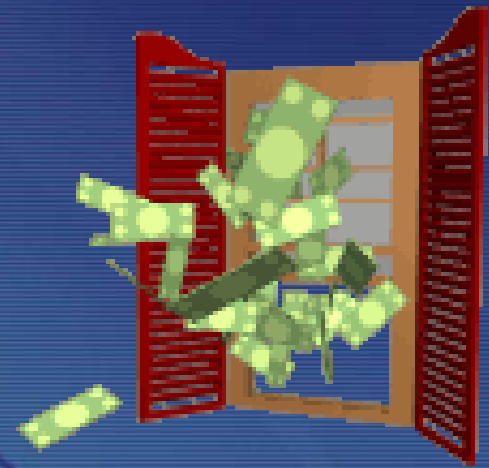


Cost Measurements for IT Finance



"Costs" Are Used for Different Purposes

- **Financial planning.**
- **Controlling.**
- **Pricing.**
- **Evaluation.**
- **Decision-making.**

Financial Planning

- **Budgeting and Controlling**
- **Types of budgeting...**
 - **Imposed**
 - **Participative**

Financial Planning

- **Pros and cons...**
 - **Imposed.**
It is easy.
Lack of buy-in by subordinates.
 - **Participative.**
Involves everyone.
VERY iterative.
Usually results in a “high” budget.

Operating Budgets

- **What we all seem to do most of the time...all of the time.**
- **The first year of the Strategic Plan.**
- **The basis for most IT performance metrics.**
- **Source of IT praise or criticism.**
- **Most deceptive measure.**
- **When IT budgets grow at 20% - IT is out of control!**

Operating Budgets

- **IT budgets grow due to:**
 - Additional volume for current customer services.
 - Annualized impact of new services added last year.
 - New customer services.
- **Need to change the budget process to “baseline budgeting.”**

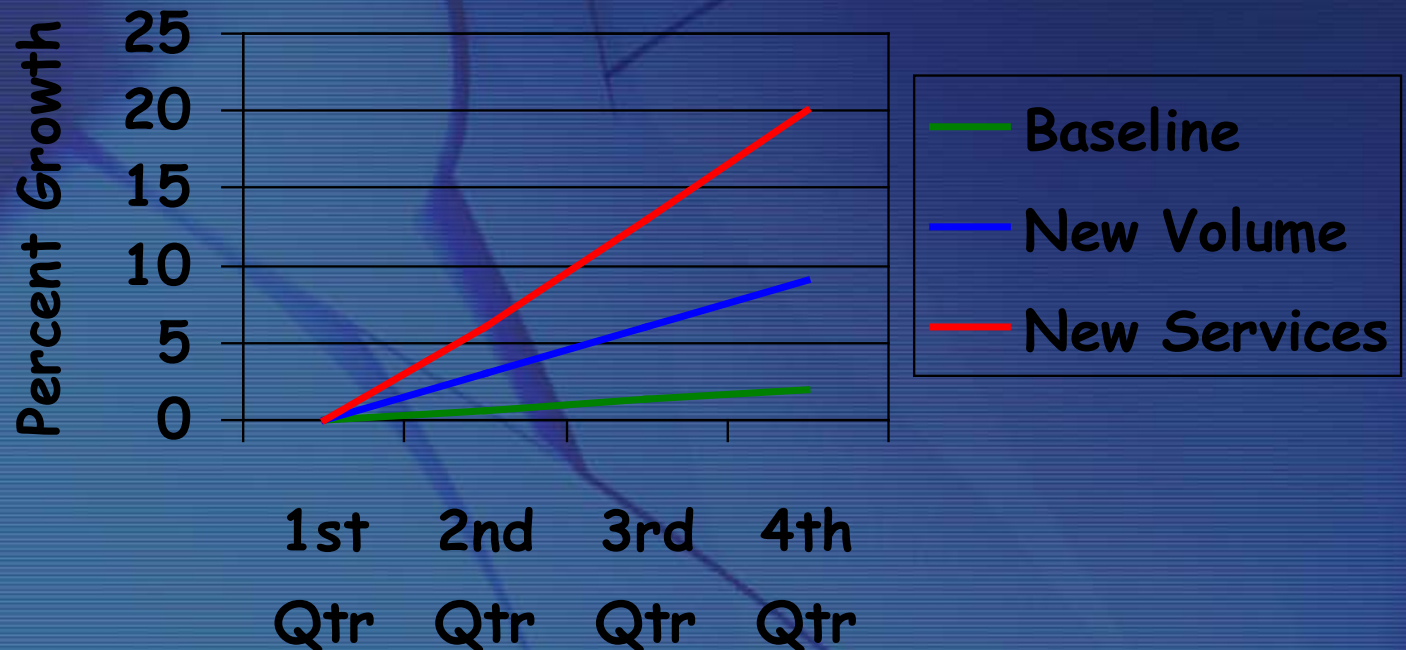
Operating Budget

- **Everything above the baseline requires a “decision package” submitted, prioritized, and approved.**
- **The customer and IT work together as partners.**
- **The customer provides the revenue and IT indicates the cost.**

