


Define Financial Management



What is Financial Management?

- The part of the management process that focuses on financial information that can be used to improve decision making.
- Includes
 - **Finance:** the management of the sources and uses of resources within an organization.
 - **Accounting:**
 - Managerial:* the generation of financial information for planning and decision making.
 - Financial:* a system for tracking and reporting the resources owned and used by an organization.



What is Public Finance?

- Government policies related to spending, taxing, and borrowing decisions.
- Government role in:
 - Allocating Resources
 - Distributing Resources
 - Stabilizing the Economy
- Adjusting Free Market Economy Outcomes
 - Market Failure
 - Redistribution
 - Tax and Expenditure Efficiency and Equity

The Focuses of Public Service and For-Profit Organizations

- For-profit or proprietary organizations focus on maximizing the wealth of the owners of the organization.
- Public service organizations focus on achieving "mission centered" goals while maintaining a "satisfactory financial condition."
- Some organizations are both for-profit and public service - they must balance the goals of maximizing profits with the goals of providing public service.
 - For example: for-profit schools, prisons, hospitals

Enterprise Funds

Governmental Organizations

- Include federal, state, and local governments.
- Combined governmental spending is approximately \$5 trillion per year.
- Funds are provided by a variety of taxes, transfers from one level of government to another, and fees for services.
- Funds are used to provide public services that vary according to the level of government.
- Differences between receipts (resource inflows) and expenditures (resource outflows) are surpluses (if they are positive) or deficits (if they are negative).

NATIONAL COMMITTEE ON MUNICIPAL ACCOUNTING (NCMA)

- Established in 1934
 - Municipal Finance Officers Association (MFOA)
 - Later Government Finance Officers Association (GFOA)
- First "Blue Book" issued in 1936
 - NCMA Bulletin No. 6, *Municipal Accounting Statements*

NATIONAL COMMITTEE ON GOVERNMENTAL ACCOUNTING (NCGA)

- Founded in 1948
- Second "Blue Book" issued in 1951
 - NCGA Bulletin No. 14, *Municipal Accounting and Auditing* (1951)
- Third "Blue Book" issued in 1968
 - *Governmental Accounting, Auditing, and Financial Reporting*
 - First to bear the GAAFR title

TRANSITION

- National *Council* on Governmental Accounting established in 1974
- Result
 - Prior to 1974
 - "Blue Book" source of authoritative GAAP
 - After 1974
 - "Blue Book" no longer sets GAAP
 - Focus henceforth on practical application of authoritative standards
 - NCGA Statements are authoritative GAAP
 - After 1984 Governmental Accounting Standards Board
 - GASB Statements

MFOA/GFOA

- Fourth "Blue Book" issued in 1980
- Fifth "Blue Book" issued in 1988
- Sixth "Blue Book" issued in 1995
- Seventh "Blue Book" issued in 2001
- Eighth "Blue Book" issued in 2005
- Ninth "Blue Book" issued in 2011

SUMMARY OF A 75-YEAR TRADITION

- 1936 First "Blue Book"
- 1951 Second Blue Book
- 1968 Third Blue Book (first GAAFR)
- 1980 Fourth Blue Book
- 1988 Fifth Blue Book
- 1995 Sixth Blue Book
- 2001 Seventh Blue Book
- 2005 Eighth Blue Book
- 2011 Ninth Blue Book
- GAAFR Supplements [e-book formats \$10]

Understanding Costs

What Does It Cost?

- **It depends!** How a manager or policy maker looks at and measures cost depends on why the cost analysis is being done. **What question are we trying to answer?**
- **Cost Objective** is the focus of the cost analysis, the question. It may be a unit of service, a program, or a department.
- **Relevant costs** are those that have an impact on, or are impacted by, the decision being considered. Determining what costs are relevant depends on
 - the **cost objective**.
 - the **time frame** for the analysis.
 - the expected **range of volume**.

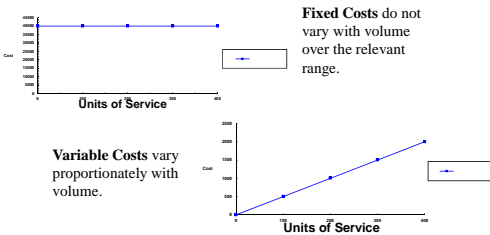
Cost Definitions

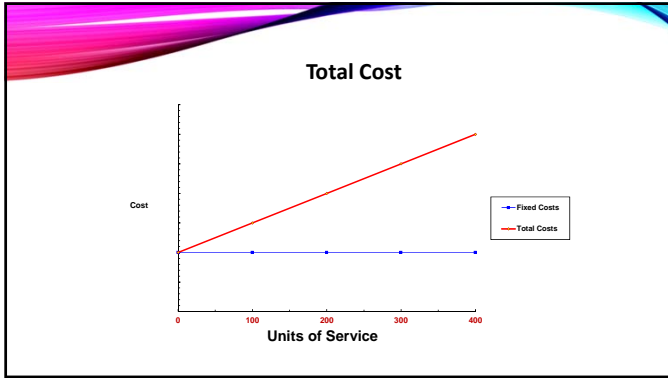
- **Full or Total Cost** is the sum of all costs associated with the cost objective.
- **Direct Costs**
 - costs incurred within an organizational unit.
 - cost of resources used to produce a good or service.
- **Indirect Costs (Overhead)**
 - costs that are assigned to a unit from outside.
 - costs of resources not used directly to provide service.
- Full cost = direct cost + indirect cost.
- Is a maintenance worker direct or indirect?

