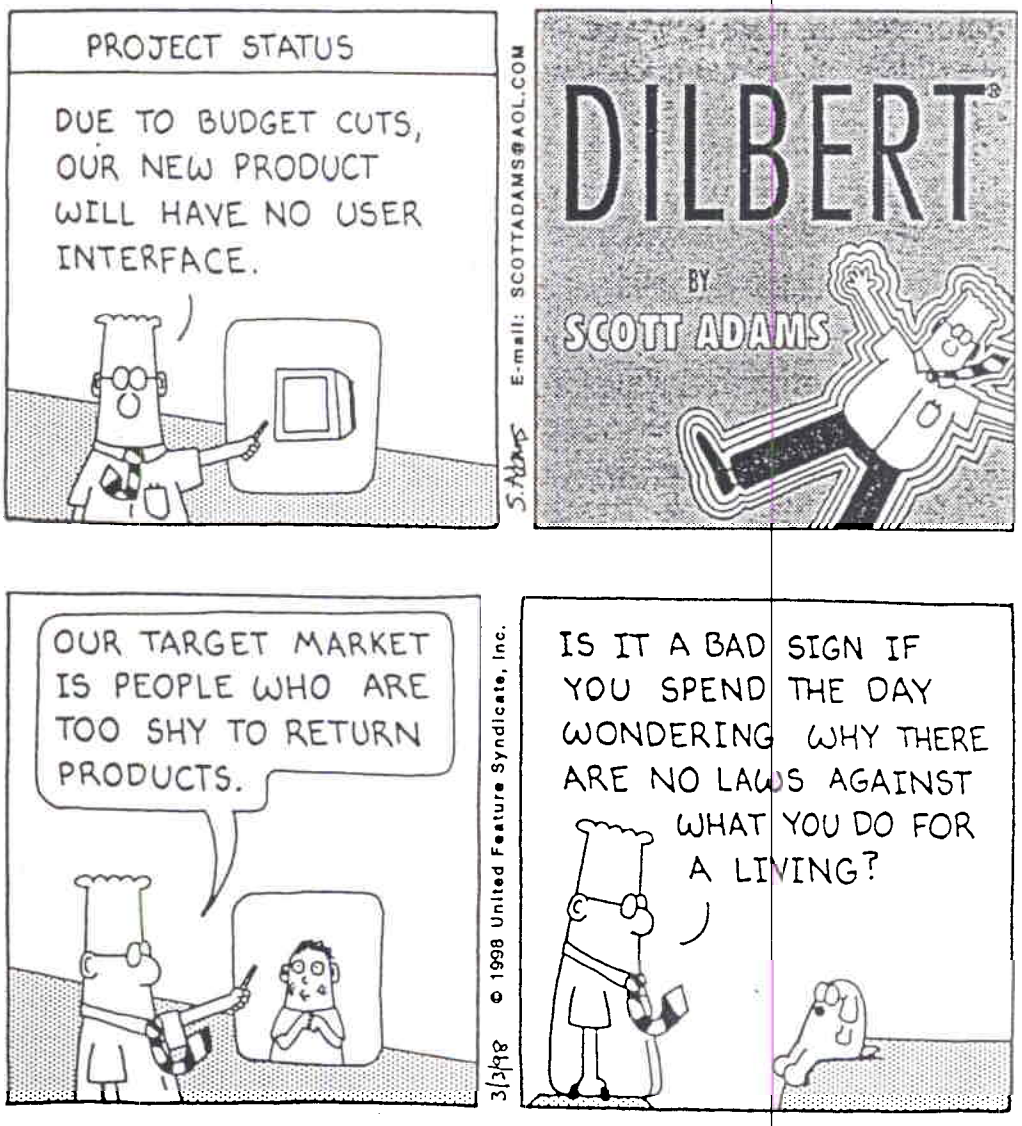
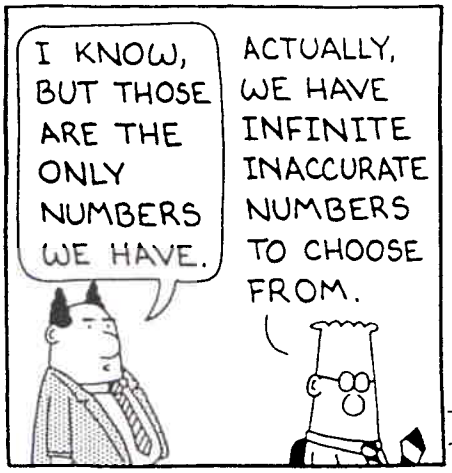
BUDGETING - BUDGETING