Operating Budgets

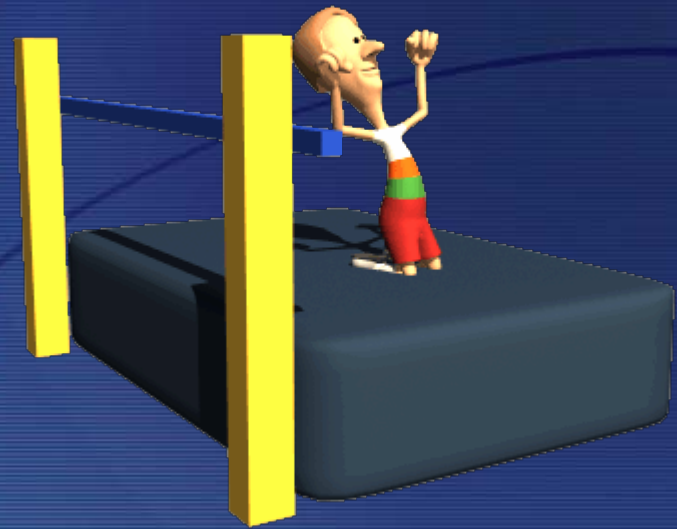
Graphical Example:

Total IT Annual Budget



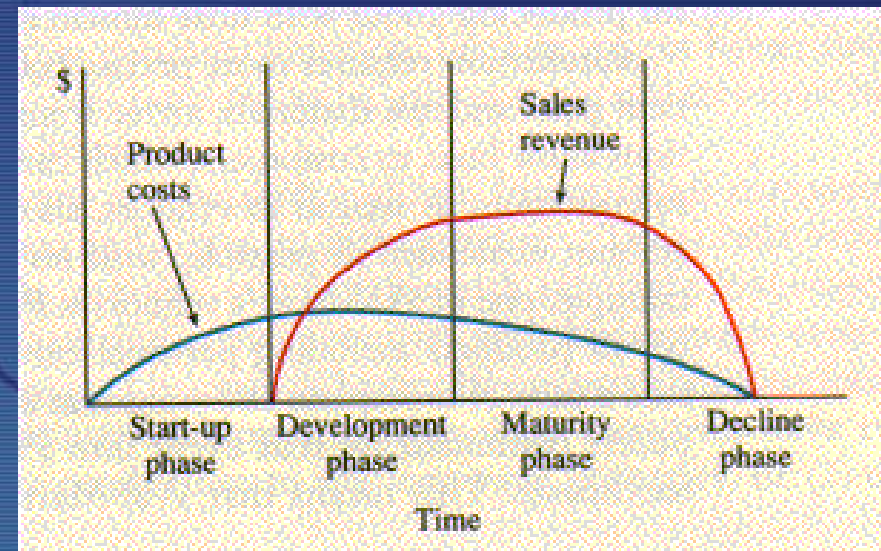
Influences on Prices: Cost

A company must set a price for its products that is high enough both to cover costs and provide a profit to its owners.



Consider Pricing Decisions...

- Prices are set based on the market.
- Prices are set based on costs.
- Pricing strategies include:
 - Penetration pricing.
 - Price skimming.
 - Life-cycle pricing.
 - Target pricing.



Penetration Pricing Vs Price Skimming

PENETRATION

1 Initially lower prices to maximize market share.



2 Later raise prices when market is established.

SKIMMING

1 Initially set prices high to take advantage of novelty effect.



2 Later lower prices as novelty effect wears off.

Life Cycle Pricing

- Goal is to establish a sustainable price over the long run.
- Assumption is that costs will decline over time and that profit margins will increase.



Target Pricing

- **Establish price based on market factors.**
- **Goal is to produce the product at a sufficiently low cost to maintain an acceptable profit margin.**