More Cost Definitions

- **Average Cost** is the full cost of a cost object divided by the number of units of service provided.
- **Fixed Costs** are those costs which remain (relatively) unchanged in total for some time period as the volume of services changes over a relevant range of activity.
- **Variable Costs** are those costs that vary directly with changes in the volume of service units over a relevant range of activity.
- **Relevant Range** is the normal range of expected activity.

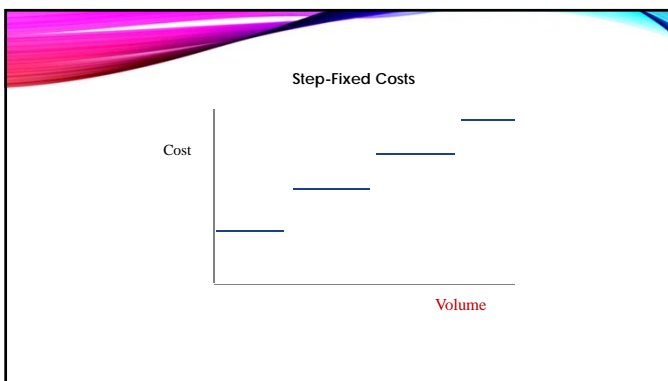
Fixed and Variable Costs





And More Cost Definitions

- **Marginal Costs** are the "additional" costs incurred as the result of providing one more unit of service (incremental costs).
- **Mixed Costs** are costs that contain both fixed and variable costs.
- **Step-Fixed or Semi-Variable Cost** are costs that are fixed over ranges of activity that are less than the relevant range.
- Marginal costs are equal to Variable costs unless there are changes in Step-Fixed costs.



Relevant Cost Analysis

The urban planner for Millbridge is working on a housing project. The Fixed Costs are \$300,000 for the project, and Variable Costs are \$250 each time a family moves into an apartment. The cost structure of the housing project would be:

Volume	Fixed Cost	Variable Cost	Total Cost Full Cost	Average Cost
100	\$300,000	\$25,000	\$325,000	\$3,250
500	\$300,000	\$125,000	\$425,000	\$850
1,500	\$300,000	\$375,000	\$675,000	\$450
2,500	\$300,000	\$625,000	\$925,000	\$370
3,000	\$300,000	\$750,000	\$1,050,000	\$350

What is the Right Decision?

- The housing project now has 2,500 move-ins per year. To encourage the town to expand the program, the state offers to pay \$300 for each of 500 move-ins if they expand to 3,000 per year. Should the town expand the housing project?
 - The average cost per move-in at 2,500 per year is \$370.
 - The average cost per move-in at 3,000 per year is \$350.
 - The variable cost per move-in is \$250.
- What is your decision?

What is the Right Decision?

New Revenue	\$300 x 500 move-ins	\$ 150,000
New Cost	\$350 x 500 move-ins	<u>175,000</u>
Apparent Loss		<u>\$ (25,000)</u>

However, what is the Total Cost for 3,000 move-ins (slide 11)? \$1,050,000

What is the Total Cost for 2,500 move-ins (slide 11)? 925,000

How much did costs increase? \$ 125,000

Extra revenue from extra move-ins	\$ 150,000
Extra cost from extra move-ins	<u>125,000</u>
Extra profit	<u>\$ 25,000</u>

What is the Right Decision?

Why did we first see a \$25,000 loss, then see a \$25,000 profit?
 Average cost assigns some FC to new move-ins.
 Average Cost = \$350 per move-in.

Marginal cost looks at only additional costs of new move-ins.
 Marginal Cost = \$250 per move-in

Consider the difference:
 Average Cost \$350
 Marginal Cost -250
 Difference \$100 x 500 move-ins = \$50,000

That \$50,000 is the difference between thinking of this as a \$25,000 loss versus as a \$25,000 profit. So the key question is, will FC go up or not?

Activity-Based Costing

- Direct versus Indirect Costs
- ABC allocations take costs from one area/objective and allocates it to another area/objective.
- Allocations are based on activities that cause costs to be incurred – Cost Drivers. This requires a cost pool to accumulate costs and a cost base used to allocate.

