

Start-Up Growing Pains for Architects & Engineers

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Agenda

- Financial Statements
- Budgeting
- Key Financial Ratios
- Project Tracking System

Overview

- Whether you are a project manager, future owner or are taking on a management role within your firm, you have an obligation to understand what you need to do to add value to the Company
- Your skill set for managing a project can be transferred to managing a Company with the right tools and information

Overview

- Today we hope to provide you with the financial understanding necessary as well as identify tools for you to be a successful project manager or business owner

Your Financial Statements

- Balance Sheet – a “snap shot” of assets, liabilities & equity at a given time
- Income Statement – a “scorecard” of the Company’s performance for specific time period
- Cash Flows – the sources and uses of cash used/provided by the Company

Your Balance Sheet

- Cash
 - Internal controls a must
 - Misappropriation of funds is higher than ever
 - Timely bank reconciliations- key in this environment
- Accounts Receivable
 - Quality of the A/R
 - Analysis of over 90-day accounts
 - Major customer concentrations
 - Starts with a good billing cycle – plan, call, follow-up and call again

Your Balance Sheet - continued

- Work-In-Process/Unbilled
 - Quality of unbilled/work-in-process
 - Challenge the reason for the unbilled asset
 - Indication of losses/project overruns
 - Impact of claims and/or unapproved change orders
 - % Complete
 - Remember you are not a bank!
 - Bill timely and in accordance with the terms of your contract

Your Balance Sheet - continued

- Line-of-Credit/Debt
 - Compliance with loan covenants
 - Personal guarantees
 - Subordination agreements
 - Debt to Equity
 - Measures the amount of capital, including retained earnings you have compared to the amount of debt you have
 - Goal – 2:1

Your Balance Sheet - continued

- Understated liabilities, including uncompensated absences, overbillings on projects and retainers
- Accruals/Reserves/Contingencies

Your Balance Sheet - continued

– Working Capital

Measures your ability to pay bills/debt timely.

It is your current assets less your current liabilities.

Your Income Statement

- Income Statement
 - Gross vs. net revenues
 - Net Revenue is calculated by reducing total or gross revenue by subconsultants and ODC's
 - Cost of revenues
 - Track Direct labor by ee's and principals
 - Track Subconsultants and other ODC's here

Your Income Statement - continued

- **Income Statement**
 - Operating expenses
 - Group into categories such as indirect labor, facilities, communications, etc.
 - Track non-allowable and discretionary expenses here
 - Other income / expense
 - Interest and misc. items
 - Income tax expense

Your Cash Flow Statement

- Cash flows from
 - operating activities – collecting A/R + paying liabilities
 - financing activities – debt borrowings/payments, stock redemption
 - investing activities – capital spending
- Using cash flows to measure EBITDA (Earnings b/f interest, taxes, depreciation, amortization)

Budgeting – Project vs. Companywide

- Project budgets should be created before any work is performed. They should start with a review of your proposal.
- Company budgets should be created before the start of your new fiscal year. You should use historical information, current backlog and your strategic plan to create an overall budget.
- Project budgets should be communicated with team members with a kick off meeting. Scope, staffing, hours, subconsultants, ODC's as well as billing and collection terms should be reviewed.

Budgeting – Project vs. Companywide

- Company budgets should be communicated with your employees at an annual meeting and updated quarterly via meetings, reports or your intranet. Budgets should be meaningful and mirror your financial reporting package. (i.e., if you report information by markets sector, budgets should be created for each).
- Budgets must be monitored to provide meaningful information.
- Project budgets should be reviewed weekly (for labor) and monthly for overall assessment against plan. Many software packages have the ability to report this information easily.
- Performance against Company budgets should be analyzed monthly.

Budgeting – Rule Of Thumb

- Your Firm and Project need a budget to establish expectations and monitor performance
 - We recommend line item budgets for both
 - Budget for Growth – a key to adding value
 - Budget Revenue, Gross and Net
 - Budget Labor, \$ and hours, number of FTE's
 - Budget Subconsultants, Reimbursables and ODC's
 - Budget overhead and an overhead rate

Key Financial Ratios

- Effective Labor Multiplier
- Net Multiplier (revenue factor)
- Utilization
- Overhead rates
- Accounts receivable and WIP days outstanding
- Net Service Revenue per employee
- Number of FTE's
- Growth in Net Service Revenue

Key Financial Ratios – in detail

- Effective labor multiplier (ELM)
 - Measures net revenues to direct labor
 - Review by discipline
 - Compare against benchmark
 - Impact on overall profitability (see table)
 - **Goal: 2.7 - 3.0 to 1**