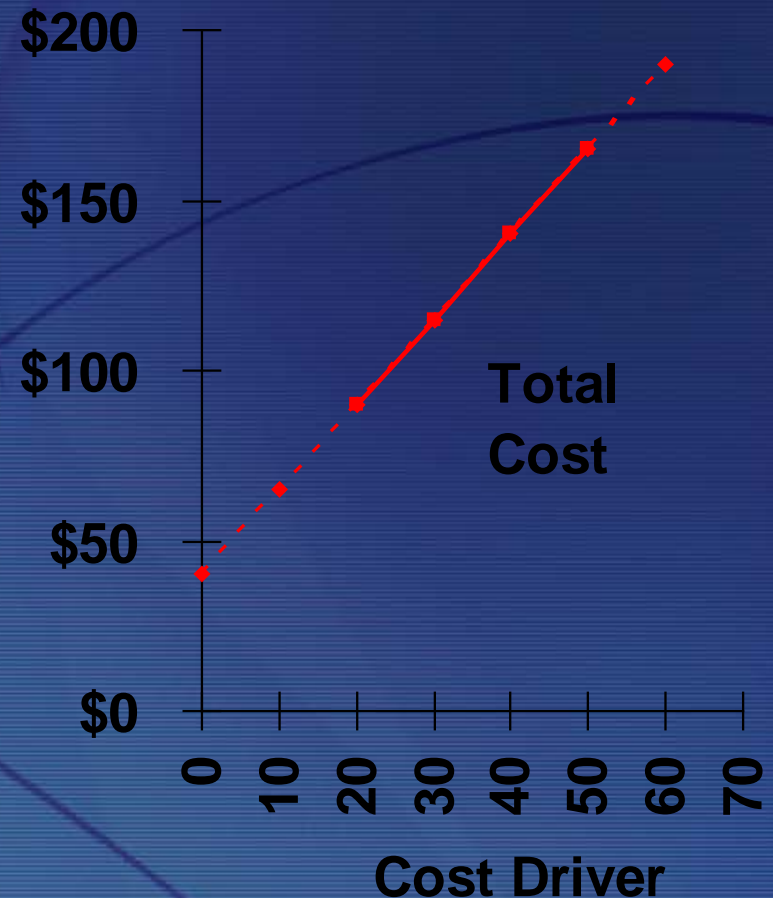


To Understand Costs, We Need to Review Cost Behavior

- **Cost behavior refers to how a cost reacts to changes in the level of operating activity.**
- **Costs behave differently when operating activity levels change.**
- **In looking at cost behavior, we limit the description to a specific range of operating activity called the relevant range.**

Relevant Range

The solid portion of the total cost line represents the **relevant range** assuming a normal operating capacity of between 20 and 50 units of the cost driver.



Cost Driver

What causes costs to change?

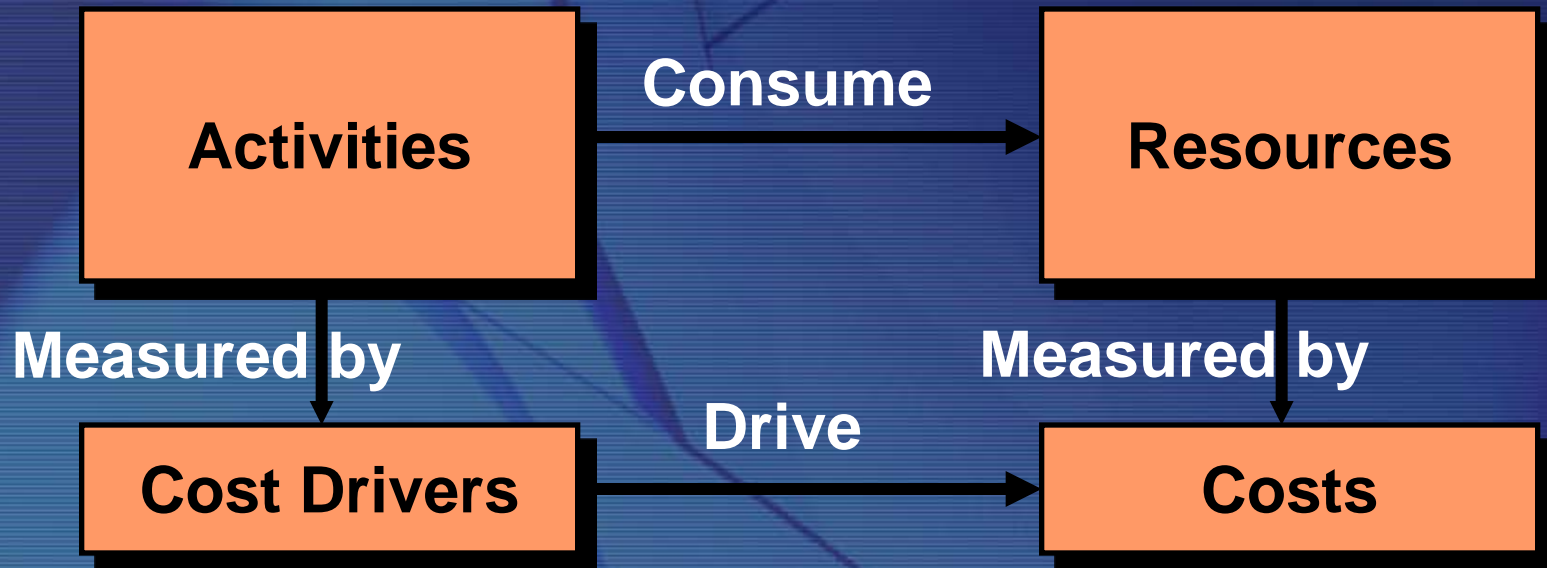
COST

What Are Cost Drivers?

- **Look at different bases that reflect the consumption of resources:**
 - Number of jobs processed.
 - CPU hours.
 - Pages printed.
 - Tape storage.
 - Megabytes of storage.
 - Number of transactions.
- **These may be cost drivers for various resources.**

What Are Cost Drivers?

- The activity consumes resources; therefore, the cost driver is assumed to consume (cause) costs.