Activity-Based Costing

- Three methods to allocate:
 - 1) Direct Distribution
 - 2) Step-down
 - 3) Multiple Distribution

Reflections on ABC

- Superior Method?
- Cause – Effect; Effective - Efficient.
- Theory of Constraints

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Financing

Capital Budgeting

- **Capital Budgeting** is a process used to evaluate investments in long-term or Capital Assets.
- **Capital Assets**
 - have useful lives of more than one year;
 - analysis requires focus on the life of the asset;
 - low-cost, long-lived assets are not usually subjected to the Capital Budgeting process.

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Long-Term Financing

- Used to pay for capital assets when capital costs exceed the cash available from operations or it would not be prudent to use operating cash flow for capital purposes.
- **Equity** - additions to the permanent capital of an organization.
 - *Capital Campaigns* - fundraising drives aimed at raising money to pay for long-lived assets.
- **Long-Term Debt** - borrowed money with a *maturity* of more than one year. Short-term debt refers to borrowed money that must be repaid within one year.
- **Leases** - contracts to make fixed payments in return for the right to use a capital asset.

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Types of Long-Term Debt

- **Long-Term Notes** - unsecured loans.
- **Mortgages** - loans that are backed by a security interest in land and/or buildings that are owned by the borrower.
- **Bonds** - standardized loan agreements between borrowers and lenders.

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Leases

- Types of leases
 - Operating Leases: All short-term or cancelable leases
 - Capital Leases: Some long-term and non-cancelable leases
- Possible advantages of Leasing
 - flexibility and protection against obsolescence
 - lower costs from pass-throughs of interest equipment cost, and tax-related savings
- Possible disadvantages of leasing
 - tendency toward higher costs
- Capital lease obligations are valued at the PV of the remaining future lease payments

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Why Prepare a Capital Budget?

- Since the investments are large, mistakes can be costly.
- Since capital acquisitions lock the organization in for many years, bad investments can hamper the organization for many years.
- Since capital assets have long lives, they must be looked at over their lives. Operating budgets do not do that.
- Since the cash the organization uses to buy the capital asset is not free, managers or policy makers must include the cost of that money in their analysis.

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Other Capital Budgeting Issues

- Selecting the appropriate discount rate - problems in finding the "cost of capital" for not-for-profit and public organizations.
- Adjusting for inflation when the impact of inflation differs by type of cash flow.
- Allowing for the uncertainty in forecasted cash flows.

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Capital Investment Analysis

- Four Principles for Capital Investment Analysis:
 - include all cash flows in the analysis,
 - adjust cash flows for the time value of money,
 - consider the riskiness of the investment and the cash flows in the analysis, and
 - rank the projects in accordance with the organization's goals.

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The Time Value of Money

▫ The Time Value of Money says a dollar that you get at some point in the future is worth less than a dollar you get today.

Suppose the Museum of Technology is considering buying computers for a new special exhibit. The computers will cost \$40,000 and will generate \$10,000 in admissions revenues in each of the next four years. What should the museum's management do?

Period 0	Period 1	Period 2	Period 3	Period 4
(\$40,000)				
	\$10,000	\$10,000	\$10,000	\$10,000

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Compounding and Discounting

Compounding finds the value at some point in the future of a dollar invested today at some specified rate of interest.

Discounting is the reverse of Compounding. Discounting tells you what a dollar at some point in the future is worth today.

Compounding →

Starting Principal (Present Value)	Compound Interest Calculation	Ending Compound Value (Future Value)	Ending Simple Interest Value
100.00	$100 \times 1.12 =$	112.00	112.00
112.00	$112 \times 1.12 =$	125.44	124.00
125.44	$125.44 \times 1.12 =$	140.49	136.00
140.49	$140.49 \times 1.12 =$	157.35	148.00

← Discounting

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Present Value and Future Value

Present Value	Alternative Form of the Interest Calculation	Future Value
100.00	$100 \times (1+.12)$	112.00
112.00	$100 \times (1+.12)^2$	125.44
125.44	$100 \times (1+.12)^3$	140.49
140.49	$100 \times (1+.12)^4$	157.35

Future Value

$$FV = (1 + i)^n \times PV$$

$$FV = (1 + .12)^4 \times 100$$

$$FV = 157.35$$

Present Value

$$PV = \frac{1}{(1 + i)^n} \times FV$$

$$PV = \frac{1}{(1 + .12)^4} \times 157.35 = 100.00$$

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Present Value and Future Value

- **Present Value** is the value of an investment at its beginning point or any intermediary point before the end of the investment.
- **Future Value** is the compound value of any investment at any point after the beginning point.

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PV and FV Using the Calculator

- Four Factors in a Present Value or Future Value calculation
 - PV: present value
 - FV: future value
 - I or r: interest rate per compounding period
 - N: number of compounding periods
- To find any of the four factors, enter the three factors that you do know and solve for the one that is missing.
- If interest is compounded more than once per year, the interest rate i and the number of compounding periods N must be adjusted accordingly!!