BUDGETING - BUDGETING

DILBERT By Scott Adams



DEFINITIONS

Budget:

- A DESCRIPTION, ULTIMATELY IN MONETARY TERMS, OF AN ENTITY'S PLANS
- A FINANCIAL DOCUMENT USED FOR CONTROLLING THE FISCAL PERFORMANCE OF AN ENTITY

Budgeting:

- THE ITERATIVE PROCESS OF DEVELOPING A BUDGET

Budget Analysis:

- THE PROCESS OF ASSESSING DIFFERENCES BETWEEN BUDGETED AND ACTUAL AMOUNTS

TYPES OF BUDGETS

- Operating (*pro forma* Income Statement) Budget
- Capital Budget
- Cash Budget
- *pro forma* Balance Sheet Budget

REGARDING THE PROCESS - 1

Why Budget?

- TO ACHIEVE EXPLICIT PLANNING, COMMITMENT, AND ACCOUNTABILITY
- TO ENHANCE COMMUNICATION AND GOAL CONGRUENCE THROUGHOUT THE ORGANIZATION
- TO HAVE A MEANS OF COMPARING AND CONTROLLING PLANNED AND ACTUAL RESULTS

REGARDING THE PROCESS - 2

Considerations

- Setting objectives
- Building from the "bottom up"
- Starting with forecasted revenues
- Use of historical financial data
- Establishing culture of commitment
- Budgeting nonfinancial parameters
- Iterating
- Addressing dysfunctional behaviour

BUDGET DEVELOPMENT - 1

STEP 1: Our sales forecasts are formalized into a *sales budget:*

	Units	Selling Price	Total Sales
19-inch portable color TV, Model P1	37,000	$340	$12,580,000
21-inch portable color TV, Model P2	22,000	360	7,920,000
21-inch console color TV, Model C1	14,000	580	8,120,000
			$28,620,000

STEP 2: *Production quotas* are based upon the sales budget and planned inventory balances:

	Model P1	Model P2	Model C1
Sales in units (Step 1)	37,000	22,000	14,000
Planned balance in finished inv.	2,000	1,200	600
Planned equivalent units in W-I-P	240	180	110
Total inventory needs	39,240	23,380	14,710
Less: Beginning finished inv.	2,480	1,650	400
Production quotas	36,760	21,730	14,310

STEP 3: The *material usage budget* is based upon the production quotas of Step 2:

Material Required	Model P1		Model P2		Model C1		Totals		
	Per Unit	Per Prod. of 36,760	Per Unit	Per Prod. of 21,730	Per Unit	Per Prod. of 14,310	Total Usage	Unit Cost	Cost of Usage
#012 copper wire	9.5'	349,220'	13.2'	286,836'	13.2'	188,892'	824,948'	.015	12,374
#3 flux solder	.75 lb.	27,645 lb.	1.10 lb.	23,903 lb.	1.01 lb.	15,741 lb.	67,289 lb.	.12	8,075
Type A lug bolts	14	514,640	14	304,220	18	257,580	1,076,440	.03	32,293
(etc.)									(etc.)
									8,420,460

STEP 4: Compute a *materials purchases budget:*

	#012 Copper Wire	#3 Flux Solder	Type A Lug Bolts
Production needs (Step 3)	824,948 ft.	67,289 lb.	1,076,440
Planned balance in inventory	24,000 ft.	2,500 lb.	11,000
Total inventory needs	848,948 ft.	69,789 lb.	1,078,640
Less: Beginning inventory	47,540 ft.	3,100 lb.	8,800
Purchases required	801,408 ft.	66,689 lb.	1,078,640
Price per unit	.015	.12	.03
Cost of purchases	$12,021	$8,003	$32,359

BUDGET DEVELOPMENT - 2

STEP 5: Compute the *direct labor cost* for budgeted production:

