The Elements of a Successful Career

by

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Overview

- **Personal experiences used to illustrate points**
- **Understanding Career Objectives**
- **Managements assessment of potential**
- **Individuals self assessment of potential**
- **Evaluating Risk when changing career direction**
- **Starting a Business**
- **What motivates people**

Personal Background

- Went to Lamar on football scholarship
- Engineering and Education
- Plans change with the environment and opportunities
- Went to work for Shell Oil Co in Houston
- One year on strike duty
- First Process Computer Control Project in Shell
- Full time to graduate school

Personal Background

- **Accepted transfer to Shell's New Orleans Refinery**
- **First experience as a manager**
- **Management school not much help**
- **Ultimate potential and Current value**
- **Image and charisma**
- **First experience evaluating performance of people**
- **Ability to differentiate between issues**
- **Good employee is a self starter**

Personal Background

- Too much ego is biggest problem for many people
- Took some risk in developing Real Time Optimization
- Next job was as a process manager
- A six month strike
- Union president was one of my employees
- Developed Dynamic Matrix Control Algorithm and tested it in New Orleans

Personal Background

- First thoughts of starting a business based on DMC
- Next job was complex technical manager
- Had RTO systems running on a Crude Unit, Catalytic Cracker and an Olefin Plant
- Maintenance of these systems became an issue
- Control system stream factors were function of ratings
- Pyramid of skills required to keep systems running

Observation of those being promoted

- **After being a manager in New Orleans for seven years, I learned**
- **Most people were being promoted to management based on personality rather than performance**
- **Three classes existed, early identified staff, special identified staff, and everyone else**
- **Identification was usually done in the first five years**
- **Hard work is critical in the beginning**
- **Everyone was moved during the first five to ten years which masked out who was identified and being handled special**

Experience in Research and Development

- **My next assignment was research manager for instrumentation, process computer control, and RTO**
- **Most research at the time was based on a continuation of academic research**
- **Research funding was drying up**
- **They did not appreciate the need to understanding process economics in order to build a successful control system**
- **Engineers in the control field did not have plant experience**
- **Gaining field experience was not a popular assignment**

Senior Managers want to help

- **Middle managers avoid taking risks**
- **Good information does not naturally rise to the top**
- **Many heavy filters along the way**
- **Senior managers want good information to make decisions**
- **No one had told the Shell managers the opportunities with control and real time optimization**
- **Created new job in central engineering and gave me an open ended recruiting quota**

The task of finding good engineers

- To find and keep good engineers is major challenge
- Good academic grades demonstrate a level of discipline
- Involvement in outside activities helps develop social skills
- Look for people who that do not need to feed their egos
- Do not hire a person who wants an eight to five job
- A young person with an MBA as well as an engineering degree is a risk

The task of finding good engineers

- **A young engineer will not get an opportunity to use the MBA training for five to ten years**
- **My recruiting criterion was a minimum of five years doing technical work**
- **Hired mostly MS and PhD engineers due to criterion**
- **DMC was applied over 200 times in the first eight year**
- **Huge maintenance problem developed**
- **Standard software to build contollers and optimizers was needed**

Started DMC Corporation

- **Changing careers after 23 years was big step**
- **Economic risks – time to develop product and cost**
- **Cost of computer systems, value added by product, availability of people, etc.**
- **Personal hardships – time away from home**
- **Marketing issues - acceptance of a new product**
- **Who will be the first to try the product and will they let you advertise your success**

Started DMC in 1984

- Resigned from Shell and started DMC Corporation
- Hired one employee and spent first year developing identification and control software
- Major problem was people believed Shell Oil owned the technology
- Stone and Webster Engineering’s lawyers agree my right to the software could be defended
- First application of software was a C3 splitter at Mobil Chemical’s Olefin Plant at Beaumont, Texas

Success is based on satisfied customers

- **Success with marketing is based upon recommendations of clients**
- **Projects sold to clients must meet or exceed their expectations with regard to the profitability**
- **If project over runs estimates then contractor must absorb the additional costs**
- **Software associated with project must continue to be upgrade with enhancements and bug fixes**
- **DMC engineers were told not to come home until project was making client money**

DMC management approach

- **Minimize Management – flat organization**
- **Titles were for external use – internal value was based on ability to perform on projects or development work**
- **Provide economic incentives for employees**
- **Looked for people who did not need to have their ego fed**
- **Looked for people who were interested in the challenge of the work that was being done – not in becoming a manager**
- **Support staff clearly understood the engineers were to be given first priority on their work requests**

What motivates people

- **Financial rewards is the driving force that motivates the most**
- **Peer or professional recognition**
- **Management positions that permits control over the most people**
- **Being part of a team that is highly successful**
- **Striving to put the team at the top of the standings**

Summary

- **Management is looking for people who are self starters, not people who are waiting around to be told what to do**
- **Management looks for people who can tell the important issues from the trivial ones – usually driven by economics**
- **Individual must decided early what they want from a career**
- **Success means working harder on meaningful tasks than your competition**
- **Proof of your ideas may mean taking a personal risk**
- **Don’t neglect technical skills, they are your best insurance**
- **Don’t consider starting a business unless the over all risks are considered and there is adequate financial backing**