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Calculating Mortgage Payments

- Mortgages call for equal periodic payments which repay the amount borrowed and pay interest to the lender.
- At the beginning payments are mostly interest and near the end they are mostly principal. Mortgage payments are annuities.
- Assume a 30-year, \$500,000, 12% per year mortgage with monthly payments:

0	1	...	359	360
↑ 1%			↑	
\$500,000	PMT		PMT	PMT

$N = 360, i = 1\%, PV = \$500,000, PMT = ?$
 Mortgage PMT = \$5,143.06 per month

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A Present Value Example

- Suppose someone offered to pay you \$237,699 in forty years and you could invest your money at 8% with quarterly compounding. How much would that future payment be worth today?

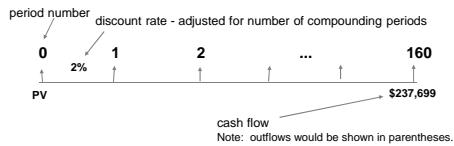
$$\begin{aligned} PV &= ? \\ FV &= \$237,699 \\ i &= 8\% \text{ per annum} / 4 \text{ quarters per annum} = 2\% \\ N &= 40 \text{ years} * 4 \text{ compounding periods per year} \end{aligned}$$

$$PV = \frac{1}{(1+i)^n} * FV = \frac{1}{(1+.02)^{160}} * 237,699 = \$10,000$$

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The Time Line

When analyzing complex Time Value of Money problems, it is often helpful to lay the cash flows out on a **time line**.



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SOLVING FOR FV/PV

- You can solve the formula by:
 - Financial calculator
 - Excel formula
 - Pen/Pencil & paper with a set of annuity tables.

Multiple Cash Flows

- Often capital investments generate more than one cash flow. In such cases, you can find the present value or the future value of those cash flows by calculating the PV or FV for each cash flow and adding them up.
- Suppose that an investment in a new computer system was projected to generate savings of \$3,000 in the first year, \$5,000 the second year, and \$7,000 in the third year. If the cost of funds for the organization is 10%, how much can the organization afford to spend on the system?

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How Much Can We Pay?

0	1	2	3
	↑ 10%		
Total	\$3,000	\$5,000	\$7,000
PV = ?	PV = ?	PV = ?	PV = ?
	FV = \$3,000	FV = \$5,000	FV = \$7,000
	i = 10%	i = 10%	i = 10%
	N = 1	N = 2	N = 3
Maximum System Cost =	PV = \$2,727 + PV = \$4,132 + PV = 5,259		
	= \$ 12,118 Note: all present values were rounded.		

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Annuities

- An annuity is a special case of multiple cash flows:
 - In an annuity all of the cash flows are **equal** and they are paid or received at **evenly spaced** time intervals. The time intervals do not have to be years! They can be days, weeks, months, quarters, etc.
- Examples of annuities:
 - Lottery payment of \$250,000 per year for 20 years.
 - Car-loan payment of \$299 per month for 48 months.
 - Five-year, \$50 per month donor pledges to the Save the Children Federation.


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Future and Present Values Of Annuities

- Future Values and Present Values can be calculated for any annuity. Assume payments are made at the end of each period.
 - The **Future Value of an annuity** is the amount that a stream of payments will be worth at the end of some period. For example, the future value of a stream of \$2,000 deposits into an IRA for thirty-five years would be the amount that was available to pay for your retirement.
 - The **Present Value of an annuity** is the value today of a stream of future payments. For example, the cost of a car financed with a five-year car loan or the amount that you would have to have in the bank today to have a retirement income of \$5,000 per month for 20 years starting next month.

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LUNCH TIME



A Future Value Annuity Example

- Suppose an individual were to put \$2,000 at the end of each year into an IRA account for thirty-five years and earn an average of 12% per annum on that money. How much money would that person have available in the future for retirement?

0	1	2	...	33	34	35
↑	↑	↑	↑	↑	↑	↑
	12%					
	(\$2,000)	(\$2,000)		(\$2,000)	(\$2,000)	(\$2,000)
						FV = ?

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Finding the Future Value

- You can get the answer by calculating the Future Value of each of the 35 cash flows separately and adding them up. That will always work. But you can do it more simply on the calculator.
- Here are the steps
 - Enter 2000, then press +/-, then press PMT
 - Enter 12 and press I/Y or i%
 - Enter 35 and press N
 - Then press compute
 - Then press FV
 - \$863,326.99 will appear on the calculator display.