	Budgeted Production (Step 2)	Dept. 1 (Wiring) @ $3.50/hr.			Dept. 2 (Assembly) @ $2.75/hr.			Total Budget In Dollars
		Direct Labor Hours Per Unit	Total Hours	Total Labor Dollars	Direct Labor Hours Per Unit	Total Hours	Total Labor Dollars	
Model P1	36,760	8	294,080	1,029,280	6	220,560	606,540	2,468,700
Model P2	21,730	12	260,760	912,660	6	130,380	358,545	2,597,337
Model C1	14,310	12	171,720	601,020	15	214,650	590,288	2,859,610
			726,560	2,542,960		565,590	1,555,373	7,925,640

STEP 6: Compute the *overhead budget* as follows:

	Dept. 1 (Wiring)	Dept. 2 (Assembly)	Total
Variable Costs			
Indirect labor	$ 220,000	$ 197,200	$ 878,500
Depreciation	478,800	254,000	1,840,000
Supplies	12,000	21,700	62,000
(etc.)			
Fixed Costs			
Property taxes	7,400	3,200	17,500
Setup	6,100	2,400	12,400
Maintenance	42,310	9,190	62,000
Employee training	18,400	56,300	1,010,000
(etc.)			
Total overhead	$1,743,744	$1,583,652	$6,630,700
Divided by direct labor hrs. (Step 5)	726,560	565,590	
Overhead per direct labor hour	$2.40	$2.80	

STEP 7: Compute the *ending inventory budget* by calculating the budgeted cost per finished unit and multiplying the result by the planned inventory level:

		Model P1		Model P2		Model C1	
	Unit Cost	Units Required	Amount	Units Required	Amount	Units Required	Amount
Material							
#012 copper wire	.015	9.5	.14	13.2	.20	13.2	.20
#3 flux solder	.12	.75	.09	1.1	.13	1.1	.13
(etc.)							
Direct Labor							
Dept. 1 (Wiring)	3.50	8	28.00	12	42.00	12	42.00
Dept. 2 (Assembly)	2.75	6	16.50	6	16.50	15	41.00
(etc.)							
Overhead							
Dept. 1 (Wiring)	2.40	8	19.20	12	28.80	12	28.80
Dept. 2 (Assembly)	2.80	6	16.80	6	16.80	15	42.00
(etc.)							
Unit Cost			$270.00		$310.00		$430.00
Planned inventory level			2,000		1,200		600
Ending finished inventory			$540,000		$372,000		$258,000

Total ending finished inv. = 540,000 + 372,000 + 258,000 = $1,170,000

BUDGET DEVELOPMENT - 3

STEP 8: Compute a *selling and administration expense budget:*

	Territory A	Territory B	Total
Selling Expenses			
Salesmen's compensation	$ 35,000	$ 24,000	$ 120,000
Commissions	102,000	68,000	38,000
Travel	1,800	23,500	92,500
Dealer aids	54,000	13,400	124,000
Convention expenses	14,000	9,000	37,000
Warranty expenses	145,000	96,000	487,300
Advertising	215,000	134,000	986,400
(etc.)			
Total selling expenses	934,600	657,800	$2,748,700
Administrative Expenses			
Executive salaries			$ 211,000
Office salaries			107,000
Office supplies			87,400
Professional services			15,500
Insurance—Office			1,200
(etc.)			
Total administrative			2,320,000
Total selling & admin.			$5,068,700

STEP 9: Finally, we prepare a *pro forma income statement* by summarizing all the operating budgets:

Sales (Step 1)				$28,620,000
Cost of goods sold:				
Finished goods inventory, beginning			$ 890,000	
Work-in-process, beginning		$ 204,520		
Raw materials inventory, beginning (Step 4)*	$1,113,430			
Purchases of raw materials (Step 4)*	8,537,730			
Raw materials available	9,651,160			
Raw materials inventory, ending (step 4)*	1,230,700			
Raw materials used (Step 3)		8,420,460		
Direct labor (Step 5)		7,925,640		
Overhead (Step 6)		6,630,700		
Total work-in-process		23,181,320		
Work-in-process, ending (from Steps 2 & 7)		167,900		
Jobs finished during the year			23,013,420	
Finished goods available for sale			23,903,420	
Finished goods inventory, ending (Step 7)			1,170,000	
Cost of goods sold				22,733,420
Gross profit				5,886,580
Less: Selling & administrative expenses (Step 8)				5,068,700
Net income from operations before income taxes				$ 817,880

*Total figures are not presented in the materials purchases budget.

