

Financial Analysis, Planning & Controlling Budgets

Prepared BY.

Dr. Eman Fathi Attia, Ph.D, CPA. Fellowship UK

**Associate professor, University of Business and
Technology**

SystemaHR

Course Outline:

1. Introduction to Budgeting
 - a. Purpose of budgeting.
 - b. Importance of budgeting
 - c. Objectives of budgeting
 - d. Characteristics of successful budgeting
2. Budgeting criticism
 - a. Budgeting barriers.
 - b. Budget psychology
3. Approaches to budgeting
4. Budget cycle
 - a. Budgeting process.
 - b. Budget timeline.
5. Types of budgets.

Course Outline:

6- Master Budget categories:

- a. Rolling/operating budgets:
 - Methods of preparing:
 - a. Method 1: traditional / incremental budgeting
 - b. Method 2: activity-based budgeting
 - c. Method 3: zero based budgeting
 - Types of operating budgets:
 - a. Sales budget
 - b. Purchases budget
 - c. COGS budget
- b. Capital Budgets
 - Methods of Capital Budgeting:
 - 1. Payback Period (PBP)
 - 2. Net Present Value (NPV)
 - 3. Internal Rate of Return (IRR)
 - 4. Profitability Index (PI)
- c. Financial Budgets
 - 1. Budgeted Income Statement
 - 2. Budgeted Balance Sheet
 - 3. Budgeted Cash Flow

Course Outline:

7. Companies' type and related budgets.

- a. Budgets for a manufacturer
- b. Budgets for a retailer
- c. Budgets for a service provider

8. Worked example:

- a. Sales budget:
- b. Cash collection budget.
- c. Production Budget.
- d. Direct Material Budget.
- e. Cash Disbursements Budget.
- f. Direct Labor Budget.
- g. Manufacturing Overhead Budget
- h. Ending Finished Goods Inventory Budget
- i. Selling and Administrative Expense Budget
- j. The Cash Budget
- k. The Budgeted Income Statement
- l. Budgeted Balance Sheet

9. Flexible Budgets and Performance Analysis

1.Introduction to Budgeting

Purpose of Budgeting



Importance of Budgeting

01

Sets Standards
for cost control

02

Allows timely
adjustments to
programs and
services

03

Ensures
realistic
planning &
estimates

04

Provides an
opportunity for
evaluation of
programs &
services

05

Allows regular
comparisons
b/w estimated &
actual costs

06

Must be done
to establish
tax rates

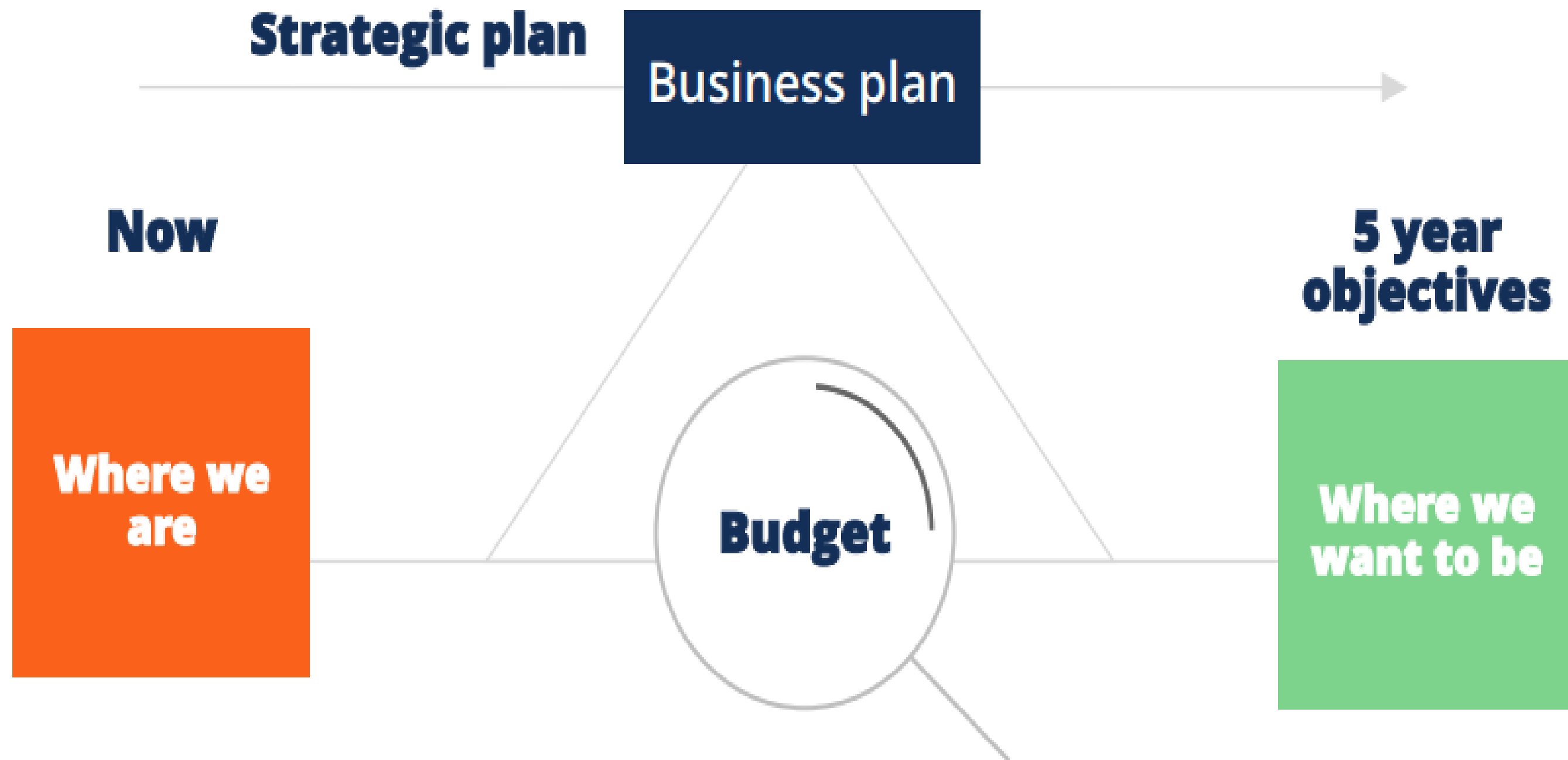
07

Communicates
council's plans to
others

08

This is a sample
text that you
can edit

Budgets must link strategies to objectives; it is the tactical implementation of the business plan.



Objectives of Budgeting



To aid the **planning** of actual operations:

- By getting managers to consider how conditions might change and what steps they would take
- By encouraging managers to consider problems before they arise

To **co-ordinate** the activities of the organization:

- By encouraging managers to examine relationships between their own operation and those of other departments

To **communicate** plans to various managers:

- Everyone in the organization should have a clear understanding of the part they are expected to play in achieving the annual budget
- By ensuring appropriate individuals are made accountable for implementing the budget



To **motivate** managers to strive to achieve the budget goals:

- By focusing on participation
- By providing a challenge/target

To **control** activities:

- By comparison of actual with budget (attention directing/management by exception)

To **evaluate** the performance of managers:

- By providing a means of informing managers of how well they are performing in meeting targets they have previously set



Characteristics of Successful Budgeting



Budget should be an accurate representation of the expected future events.

Time period included in the budget should match the purpose of the budget.

Budgeting should not be rigid that it forces actions to be taken without review by appropriate management.

The budget should be coordinated among all departments & divisions in the company.

Characteristics of Budgeting

01

Should be flexible.

02

It should be a synthesis of past, present, and future.

03

It should be in the form of statistical standards laid down in specific numerical terms.

04

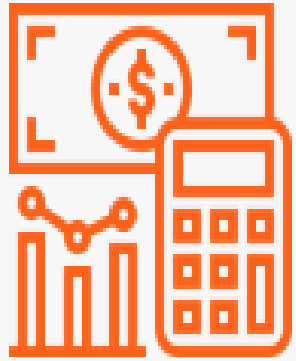
Should have the support of top management throughout its planning and implementation.

05

Should be a joint venture and cooperation of executive/department head at different levels of management.

2- Budgeting Criticism

The main criticism of planning and budgeting include:



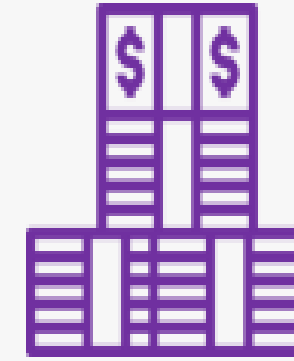
Budgets can become a major barrier to responsiveness



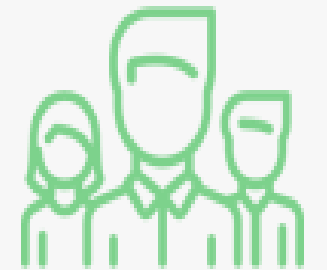
Budgets are rarely strategically focused



Budgets encourage "gaming"



Budgets are based on unsupported assumptions



Budgets may make people feel undervalued

Budgeting Barriers

Only 10% of organizations execute their strategy. **The main barriers to strategy execution are:**

Vision barrier

Only 5% of the workforce understands strategy

People barrier

Only 25% of managers have incentives linked to strategy

Management barrier

85% of executive teams spend less than 1 hour / month talking about strategy

Resource barrier

60% of organizations don't link budgets to strategy

Source: Adapted from material developed by Kaplan and Norton

Budget Psychology

Behavioral and social aspects are an integral part of the budgeting process and should not be divorced from the technical side.

Budgets **may motivate or de-motivate** managers depending on:

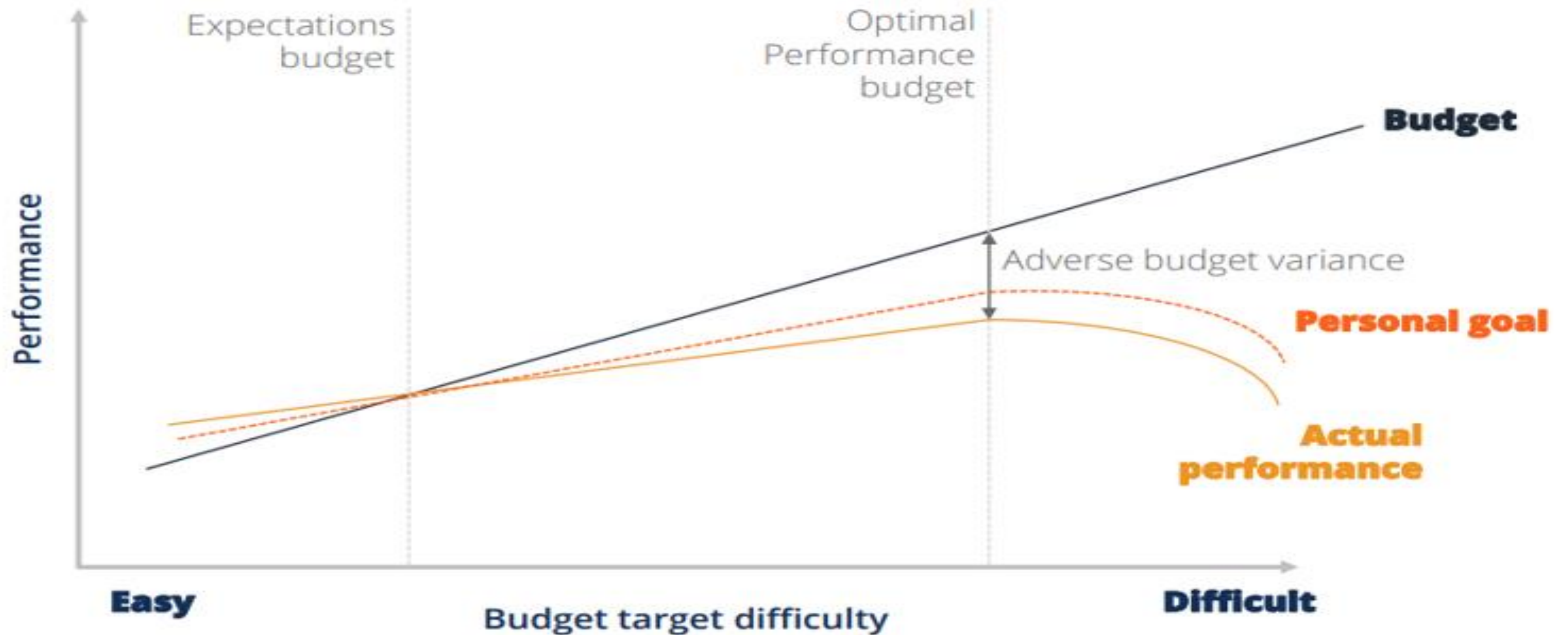
- Where the target is set
- The level of controllability
- The level of involvement in budget setting

Budgets should not be used to **pinpoint blame**

Budgets should be linked to other **performance measures**

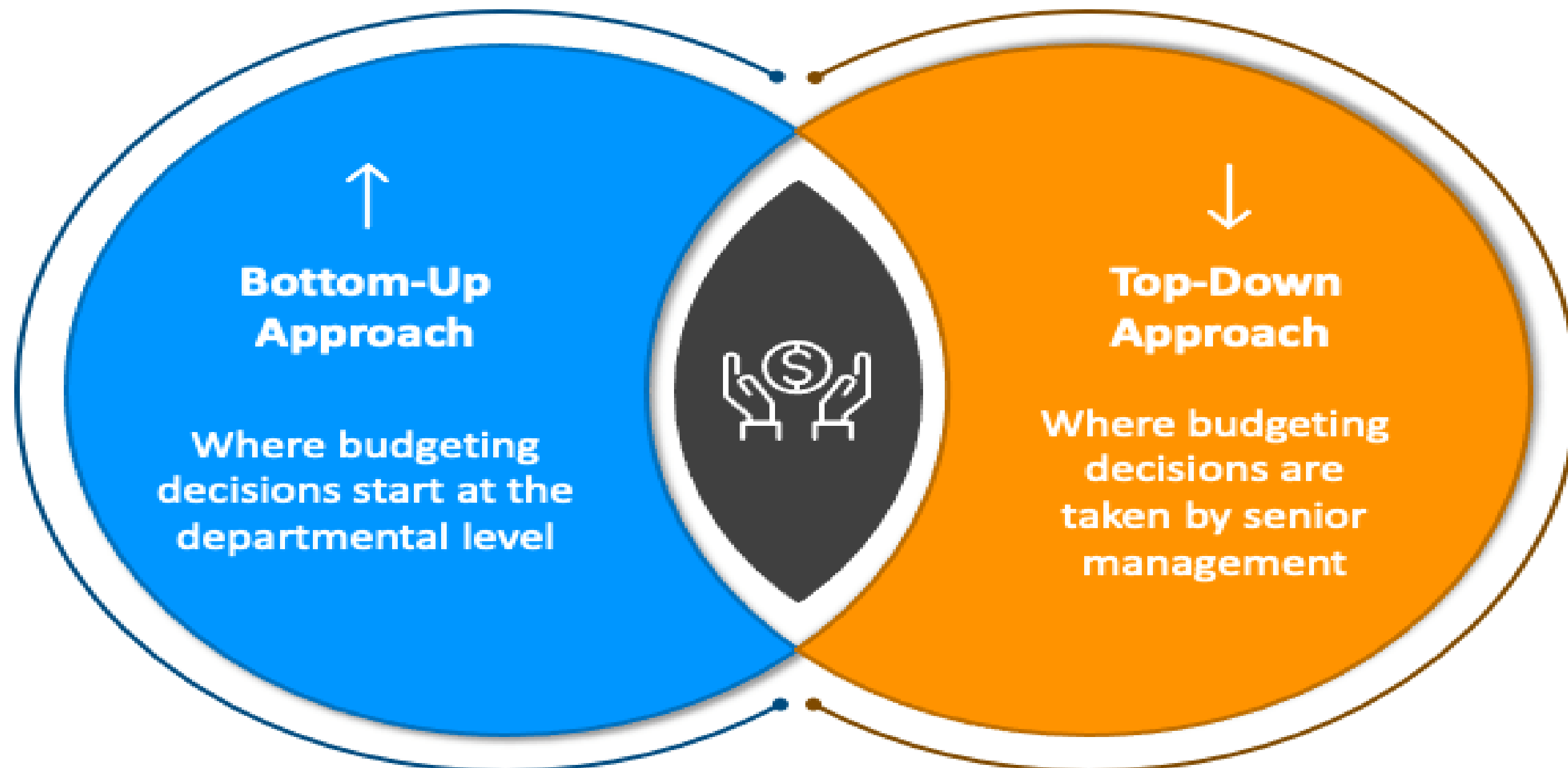


The effect of budget target difficulty on performance



3. Approaches to budgeting

APPROACHES TO BUDGETING



Obtaining goal congruence is essentially a behavioral issue. Involvement in the budgeting process is of significant importance in motivating managers.

