#### **Running an Engineering Company**

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#### **Caveats**

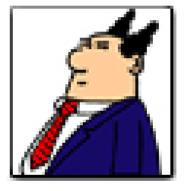
- I'm not an attorney
- I'm not a CPA
- I'm not a business consultant

# 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