Running an Engineering Company

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Caveats

- I'm not an attorney
- I'm not a CPA
- I'm not a business consultant
Why do you want to run your own company?

- Personal satisfaction
- Greater income (or at least the potential)
- Less work
- Ability to set your own schedule
- Desire to teach and motivate others
- Personal control issues (ok, that’s mine)
No, really, it’s because....

- You know you can do it better than that pointy haired guy in the corner office

The Boss
So, are these goals realistic?

- Webster says an entrepreneur is derived from Old French and means
  “One who organizes, manages, and assumes the risks of a business or enterprise”
True Definition

- I’d rather work 80 hours a week for myself than 40 hours a week for someone else.
- For us, it’s actually only about 60 hours a week or so
Before you get started

- Competitive analysis
- Barriers to entry
- Economic moat
- Clients
- Partner? Electrical only?
The Dark Side

- Should you be an Electrical Engineering firm or have in-house Mechanical too?
- What do your clients think – how will it impact your client base?
You’ve decided

- Type of corporation – LLC, Inc., etc.
- File corporate registration papers
- Get Tax ID number
- Equipment – computer, fax, phones….
- Software
- Insurance
- Logo
You’ve still decided

- Stationery/Business Cards
- Place of business
- Furniture
- Marketing materials
- Retirement plan
- Bank account….
Face it

- Accountant
- Attorney
- Retirement planner (for those profits)
- Payroll
- Marketing material help
Oh yeah, we also need

- CLIENTS
  - What is your competitive advantage?
    - Cost?
    - Quality
    - Focused niche - cost
    - Focused niche – differentiation
  - Think about your differentiation
Differentiation Strategy

- Build in a difference – Real or imagined
- What can I do that is difficult for my competition to copy – Quality? Cost? Branding?
- Want to signal value to your clients.
- Must keep cost of differentiation in line – charge more than it costs. Profit, not a dirty word.
Now, here’s where the entrepreneurship comes in

- You are the owner and have a couple of small jobs. You have to:
  - Survey
  - Design
  - Draw
  - Shop Drawings
  - RFIs
  - Inspections/traveling
And that was the non-owner stuff

- You also have to:
  - Continue to market your firm and, no, a sign out front does not constitute marketing
  - Prepare proposals
  - Prepare invoices
  - Collections (Believe it or not)
  - Receive payments and pay bills
  - Do bookkeeping functions
  - Prepare presentations your partner foisted upon you
  - Maybe have a personal life
I’m tired

- Hire someone to help with production
  - Payroll including taxes
  - Worker’s compensation insurance
  - Health insurance
  - Human Resources issues
  - Did you hire the right person – same work ethic as you, same drive, motivation?
  - Are they going to leave, start their own company and try to take your clients?
Daily Issues

- Staffing for projects
  - Are you too big?
  - Are you too small?
    - These are hard issues because as the owner, the cost of others' salary is a direct hit to your personal income. But their production should be profitable.
    - Will clients see you as capable of larger projects?
    - However, you may have more free time for marketing, growing, managing. Oh, and family.
Daily Issues Continued

- What’s most important to keeping your company operating smoothly?
  - Marketing?
  - Sound Engineering?
  - Good bookkeeping decisions?
  - Happy employees?
  - You’ve forgotten already – it’s a business!
Most Important Is

- Cash Flow. Period. (My opinion).
- Cash comes from several sources:
  - Paid in capital by partners (that’s you)
  - Revenue
  - Debt (Loans either by partners, bank, SBA)
  - Sale of stock (New partners)
Accounting

- Must have good accounting system
- Hire an expert in the system
- Track expenses vs. overhead
- Track time spent on projects
- Track receivables
  - Amount outstanding
  - Total days sales outstanding
  - 30/60/90 column
Annual Review of Company

- SWOT Analysis
  - Strengths
  - Weaknesses
  - Opportunities
  - Threats
- Both internal and external
Strengths

- What do we do well?
  - Type of project (spec office building, retail, hospital)?
  - Does this give us an enhanced competitiveness?
  - Is it a resource we have (specific software or tools)
  - Is it customer service?
  - Is it our brand name?
Weaknesses

- What do we do poorly
  - Marketing?
  - Follow up?
  - Quality Control?
  - Training?
  - Communication?
  - Diversification or market types within our industry?
Opportunities

- Within our industry – what gives us an advantage?
  - Our knowledge of a system?
  - Having lighting design on staff?
  - Having communication design on staff?
  - Shifting market focus (such as condos)

- How can we use that to our advantage?
Threats

• Within the industry – something that threatens or weakens our competitive position
  - New competitor
  - Our services offered by somebody else
  - New marketing strategy by competitor

• External
  - Economic forecast
Five forces model – affects market position, profitability

- Rivalry among competitors
- Potential entry
- Substitute products
- Power of suppliers
- Power of buyers
Rivalry Among Sellers

- Usually the strongest force
  - Prices
  - Marketing
  - Customer service
  - Technology
  - Innovation
Rivalry Is High When

- Overall industry profitability is dropping
- Growth is slow
- Number of competitors is rising
- Cost to switch suppliers is low
Potential Entry

- Barriers to entry or “moat”.
  - Costs (Economic moat)
  - Knowhow
  - Governmental regulations
  - Name recognition
  - How incumbents are likely to react
Substitute Products

- Same purpose, different supplier
  - Design build by contractors
- Switching costs – is it inexpensive to switch from one supplier to another?
Power of Suppliers

- Materials
- Labor
- Equipment
- Cost of capital
- Typically suppliers in our field have low levels of power – Fed Ex vs. UPS
Power of Buyers

- Clients
- Client’s power can be significant
  - When times are busy, their power can be lower (cost to switch is greater)
  - Think about what you can do to minimize their power
Five Forces for Engineering

- Rivalry – High – Many competitors
- Potential Entry – High – Easy to start new company
- Substitute Products – High – Easy to switch
- Power of Suppliers – Low
- Power of Buyers – Variable, but mostly high
What Do We Want to Be?

- This is personal
- You are shaping your future and your company
- 3 person firm?
- 30 person firm?
- 300 person firm?
Strategies

- Corporate Level Strategies
  - Highest level of strategy for a corporation – usually a growth strategy
- Business Level Strategies
  - Typically at the level of a single business
  - How to implement the corporate level strategy
- Functional Level Strategies
  - Down to department level
Strategic Plan

1) Scan the environment
2) Mission statement – General statement of purpose
3) Set objectives – Something that can be measured or accomplished (transform mission statement into action)
4) Strategy – How to accomplish objectives (Specifics required)
Strategic Implementation

- Implementation – work with subordinates to determine requirements for implementation
- Evaluation and control – measure something and compare outcome to objective
Final Thoughts

- When you’re up to your ass in alligators, it’s hard to remember your mission is to drain the swamp.
- Management meetings do not need to be formal, but they do need to occur.
- Your corporate mission does not include making your employees happy.
  - However, happy employees usually make better employees.
Even More Final Thoughts

- You don’t plan to fail, you fail to plan
- Hope is not a business strategy