

Starting Your Own Engineering Practice

Perceptions vs. Business Reality

By Brad Wilson

I imagine that you are like many young engineers out there today. You are energetic, proud of your work and eager to show what you can do. You're also convinced that you are overworked, considering the size of your paycheck, and underappreciated because your engineer boss doesn't know the first thing about dealing with people. You've been talking to your spouse about starting a firm of your own, and you've just about convinced yourselves that the grass has got to be greener on the other side.

I'm not writing this article to tell you how foolish you are about to be, or to discourage you in any way. But, since there are already 97,000 design firms in the United States and the market can usually support only two-thirds of them at any given time, I am here to share a few bits of knowledge that have been proven over time to give you a fighting chance of holding a spot in the 66% of the firms that are surviving. If you are diligent and a little bit lucky, you might even develop one of those rare practices that cross over from surviving to thriving.

Strategic Planning vs. Getting It Done

Every new business needs a business plan. You need to identify what unsatisfied need exists in the marketplace that you are going to remedy. Other than that, your first business plan should be very light on philosophy. The graphic representation of the strategic planning process is a circle; for you and your firm, best understood as a process that should never end.

The danger is that too much planning and too little doing can burn a lot of time that should be better spent in the

early days of your practice. Don't worry about creating a vision and/or mission statement at first. The purpose of those is to make sure your entire organization is focused on the right things. When you are your entire organization, you need to focus on getting work.

Marketing vs. Getting Good Work

Marketing is an investing activity. As you accumulate some money in your practice, you should implement a well thought out marketing plan to "sow the seeds" for the work you will get for years to come. Investing too heavily in

marketing activities too early in the life of your firm can sink you. Obviously, you must have some money to invest before you can invest it.

Many times I see very new firms taking very low budget work, or performing additional services for no additional fees, all in the name of marketing. You may think that you need to get your name on a few projects to build-up some momentum before you can have the luxury of worrying about profits. That is exactly backward. Prior to heading out on your own, you should have accumulated a list of contacts that value your services and have projects waiting in the wings. I'm not recommending that you start setting yourself up on your current employers' nickel or steal their clients, but once you have built-up some momentum in acquiring work you can afford to start marketing.

Profits vs. Cash Flow

There are many companies that are growing and producing profits, and end up in bankruptcy anyway. As an associate or junior partner in your current firm, you may have been given access to the profit and loss statement for your group or division. However, no one ever mentioned anything about a balance sheet. So, once you are out on your own, you produce a profit and loss statement each month or quarter, and

Table 1: Cash Balances Example (\$1K)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Expenditures									
Direct Wages & Salaries	6.0	6.3	6.6	6.9	7.3	7.7	8.0	8.4	8.9
Direct Personnel Expense	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	3.0
General Overhead	6.0	6.3	6.6	6.9	7.3	7.7	8.0	8.4	8.9
Total Expenditures	14.0	14.7	15.4	16.1	17.0	18.0	18.7	19.6	20.8
Invoice Amount									
Direct Wages & Salaries	6.0	6.3	6.6	6.9	7.3	7.7	8.0	8.4	8.9
Direct Personnel	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	3.0
General Overhead	6.0	6.3	6.6	6.9	7.3	7.7	8.0	8.4	8.9
Profit (20%)	2.8	2.9	3.1	3.2	3.4	3.6	3.7	3.9	4.2
Total Invoice Amount	15.4	16.5	17.3	18.0	19.1	20.2	21.0	22.0	23.3
Revenue Received									
60-day turnaround	0.0	0.0	15.4	16.5	17.3	18.0	19.1	20.2	21.0
90-day turnaround	0.0	0.0	0.0	15.4	16.5	17.3	18.0	19.1	20.2
Net Cash Flow									
60-day turnaround	-14.0	-14.7	0.0	0.4	0.3	0.0	0.4	0.6	0.2
90-day turnaround	-14.0	-14.7	-15.4	-0.7	-0.5	-0.7	-0.7	-0.5	-0.6
Total Cash On Hand									
60-day turnaround	-14.0	-28.7	-28.7	-28.3	-28.0	-28.0	-27.6	-27.0	-26.8
90-day turnaround	-14.0	-28.7	-44.1	-44.8	-45.3	-46.0	-46.7	-47.2	-47.8

ignore that status of your assets and liabilities. Revenue and profits continue to grow while you slowly run out of cash. The A/E industry is horrendous at collecting its receivables, and that can be the kiss of death for a new firm. Table 1 shows the cumulative monthly cash balances for a growing firm that collects its debts on a 60 or 90 day schedule. As you can see, unless you have a rich aunt to keep you afloat, it doesn't take long to run all of the cash out of the operations. And, if you are working for architects or developers, your collection periods can easily be twice as long.

This simple example assumes that you are performing billable work 40 hours per week in order to get your firm started, and doing overhead tasks in the evening with no additional compensation. These non-billable tasks, like sending out your invoices, can easily amount to 40% of the total time you are spending on your practice.

An absolutely necessary skill that must be acquired before starting your own firm is the ability to collect. In many good firms, it is the project manager's job to see that the clients are paying within contract terms. If you have been fortunate enough to be a project manager for a firm like this, don't forget how to make sure you get paid once you're your own boss. Above all else, in a new firm, strong consistent cash flow, not profits, will keep your doors open.

Conclusions

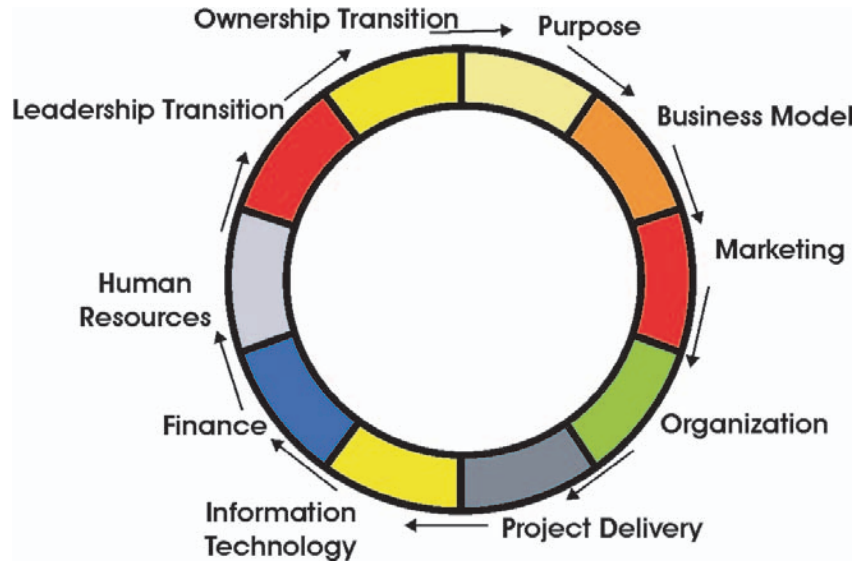
Honestly, I could go on for volumes about the myths and realities surrounding the beginning of new engineering practices (I didn't even touch on the issues involved in hiring some help for the first time). But if you understand the realities of planning, marketing and cash flow discussed in this brief article, you will certainly stand a better chance of long-term survival.

The grass can be greener on the other side, and you will typically find two-thirds of your business owner peers supporting your decision. It's certainly

a challenge, but if you are confident that you can 1) get good work, 2) get the work done, and 3) watch your cash flow, you may decide the challenge is too great to pass up.

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