Imposed budgeting

Top down

Impose budget
targets for
activity and
costs

Negotiated budgeting

Top down

Shared
responsibility
for budget
preparation

Bottom up

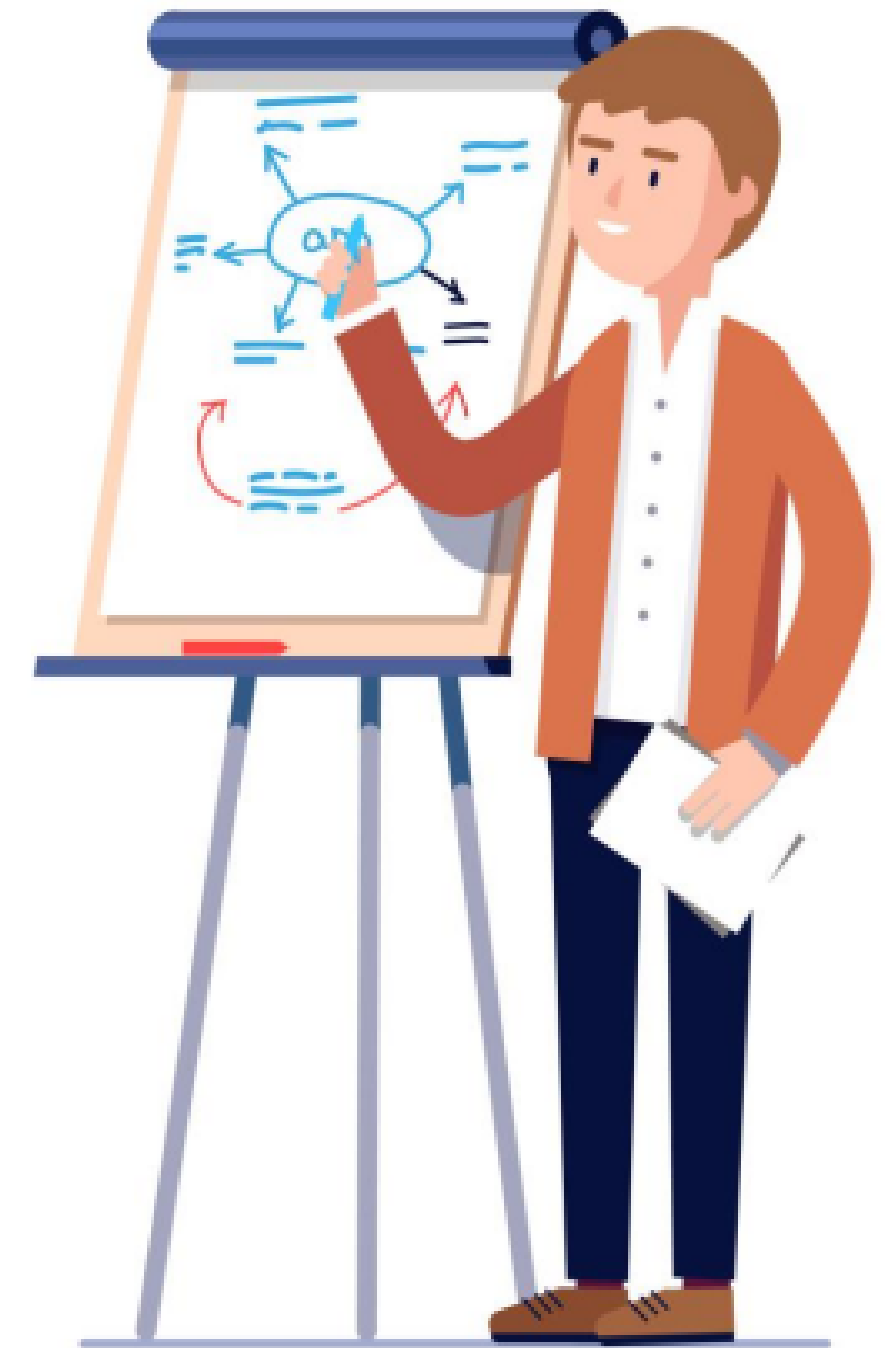
Participative budgeting

Recommend
targets for
activity and
costs

Bottom up

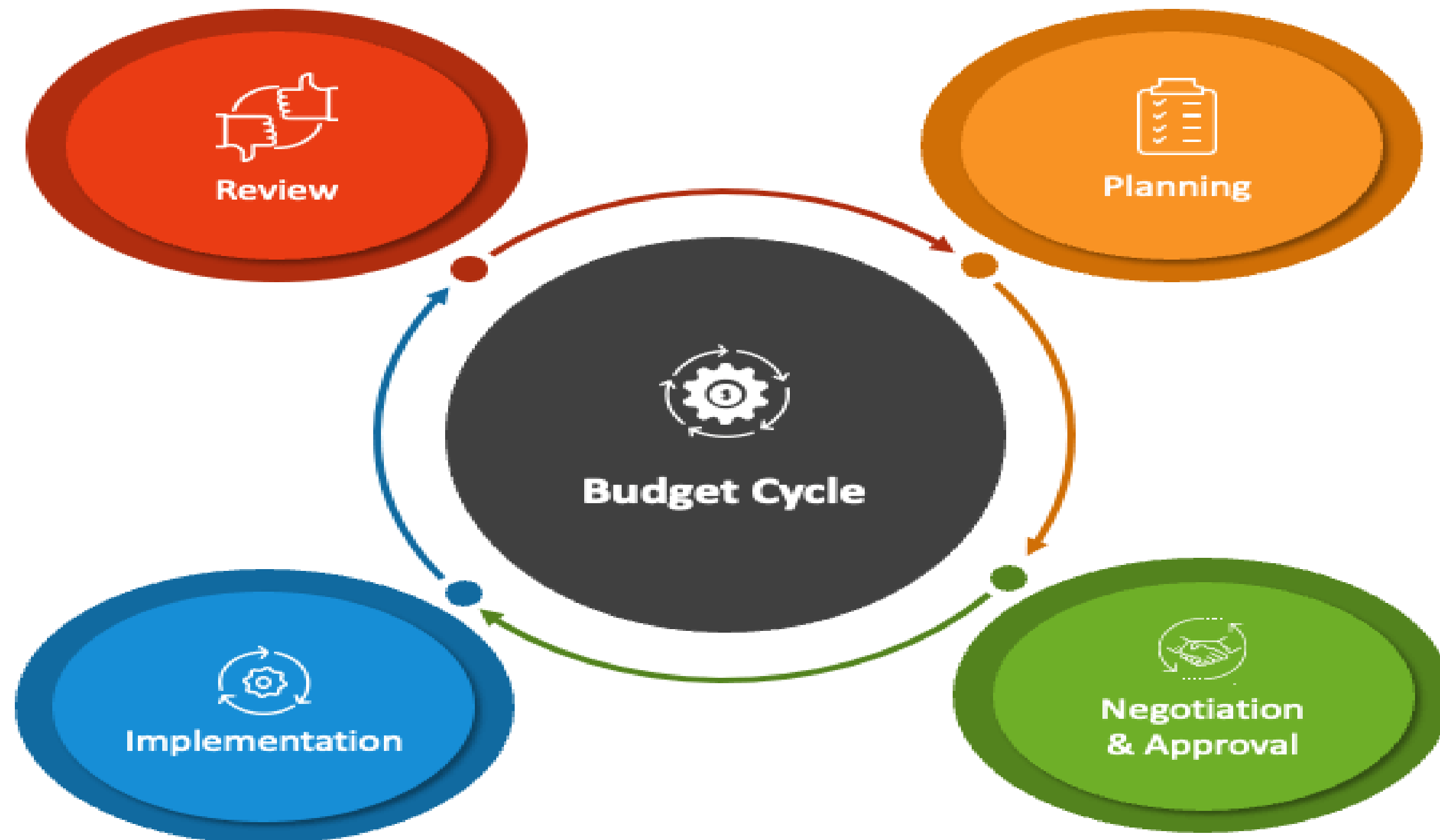
Studies have shown that participation in the budgeting process was most critical when job difficulty was high and there was an uncertain environment.

Although participation leads to greater budget acceptance and desirable behavioural responses the cost factor may far outweigh the benefits received since some managers may seize the opportunity to bias estimates or inflate the importance of their department in competing for resources.



4. Budget cycle

BUDGET CYCLE



BUDGET CYCLE

Types of Budget Cycle



Monthly Budget Cycle

This budget period starts on the first day and ends on the month's last day.



Quarterly Budget Cycle

This type is done quarterly and is more popular than the monthly budget cycle.

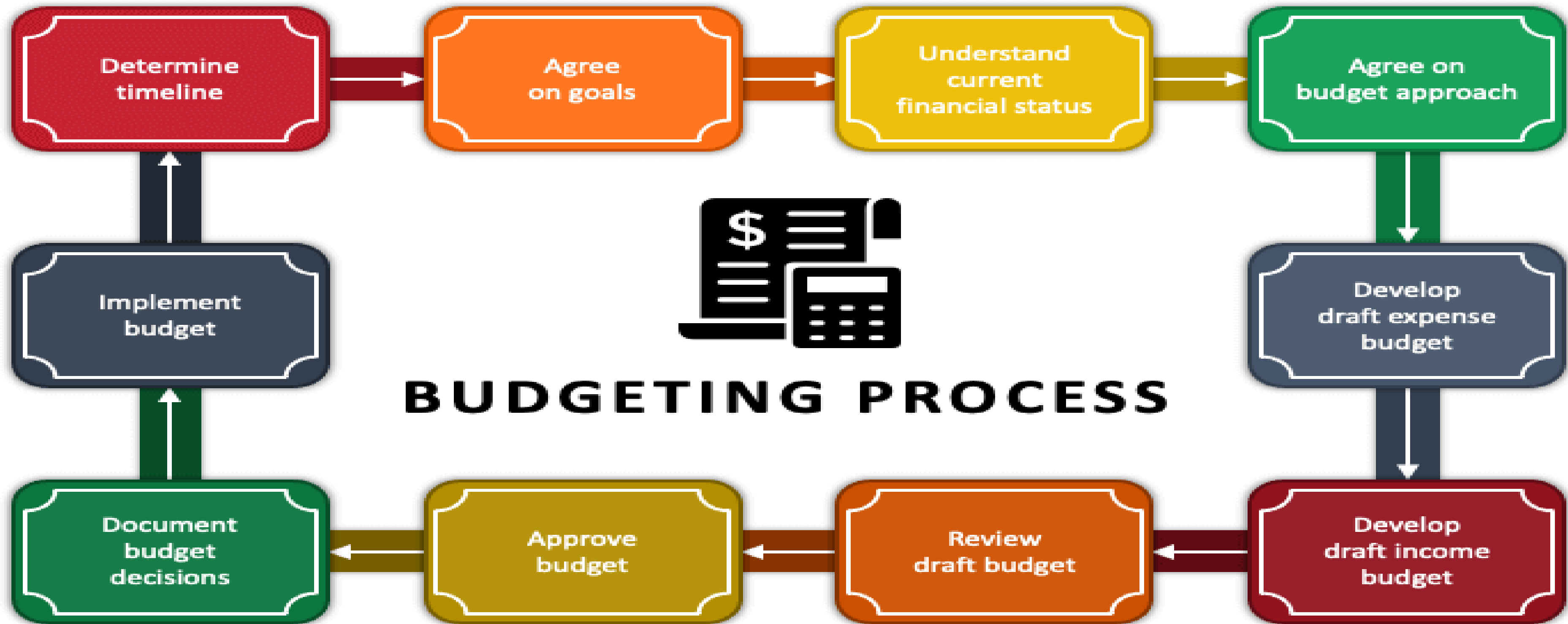


Annual Budget Cycle

Period starts from 1 Jan to 31 Dec.