CASH BUDGET - EXAMPLE

CASH BUDGET
FOR THE FISCAL YEAR, 19–

Details	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
OPERATING SOURCES					
Cash sales	$ 100,000	$ 100,000	$ 200,000	$ 500,000	$ 700,000
Collections on accounts receivable	900,000	800,000	1,200,000	1,700,000	4,600,000
Total operating sources	1,000,000	900,000	1,400,000	2,200,000	5,500,000
USES					
Cash purchases	80,000	80,000	150,000	200,000	510,000
Payments on accounts payable	920,000	520,000	650,000	800,000	2,890,000
Cash operating expenses	400,000	400,000	500,000	600,000	1,900,000
Total operating uses	1,400,000	1,000,000	1,300,000	1,600,000	5,300,000
NET OPERATING CASH	$ (400,000)	$ (100,000)	$ 100,000	$ 600,000	$ 200,000
NON-OPERATING SOURCES					
Interest income	$ 10,000	$ 10,000	$ 10,000	$ 8,000	$ 38,000
Sale of investments	–	–	100,000	–	100,000
Sale of fixed assets	50,000	–	–	–	50,000
Contributed capital	–	100,000	–	–	100,000
Loans, bonds, or other forms of long-term creditors' equity	340,000	–	–	–	340,000
Total non-operating sources	400,000	110,000	110,000	8,000	628,000
USES					
Interest expense	–	5,000	5,000	5,000	15,000
Investments	–	–	–	100,000	100,000
Purchase of fixed assets	–	–	–	300,000	300,000
Repayment of creditors' equity	–	–	–	340,000	340,000
Dividends	–	–	–	50,000	50,000
Repurchase of owners' equity	–	–	–	–	–
Total non-operating uses	–	5,000	5,000	795,000	805,000
NET NON-OPERATING CASH	$ 400,000	$ 105,000	$ 105,000	$ (787,000)	$ (177,000)
NET CASH	–	5,000	205,000	(187,000)	23,000
CASH BALANCE – BEGINNING	100,000	100,000	105,000	310,000	100,000
CASH BALANCE – ENDING	$ 100,000	$ 105,000	$ 310,000	$ 123,000	$ 123,000

RESPONSIBILITY CENTERS

Cost Centers

Profit Centers

Investment Centers

BUDGET VARIANCE REPORTS

(Figure 12-1, Page 273, Riggs)

FIGURE 12-1 Operating Report: Actual Versus Budget, Dallas Region, July ($000)

	July			Seven Months Year-To-Date		
	Budget	Actual	Variance	Budget	Actual	Variance
Sales	$1,250	$1,370	$120	$8,600	$8,450	($150)
Region expenses						
Salaries	40.0	41.1	(1.1)	280.0	282.5	(2.5)
Sales commissions	25.0	27.4	(2.4)	172.0	169.0	3.0
Discounts and freight allowed	5.0	5.4	(0.4)	34.4	33.5	0.9
Travel and entertainment	16.0	19.0	(3.0)	112.0	110.5	1.5
Telephone	4.0	3.8	0.2	28.0	29.0	(1.0)
Advertising	8.5	8.0	0.5	59.5	57.0	2.5
Rent and other occupancy	3.5	4.6	(1.1)	24.5	24.3	0.2
	$ 102.0	$ 109.3	($ 7.3)	$ 710.4	$ 705.8	$ 4.6
Allocated Expenses						
Headquarters sales expense	20.0	20.5	(0.5)	140.0	142.5	(2.5)
National advertising	17.5	16.5	1.0	105.0	101.0	4.0
Trade shows	11.0	9.0	2.0	35.0	34.0	1.0
	$ 48.5	$ 46.0	$ 2.5	$ 280.0	$ 277.5	$ 2.5

INTERPRETING BUDGET VARIANCES

Negative vs Positive Variations

Timeliness of Reports

Deterministic vs Discretionary Accounts

Materiality of Accounts and Amounts

MISCELLANEOUS CONSIDERATIONS

Budget Preparation Timing

Assumptions

Prior Year Comparisons

Context

Changes and Justifications

Mechanics

Value of Good Preparation

page 283, #12.4: For each of the following units within a larger organization, indicate whether you think the unit should be considered a cost center, a profit center, or an investment center.

