

Cost Accounting Applications and Challenges

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Goals of Cost Accounting

- 1) Apply cost for each product, process, job, operation or service rendered.
- 2) Monitor & Control costs
- 3) Enhance management decisions
- 4) Profitability goals of the organization
- 5) Valuation for financial reporting

Cost Accounting Aspects

- 1) Classification of Costs
- 2) Determining “Cost Driver”
- 3) Establish Cost Flows
- 4) Determining cost behavior – Variable vs. Fixed
- 5) Planning & Forecasting

Cost Applications

- Greater assignment of costs as direct
- Multiple cost drivers
- ABC cost accounting
- German cost accounting
- Theory of Constraints
- Lean accounting
- Target costing

Curtiss Wright Costing

- Materials - direct vs. indirect
 - Scrap – Plan for Scrap?
 - Indirect materials – Floor stock
 - Material Burden
- By products
- Direct labor as “Cost Driver”
- Plant Wide rate
- Project costing
- Cost Type
 - Standard
 - Actual
 - Average
 - Specific
 - FIFO & LIFO
- R&D development cost
- Allocation of service costs
- Absorption methods
- Product line costing

Operational Aspects

- Labor Reporting
- Alternate BOMs & Routings
- Outside Operations
- Job Order Splitting
- Engineering changes
 - Adding & Updating operations
- Internal Control
 - Procedures for maintaining costs.

Variance Reporting

- Goals – provide timely analysis and take necessary corrective action
- Key variances
 - Labor efficiency
 - Overhead variance
 - Routing variance
 - Purchase price variance
 - Labor utilization
 - Inventory levels

Labor & Overhead Variance

D.L. \$ 20

O.H. \$ 80

Std Time 2.0 Hours

Actual Time 2.5 Hours

Std Cost		Variances		
	to Inventory			
\$	40	\$	10	Labor Efficiency Variance
\$	160	\$	40	Overhead Usage Variance

Key Performance Indicators

	Actual	Target
Net Sales	\$3,100	\$3,000
Gross Margin %	16.0%	12.0%
Gross Profit \$	\$1,510	\$1,433
Operating Income	\$210	\$129
Return on Sales %	7%	4.3%
O.H. Absorption Variance (000's)	\$450	\$400
Total Inventory	\$19,000	\$ 18,000
Inventory Turns YTD	2.00	2.40
Inventory Days On Hand	182.50	152.08
Purchase Rate	110%	90%
Free Cash Flow	\$270	\$250
Days Sales Outstanding YTD	71.00	70.00
Sales Per Employee YTD (000's)	\$135	\$ 130
Return On Equity % YTD	10.0%	10.0%

Inventory Reduction Example

Avg. Inventory	\$	1,200,000
Inventory Turns		3.50
Days on Inventory		104.29
Daily Inventory	\$	11,507
Reduction Days		8.5
Reduction in Inventory	\$	97,808
% Reduction		8.2%

BOMs Classic vs. Lean

- Classic – Multiple levels
 - Subassemblies
 - Kitting
- Lean – Flat
 - Continuous flow

Lean Office

Type of Waste

Defects	Data entry errors. Other order entry or invoice errors. Any error that gets passed downstream - only to be returned for correction or clarification. Engineering change orders. Design flaws.
Overproduction	Printing paperwork (that might change) before it is needed. Processing an order (that might change) before it is needed. Any processing that is done on a routine schedule - regardless of current demand.
Inventories	Purchasing or making things before they are needed (think office supplies, literature...). Things waiting in an (electronic or physical) In Box. Unread email. Any form of batch processing (e.g. transactions, reports...)
Over-processing	Relying on inspections, rather than designing the process to eliminate errors. Re-entering data into multiple information systems. Making extra copies. Generating unused reports. Expediting. Unnecessarily cumbersome processes (think financial statement period end close, expense reporting, the budget process...)
Human Motion	Walking to copier, printer, fax... Walking between offices. Central filing. Going on a "safari" to find missing information.
Transportation & Handling	Movement of paperwork. Multiple hand-offs of electronic data. Approvals. Excessive email attachments. Distributing unnecessary cc copies to people who don't really need to know.
Waiting	Slow computer speed. Downtime (computer, fax, phone...). Waiting for approvals. Waiting for information from customer. Waiting for clarification or correction of work received from upstream process
Confusion	Any missing or misinformation. Any goals or metrics that cause uncertainty about the right thing to do.
Unsafe or un ergonomic	Office work conditions that cause carpel tunnel, eye fatigue, chronic back pain, or that compromise the health and productivity of workers in any way.
Underutilized human potential	Restricting employee's authority and responsibility to make routine decisions. Having highly paid staff do routine tasks that don't require their unique expertise. Not providing the business tools needed to perform and continuously improve each employee's assigned work. Not trusting your people to stop production to stop and fix a problem (jidoka). Not trusting your people to be responsible for the cleanliness, maintenance, and organization of their own work area. Not expecting (and measuring) every person to contribute to continuous improvement.