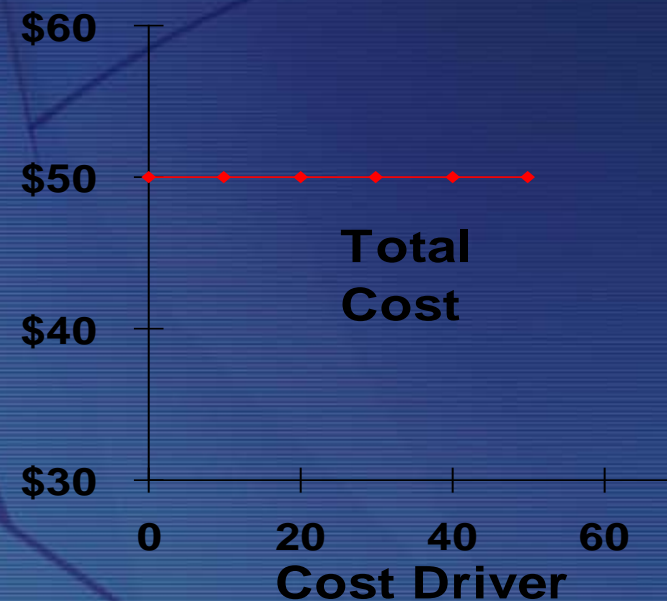


Let's Discuss Linear Costs Behavior Patterns

- **Fixed costs.**
- **Variable costs.**
- **Mixed costs.**

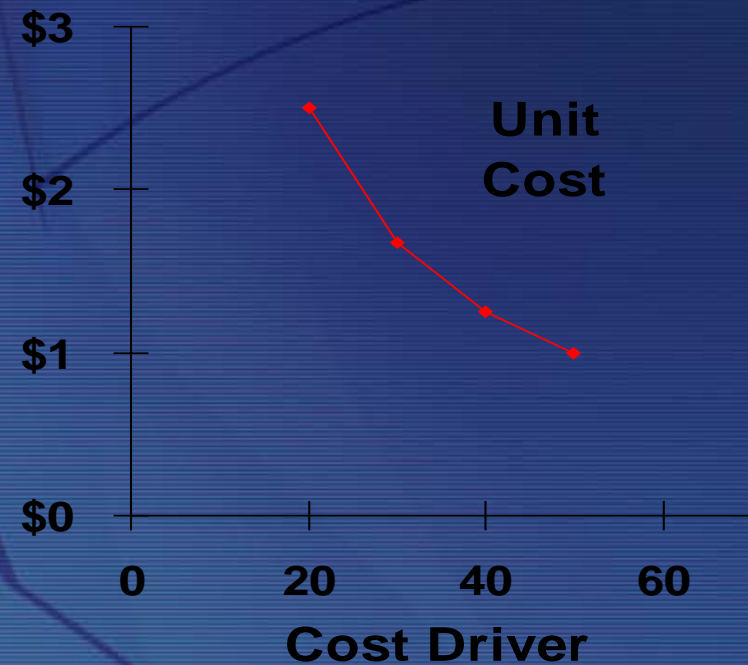
Fixed Cost

- Does not change in total as the amount of cost driver changes.
- Examples:
 - Rent.
 - Insurance.
 - Managers' salaries.



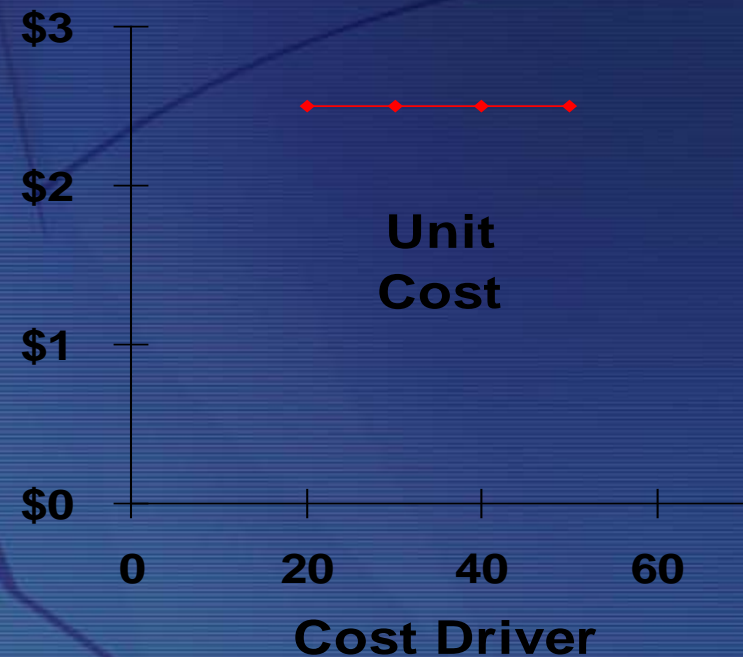
Fixed Cost Per Unit

- **Decreases as the amount of cost driver increases.**



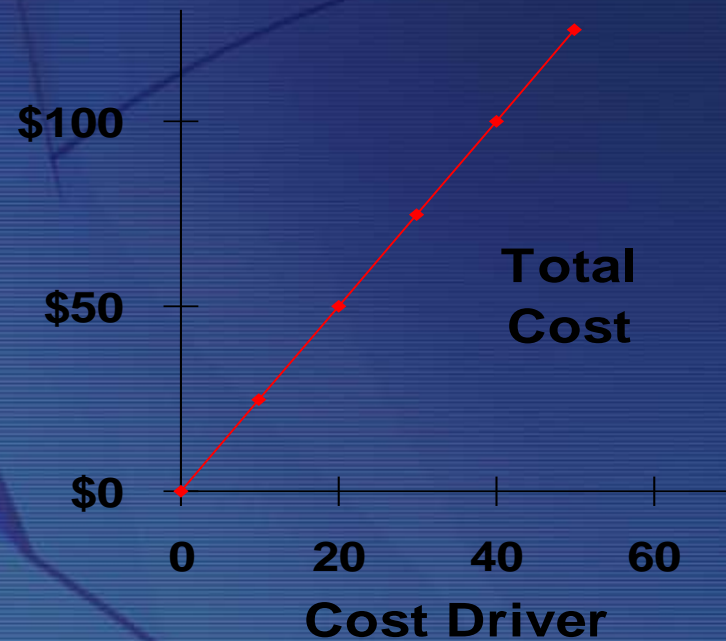
Variable Cost Per Unit

- **Remains constant as the level of cost driver changes.**



Variable Cost

- Changes in total in direct proportion to the change in the level of cost driver.
- Examples:
 - Wages.
 - Raw materials.
 - Electricity & gas.