BUDGETING PROCESS

10 Step Budgeting Process



Introduction

Low Sales
High Costs
No Profits

LAUNCH

Growth

Increasing Sales
Reducing Costs
Some Profits

GROWTH

Maturity

Constant Sales
Reducing Costs
Increasing Profits

MATURITY

SHAKE
-OUT

Life cycle
extension

Reviving

Increasing Sales
High Costs
Some Profits

Decline

Reducing Sales
Constant Costs
Reducing Profits

\$

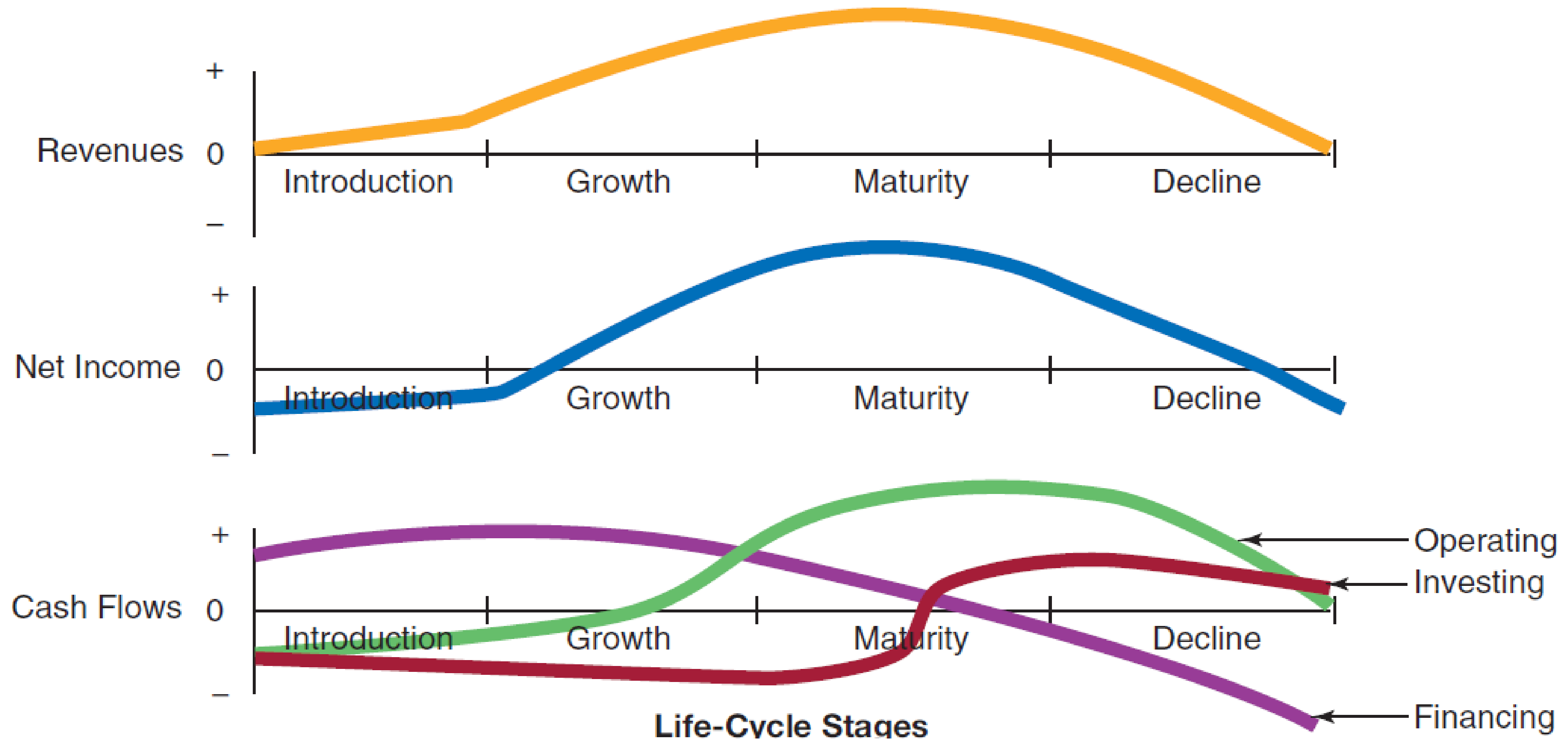
Sales

Cash flow

Profit

Time

Cash Flow Patterns

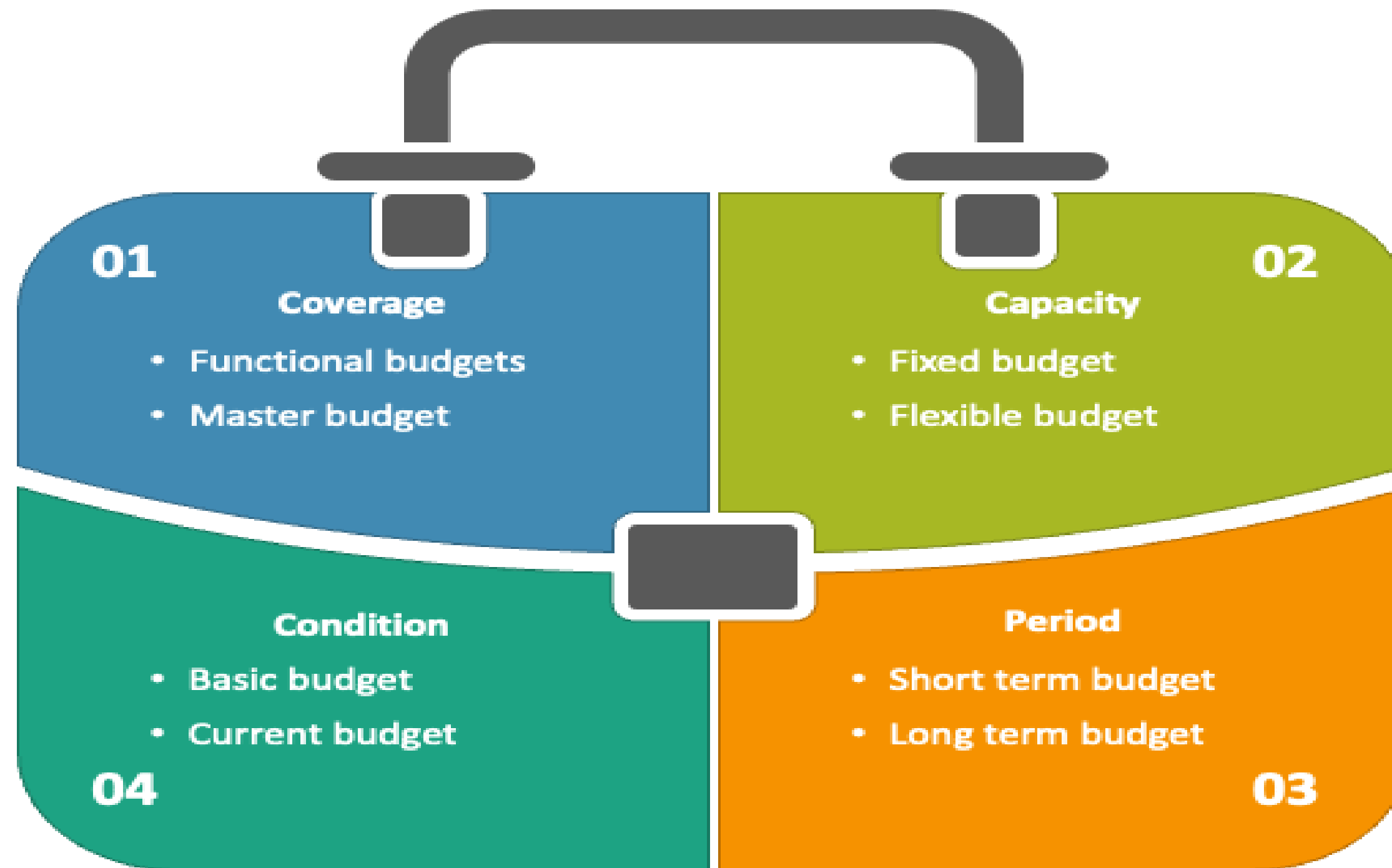


Budget Timeline



5. Types of budgets.

TYPES OF BUDGET



Budget Categories

OPERATING BUDGETS

Revenues and expenses for the various budget centers within an organization

Budgeted amounts divided into major categories such as revenues, salaries, benefits, and non-salary expenses

Encompasses supporting info such as head counts

CAPITAL BUDGETS

Requests for large assets which create major demands on an entity's cash flow

Buildings, renovations, automobiles, software systems, furniture

Purpose to allocate funds, control risks in decision making, and set priorities

CASH BUDGETS

An estimation of the cash inflows and outflows for a specific period of time

Used to assess whether the entity has sufficient cash to fulfill regular operations

Identifies whether too much cash is being left in unproductive capacities

I- Rolling/Operating Budgets

ROLLING BUDGET

Types of Rolling Budget



I- Rolling/Operating Budgets



Operating budgets ordinarily cover a one-year period corresponding to a company's fiscal year. Many companies divide their annual budget into four quarters.

A continuous budget is a 12-month budget that rolls forward one month (or quarter) as the current month (or quarter) is completed.

ROLLING BUDGET

Methods



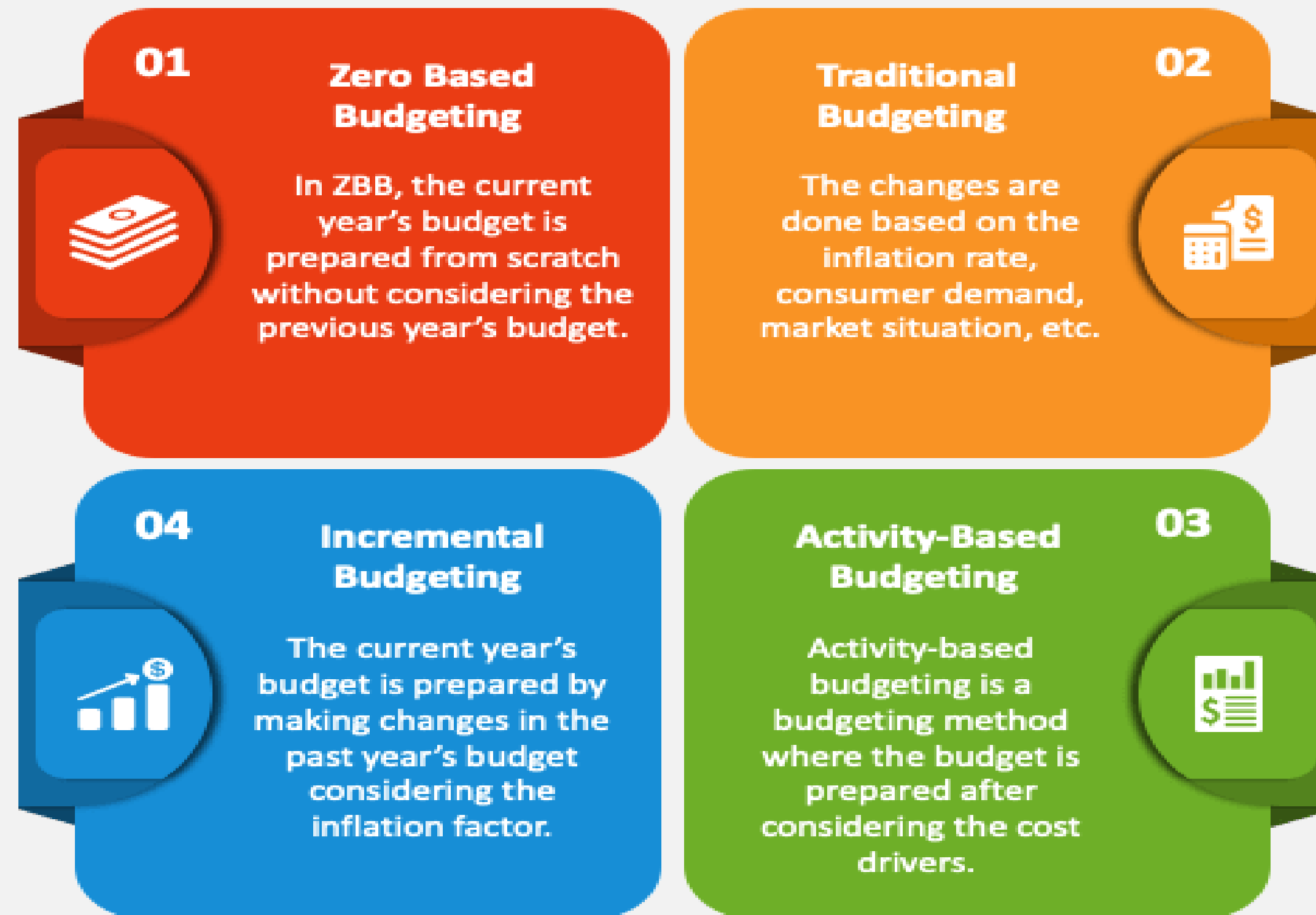
**Rolling
Budget**



Traditional
Budgeting

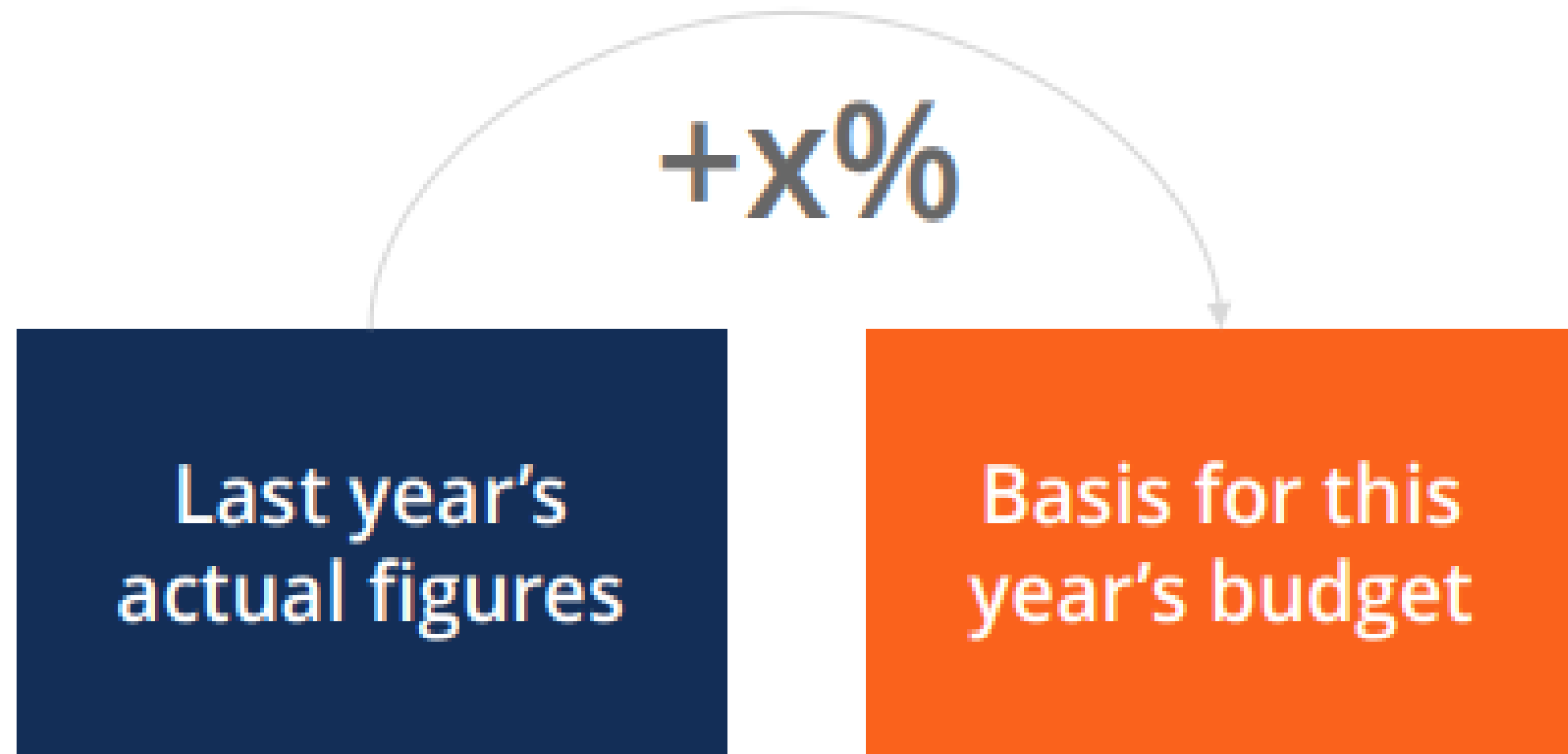
METHOD OF BUDGETING

Types of Budgeting Methods



Method 1: Incremental/ Traditional Budgeting

Incremental budgeting is a very simple method that looks at what was spent last year and then adds or subtracts a percentage.



INCREMENTAL BUDGETING

What is Incremental Budgeting?

01

It's a budget prepared using a previous period's budget or actual performance as a basis with incremental amounts added for the new budget period.

02

Allocation of resources is based upon allocations from the previous period.

03

Approach is not recommended as it fails to consider changing circumstances.

04

Moreover, it encourages "spending up to the budget" to ensure a reasonable allocation in the next period. It leads to a "spend it or lose" mentality.

This is still the **most common way** used to produce budgeted figures and it may be appropriate if cost drivers do not change from year to year. However, it is:

Likely to perpetuate **inefficiencies**

Likely to result in **budgetary slack**

Likely to ignore external drivers of **activity and performance**



INCREMENTAL BUDGETING

Advantages & Disadvantages



Advantages

- Easy to implement & easy calculations
- It can be achieved for various departments
- Ensures continuity of funding
- Ensures no large deviations
- A technique used by many companies
- Eliminates rivalry & build the value of equality among departments
- The impact of the change can be seen immediately
- Suitable for companies where funding requirements are usually fixed or with little deviation.



Limitations

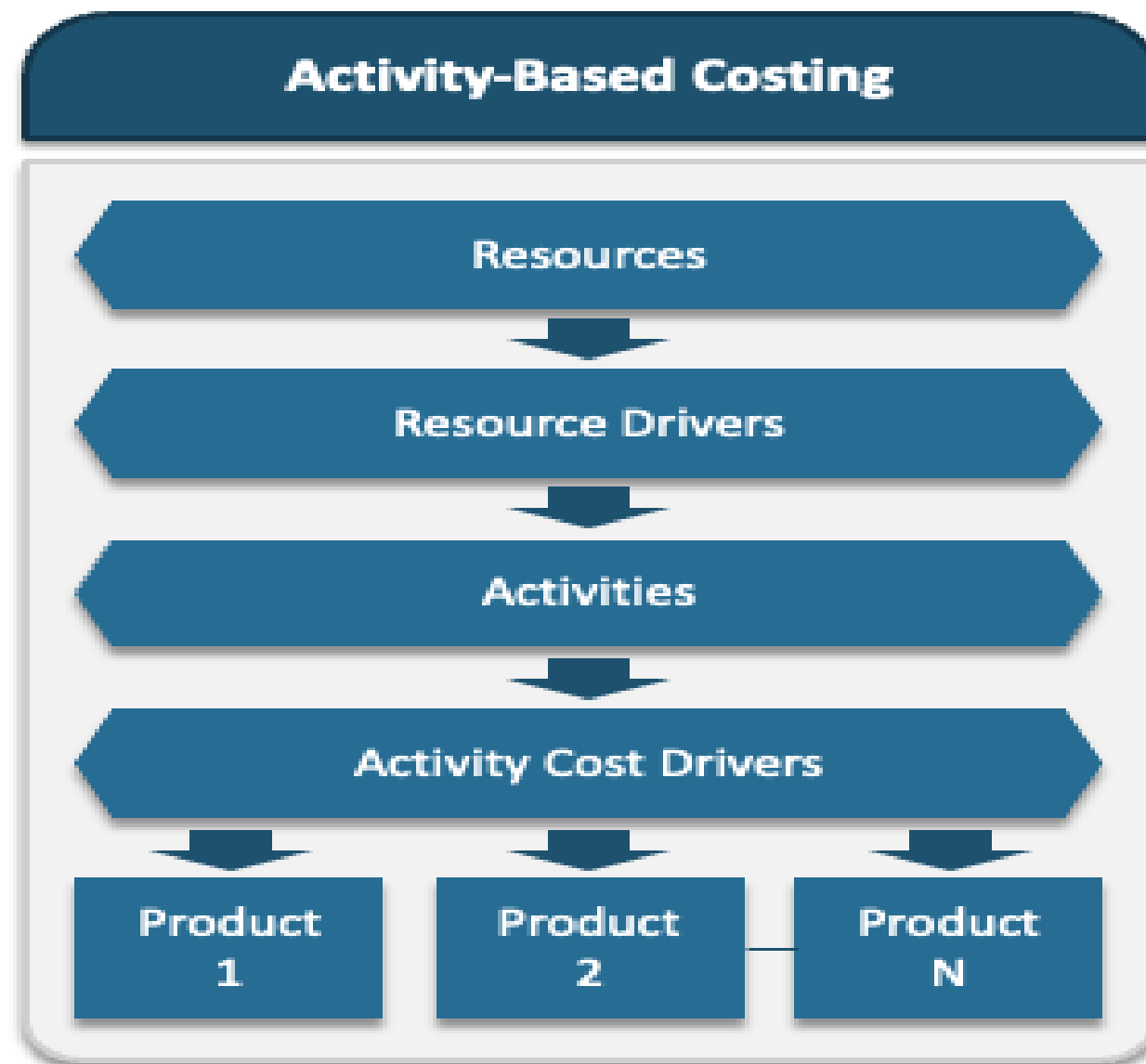
- Managers spend more as budgets may be easily available, which leads to unnecessary spending.
- Lack of innovation & no cost reduction of managers.
- Encourages higher spending to obtain favorable variances.
- This leads to budgetary slack where it tends to build lower revenue & higher expense growth by managers.
- Disconnects from reality as budgets benchmarks are based on prior year's & may differ now.
- Businesses run into conservative mode.