It is useful to recall --

- *Cost Center -- the manager has responsibility for expenses*
- *Profit Center -- the manager has responsiblity for both expenses and revenues, but not for the investment of long-term assets*
- *Investment Center -- the manager has responsiblity for expenses, revenues, and the commitment of investment resources*

a) The sales and service operation, located in France, of a U. S. manufacturing company -- *probably profit center*

b) The Taiwan manufacturing subsidiary of a Japanese electronics company -- *probably investment center*

c) The department responsible for the operation of the truck fleet for the local electric utility -- *cost center*

d) The service department within a Ford automobile dealership -- *probably profit center*

e) The papermaking division of a large and diversified forest products company -- *probably investment center*

f) The shipping department in a plant manufacturing electronic integrated circuits -- *cost center*

g) The police department within a local city government -- *cost center*

h) The shoe department within a department store -- *profit center or investment center*

page 285, #12.9: Why do many organizations need both a cash budget and an (accrual) operating budget?

Generally for the same reasons that an organization needs both an Income Statement and a Cash Flow Statement --

The organization needs to plan its operations to both

- *earn a satisfactory profit, and*
- *meet its demands for cash.*

In addition, the organization needs to ensure that all cash surpluses, including surpluses that are available for only a few days, are invested wisely.

page 285, #12.1: Shown below are the actual expenses and the budget for the engineering design department of Mancini Electronics, Inc. for the third fiscal quarter (in $ millions).

	Actual	Budget
Salaries	$ 14.3	$ 14.7
Fringe benefits	3.7	3.9
Supplies	4.8	4.3
Rent and other occupancy	2.9	2.3
Consulting services	3.3	3.3
Professional development	1.7	1.9
Travel expense	2.1	2.7
Telephone and Computer	1.9	1.8
Total	$ 34.7	$ 34.9

a) Develop a variance report by expense category.

b) Which of these expense variables do you think would be the most useful to you (consider management by exception)?

c) What are possible explanations for the large variance in travel expense? Which of these explanations do you think is most likely to be relevant?

d) The variance in Rent and Other Occupancy is sizable. What actions might the engineering department manager take to meet budget in this expense category in the coming months?

e) In order to interpret the Salaries expense variance, what other information would you need to have?

a) **Develop a variance report by expense category.**

Recall that, for expenses, a positive variance is one that is below budget, and a negative variance is one that is above budget.

Variance Report:

Salaries	*$ 0.4*
Fringe benefits	*0.2*
Supplies	*(0.5)*
Rent and other occupancy	*(0.6)*
Consulting services	*---*
Professional development	*0.2*
Travel expense	*0.6*
Telephone and computer	*(0.1)*
Total	*$ 0.2*

b) **Which of these expense variables do you think would be the most useful to you (consider management by exception)?**

Expenditures for salaries, fringe benefits, and rent and other occupancy, are largely deterministic and not typically controllable at the department level. The remaining expense categories are largely discretionary, and those with negative variances (i.e., supplies, and telephone and computer) are likely to be the ones looked at first.

c) **What are possible explanations for the large variance in travel expense? Which of these explanations do you think is most likely to be relevant?**

Most likely, less travel has been undertaken than originally planned, possibly to compensate for the overexpenditure in supplies. One might wonder if the trade-off between supplies and travel helps to move toward the longer-term goals.

Another possibility is that some travel anticipated for the third quarter is now expected to take place in the fourth quarter, and the funds are being held for that purpose.

An additional possibility is that the variance is solely the result of traveling less expensively than originally anticipated.

d) **The variance in Rent and Other Occupancy is sizable. What actions might the engineering department manager take to meet budget in this expense category in the coming months?**

There is likely to be little that the engineering design department manager can do. This is typically a problem to be "kicked upstairs," since the cost is probably being allocated as overhead based on the square footage used.

e) **In order to interpret the Salaries expense variance, what other information would you need to have?**

You would need to know the actual versus the planned staffing levels and salary rates.