

Business for Engineers

Jim Klas

Why This?

- How many of you are Chief Engineers?
- How many want to be Chief Engineers at some point in your career?
- Who am I to drag you through this?
- Much of this is insight gained from the school of hard knocks.

Today's Topics

- Super fast Accounting basics
- Operating budget basics
- Capitol budget basics
- Procurement basics
- Analysis concepts

Accounting Basics

- Double Entry - every transaction shows up in two places. As one thing gets credited, some other thing gets debited.
- Example: To write a check
 - Operating cash is debited
 - Checking is credited

More Accounting Inside

- Most accounting systems use a mix of source and destination codes.
- Also known as Chart of Accounts.
- Think of it this way; the codes end up as bucket identifiers.
- If well designed, it all flows well for roll up reports.

Sample Chart of Accounts

Company	Company	Department	Office Supplies	Utilities	Parts / Repair	Telecom
Disney - 1	WABC -1	Admn - 1	1	2	3	4
ABC - 2	KABC - 2	News - 2				
	WLS - 3	Eng - 3				
		Facilities - 4				
Example:	O2030304		ABC, WLS, Engineering, Telecom			

Audit

- Auditing is the process of checking process.
- The key is understanding audit is the demonstration that sound process exists and is well followed.
- All accountants hate audit. They all know where the corners have been cut.

Operating Budget

- There are three kinds of operating budget to deal with:
 - Inherited
 - Made from scratch
 - Hypothetical - what if scenarios

Inherited Budget

- It is the budget you might have inherited from your predecessor.
- It will be a bone of contention between your GM and you as a new CE.
- Take your time really getting to understand an inherited budget.

Inherited Budget Clues

- You can backwards engineer the expense side of the chart of accounts.
- Learn which parts are contentious. That's where you must gain trust.
- Try and get older budgets. It will help you identify trends and other sore spots.

Inherited Budget

- Once you've studied the budget, get a meeting with the CFO. Concentrate on getting history and sore spots exposed.
- Be slow to make changes, even if something seems obviously wrong.
- One more thing - take an online Excel class.

Budget From Scratch

- Pretty rare. If it happens to you as a new Chief, you're in for fun.
- Find out why from scratch. Usually, that happens when your predecessor had problems.
- Get a good handle on how accurate the budget will need to be.

Budget From Scratch

- Get a chart of accounts from Accounting.
- Build your budget based on the code structure in the chart of accounts.
- Start with the big things first; staffing, utilities, facilities and maintenance.
- Accept this fact: It will not be perfect.

Managing that Budget

- If you've built a budget as outlined already, it is easy.
- Put your effort into watching the things that really move around. The static stuff isn't going to get you killed.
- Keep your CFO informed when you either see a variance or things are dead on.

“What If” Budgets

- Most creative thing you'll do as a CE.
- It is also the hardest.
- Get familiar with using multiple tabs on a spreadsheet. Makes comparisons easier.
- Concentrate on staying on task. Parts of this are discouraging.

“What If” Budgets

- Several approaches that work:
 - Percentage cut overall
 - Concentrate on an area that workflow can be improved.
 - Concentrate on an area of poor performance.
 - Use to realign with current station objectives.

Capitol Budget

- Three circles of thought
 - Respond to changes in the industry and the stations direction. Know what they are!
 - Deal with replacement of aging gear.
 - What you think is most important may not be that important to others. Get over it.

Capitol Budget

- Consider doing three budget models for both change and replacement. They get fuzzier the farther out you go.
 - One year
 - Three year
 - Six year

Budgeting for Change

- First off, you've got to know what workflows are a mess.
- Or, what you could change that would really make a difference to the audience.
- Concentrate on those two, other changes are going to fail analysis. We will touch on that later.

Budget for Replacement

- Do a sweeping inventory of the systems in your plant. Just do a loose round-up.
- Put each of those systems into one of these categories:
 - One Year, three year, six years or not for a really long time.

Budget for Replacement

- Try and identify any things that also are a technology that lands in the change budget area.
- Help others understand the groupings and their intersections.
- Once again, your priorities may not be the priorities of others. Yep, get over it.

Procurement

- If anything can get you killed, this is it.
- Two key trains of thought; make sure the stuff will work, and be honest in purchasing decisions.
- If your group has moved this to corporate, be happy. The risks are bigger than you think.

Procurement

- Let's talk about risk. Guess who holds the bag?
 - Favoritism - no free lunch!
 - Stepping on the GM's toes.
 - The stuff won't work.
 - Your staff hates your decisions.
 - The manufacturer goes belly up.

Procurement

- Countermeasures against getting killed:
 - Run full evaluations. Have your staff do them.
 - Look for competitive avenues for everything you buy.
 - Swap notes with others in the same boat.

More Procurement

- Every organization has different thresholds. Get them from your CFO in advance.
- Most places have thresholds for credit card, three quotes and something formal like a bid.
- If you haven't done any bid work, and you need to, get help! The waters are treacherous.

Analysis

- Return on Investment
 - Pet peeve. It isn't what you think.
 - It is a measure of how much money an investment will make in comparison to the gains a T Bill would have.
 - Use it wrong and a sharp finance person knows you're a Rube.

Analysis

- Cost - Benefit
- Once again, not what one might think it is.
- It is a study of the financial comparison of different approaches.
- The assumption is your going to do it, now how can this get done most cost effectively?

Cost Benefit

- It needs to be honest. To do it well, you can't have a favorite.
- Include as accurate of picture of the whole lifecycle of the options being considered.
- Did I say no favorites?

Cost Benefit

- Costs to include
 - Equipment purchase
 - Installation labor (internal and contractor)
 - Maintenance projections (contract and internal labor)
 - Annual depreciation (lifecycle anticipation)

Well, That's It!

- Questions? Comments? Blank Checks?
- James.klas@ecb.org
- 608 264-9612