Method 2: Activity Based Budgeting

ACTIVITY-BASED BUDGETING

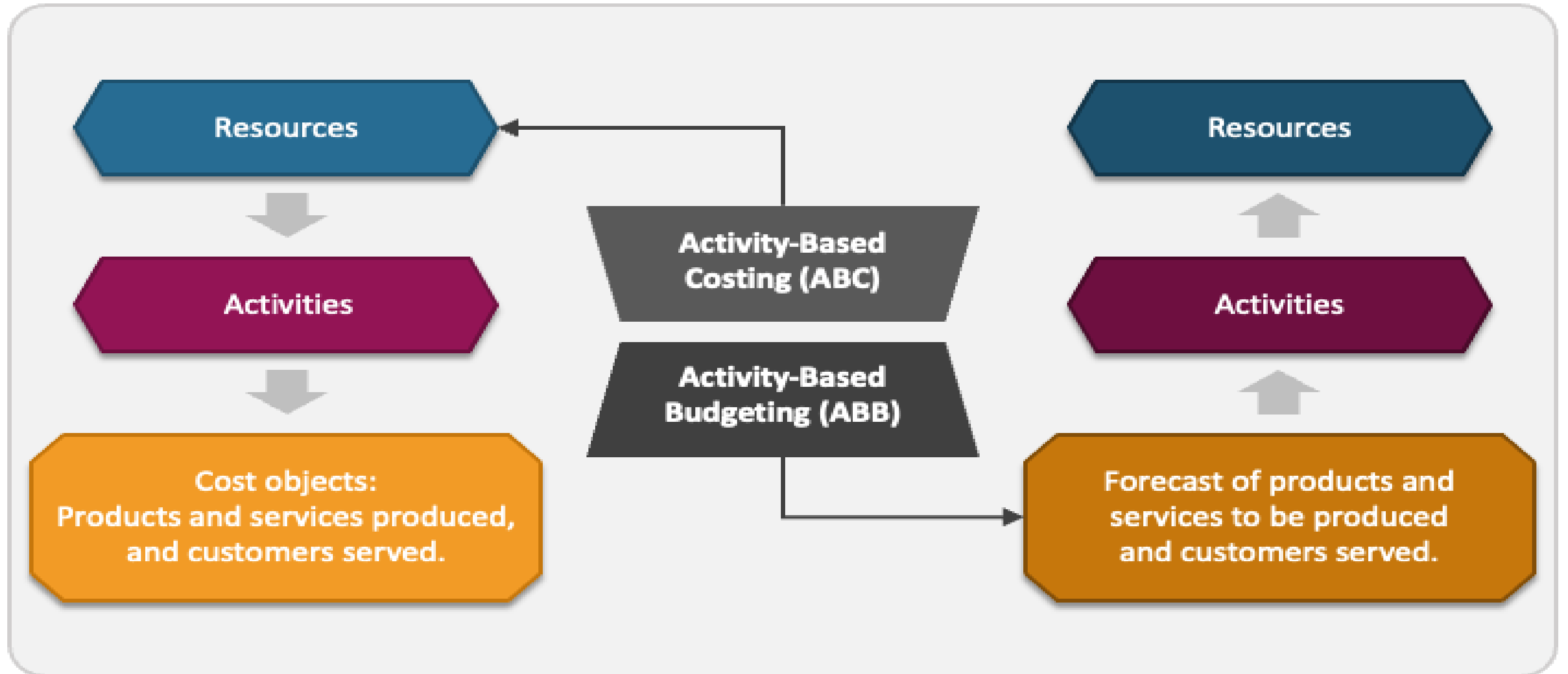
Activity-Based Budgeting is ABC Reversed

Activity-based costing traces costs from resources (people, machines) to activities and then from activities to specific products and services. Activity-based budgeting moves in the opposite direction-it traces costs from products to activities and then from activities to resources.



ACTIVITY-BASED BUDGETING

Activity-Based Costing Versus Activity-Based Budgeting



ACTIVITY-BASED BUDGETING

01

Follows principles of activity-based costing (ABC).

02

Budgets are prepared for each activity within a department, rather than for the whole department.

03

Cost drivers are identified for each activity.

04

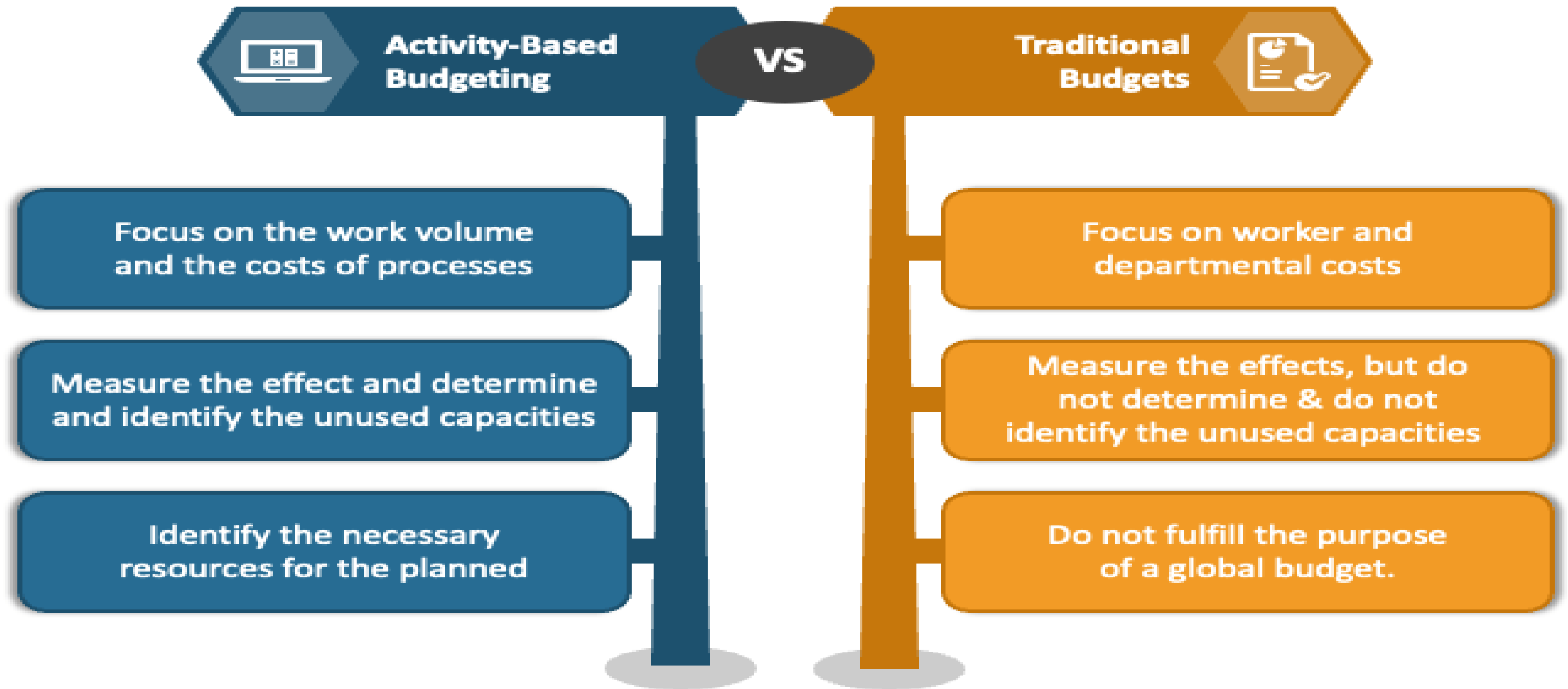
May identify non-value-added activities that can be estimated.

05

If the incidence of cost drivers can be reduced, the cost-saving can be made.

ACTIVITY-BASED BUDGETING

Activity-Based Budgeting Vs Traditional Budgets



ACTIVITY-BASED BUDGETING

Budgeting Method in which budgets are prepared using Activity Based Costing after considering the overhead costs.



Advantages

- Evaluation
- Competitive Edge
- Business as a Unit
- Elimination of Bottlenecks
- Improves Relationship



Disadvantages

- Requires Understanding
- Complex
- Resource Consumption
- Cost Involved
- Short Term

Method 3: Zero Based Budgeting

Zero-based budgeting starts with the assumption that **all department budgets are zero**. Managers are required to build their budgets from the ground up, justifying every penny they wish to spend.

Bottom-up budgeting can be a highly effective way to “shake things up”. It is most effective when there is an **urgent need for cost containment**. However it is:

Best suited for discretionary costs (**not essential operating costs**)

Extremely **time consuming**

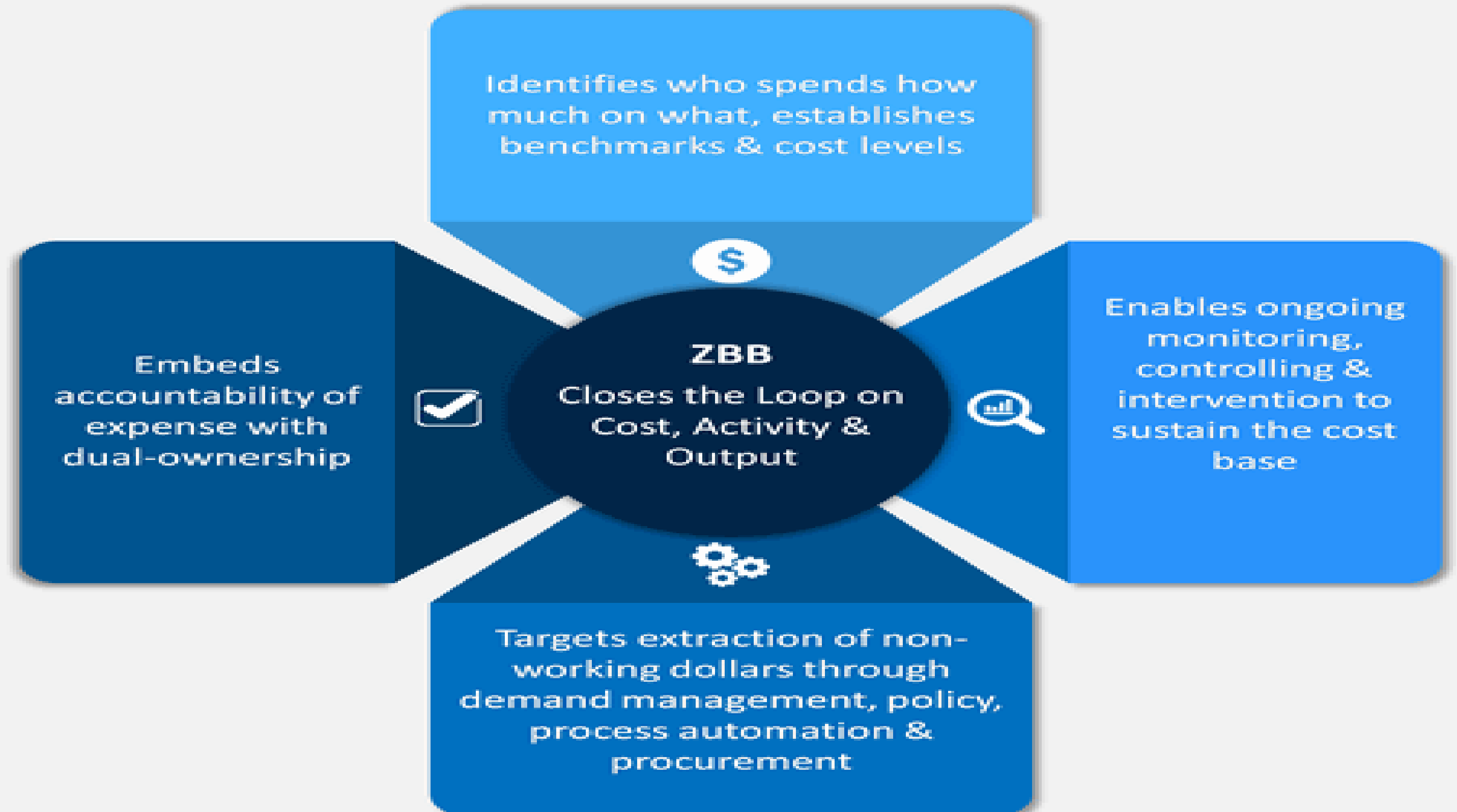
Most effective when **only used occasionally**





ZERO BASED BUDGETING

Understanding Zero Based Budgeting



ZERO BASED BUDGETING

5 Realities About Zero Based Budgeting

01

The degree of cost reduction is based on the company's top-down target.

02

Zero-based budgeting is a repeatable process to build a sustainable culture of cost management.

03

Initial rollout of a new zero-based budgeting program can be led by a central team & completed in four to 10 months.

04

Zero-based budgeting is successfully used by growing companies to redirect unproductive costs to more productive areas that drive growth.

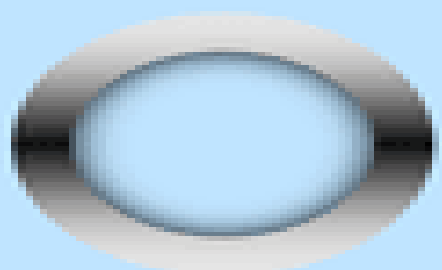
05

Zero-based budgeting can be applied to any type of cost: capital expenditures; operating expenses; sales, general, & administrative costs; marketing costs, variable distribution; or cost of goods sold.

Traditional Budgeting

Zero Based Budgeting

	It's computed by keeping the previous year's budget as base.	Meaning	It's computed by keeping the starting point as zero.	
	Quite simple.	Preparation	Very complex.	
	Expenditure of previous year.	Emphasis	Each item is considered as per the new economic appraisal.	
	Based on historical information.	Approach	Based on estimated information.	
	Doesn't encourage cost effectiveness.	Cost Effective	The purpose of ensuring cost effectiveness	
	All department	Prefers	Only profit centers.	
	Effectiveness depends on the individuals who did the previous year's budgeting	Effectiveness	Effectiveness depends on the current top management of the company.	
	Assumption of the previous year.	Linked to	Estimation of which department can bring more profits.	
	Almost none.	Clarity	High.	
	Orientation revolves around accounting.	Orientation	Orientation sits around project/decision unit.	