Effective Labor Multiplier

ABC Engineering Company, Inc. Effective Labor Multiplier

	<u>Actual</u>	<u>Planned</u>
Net Revenues Earned	\$ 9,600,000	\$ 9,600,000
Direct labor	3,500,000	3,200,000
Labor Multiplier	2.7	3.0

Breakdown of ELM:

Direct labor	3,500,000	3,200,000	
Overhead @ 134%	4,700,000	4,288,000	
Profit	1,400,000	2,112,000	→ 712,000
	<u>\$ 9,600,000</u>	<u>\$ 9,600,000</u>	

Key Financial Ratios – in detail

- Net Multiplier
 - Net Revenue to Total Labor
 - Compares total labor to your net revenue
 - Eliminates any games with chargeable hours
 - **Goal: 1.9-2.0 to 1**

Key Financial Ratios – in detail

- Utilization
 - Measures direct labor / total labor
 - Compare against benchmarks
 - Impact on overall profitability (see table)
 - **Goal: 65%**

Utilization

ABC Engineering Company, Inc. Utilization / Chargeability

	<u>Actual @ 52%</u>	<u>Planned @ 55%</u>	<u>Increased /Billings</u>
Total Charge Hours	127,500	139,121	
Average Bill Rate	<u>\$ 80</u>	<u>\$ 80</u>	
	\$ 10,200,000	\$ 11,129,657	\$ 929,657
Total Capacity (Hours)	244,071	244,071	
Divided by Chargeability	<u>52%</u>	<u>57%</u>	
Total Charge Hours	127,500	139,121	
Direct Labor	<u>3,500,000</u>	<u>3,819,000</u>	
Total Labor	6,700,000	6,700,000	
Chargeability	52%	57%	

Key Financial Ratios – in detail

- Overhead Rate
 - Measures indirect costs / direct labor
 - Establishes OH rate for pricing purposes
 - Structure chart of accounts
 - Unallowable costs

Goal: 150%-165% but varies greatly by stage of development a company is in

Key Financial Ratios – in detail

- Accounts Receivable Days
 - Measures outstanding A/R in days
 - Compare against benchmarks
 - Evaluate billing practices
 - Impact on cash flows (see table)
 - **Goal : 50-60 days on average**

Accounts Receivable Days

ABC Engineering Company, Inc. A/R DAYS ANALYSIS

Revenues earned	\$ 12,000,000
Accounts receivable	1,700,000
A/R Turnover	7.1
Days Sales Outstanding (DSO)	52

Cash Per Day:

Revenues earned	12,000,000
# Days	<u>365</u>
Cash per Day	<u>\$ 32,877</u>

Decreasing A/R Days Impact:

Actual	52
Planned	<u>46</u>
	6 Days
\$	<u>32,877</u>

Additional Cash **\$ 187,671**

Key Financial Ratios – in detail

- WIP Days
 - Measures # of days needed to convert effort (labor, OH + profit) into billings
 - Financial review process
 - Ultimate impact on cash flows -
 - Cash GAP - WIP days + AR Days less cash outflow (see table)
 - **Goal: Less than 2 weeks**

WIP Days Table

ABC Engineering Company, Inc.
WIP DAYS ANALYSIS

Revenues earned	\$12,000,000
Work-in-process	650,000
WIP Turnover	18.5
Days WIP Outstanding	20

CASH "GAP"

Days WIP Outstanding	20
Days A/R Outstanding	52
Less: A/P	<u>(12)</u>

TOTAL DAYS OUT OF POCKET 60

Project Tracking System

- Be sure to compare costs incurred to costs billed and collected
- Be sure to review any unbilled time for valuation purposes
- Be sure to document any and all out of scope work and change orders

Project Tracking System

- Project financial review meetings should occur at least quarterly if not monthly
- Be sure to review the percent complete calculated and compare to what is left to complete. (This is critical in the revenue recognition process.)

Questions



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Presenter



Christopher P. Hines

Mr. Hines has over ten years of experience in public and private accounting. Mr. Hines' background is comprised of auditing and business consulting for clients in the construction, engineering, and professional services industries. His areas of specialization include management of audit engagements, overhead audits for governmental and state agencies, strategic planning and business consulting, corporation tax planning and operational and financial analysis. Mr. Hines has a B.S. in Accounting from the University of Massachusetts and is a candidate for the Masters in Taxation from Bentley University.