Mixed Cost

- **Varies with the cost driver, but not in direct proportion to the change in the cost driver.**
- **Mixed costs have both a fixed and a variable component.**



Method for Evaluating Mixed Costs

Because of the assumption of a relevant range, we can use a linear analysis tool:

- Linear regression analysis.

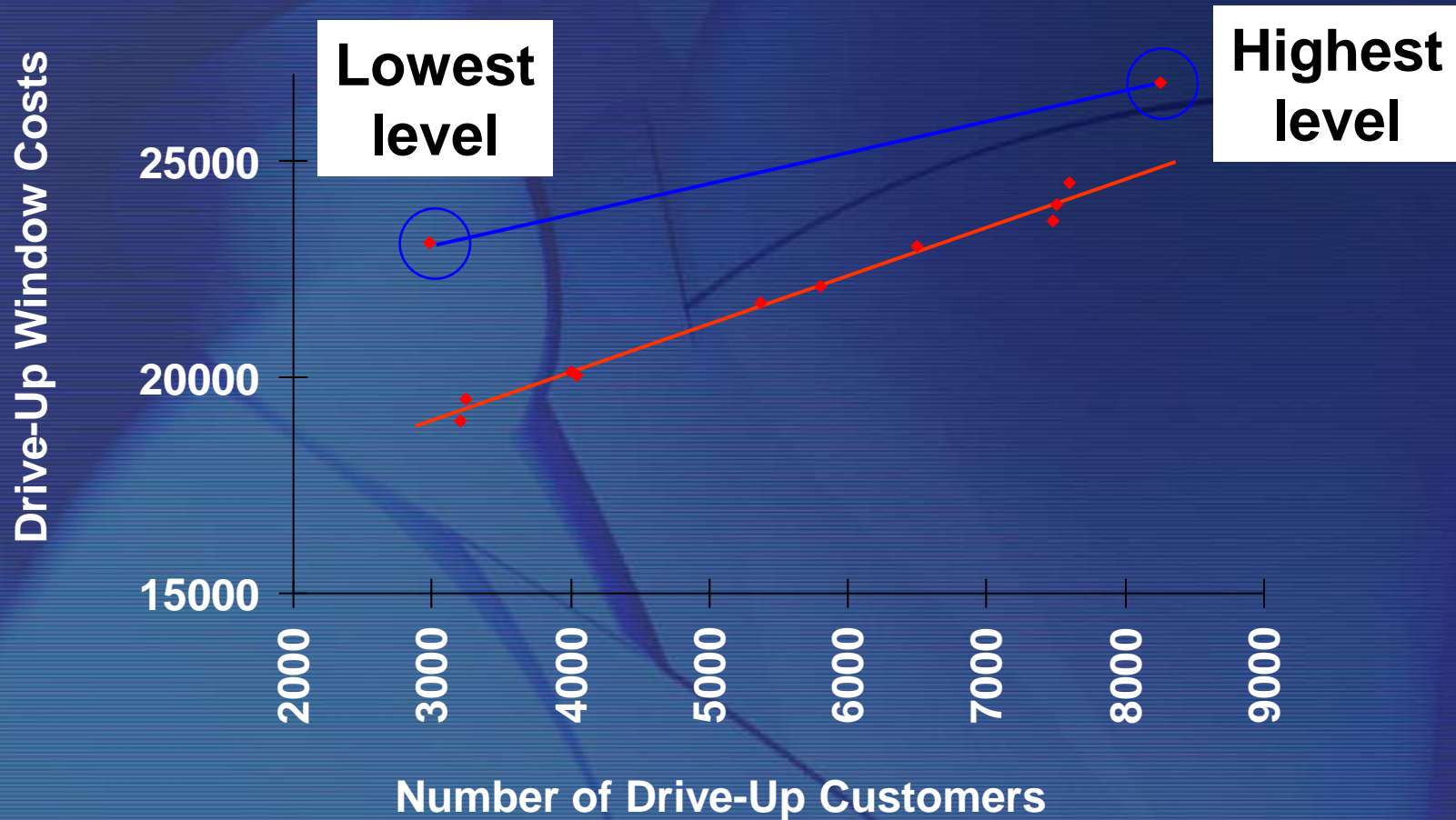
$$y = mx + b$$



Cost Estimation Data

Month	Transactions	Costs
January	3,200	\$19,000
February	2,980	23,086
March	4,000	20,100
April	5,800	22,100
May	8,250	26,775
June	7,500	24,000
July	7,600	24,500
August	7,480	23,600
September	6,500	23,000
October	5,370	21,700
November	4,050	20,050
December	3,250	19,500