Zero Based Budgeting

Advantages

- Emphasize on decision making
- Orientation on cost benefit analysis
- Efficiency in resource allocation
- Improvement for next period
- Discontinuation of obsolete process

Disadvantages

- Detrimental to the long-term goals
- Rigidity
- Skills & managerial conflicts

Zero-based budgeting

01

02

Rolling forecasts

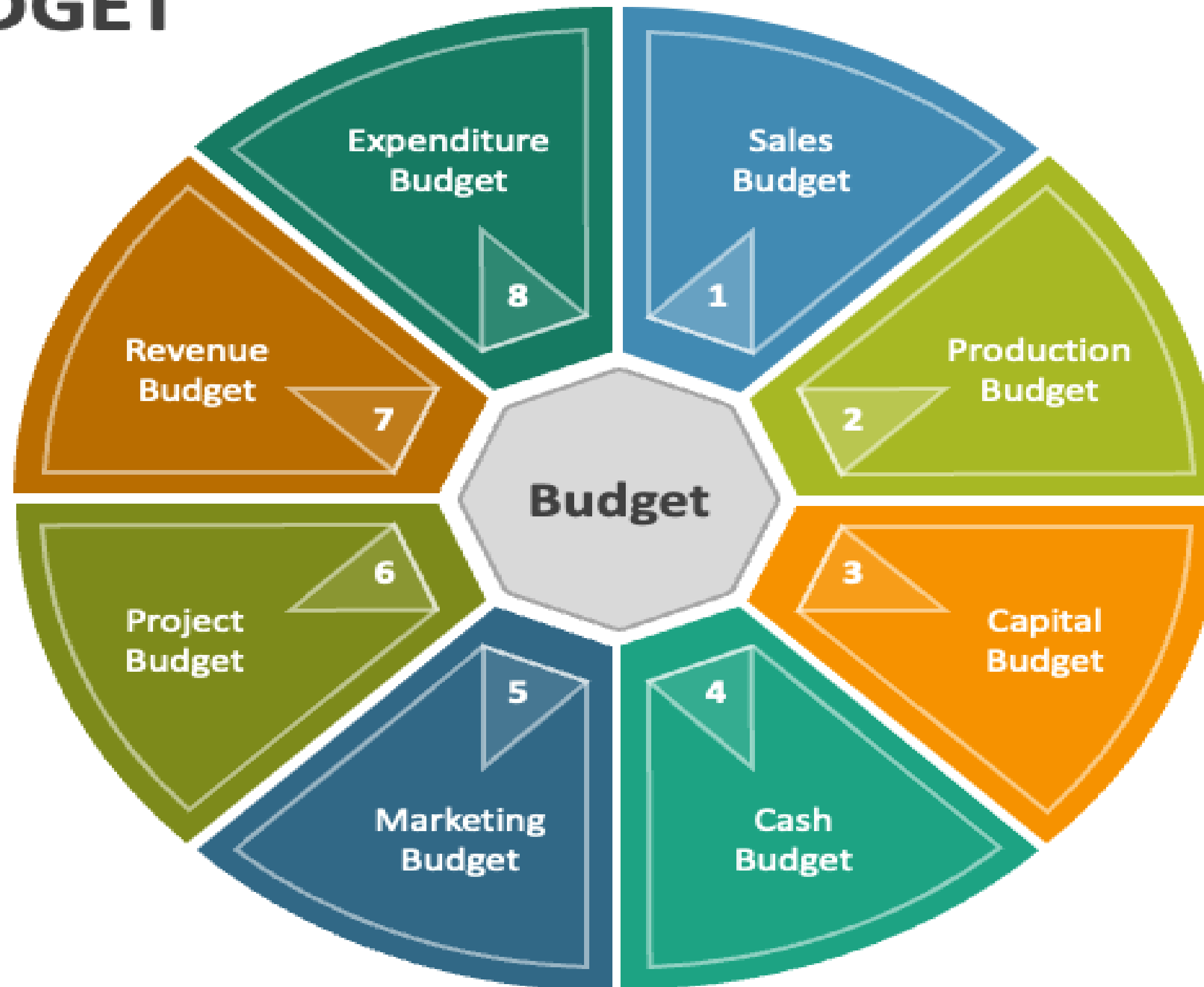
03

Flexible budgeting

04

Activity-based budgeting

TYPES OF BUDGET



SALES BUDGETING

The Concept

01

The sales budget is a blueprint of sales. It is an estimate of sales volume, revenue earning, selling expenses, and net profit.

02

The real uncertain data, therefore, in the budgeting process, is the sales volume.

03

The sales budget starts with a sales volume objective which is based on a sales forecast.

04

Top management involvement is a prerequisite for sales budgeting.

SALES BUDGETING

A sales budget is management's estimate of sales for a future financial period.

01

A business uses sales budgets to set department goals, estimate earnings and forecast production requirements.

02

As every other budget is based on the sales budget. The sales budget is therefore called as the starting point for the master budget.

03

A company must know how many products it will sell & how much revenue will be generated before determining purchasing budgets.

