to problems and exhibit mature judgment if he or she is to succeed.

### STYLES OF OPERATING A CONSULTING BUSINESS

1. Several clients at one time.
2. One client for extended periods of time.

Each of these approaches has its advantages and disadvantages. The choice depends very much on the individual's style. Some consultants prefer to find large projects that last many months or even years. They can postpone their marketing efforts to a time that they estimate will give them enough time to find a new assignment. They also have the

opportunity to have an extended and well earned vacation.

My preference is for the former, and I usually have 3 to 5 active clients at any given time. I have a continuing marketing effort and avoid the all out crunch that must take place when you have only one client. I schedule my vacations well in advance, and inform my clients so as not to disrupt their schedules.

### **DETERMINING THE FEE YOU CHARGE**

1. How much is the service I provide worth to the client?
2. What is the least I can charge to cover my expenses and still provide for my family?

Bear in mind that it difficult to bill more 1500 hours per year. Let me address the costs of being a consultant. Most of the costs are the same ones that an employer refers to as overhead. The following list is comprised of items that require an outlay of cash. The next list has items that must be considered, but it do not always require a cash outlay.

#### **CASH COSTS**

- FICA (12.4%)
- MEDICARE (2.9%)
- RETIREMENT PLAN
- LIFE INSURANCE
- MEDICAL INSURANCE
- DISABILITY INSURANCE
- LIABILITY INSURANCE
- EDUCATIONAL
- TRAVEL
- SALARY

#### **NON-CASH COSTS**

- VACATION
- SICK LEAVE
- PERSONAL TIME
- EDUCATION TIME
- SNOW, CAR BREAKDOWN, ETC.
- MARKETING
- ADMINISTRATIVE
- MAINTENANCE
- CAPITAL EQUIPMENT
- UTILITIES - PHONE, ETC.
- ACCOUNTS PAYABLE.

The basis for determining the fee and the method of billing depends very much on both the client's and consultant's risk

tolerance. The client will usually opt for a fixed price (even if the task is not well defined). The consultant will usually opt for an hourly rate to avoid the problems associated with changes to the specifications during the performance of the project. This represents the potential for a disagreement.

Sometimes a client with limited funds or for other reasons will try to interest you in a piece of the action. This is a risky business, since this is your bread and butter. My only advice here is to be careful.

### **WHAT THE CLIENT WANTS TO KNOW**

- Can the consultant do this job?
- Is he someone to be trusted?
- Will I get my money's worth?

To help answer these and other questions the client has, the consultant should have a printed brochure or other well prepared material. A resume is not what a client wants to see.

### **HOW TO AVOID CONFLICT BEFORE AND AFTER YOU GET AN ASSIGNMENT**

Make sure that both you and your client understand the task he wants done. The safest thing for both parties is for the consultant to write a STATEMENT OF WORK in his own words.

The client then reads and approves this document. At this point a document must be drawn up, call it an Agreement, Letter of Engagement, Contract, Purchase Order, whatever you like, but it must be written. The aforementioned is of crucial importance. Even if you have known the individual for a very long time and fully trust him, and he trusts you, the memory of individuals is not perfect and can be the basis for a misunderstanding. Furthermore, there are legal implications. Even if he doesn't contemplate selling now, his company can be bought by people who don't know you and don't have any commitment to you.

#### **CONTENT OF AGREEMENT**

- NAMES AND ADDRESSES OF PARTIES
- TASK DEFINITION
- STARTING DATE AND SCHEDULE
- DELIVERABLE ITEMS IS ANY
- NON-DISCLOSURE AGREEMENT
- FEE / SCHEDULE
- PAYMENT SCHEDULE
- ADDITIONAL EXPENSES: TRAVEL, MATERIALS, RENTALS, ETC.
- CANCELLATION CLAUSE

Everything has a price. I'm sure you have all heard about unfriendly "leveraged buy outs". Furthermore, either, or both of you can be run over by a truck. The new management

may not be willing to honor an oral agreement.

If all of the above is carefully covered, you will probably never have to look at this document again.

## **GOOD RULES TO KEEP THE CONFIDENCE OF YOUR CLIENTS**

1. Disclose the status of the project, especially if you see problems ahead. Nothing turns a manager off like a surprise turn for the worse.
2. Keep a notebook and save it for the future. It might make you a hero.
3. Have a prepared Engagement Agreement or Contract available for the client that doesn't have one of his own. This will serve as a basis to get an agreement finalized. It also shows you to be well prepared and organized.
4. At completion of the job, give the client complete and accurate documentation of what you did (schematic, data, and reports).
5. When given advice, the client expects it to be well reasoned and deserves supporting arguments for that advice. This requires maturity and experience. You won't get away with giving a "snow job" to a sophisticated client and there is no long term benefit derived by anyone.

All this sounds like a lesson in motherhood and all the good things you learned in school. *BUT -- IT WORKS!*

## **HOW TO GET STARTED AS A CONSULTANT**

For starters, I would suggest that you take stock of yourself. By this, I mean, ask yourself how well you fit the profile of a consultant which I have outlined here. Bear in mind that I have expressed my own opinions and others may not agree with them. Talk to other consultants and attend the meetings of consultant networks. There is great psychological benefit to talking to other consultants. The problems you encounter are not unique and you may gain insights and solutions to them. Consider in detail what you will offer a prospective client. Don't burn bridges behind you. Your present employer may turn out to be your biggest client.

## **HOW TO FIND NEW CLIENTS**

Do a lot of research into which companies have work and may need help in the area of your expertise. Look in newspapers, technical journals and business publications specific to your field of interest. Prepare promotional material to present to

prospective clients. Talk to colleagues and people you know or knew in your former career as an employee. Change your promotional material as you learn what works for you. As a former client, I found that when I had an immediate need for a special skill, it was hard to find a consultant with that skill.

The Alliance of IEEE Consultants' Networks (AICN) is in the process of developing a Referral Service which will help bring consultants and clients together. There are local Consultant Networks throughout the country. Typical of the local networks is the Long Island Network which meets once a month. We have guest speakers to educate us on matters that affect a consulting business. We have had accountants, lawyers, marketing consultants, and insurance people as speakers. The most useful function provided so far is the networking that goes on between members. Many of us have gotten consulting assignments through our colleagues, and others have collaborated on assignments too large for an individual.

Since 1987 the Long Island group has had a telephone based referral system which has helped a number of their members obtain engagements. This system makes it very easy for clients to define their requirements, enter them by voice and get contacted directly by consultants who have the sought after skills. This referral system works well, but because advertising is so expensive it is not well known among prospective clients. With time, I expect that it will be a more significant factor in bringing clients and consultants together.

## **IN CONCLUSION**

Consulting can be a very rewarding career path for an engineer. If you like working with the latest technology, solving difficult problems and you like a constant challenge, then you can be successful. If on the other hand, you like the apparent security of being an employee, you will probably be very unhappy and also unsuccessful.

**BIOGRAPHICAL BACKGROUND:** Irwin Weitman, P.E.  
Chief Engineer, Cedar Engineering Co. 196 Cedrus Avenue,  
East Northport, NY 11731 (516) 266-2428  
BSEE Columbia Univ. 1958, MSEE Polytechnic University  
1965,  
Tau Beta Pi, Eta Kappa Nu, Senior Member of IEEE, Licensed  
Professional Engineer since 1971. Full-time Consulting  
Engineer since 1985.  
Analog and Digital circuit design for both defense and high  
volume commercial manufacture.

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