Graph of the Data



Partial Regression Summary Output From Excel

SUMMARY OUTPUT					
<i>Regression Statistics</i>					
Multiple R		0.840824			
R Square		0.706986			
Adjusted R Square		0.677684			
Standard Error		1321.312			
Observations		12			
<i>ANOVA</i>					
		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression		1	42124291.71	42124292	24.12803
Residual		10	17458652.54	1745865	
Total		11	59582944.25		
		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept		16781.4	1183.434408	14.18025	5.99E-08
X Variable 1		1.000822	0.203749092	4.912029	0.000612

**Find the constant,
X coefficient, standard
error, and R²**

Regression Output

Constant	16,781.40
X coefficient	1.00082
Standard error of coefficient	0.2037
R ²	0.71

Total cost equation:

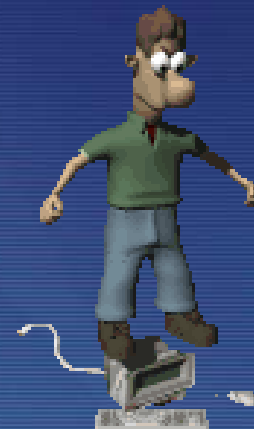
$$TC = \$1.00082 \times (\text{transactions}) + \$16,781.40$$

Activity-based Costing (ABC) for IT

- **With this basis we can discuss activity-based costing in the IT environment.**
- **Don't view IT as one big overhead item, separate IT into cost pools.**
- **Cost pools group costs that respond to the same cost driver:**
 - CPU, disk, tape, print, programming, etc,

Design of an Activity Based Costing System

- **Process value analysis**
- **Identifying activity centers**
- **Tracing costs to activity centers**
- **Selecting cost drivers**



The ABC Application Process

- **Identify and classify IT activities.**
- **Determine appropriate cost drivers.**
- **Estimate costs for each cost driver (divide IT budget into pools).**
- **Estimate amounts of cost drivers (utilization).**
- **Determine the rate for each cost driver (resource cost).**

Product Costing (Business Units)

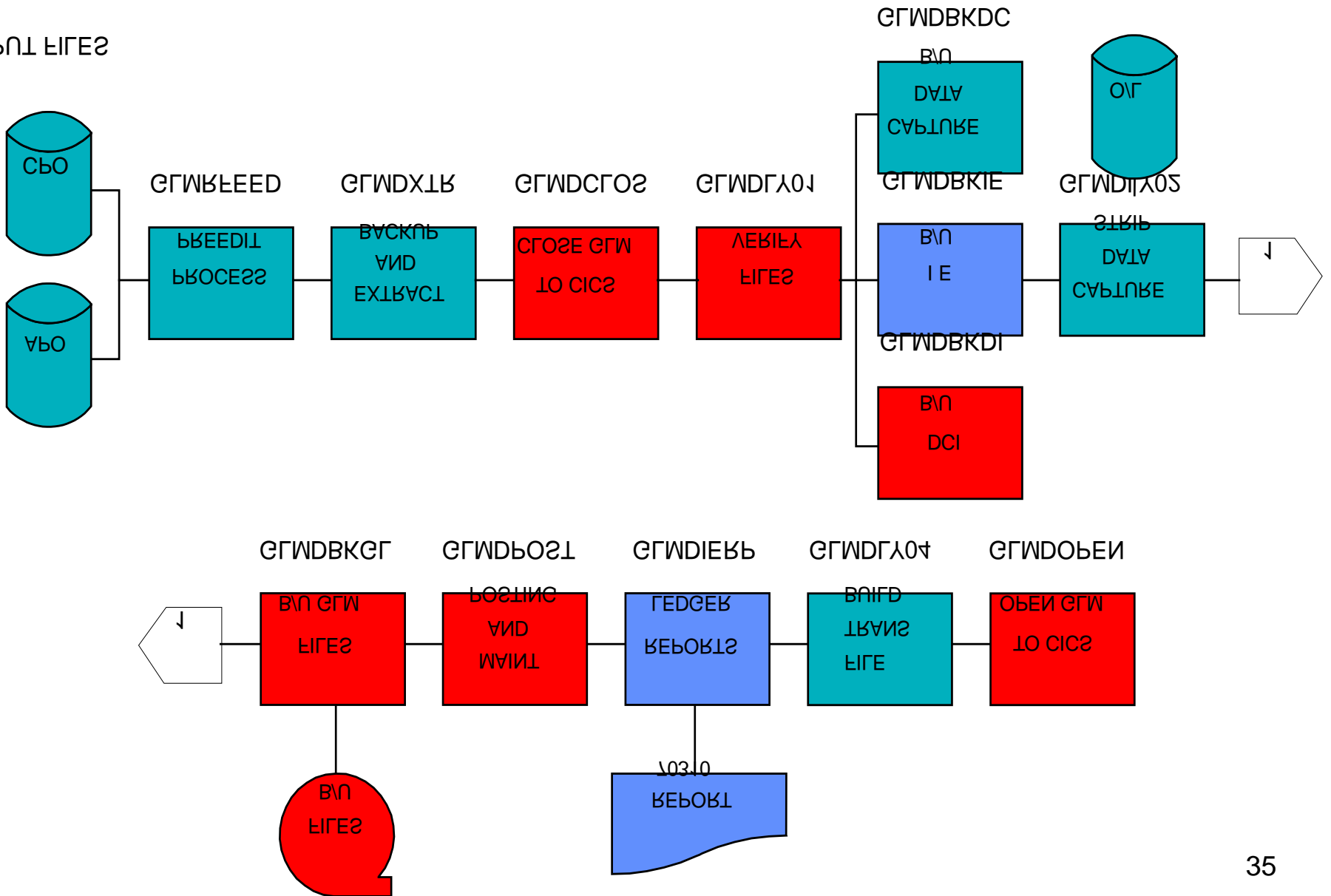
- **Develop IT resource rates.**
- **Design chargeback account code structure to capture resource cost by application (business lines).**
- **Collect the application (business unit) volumes.**