04

SALES BUDGETING

The Procedure of Sales Budgeting



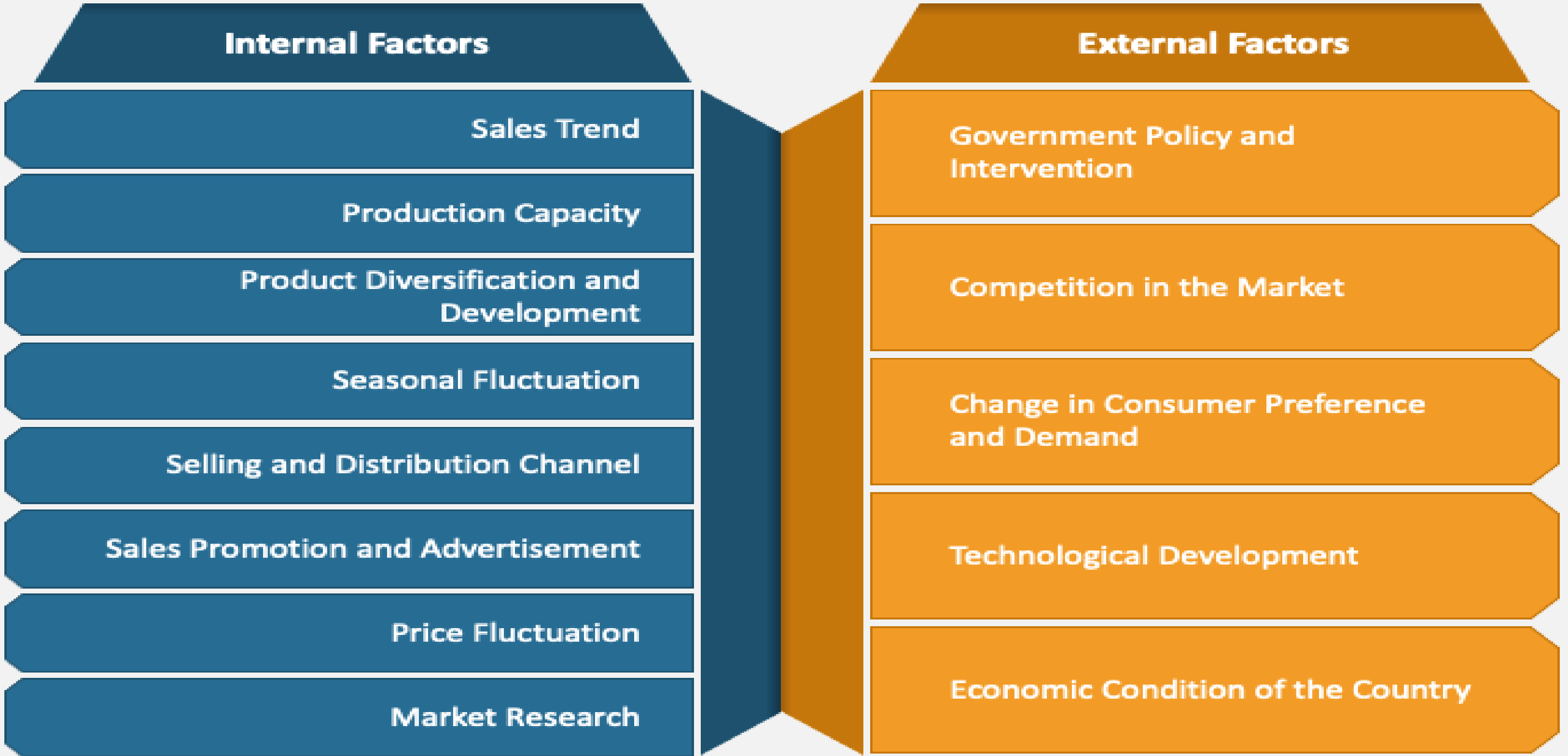
SALES BUDGETING

Sales Budgeting Steps



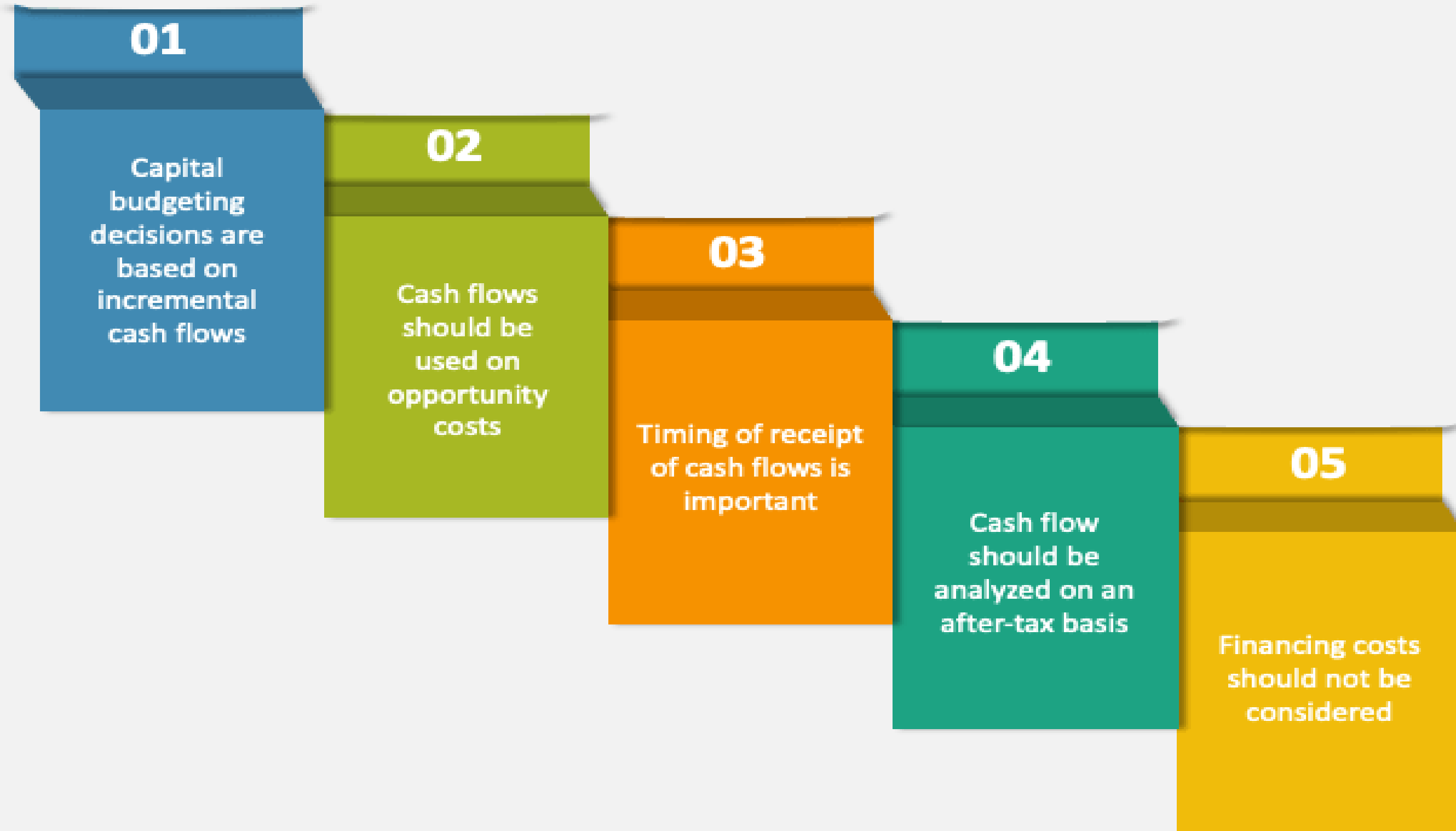
SALES BUDGETING

Factors Influencing Sales Budget



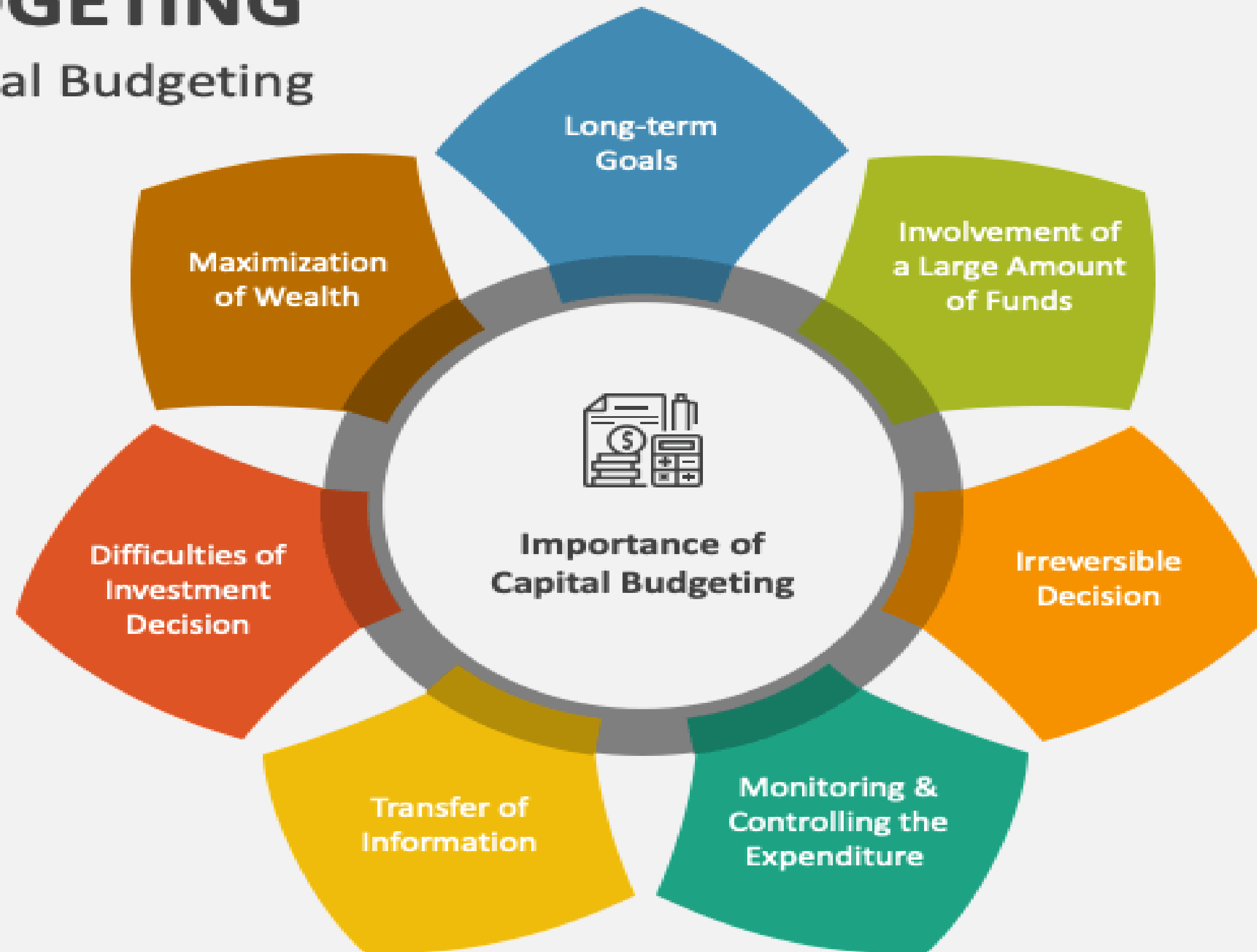
CAPITAL BUDGETING

Principles

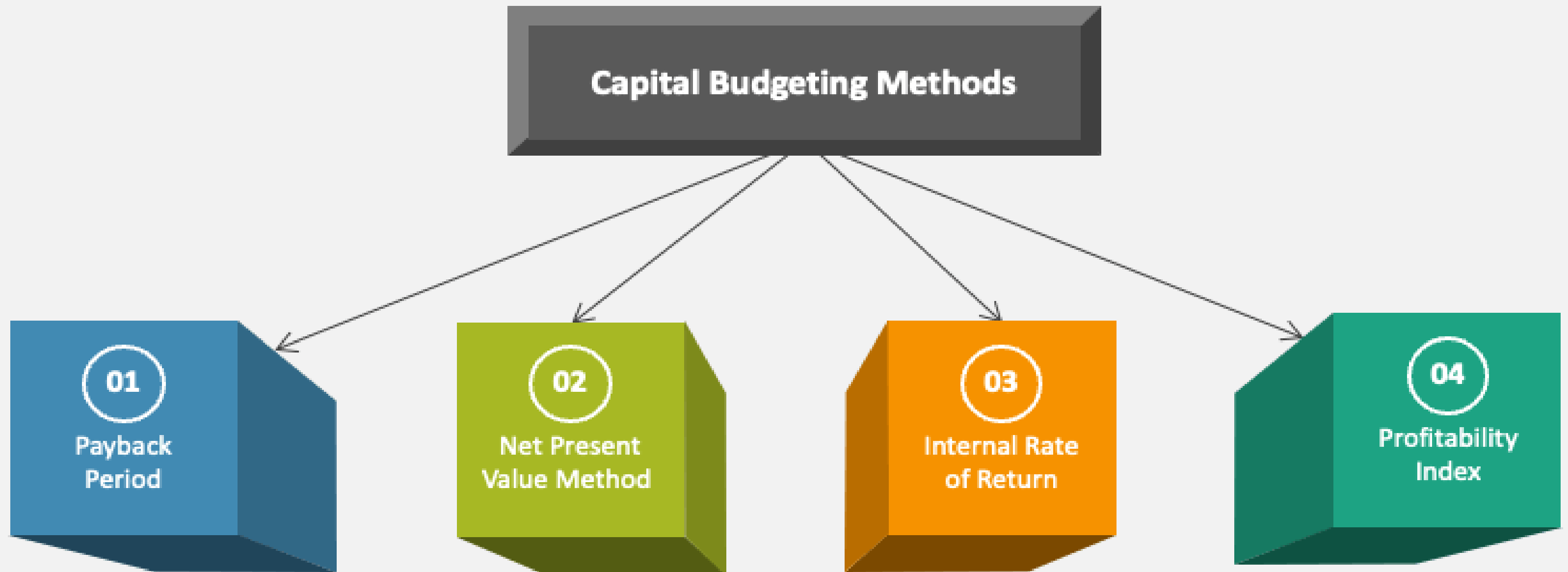


CAPITAL BUDGETING

Importance of Capital Budgeting



CAPITAL BUDGETING



FINANCIAL BUDGETING

01

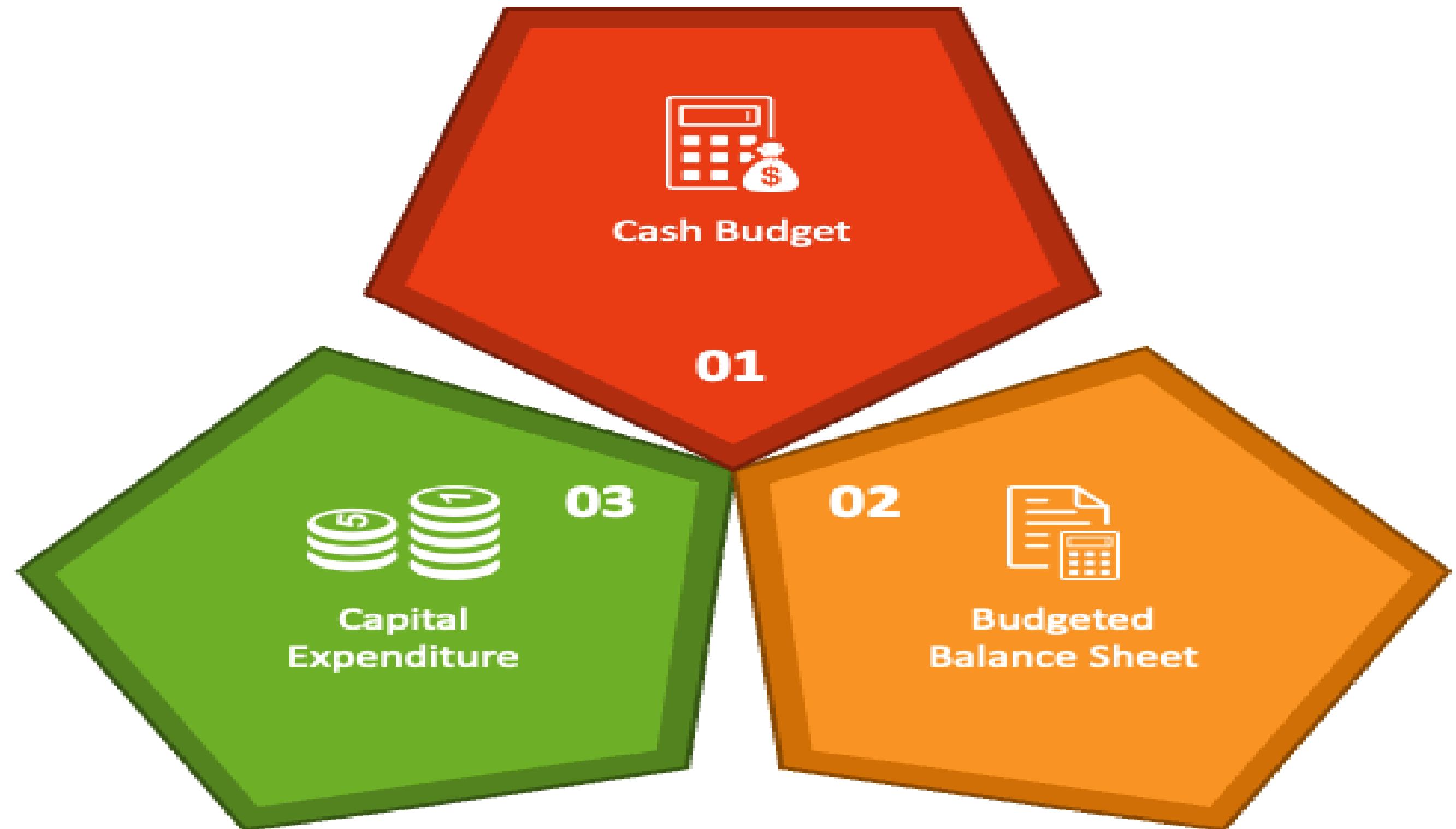
The financial budget is the budgeted balance sheet and statement of cash flows, cash budget, and capital budget.

02

Financial budgets are what the company's financial statement would look like next year if reality exactly matched the budgeted amounts.