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Solving for the Payment

- Suppose you now want to find out how much money you will have to live on each month during the thirty years of your retirement assuming you can earn 9%. Here is what you do and do not know to solve this problem:
 - PV = \$863,326.99
 - PMT = ?
 - i = 9% / 12 (note the adjustment for monthly payments)
 - N = 30 * 12 (note the adjustment for monthly payments)
- Use a calculator or computer spreadsheet to solve for PMT.
 - Excel: =PMT (rate, nper, pv, fv, type)
 - =PMT(9%/12,30*12,-863326.99)
 - =\$6,946.52

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Mixed Cash Flows

- It is not uncommon to find situations where the cash flows generated by capital investments result in combinations of annuities and unequal cash flows.
- In these cases, you can use the annuity calculations to find the PVs or FVs of the annuities, use the single payment calculations for PVs or FVs of all other cash flows, and add them up.

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A Mixed Cash Flow Example

What is the PV of the cash flows below?

0
500
500
500
2000

0
1
2
3
4
5

10%

Note: Be careful!
This is not a 4-year annuity!

Single Payment in Year Five

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Finding the PV of the Mixed Cash Flows

- First, find the PV of the three-year \$500 annuity in year 1.
 - $PV = ?$, $PMT = 500$, $i = 10\%$, $N = 3$
 - **PV = \$1,243.43 in year 1**
- Second, find the PV of that amount in year 0.
 - $PV = ?$, $FV = \$1,243.43$, $i = 10\%$, $N = 1$
 - **PV = \$1,130.39 in year 0**
- Third, find the period-0 PV of the single cash flow in year 5.
 - $PV = ?$, $FV = 2,000$, $i = 10\%$, $N = 5$
 - **PV = \$1,241.84 in year 0**
- Add the two period-0 PVs
 - **Total PV = \$1,130.39 + \$1,241.84 = \$2,372.23**

Or do four separate calculations

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The Net Present Cost Method

- Used to evaluate alternative ways of meeting an organizational need.
- The present value of the costs of each alternative are calculated.
- The alternative with the lowest net present cost is selected.

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A Net Present Cost Example

Your entity is considering buying a fleet of vehicles for the motor pool. Either of two different vehicles would meet the your needs. Which one should they choose? Assume a 10% discount rate.

	Model A	Model B
Purchase	\$105,000	\$ 60,000
Annual Maint.	10,000	20,000
	10,000	20,000
	10,000	20,000
	10,000	20,000
	10,000	20,000
	<u>10,000</u>	<u>20,000</u>
Total	\$155,000	\$160,000

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Finding the Net Present Costs

<ul style="list-style-type: none"> ▫ PMT = 10,000 ▫ i = 10 ▫ N = 5 ▫ PV = ? 	<ul style="list-style-type: none"> ▫ PMT = 20,000 ▫ i = 10 ▫ N = 5 ▫ PV = ?
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<ul style="list-style-type: none"> ▫ Find PV of \$10,000 annuity at 10% interest for 5 years = \$37,908 ▫ Add the purchase price of the Model A = \$105,000 ▫ The Net Present Cost is \$142,908 	<ul style="list-style-type: none"> ▫ Find PV of \$20,000 annuity at 10% interest for 5 years = \$75,816 ▫ Add the purchase price of the Model B = \$60,000 ▫ The Net Present Cost is \$135,816
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Since Model B has the lowest Net Present Cost, it is the preferred alternative.

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The Annualized Cost Method

- Used to evaluate alternative ways of meeting an organizational need when the useful lives of the equipment are different.
- First calculate the net present cost of each alternative.
- Then "annualize" that amount by finding the value of the annuity payment that is equal to the net present cost over the useful life of each piece of equipment.
- Select the alternative with the lowest annualized cost.

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An Annualized Cost Example

- Suppose that the vehicles you were considering had different useful lives as shown below. Which model should be chosen?

	Model A	Model B
Purchase	\$105,000	\$ 60,000
Annual Outlay	10,000	20,000
	10,000	20,000
	10,000	20,000
	10,000	20,000
	10,000	20,000
Total	\$155,000	\$140,000

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Annualized Cost Calculations

- Find PV of \$10,000 annuity at 10% interest for 5 years = \$37,908
- Find PV of \$20,000 annuity at 10% interest for 4 years = \$63,397
- Add the purchase price of the Model A = \$105,000
- Add the purchase price of the Model B = \$60,000
- The Net Present Cost is \$142,908
- The Net Present Cost is \$123,397
- Annualize the cost: PV = \$142,908
PMT = ?, i = 10%, N = 5
- Annualize the cost: PV = \$123,397
PMT = ?, i = 10%, N = 4

\$37,699

\$38,928

Select Model A. It has the lower Annualized Cost.

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The Net Present Value Method

- NPV = PV of the Inflows - PV of the Outflows
- Used to evaluate capital investment alternatives that generate both cash inflows (revenues) and cash outflows (costs).
- Find the net cash flow in each year of the investment for each alternative by subtracting **cash** outflows from **cash** inflows. [Note: We do not use revenue and expense on an accrual basis for these calculations. Why?]
- Find the present value of the net cash flows generated by each investment.
- If the Net Present Value is greater than zero, make the investment. If choices have to be made, rank the investments in order of their net present values.