Curtiss Wright

- New Pricing – CEW
- I. T. Help Tickets
- Share points
- Expense reporting process
- Simplify Communication Channels
- Training programs
- Blanket Purchase Orders

Reporting Statements

TRADITIONAL

Sales	\$9,570,000	100.00%
Cost of Sales	\$6,364,758	66.50%
Gross Margin	\$3,205,242	33.50%
Total		
Adjustments	\$270,007	2.80%
Net		
Manufacturing		
Margin	\$2,935,235	30.70%
Other		
Operating		
Costs	\$738,164	7.70%
Net Operating		
Margin	\$2,197,072	23.00%
Total Sales		
Expense	\$139,358	1.50%
Net Operating		
Margin	\$2,057,713	21.50%
SG&A		
Expense	\$195,973	2.00%
Net Earnings	\$1,861,741	19.50%

LEAN

Sales	\$9,570,000	100.00%
Costs		
Procurement	\$910,184	9.50%
Conversion	\$6,388,710	66.80%
Distribution	\$337,509	3.50%
Support	\$762,116	8.00%
Total Costs	\$8,398,519	87.80%
Margin	\$1,171,481	12.20%
Change in		
Inventory	\$690,259	7.20%
Net Earnings	\$1,861,741	19.50%

Product Line Statement

	Product Line 1	Product Line 2	Product Line 3	Other	Total
Sales					
Sales (Net)	2,000,000	1,500,000	900,000	45,000	4,445,000
Materials					
COGS - Material	350,000	250,000	300,000	30,000	930,000
PPV	(5,000)	2,000	(1,500)	-	(4,500)
Inventory Adjustments	-	800			800
Material Usage Variance	(12,000)	(5,000)	2,000		(15,000)
Total Material	333,000	247,800	300,500	30,000	911,300
Direct Labor					
COGS - Labor	167,000	15,000	5,000	600	187,600
Direct Actual	175,000	22,000	4,500	800	202,300
Direct Labor Applied	(167,000)	(19,000)	(5,500)	(1,700)	(193,200)
Direct Labor Variances	2,500	(1,000)	(500)	200	1,200
Total Labor	177,500	17,000	3,500	(100)	197,900
Manufacturing Conversion Expenses					
COGS - Fixed Overhead	290,000	140,000	95,000	1,200	526,200
Machining	250,000	150,000	45,000	1,500	446,500
Assembly	90,000	45,000	45,000	300	180,300
Materials	2,500	1,500	500	-	4,500
Maintenance	30,000	15,000	500	-	45,500
Variances	(1,750)	(500)	100	-	(2,150)
Applied	(300,000)	(135,000)	(90,000)	(1,000)	(526,000)
Total Conversion	360,750	216,000	96,100	2,000	674,850
Product Line Margin	1,128,750	1,019,200	499,900	13,100	2,660,950

Pricing Models & Strategies

- Pricing Model - CEW
- Cost Plus
- Target Costing
- Life Cycle Costing
- Estimation Tool

Pricing Requirements

- IRR
- NPR
- ROS
- Payback
- Inflation
- Exchange rates

Tiered Pricing

Quantity Breakdowns

5 10 25 50 100

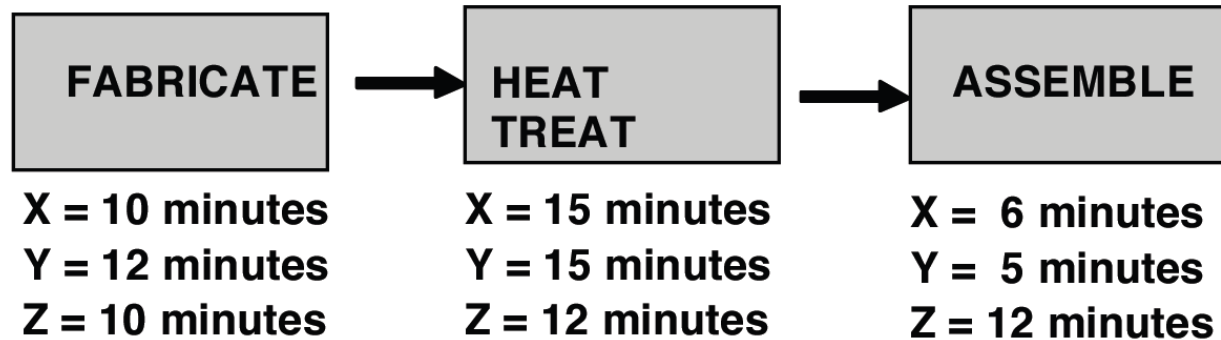
Proposed Unit Pricing

Setup labor	\$65.73	\$32.87	\$3.42	\$6.57	\$3.29
Mach Labor	\$47.47	\$47.47	\$47.47	\$47.47	\$47.47
Other Labor	\$40.04	\$40.04	\$40.04	\$40.04	\$40.04
Total Run Labor	\$87.51	\$87.51	\$87.51	\$87.51	\$87.51
Bar Stock Material	\$11.80	\$11.80	\$11.80	\$11.80	\$11.80
Purchase Parts	\$715.89	\$715.89	\$715.89	\$715.89	\$715.89
Total Purchased Material	\$727.69	\$727.69	\$727.69	\$727.69	\$727.69
Outside Processes	\$225.01	\$225.01	\$225.01	\$225.01	\$225.01

Value Added Profit

	Part 1		Part 2		Part 3	
	Std Cost Plus	Value Added	Std Cost Plus	Value Added	Std Cost Plus	Value Added
Sales	\$ 1,250	\$ 550	\$ 1,250	\$ 650	\$ 1,125	\$ 525
Costs						
Material	\$ 700	\$ -	\$ 600	\$ -	\$ 600	\$ -
Labor	\$ 100	\$ 100	\$ 150	\$ 150	\$ 100	\$ 100
Overhead	\$ 200	\$ 200	\$ 250	\$ 250	\$ 200	\$ 200
Total Costs	\$ 1,000	\$ 300	\$ 1,000	\$ 400	\$ 900	\$ 300
Margin	\$ 250	\$ 250	\$ 250	\$ 250	\$ 225	\$ 225
	20.0%	45.5%	20.0%	38.5%	20.0%	42.9%

Lean Costing Example



Questions ?