FINANCIAL BUDGETING

Different Sections of Financial Budget



BUDGET DEVELOPMENT



Travel



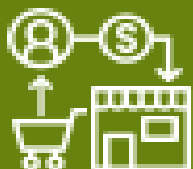
Subcontracts
and consultants



Materials
and services



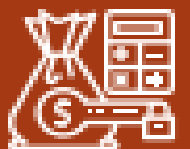
Personnel costs



Facilities and
administrative costs



Allocation costs

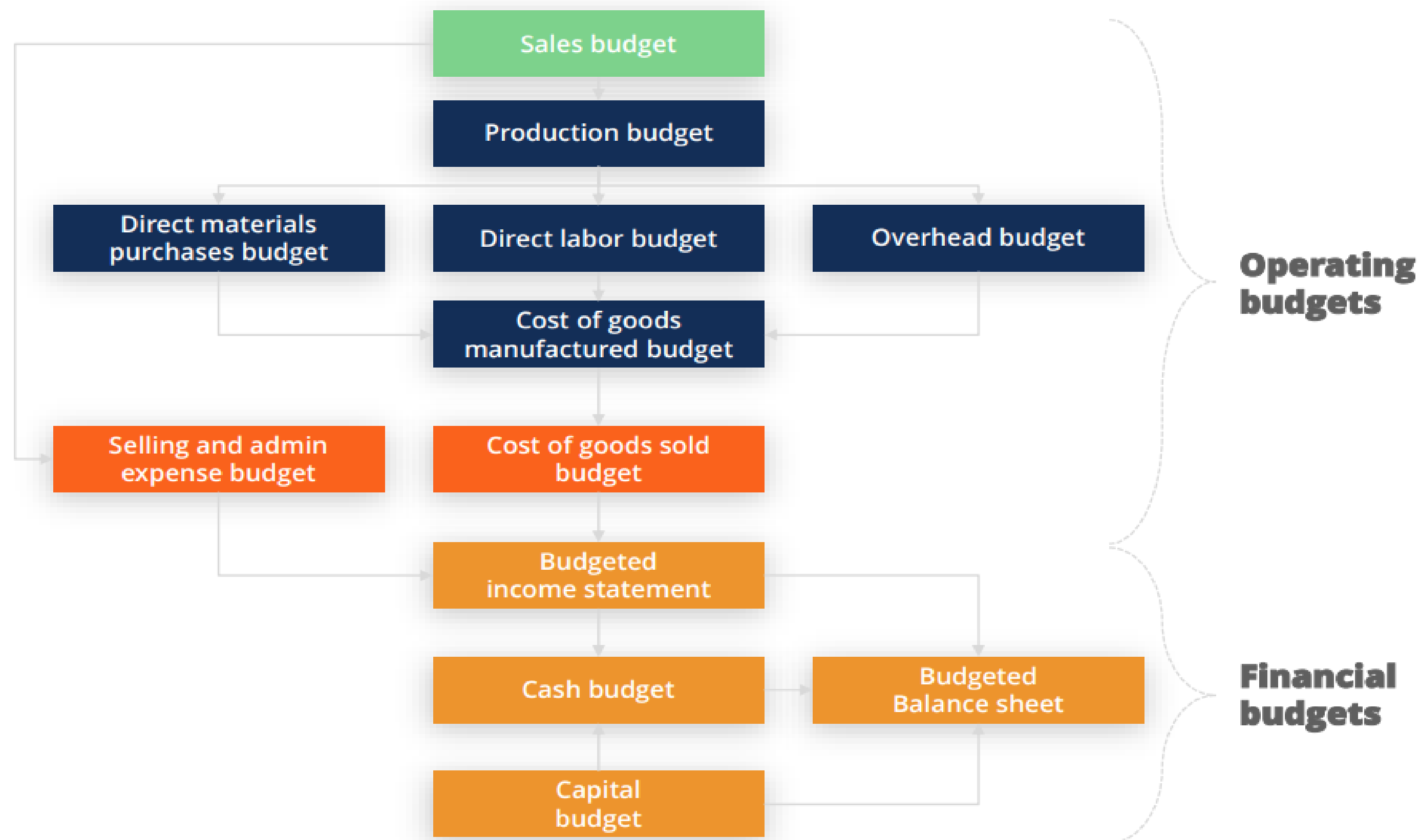


Other costs

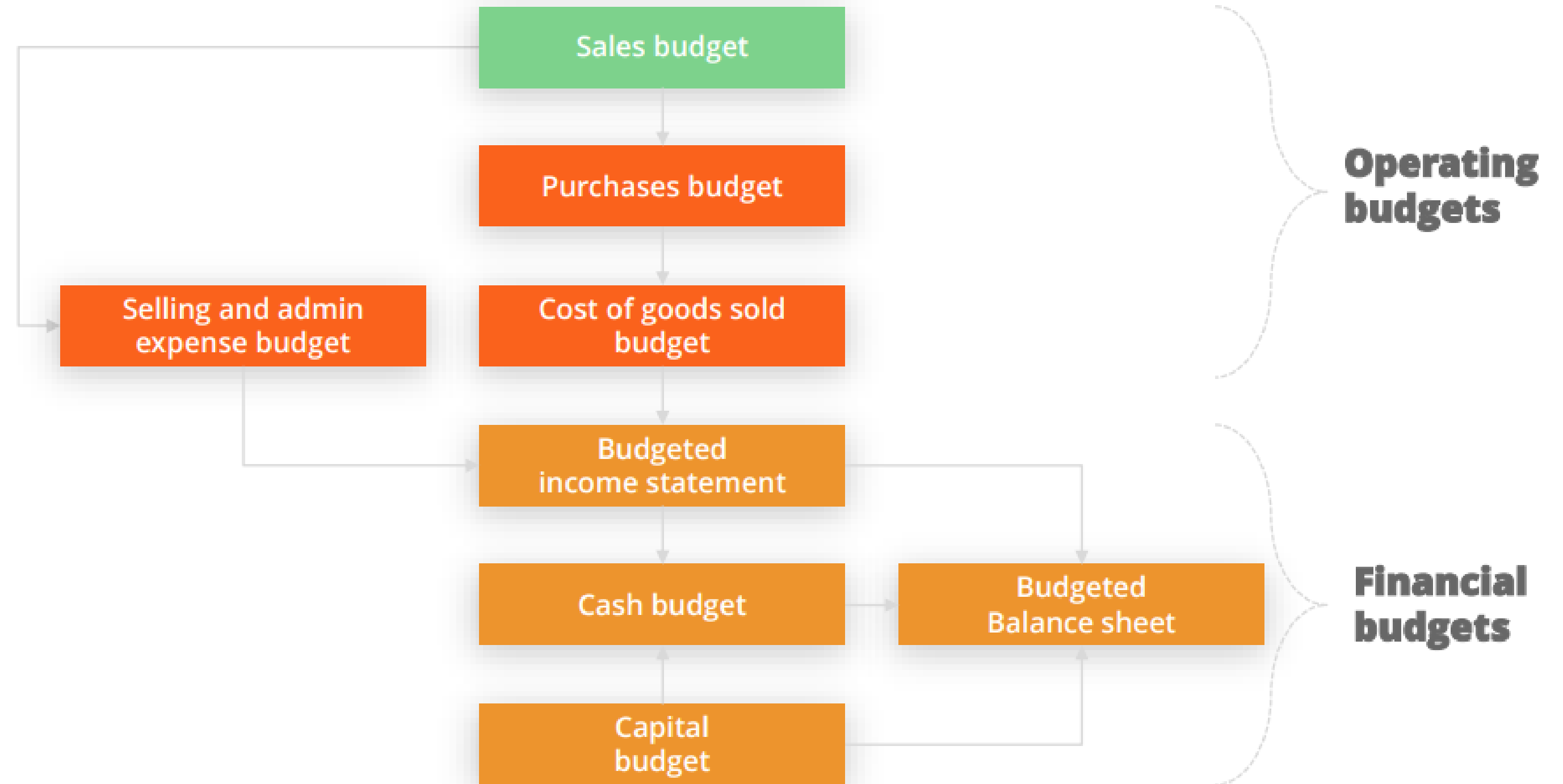


Equipment

Master budget for a manufacturer

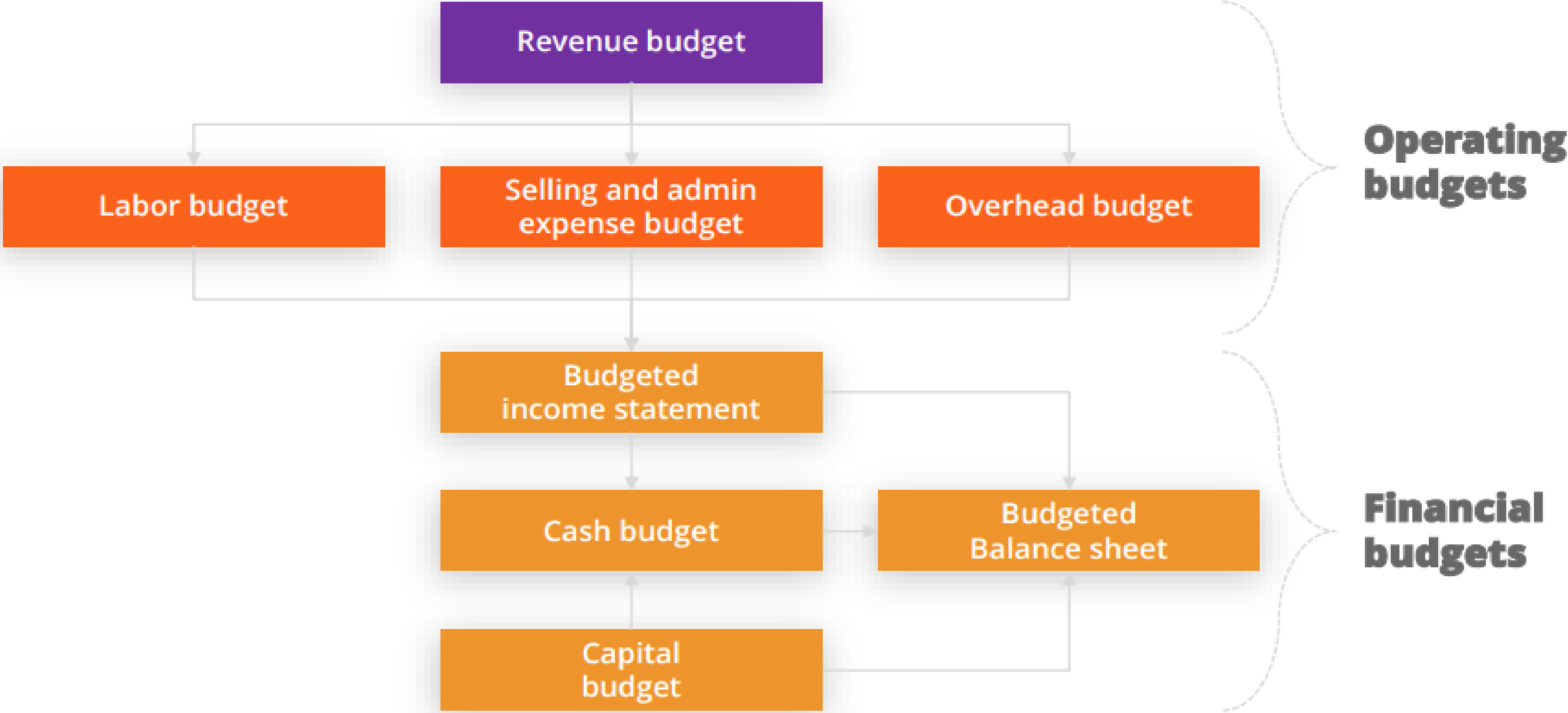


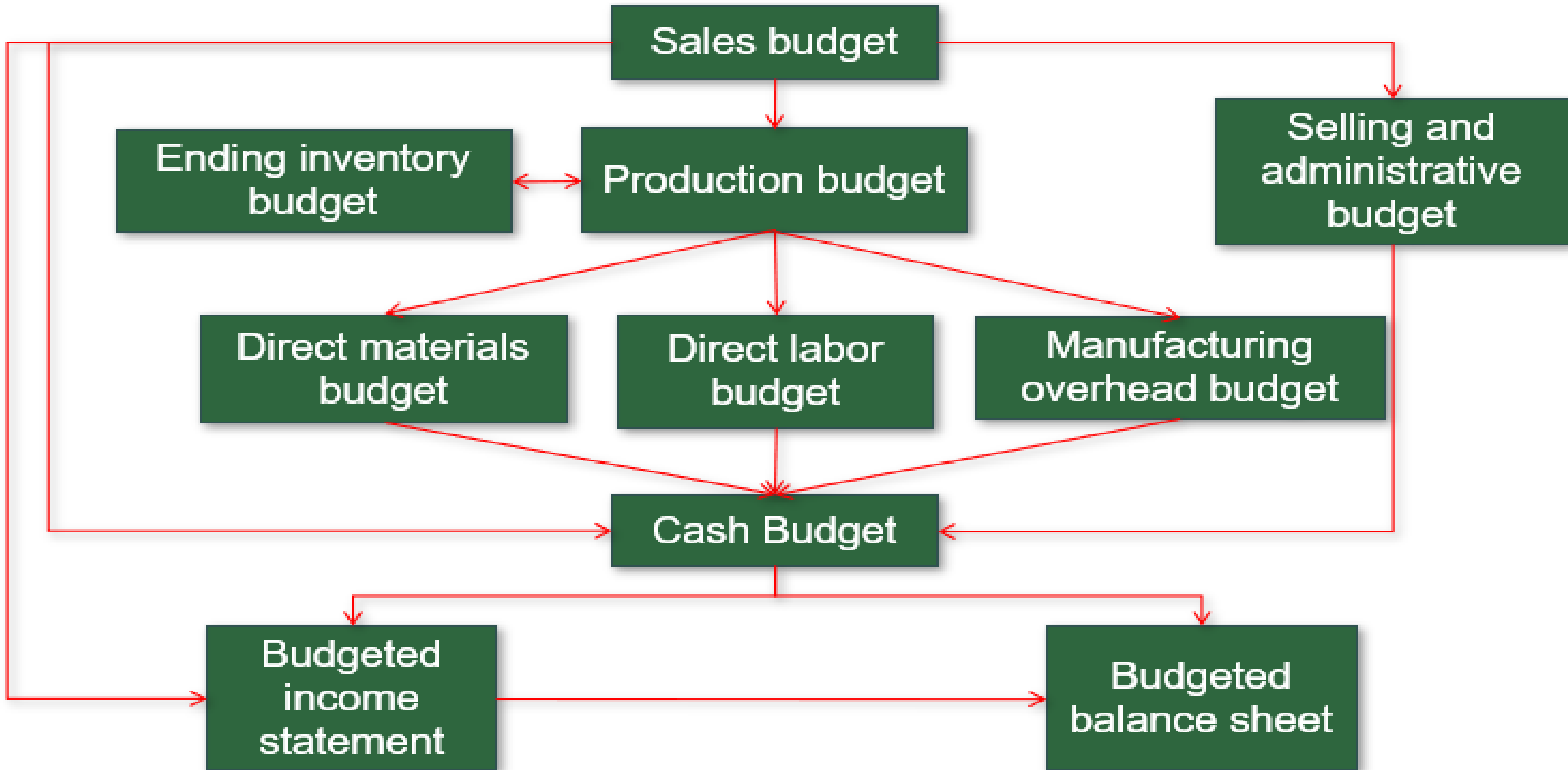
Master budget for a retailer



Companies' types and related budgets:

Master budget for a service provider





Worked example:
1- sales budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Budgeted sales in units	20,000		50,000		30,000		100,000
4		Selling price per unit	\$ 10		\$ 10		\$ 10		\$ 10
5		Total budgeted sales	<u>\$ 200,000</u>		<u>\$ 500,000</u>		<u>\$ 300,000</u>		<u>\$ 1,000,000</u>

Worked example:
2- Cash Collection budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Accounts Receivable 3/31	\$ 30,000						\$ 30,000
4		April Sales							
5		70% × \$200,000	140,000						140,000
6		30% × \$200,000			60,000				60,000
7		May Sales							
8		70% × \$500,000			350,000				350,000
9		30% × \$500,000					150,000		150,000
10		June Sales							
11		70% × \$300,000					210,000		210,000
12			<u>\$ 170,000</u>		<u>\$ 410,000</u>		<u>\$ 360,000</u>		<u>\$ 940,000</u>
13									
14		Accounts Receivable 6/30 = 30% × \$300,000 = \$90,000							
15									

Worked example:

3- Production budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Budgeted Sales	20,000		50,000		30,000		100,000
4		Add: Desired ending inventory	10,000		6,000		5,000		5,000
5		Total needs	30,000		56,000		35,000		105,000
6		Less Beginning inventory	4,000		10,000		6,000		4,000
7		Required production	26,000		46,000		29,000		101,000
8									

March 31
ending inventory.

Budgeted May sales	50,000
Desired ending inventory %	20%
Desired ending inventory	<u>10,000</u>

Worked example:

4- Direct Material budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Production	26,000		46,000		29,000		101,000
4		Materials per unit (pounds)	5		5		5		5
5		Production needs	130,000		230,000		145,000		505,000
6		Add: Desired ending inventory	23,000						
7		Total needed	153,000						
8		Less: Beginning inventory	13,000						
9		Materials to be purchased	140,000						
10									

March 31 inventory.

10% of following month's production needs.

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Production	26,000		46,000		29,000		101,000
4		Materials per unit (pounds)	5		5		5		5
5		Production needs	130,000		230,000		145,000		505,000
6		Add: Desired ending inventory	23,000		14,500		11,500	→	11,500
7		Total needed	153,000		244,500		156,500		516,500
8		Less: Beginning inventory	13,000		23,000		14,500		13,000
9		Materials to be purchased	140,000		221,500		142,000		503,500
10									

Beginning inventory from April.

Worked example:

5- Cash Disbursements budget:

	A	B	C	D	E	F	G	H	I
1									
2			April	May	June	Quarter			
3		Accounts payable 3/31	\$ 12,000			\$ 12,000			
4		April purchases							
5		50% × \$56,000	28,000			28,000			
6		50% × \$56,000		28,000		28,000			
7		May purchases							
8		50% × \$88,600		44,300		44,300			
9		50% × \$88,600			44,300	44,300			
10		June purchases							
11		50% × \$56,800			28,400	28,400			
12		Total cash disbursements	<u>\$ 40,000</u>	<u>\$ 72,300</u>	<u>\$ 72,700</u>	<u>\$ 185,000</u>			
13									

$$140,000 \text{ lbs.} \times \$0.40/\text{lb.} = \$56,000$$

Worked example:

6- Direct Labor budget:

	A	B	C	D	E	F	G	H	I
1									button.
2			April	May	June	Quarter			
3		Units of production	26,000	46,000	29,000	101,000			
4		Direct labor time per unit	0.05	0.05	0.05	0.05			
5		Labor hours required	1,300	2,300	1,450	5,050			
6		Hourly wage rate	\$ 10	\$ 10	\$ 10	\$ 10			
7		Total direct labor costs	\$ 13,000	\$ 23,000	\$ 14,500	\$ 50,500			
8									

From production budget.

Worked example:

7- Manufacturing Overhead budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Budgeted direct labor hours	1,300		2,300		1,450		5,050
4		Variable mfg. OH rate	\$ 20		\$ 20		\$ 20		\$ 20
5		Variable mfg. OH costs	\$ 26,000		\$ 46,000		\$ 29,000		\$ 101,000
6		Fixed mfg. OH costs	50,000		50,000		50,000		150,000
7		Total mfg. OH costs	76,000		96,000		79,000		251,000
8		Less: noncash costs	20,000		20,000		20,000		60,000
9		Cash disbursement for mfg. OH	\$ 56,000		\$ 76,000		\$ 59,000		\$ 191,000
10									

Depreciation is a noncash charge.

Direct Labor Budget.

Worked example:

8- Ending Finished Goods Inventory Budget :

<u>Production costs per unit</u>	<u>Quantity</u>	<u>Cost</u>	<u>Total</u>
Direct materials	5.00 lbs.	\$ 0.40	\$ 2.00
Direct labor	0.05 hrs.	\$10.00	0.50
Manufacturing overhac	0.05 hrs.	\$49.70	2.49
			<u>\$ 4.99</u>
<u>Budgeted finished goods inventory</u>			
Ending inventory in units			5,000
Unit product cost			\$ 4.99
Ending finished goods inventory			<u>\$24,950</u>

Direct labor budget.

Production Budget.

$$\frac{\text{Total mfg. OH for quarter } \$251,000}{\text{Total labor hours required } 5,050} = \$49.70 \text{ per hour}$$

Worked example:

9- Selling and Administrative Expense Budget:

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Budgeted sales	20,000		50,000		30,000		100,000
4		Variable S&A rate	0.50		0.50		0.50		0.50
5		Variable expenses	\$ 10,000		\$ 25,000		\$ 15,000		\$ 50,000
6		Fixed S&A expenses	70,000		70,000		70,000		210,000
7		Total S&A expenses	80,000		95,000		85,000		260,000
8		Less: noncash expenses	10,000		10,000		10,000		30,000
9		Cash S&A expenses	<u>\$ 70,000</u>		<u>\$ 85,000</u>		<u>\$ 75,000</u>		<u>\$ 230,000</u>
10									

Worked example: 10- The Cash Budget :

	A	B	C	D	E	F	G	H	I
1									
2			April	May	June	July	Quarter		
3		Beginning cash balance	\$ 40,000						
4		Add: Cash collections	170,000						
5		Total cash available	\$ 210,000						
6		Less: Cash disbursements							
7		Materials	40,000						
8		Direct labor	13,000						
9		Manufacturing overhead	56,000						
10		Selling and administrative	70,000						
11		Equipment purchase	-						
12		Dividend	49,000						
13		Total disbursements	228,000						
14		Excess (deficiency)							
15		Financing:							
16		Borrowing							
17		Repayment							
18		Interest							
19		Total financing							
20		Ending cash balance							

Schedule of Expected
Cash Collections.

Schedule of Expected
Cash Disbursements.

Manufacturing
Overhead Budget.

Selling and Administrative
Expense Budget.

	A	B	C	D	E	F	G	H	I
1									
2			April	May	June	Quarter			
3		Beginning cash balance	\$ 40,000						
4		Add: Cash collections	170,000						
5		Total cash available	\$ 210,000						
6		Less: Cash disbursements							
7		Materials	40,000						
8		Direct labor	13,000						
9		Manufacturing overhead	56,000						
10		Selling and administrative	70,000						
11		Equipment purchase	-						
12		Dividend	49,000						
13		Total disbursements	228,000						
14		Excess (deficiency)	(18,000)						
15		Financing:							
16		Borrowing	48,000						
17		Repayment	-						
18		Interest	-						
19		Total financing	48,000						
20		Ending cash balance	\$ 30,000						

Because Royal maintains a cash balance of \$30,000, the company must borrow \$48,000 on its line-of-credit.

Ending cash balance for April is the beginning May balance.

	A	B	C	D	E	F	G	H	I
1									
2			April		May		June		Quarter
3		Beginning cash balance	\$ 40,000		\$ 30,000		\$ 40,000		\$ 40,000
4		Add: Cash collections	170,000		410,000		360,000		940,000
5		Total cash available	\$ 210,000		\$ 440,000		\$ 400,000		\$ 980,000
6		Less: Cash disbursements							
7					72,300		72,700		185,000
8					23,000		14,500		50,500
9					76,000		59,000		191,000
10					85,000		75,000		230,000
11		Equipment purchase			143,700		48,300		192,000
12		Dividend	49,000		-		-		49,000
13		Total disbursements	228,000		400,000		269,500		897,500
14		Excess (deficiency)	(18,000)		40,000		130,500		82,500
15		Financing:							
16		Borrowing	48,000		-				48,000
17		Repayment	-		-		(48,000)		(48,000)
18		Interest	-		-		(1,920)		(1,920)
19		Total financing	48,000		-		(49,920)		(1,920)
20		Ending cash balance	\$ 30,000		\$ 40,000		\$ 80,580		\$ 80,580

$\$48,000 \times 16\% \times 3/12 = \$1,920$
 Borrowings on April 1 and
 repayment on June 30.

Worked example:

11- The Budgeted Income Statement :

Royal Company Budgeted Income Statement For the Three Months Ended June 30	
Sales (100,000 units @ \$10)	\$ 1,000,000
Cost of goods sold (100,000 @ \$4.99)	499,000
Gross margin	501,000
Selling and administrative expenses	260,000
Operating income	241,000
Interest expense	1,920
Net income	\$ 239,080

Sales Budget.

Ending Finished
Goods Inventory.

Selling and
Administrative
Expense Budget.

Cash Budget.

Worked example:

11- The Budgeted Balance Sheet :

Royal Company Budgeted Balance Sheet June 30			
Assets:			
Cash	\$ 80,580	← 30% of June sales of \$300,000.	
Accounts receivable	90,000		
Raw materials inventory	4,600	← 11,500 lbs. at \$0.40/lb.	
Finished goods inventory	24,950	← 5,000 units at \$4.99 each.	
Land	50,000		
Equipment	367,000		
Total assets	<u>\$ 617,130</u>		
Liabilities and Stockholders' Equity			
Accounts payable	\$ 28,400	← 50% of June purchases of \$56,800.	
Common stock	150,000		
Retained earnings	438,730		
Total liabilities and stockholders' equity	<u>\$ 617,130</u>		

	Retained Earnings
Beginning balance	\$ 248,650
Net income	239,080
Dividends	(49,000)
Ending balance	<u>\$ 438,730</u>

9-Flexible Budgets and Performance Analysis

Larry's Lawn Service For the Month Ended June 30					
	Revenue/Cost Formulas	Actual Results	Planning Budget	Variances	
Number of lawns (Q)		550	500		
Revenue	(\$75Q)	\$ 43,000	\$ 37,500	\$ 5,500	F
Expenses:					
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 20,000	\$ 3,500	U
Gasoline and supplies	(\$9Q)	5,100	4,500	600	U
Equipment maintenance	(\$3Q)	1,300	1,500	200	F
Office and shop utilities	(\$1,000)	950	1,000	50	F
Office and shop rent	(\$2,000)	2,000	2,000	-	
Equipment Depreciation	(\$2,500)	2,500	2,500	-	
Insurance	(\$1,000)	1,200	1,000	200	U
Total expenses		36,550	32,500	4,050	U
Net operating income		\$ 6,450	\$ 5,000	\$ 1,450	F

F = Favorable variance that occurs when actual revenue is greater than budgeted revenue.