Business Unit Cost Functional Flow

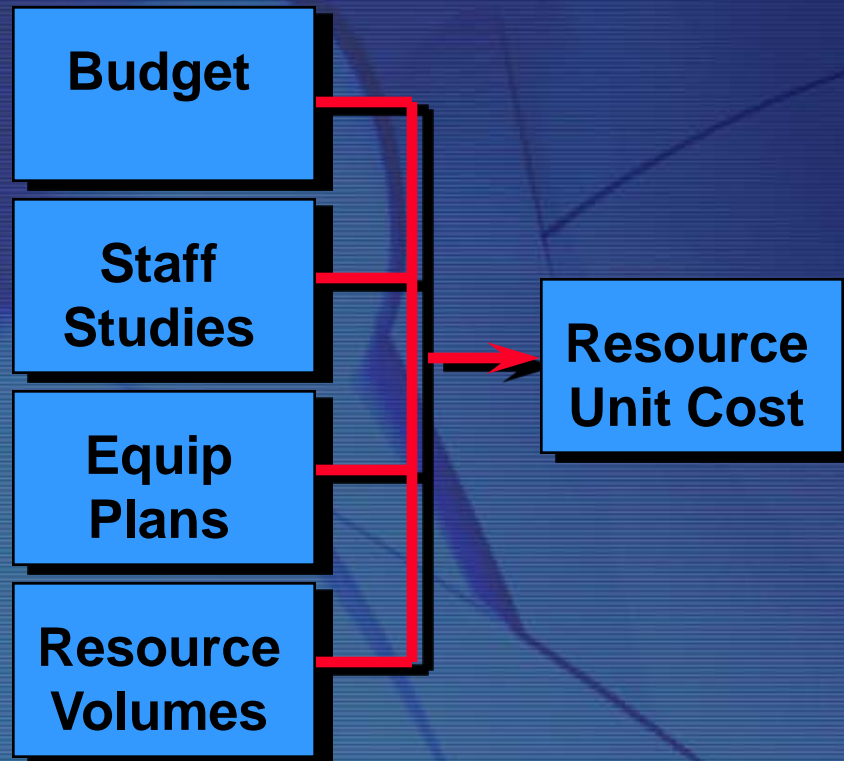


INPUT FIGES

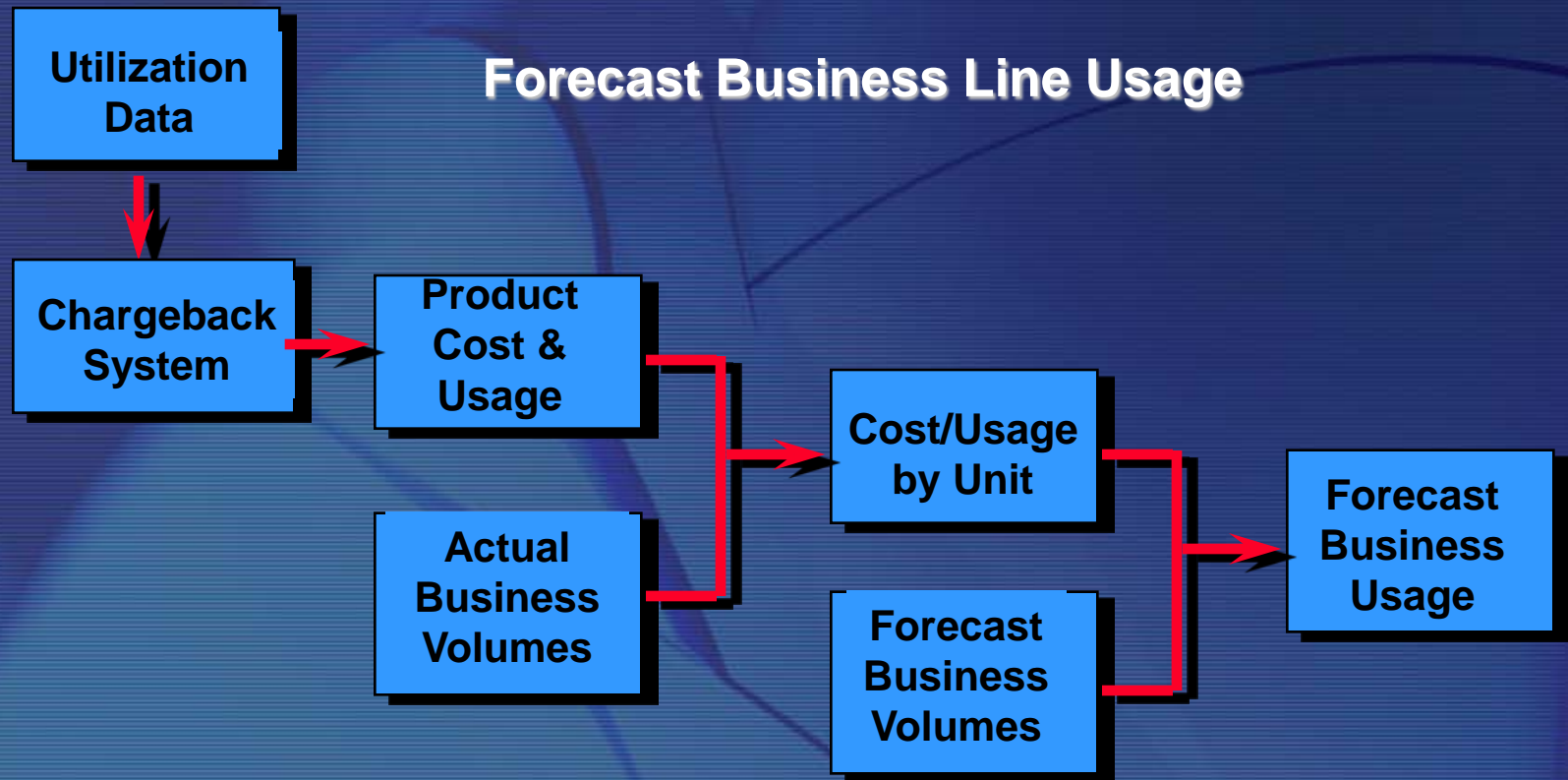


Business Unit Cost Functional Flow

Develop Resource Cost

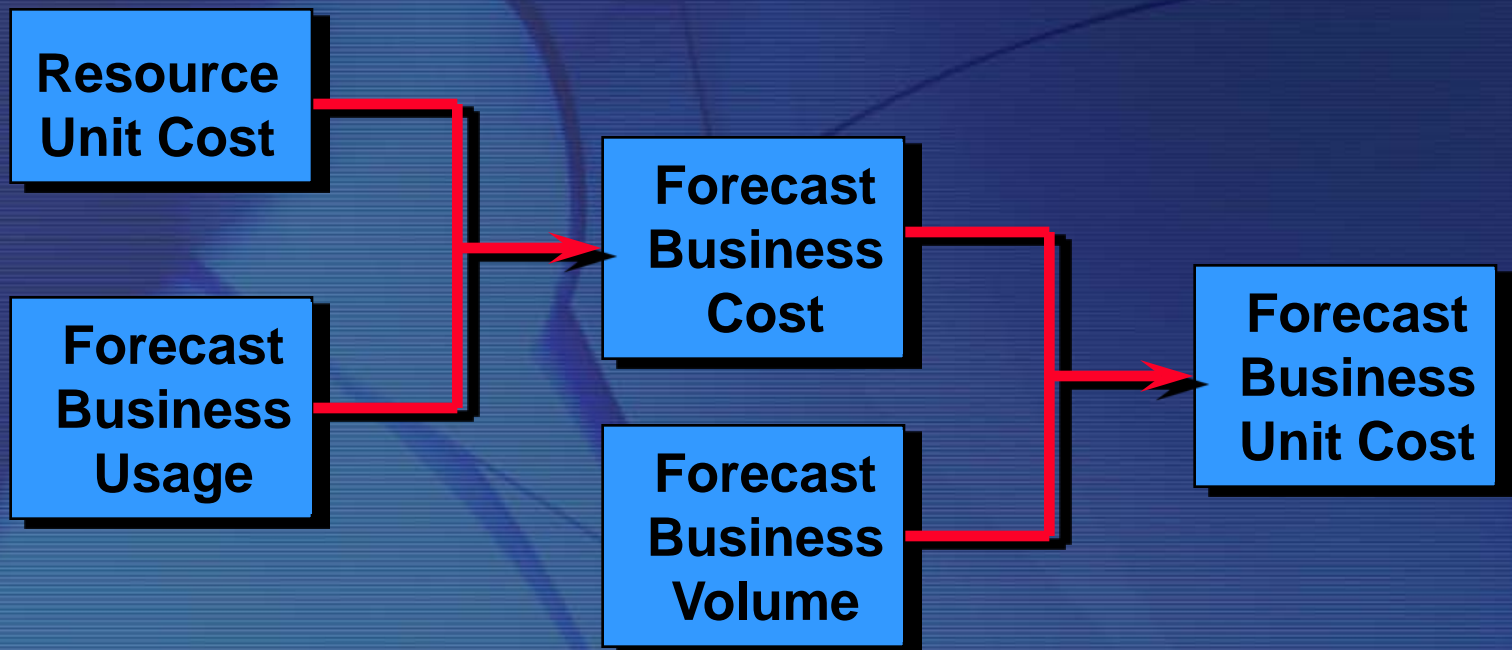


Business Unit Cost Functional Flow



Business Unit Cost Functional Flow

Forecast Business Line Cost



Summary

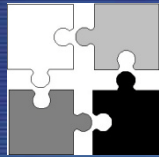
- **“Costs” are used for different purposes**
- **Consider pricing decisions...**
- **To understand costs, we need to review cost behavior**
- **What are cost drivers?**
- **Linear costs behavior patterns**

Summary

- **Methods for evaluating mixed costs - regression analysis**
- **Activity-based costing (ABC) for IT**
- **Product costing (business units)**

Questions...





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