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A Net Present Value Example

The Hospital for Ordinary Surgery is considering a new lab. The lab will cost \$5 million and is expected to generate the cash flows shown below. If the hospital's cost of funds is 10%, should it undertake the project?
All numbers are in thousands.

	Start	Year 1	Year 2	Year 3	Year 4	Total
Cash In		2,700	2,800	2,900	3,000	11,400
Cash Out	5,000	1,000	1,300	1,400	1,600	10,300
Total	(5,000)	1,700	1,500	1,500	1,400	-1,100
Present Value	(5,000)	1,545.5	1,239.7	1,127.0	956.2	(131.7)

The hospital would not build the lab since the NPV is (\$131,685).
Excel Solution: = NPV(rate,value 1, value 2) -5000
= NPV(10%, 1700, 1500, 1500, 1400) - 5000 = (\$131.7)

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Control Systems

Management Control Systems

- Sets of policies and procedures designed to keep operations going according to plan - detect variations and allow for corrective action.
 - Focus on **responsibility accounting**
 - Combine monitoring, motivation, and incentives.
 - Require that performance be measured.
 - Need to focus on both viability (internal perspective) and effectiveness (external and internal perspective).

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Triple Bottom Line

- Organizations should be concerned about and measure
 - financial performance beyond the organization,
 - environmental performance - the impact of its actions throughout the life cycle of its products and services, and
 - social performance - consider the interdependencies between the organization and individuals and society as a whole.

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Variance Analysis

- Variance analysis investigates differences (**variances**) between planned and actual results. It help managers:
 - prepare budgets for the coming year,
 - control results in the current year, and
 - evaluate the performance of operating units.
- Variance analysis focuses on **material** differences to help managers correct problems and capitalize on opportunities.

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Variance Analysis Cautions

- **Aggregation** can hide meaningful variances and lead managers to misinterpret the condition of the organization.
- **Exception Reports** should be prepared for all **material** variances that warrant management's attention.
- **Fixed costs** should not result in volume variances, since they are not expected to change with volume.
- Expense and Revenue variances often have to be analyzed together. For example, an unfavorable expense volume variance may be good for the organization if it is accompanied by an even larger favorable revenue volume variance.

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Managerial and Financial Accounting

- Managerial Accounting: Internal Focus.
 - Plan
 - Implement
 - Control
- Financial Accounting: External Focus.
 - Record events or transactions.
 - Report financial position and results of operations.

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Financial Statement Concepts

- **Generally Accepted Accounting Principles** from the FASB (not-for-profits and health care) or the GASB (governments) guide the preparation of financial statements.
- **Entity Concept** requires that you define the organizational component for which you are trying to account.
- **Money Denominator Convention** requires that all items included on the financial statements be measurable in dollar terms.
- **Objective Evidence** (objectivity or reliability principle) and the **Cost Convention** (cost principle) require that values be based on an objective valuation of resources. When there is a dispute over value, cost is used.

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More Financial Statement Concepts

- **Conservatism** says that you should anticipate losses but not gains.
- **Going Concern Concept** assumes that the organization will continue in operation. Bankruptcy values may be lower.
- **Materiality** says that reporting only needs to contain the level of detail and accuracy necessary for decision-making. Financial reports do not need to be exactly accurate.
- **Accrual Concept** states that revenues are recorded when the organization has earned them and expenses are recorded when resources are used to generate revenues.

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ASSERTIONS

CATEGORY

Account Balances
at period end

ASSERTION

- Existence
- Rights and Obligations
- Completeness
- Valuation and Allocation

ASSERTIONS

CATEGORY

Classes of
Transactions/
events during the
period

ASSERTION

- Occurrence
- Completeness
 - Cutoff
- Classification

ASSERTIONS

CATEGORY


Presentation and
Disclosure

ASSERTION

- Occurrence
- Rights and Obligations
- Completeness
- Classification and Understandability
- Accuracy and Valuation




**Planning for Success:
Budgeting**



Overview of Financial Management

- Plan
- Implement
- Control
- Measure Results and Report



GAAP Budget Areas

- Budgetary Compliance [1200]
 - Compliance with Law
 - Constitutional
 - Contractual
 - Local Ordinance
- Budgetary Accounting [1700]
 - Mechanics of Budgeting
- Budgetary Reporting [2400]
 - Demonstrating Compliance

Planning

- Establish the organization's **mission**. What is an example of an organizational mission?
- Develop a **strategic plan** to meet that mission. The strategic plan is a broad set of organizational goals/objectives and the primary approaches for reaching them. COSO measurement criteria relate directly to these goals/objectives.
- Set **long-range plans** for achieving the goals defined in the strategic plan.
- Prepare **budgets** that show how management expects to obtain and use the resources needed to meet those goals.

Budgets

- Master Budget
 - **Operating Budget**
 - revenues and other support
 - expenditures
 - **Financial Budgets**
 - cash budget
 - capital budget
- Special types of budgets
 - special purpose budgets
 - performance budgets
 - flexible and zero-based budgets

The Operating Budget

- **Revenue and Other Support** is a forecast of resource inflows into the organization.
 - **Revenues** are earned from the sale of goods and services and the receipt of contributions and grants.
 - Support** refers to just contributions and grants.
- **Expenditures** represent the resources that an organization uses up in carrying on its activities.
- A **surplus** or **profit** is the excess of revenues and support over expenses; a **deficit** or **loss** is an excess of expenditures over revenues and support.

Cash Versus Accrual Accounting

- The term "recognition" means that there is an acknowledgment that some financial event has occurred.
- **Cash Accounting** recognizes revenue when payments are received in cash and expenditures when a resource is paid for in cash.
- **Accrual Accounting** recognizes revenue when the goods or services have been delivered and the organization has earned the right to be paid. Expenses are recognized when a resource has been used in the operation of the organization.

Why Use Accrual Accounting?

- **Accrual accounting** helps an organization match the revenues that it has earned with the resources required to produce those revenues. BETTER TIMING.
- Accrual accounting is more appropriate for measuring the profitability of an organization and is more difficult to manipulate.

The Cash Budget

- **Cash Budgets** plan for an organization's cash inflows and outflows.

Beginning Cash Balance
+ cash receipts
<u>Subtotal: Available Cash</u>
- cash payments
<u>Subtotal: Total Cash Payments</u>
Balance before borrowing, repaying or investing
+ borrowing or - repayments or investments
Ending Cash Balance

Note distinction between accrual-based revenue and expense versus cash receipts and payments/expended!

The Capital Budget

- Capital Budgets plan for the acquisition of high-value, long-term (> 1 year) assets. You define what are capital assets.
- Accrual Accounting and Capital Assets
 - Accrual expenses reflect the use of a resource.
 - Since capital assets last for many years, it would be inappropriate to show their entire cost as part of the operating budget at the time they are acquired. We show one year's share of the cost in the operating budget each year it is used, and show the full cost on the capital budget the year the capital asset is acquired.

The Capital Budget

- Three reasons you have a capital budget:
 - 1) Illogical to include multiyear items on an annual operating budget
 - 2) Because of the sizable outlays, it focuses special attention to the decision making process
 - 3) It also requires special attention related to financing

The Budget Process

- A process of planning and control.
- A look ahead at what an organization can and can't do.
- The Budget Cycle
 - Preparation
 - based on guidelines
 - normally done by responsibility center managers
 - Review and Adoption
 - Implementation and Control
 - Evaluation of Results and Feedback

BEHAVIORAL ASPECTS OF BUDGETING

- People are the key to success in budgeting
- Goal Divergence vs Goal Congruence
- Motivation is critical
 - Allow staff input in budget process
 - Provide incentives – carrot or stick
 - Raises
 - Bonus
 - Letter reviewing performance

DEVELOPING A GOVERNMENT BUDGET

- Prepare budgetary policy guidelines.
- Prepare a budget calendar.
- Prepare and distribute budget instructions.
- Prepare revenue estimates.
- Prepare departmental (or program) expenditure requests...
- Consolidate departmental expenditure requests....and revenue estimates...
- Prepare the budget document.
- Present the budget document to the legislative body...
- Determine the property tax (millage) rate.^[1]

[1] Martin Ives, Joseph R. Raszek, and Gordon A. Hosch, *Introduction to Governmental and Not-for-Profit Accounting*, 5th Edition, Pearson Education, Upper Saddle River, NJ, 2004, p 71.

Forecasting

- Forecasting is done using three approaches:
 - Subjective methods (e.g., Delphi and nominal group) when there are no historical data.
 - Time Series methods when the future is expected to follow an historical trend.
 - Causal Modeling which tries to forecast based on statistical relationships among several factors.
- Forecasting is an art. Models should be tested before use and experience should be brought to bear when appropriate.

Factors in Revenue Forecasts

- Economic conditions
- Endowment Investment Decisions
- Price Setting
 - historical approach - what we always got.
 - market approach - what others charge.
 - quantity maximization - do as much as possible while staying solvent.

Regression Analysis for Forecasting

- Independent/Dependent Variables
- Ordinary Least Squares analysis
- Cautions
 - Plausibility
 - Goodness of Fit
 - Statistical Significance
 - Reasonableness of Assumptions

Using Excel® for Forecasting

- Create Chart
- Add Trendline
- Select
 - Linear
 - Logarithmic
 - Polynomial
 - Power
 - Exponential
 - Moving Average

The Human Element in Forecasting

- Consider how the results will be used.
- Is the past a good predictor for the future.
- Does the forecast result make sense?

Two Approaches to Budgeting

- **Centralized or Top Down Model** - Priorities are set at the top of the organization and imposed on the operating units. More control but less staff involvement.
- **Decentralized or Bottom Up Model** - Operating units prepare budgets based on their perceptions of needs. Less control but more involvement. Lots of negotiations. Risk of losing sight of overall objectives.
- Most organizations use hybrid approaches incorporating elements of both methods.

Governmental Budgeting Issues

- Taxing authority.
- Taxing/spending decisions often have policy implications.
- Entitlements and mandates create spending patterns that must be built into budgets.
- **Governmental budgets generally have the force of law:**
 - they restrict managers from spending more than is allocated for their departments.
 - they limit a manager's ability to move funds from one account to another. Legal level of control.
- Governments must disclose their budgets to the public.

Budgeting Formats

- **Line item** or **object of expense** - e.g., salaries, benefits, supplies, rent, etc.
- **Responsibility Center** - units for which individual managers are held accountable, e.g., custodial services, maintenance, public relations, development, ticket sales, etc.
- **Program Budgets** include both revenues and expenses - ballet, opera, philharmonic, etc.
- Generally, both Responsibility Center and Program budgets are supported by line item detail.

Performance Budgeting

- Operating budgets attempt to plan the resources needed to accomplish certain outcomes or results that the organization hopes to achieve.
- But the budgeting process focuses on resource negotiations and uni-dimensional output measurements.
- Performance Budgeting asks managers to define goals, plan their resource needs, and measure the achievement of various goals and objectives.
- Does this measure outcomes or outputs?
- Can simple measures tell the whole story, or are we back to the questions of **efficiency and effectiveness?**

Incremental Versus Zero-Based Budgeting

- **Incremental budgeting** starts with current revenues and expenses and projects next year by adjusting for inflation, volume, efficiency, technology, etc.
- **Zero-Based Budgeting**
 - calls for a total reevaluation of all programs and activities.
 - requires that decision packages be prepared for each separable activity or level of activity.
 - ranks the packages.
 - selects packages for adoption or rejection.

Flexible Budget

- Organizations often experience more or less volume than budgeted.
- Flexible budgets look at expected revenues, expenses, and net income under different volume assumptions.
- The key to flexible budgeting is the identification of:
 - Fixed Costs - which do not change with volume.
 - Variable Costs - which do change with volume.
- Flexible budget results are normally shown in a side-by-side columnar format.
- A flexible budget is a form of "What if?" analysis.

Block Chain Initial Coin Offering [ICO]

- How they work:
 - Step 1 – set up a Swiss Foundation to accept "donations"
 - In exchange for a donation, you receive a "token" to be used later to exchange for a cryptocurrency
 - Once the software platform (block chain) is up and running, you may exchange your token for an actual measure of some cryptocurrency.
 - However, should the platform never get up and running – thank you for your "donation"

Securities & Exchange Commission Viewpoint

- The "tokens" could constitute unregistered securities and as such become investments subject to SEC regulation if offered in the U.S.
- Penalties and damages to investors could be assessed should one find themselves on the wrong side of SEC rules.



Tezos Foundation Announcement

- 23 July 2018: We believe that accountability and trust will be central pillars of any successful entity operating in the blockchain space. We are excited to make progress towards this goal with PwC Switzerland acting as our independent external auditor.

The Foundation is committed to operating with the highest degree of integrity in the service of our mission to support the Tezos protocol, ecosystem, and community.



Tezos Foundation and Protocol

- planned launch of the Tezos betanet in Q2 and mainnet in Q3 of 2018.
- Tezos is a remarkable project because it enables coin holders - the true owners of the network - to align interests around improving the protocol through on-chain governance.

What does all this mean? Blockchain is a DECENTRALIZED network. In theory, harder to hack, manipulate or steal from.



Vitalik Buterin

- Buterin describes his open-source blockchain platform [Ethereum](#) as a "world computer."
- Ethereum caught a lucky break this year when the [SEC](#) said it would [not regulate Ether](#), the network's native coin, as a security.

The skinny visionary's experiment, which began as a white paper, now has a market valuation of about \$48 billion, making it the second-most valuable crypto network next to Bitcoin.

The Cloud versus Block Chain

The Cloud is just somebody else's computer

Block Chain is all of our computers

What enters one node [e.g. virus] will get to all computers

- Product and security development is difficult
- One failure could mean catastrophic failure across the network

EOS Blockchain

FORTUNE Blockchain Startup Block.one Raises \$4 Billion For EOS ICO

Chinese researchers warn blockchain company EOS about 'epic' vulnerability in soon-to-launch platform

BLOCKCHAIN STARTUP BLOCK ONE ON TRACK TO RAISE OVER \$4 BILLION FOR EOS ICO

The U.S. Economy & Trust

- Why is the cloth in your wallet so valuable?