U = Unfavorable variance that occurs when actual revenues are less than budgeted revenues.

F = Favorable variance that occurs when actual costs are less than budgeted costs.

U = Unfavorable variance that occurs when actual costs are greater than budgeted costs.

At this point, we cannot answer the question
“ what is the reason for the variance?”

because the **actual level of activity is greater than the planned level of activity.**

Therefore, actual variable costs are likely to be higher than planned variable costs regardless of managerial efficiency.

The relevant question is . . .

“How much of the cost variances are due to higher activity and how much are due to cost control?”

To answer the question, we need to **flex** the planning budget to accommodate the actual level of activity.

Larry's Lawn Service
For the Month Ended June 30

	Revenue/Cost Formulas	Flexible Budget	Planning Budget	Activity Variances
Number of lawns (Q)		550	500	
Revenue	(\$75Q)	\$ 41,250	\$ 37,500	\$ 3,750 F
Expenses:				
Wages and salaries	(\$5,000 + \$30Q)	\$ 21,500	\$ 20,000	\$ 1,500 U
Gasoline and supplies	(\$9Q)	4,950	4,500	450 U
Equipment maintenance	(\$3Q)	1,650	1,500	150 U
Office and shop utilities	(\$1,000)	1,000	1,000	-
Office and shop rent	(\$2,000)	2,000	2,000	-
Equipment Depreciation	(\$2,500)	2,500	2,500	-
Insurance	(\$1,000)	1,000	1,000	-
Total expenses		34,600	32,500	2,100 U
Net operating income		\$ 6,650	\$ 5,000	\$ 1,650 F

An **activity variance** arises solely due to the difference in the actual level of activity and the level of activity included in the planning budget.

Actual revenue

Flexible budget revenue

The difference is a revenue variance.

Actual cost

Flexible budget cost

The difference is a spending variance.

Larry's Lawn Service
For the Month Ended June 30

**\$1,750 favorable
revenue variance**

	Revenue/Cost Formulas	Actual Results	Flexible Budget	Revenue and Spending Variances	
Number of lawns (Q)		550	550		
Revenue	(\$75Q)	\$ 43,000	\$ 41,250	\$ 1,750	F
Expenses:					
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 21,500	\$ 2,000	U
Gasoline and supplies	(\$9Q)	5,100	4,950	150	U
Equipment maintenance	(\$3Q)	1,300	1,650	350	F
Office and shop utilities	(\$1,000)	950	1,000	50	F
Office and shop rent	(\$2,000)	2,000	2,000	-	
Equipment Depreciation	(\$2,500)	2,500	2,500	-	
Insurance	(\$1,000)	1,200	1,000	200	U
Total expenses		36,550	34,600	1,950	U
Net operating income		\$ 6,450	\$ 6,650	\$ 200	U

Larry's Lawn Service
Flexible Budget Performance Report
For the Month Ended June 30

	Revenue/Cost Formulas	Actual Results	Revenue and Spending Variances	Flexible Budget	Activity Variances	Planning Budget
Number of lawns (Q)		<u>550</u>		<u>550</u>		<u>500</u>
Revenue	(\$75Q)	\$ 43,000	\$ 1,750 F	\$ 41,250	\$ 3,750 F	\$ 37,500
Expenses:						
Wages and salaries	(\$5,000 + \$30Q)	\$ 23,500	\$ 2,000 U	\$ 21,500	\$ 1,500 U	\$ 20,000
Gasoline and supplies	(\$9Q)	5,100	150 U	4,950	450 U	4,500
Equipment maintenance	(\$3Q)	1,300	350 F	1,650	150 U	1,500
Office and shop utilities	(\$1,000)	950	50 F	1,000	-	1,000
Office and shop rent	(\$2,000)	2,000	-	2,000	-	2,000
Equipment Depreciation	(\$2,500)	2,500	-	2,500	-	2,500
Insurance	(\$1,000)	1,200	200 U	1,000	-	1,000
Total expenses		<u>36,550</u>	<u>1,950 U</u>	<u>34,600</u>	<u>2,100 U</u>	<u>32,500</u>
Net operating income		<u>\$ 6,450</u>	<u>\$ 200 U</u>	<u>\$ 6,650</u>	<u>\$ 1,650 F</u>	<u>\$ 5,000</u>

Financial statement analysis

Learning objectives :

- 1.Explain the purpose and importance of financial analysis.
- 2.Calculate and use a comprehensive set of measurements to evaluate a company's performance.
- 3.Describe the limitations of financial ratio analysis.

The Purpose of Financial Analysis

(1 of 2)

The Purpose of Financial Analysis (2 of 2)

- **Financial analysis using ratios**
 - A popular way to analyze the financial statements is by computing ratios. A ratio is a relationship between two numbers, e.g., a given ratio of **A:B** = 30:10 means **A** is 3 times **B**.
- A ratio by itself may have no meaning. Hence, a given ratio is compared to
 - ratios from previous years
 - ratios of other firms or leaders in the same industry
- See Figure 4.1 for a financial analysis example.

Figure 1

Financial Statement Data by Industry Norms for Software Publishers

SOFTWARE PUBLISHERS NAICS 4411 (SIC 5511)															
CURRENT DATA SORTED BY ASSETS				CURRENT DATA SORTED BY SALES				CURRENT DATA SORTED BY ASSETS				CURRENT DATA SORTED BY SALES			
50-100MM		100-250MM		10-25MM		25MM and OVER		50-100MM		100-250MM		10-25MM		25MM and OVER	
%		%		%		%									
ASSETS															
29.7	21.8	Cash and Equivalents		28.2	25.2										
11.2	16.0	Trade Receivables (net)		26.6	22.5										
0.9	0.4	Inventory		0.5	1.9										
7.2	4.1	All Other Current		6.8	5.8										
49.0	42.3	Total Current		62.1	55.3										
13.1	6.1	Fixed Assets (net)		12.9	8.7										
30.8	46.6	Intangibles (net)		13.2	29.3										
7.2	5.0	All Other Non-current		11.9	6.7										
100.0	100.0	Total		100.0	100.0										
LIABILITIES															
0.4	0.4	Notes Payable Short Term		6.7	1.8										
1.8	1.4	Cur. Mat.-L/T/D		4.4	2.1										
2.9	5.0	Trade Payables		5.1	7.4										
0.2	1.2	Income Taxes Payable		0.2	0.8										
30.4	22.9	All Other Current		32.0	32.2										
35.6	30.9	Total Current		48.4	44.2										
19.2	29.7	Long Term Debt		11.4	26.2										
1.0	2.2	Deferred Taxes		0.6	1.2										
14.3	9.2	All Other Non-current		9.7	11.1										
29.9	28.1	Net Worth		29.8	17.3										
100.0	100.0	Total Liabilities and Net Worth		100.0	100.0										
INCOME DATA															
100.0	100.0	Net Sales		100.0	100.0										
Gross Profit															
94.3	92.3	Operating Expenses		93.4	93.7										
5.7	7.7	Operating Profit		6.6	6.3										
All Other															
3.4	6.4	Expenses (net)		1.9	4.0										
2.3	1.3	Profit Before Taxes		4.8	2.2										
RATIOS															
2.8	2.3	Current		2.6	2.3										
1.2	1.2			1.4	1.2										
0.8	0.8			0.8	0.8										
2.4	1.9	Quick		2.1	1.9										
1.0	1.0			1.1	0.9										
0.6	0.6			0.7	0.6										
20	18.2	50	7.3	32	11.5	40	9.1								
47	7.7	65	5.6	57	6.4	61	6.0								
62	5.9	85	4.3	79	4.6	81	4.5								
M = \$ thousand				MM = \$ million											

CURRENT DATA SORTED BY ASSETS		CURRENT DATA SORTED BY SALES		CURRENT DATA SORTED BY ASSETS		CURRENT DATA SORTED BY SALES	
50-100MM		100-250MM		50-100MM		100-250MM	
4.0		3.3					
9.4		16.0		Sales/Working Capital		3.5	
-12.1		-8.5				8.0	
12.4		8.8				-18.5	
(19)	0.9	(45)	1.7	EBIT/Interest		(48)	8.4
-5.3		0.1				(104)	2.0
						-1.6	
				Net Profit + Depr., Dep., Amort./Cur. Mat. L/T/D			
						(28)	
						12.4	
						3.3	
						-5.6	
0.3		0.4				0.0	
2.5		-0.2		Fixed/Worth		0.3	
-0.1		0.0				1.8	
2.0		1.3				0.8	
9.7		-2.7		Debt/Worth		1.7	
-2.1		-1.5				-5.6	
104.4		25.1		% Profit Before Taxes/Tangible		65.0	
(14)	24.6	(21)	11.5	Net Worth		(50)	29.7
-0.7		-10.0				(64)	19.3
14.8		6.2				13.1	
4.5		2.1		% Profit Before Taxes/Total Assets		23.0	
-11.3		-4.7				8.6	
35.4		34.7				-2.8	
12.2		20.2		Sales/Net Fixed Assets		87.3	
5.2		8.2				22.5	
1.2		0.9				8.0	
1.0		0.6		Sales/Total Assets		2.2	
0.7		0.5				1.5	
3.1		2.9				1.1	
(14)	5.3	(22)	4.9	% Depr., Dep., Amort./Sales		(38)	0.9
7.4		6.9				(75)	2.5
						5.5	
1676876M		6912132M		Net Sales (\$)		1129256M	
1745074M		9440373M		Total Assets (\$)		930237M	
						11301056M	
						12415127M	

Uses of Financial Ratios: Within the Firm (1 of 3)

- Identify deficiencies in a firm's performance and take corrective action.
- Evaluate employee performance and determine incentive compensation.
- Compare the financial performance of the firm's different divisions.

Uses of Financial Ratios: Within the Firm (2 of 3)

- Prepare, at both firm and division levels, financial projections.
- Understand the financial performance of the firm's competitors.
- Evaluate the financial condition of a major supplier.

Uses of Financial Ratios: Within the Firm (3 of 3)

Financial ratios are used by

- **Lenders** in deciding whether or not to lend to a company.
- **Credit-rating agencies** in determining a firm's credit worthiness.
- **Investors** (shareholders and bondholders) in deciding whether or not to invest in a company.
- Major **suppliers** in deciding to whether or not to extend credit to a company or in designing the specific credit terms.

Measuring Key Financial Relationships

Question 1: How Liquid Is the Firm? Can It Pay Its Bills?

- A liquid asset is one that can be converted quickly and routinely into cash at the current market price.
- Liquidity measures the firm's ability to pay its bills on time. It indicates the ease with which noncash assets can be converted to cash to meet the financial obligations.

How Liquid Is the Firm?

- Liquidity is measured by two approaches:
 - Comparing the firm's current assets and current liabilities
 - Examining the firm's ability to convert accounts receivables and inventory into cash on a timely basis

Measuring Liquidity: Perspective 1

- Compare a firm's current assets with current liabilities using:
 - Current Ratio
 - Acid Test or Quick Ratio

Table 1 (1 of 2)

Walmart Income Statement for the Year Ending January 31, 2018 (expressed in millions, except per share data)

Particulars	Jan. 31, 2018
Sales	\$ 500,343
Cost of goods sold	(373,396)
Gross profit	\$ 126,947
Operating expenses:	
Selling, general and administrative expenses	\$ (95,981)
Depreciation expenses	(10,529)
Total operating expenses	\$(106,510)
Operating income (earning before interest and taxes)	\$ 20,437
Interest expense	(2,178)
Non-operating losses	(3,136)
Earnings before taxes (taxable income)	\$ 15,123
Income taxes	(5,261)
Net income (earnings available to common shareholders)	\$ 9,862

Table 2 (2 of 2)

Walmart Income Statement for the Year Ending January 31, 2018 (expressed in millions, except per share data)

Particulars	Jan. 31, 2018
Additional information:	
Number of shares outstanding (millions)	3,007
Earnings per share $\left(\frac{\text{net income}}{\text{number of shares}}\right)$	\$ 3.28
Dividends paid to stockholders	\$ 6,124
Dividends per share	\$ 2.04

Table 3 (1 of 2)

Walmart's Balance Sheet for the Year Ending January 31, 2018 (expressed in millions)

Particulars	Jan. 31, 2018
Cash and cash equivalents	\$ 6,756
Accounts receivable	5,614
Inventories	43,783
Prepaid expenses and other current assets	3,511
Total current assets	\$ 59,664
Gross plant and equipment	\$202,298
Less accumulated depreciation	(87,480)
Net plant and equipment	\$114,818
Goodwill and other intangible assets	30,040
Total assets	\$ 204,522

Table 4 (2 of 2)

Walmart's Balance Sheet for the Year Ending January 31, 2018 (expressed in millions)

Particulars	Jan. 31, 2018
Liabilities and Equity	
Accounts payable	\$ 46,510
Accrued liabilities	24,031
Short-term notes	9,662
Total current liabilities	\$ 80,203
Long-term debt	45,179
Total debt	\$125,382
Stockholders' equity	
Common stock (par value)	\$ 295
Paid-in capital	2,648
Retained earnings	76,197
Total equity	\$ 79,140
Total liabilities and equity	\$ 204,522

Current Ratio

- Current ratio compares a firm's current assets to its current liabilities.

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}} = \frac{59,664M}{80,203M} = .74$$

- Walmart has \$0.74 in current assets for every \$1 in current liabilities. Walmart's liquidity is slightly less than that of Target, which has a current ratio of 0.95.

Acid Test or Quick Ratio

- Quick ratio compares cash and current assets (minus inventory) that can be converted into cash during the year with the liabilities that should be paid within the year.

$$\text{Acid - test ratio} = \frac{\text{cash} + \text{accounts receivable}}{\text{current liabilities}} = \frac{12,370M}{80,203M} = 0.15$$

- Walmart has 15 cents in quick assets for every \$1 in current debt. Walmart is slightly less liquid than Target, which has 20 cents for every \$1 in current debt.

Measuring Liquidity: Perspective 2

- Measures a firm's ability to convert accounts receivable and inventory into cash:
 - Days in Receivables or Average Collection Period
 - Inventory Turnover

Days in Receivables (Average Collection Period)

- How long does it take to collect the firm's receivables?

$$\begin{aligned}\text{Days in receivables} &= \frac{\text{accounts receivable}}{\text{daily credit sales}} = \frac{\text{accounts receivable}}{\left(\frac{\text{annual credit sales}}{365} \right)} \\ &= \frac{5,614M}{\frac{500,343M \times .40}{360}} = \frac{5,614M}{548M} = 10.24 \text{ days}\end{aligned}$$

- Walmart (at 10.24 days) is slightly slower than Target (at 9.56 days) in collecting accounts receivable.

Accounts Receivable Turnover

- How many times are the accounts receivable “rolled-over” each year?

$$\text{Accounts receivable turnover} = \frac{\text{annual credit sales}}{\text{accounts receivable}}$$

$$= \frac{\$500,343M * .40}{\$5,614M} = 35.65X$$

- The conclusion is the same — Walmart (35.65X) is slightly slower than Target (38X) in collecting accounts receivable.

Days in Inventory

- How long is the inventory held before being sold?

$$\begin{aligned}\text{Days in inventory} &= \frac{\text{inventory}}{\frac{\text{annual cost of goods sold}}{365}} \\ &= \frac{\$43,783M}{\frac{\$373,396M}{365}} = \frac{\$43,783}{\$1,023M} = 42.80 \text{ days}\end{aligned}$$

- Walmart carries inventory for a shorter time (42.80 days) than Target (61.81 days).

Inventory Turnover

- How many times are the firm's inventories sold and replaced during the year?

$$\text{Inventory turnover} = \frac{\text{cost of goods sold}}{\text{inventory}}$$

$$\text{Inventory turnover} = \frac{373,396M}{43,783M} = 8.53X$$

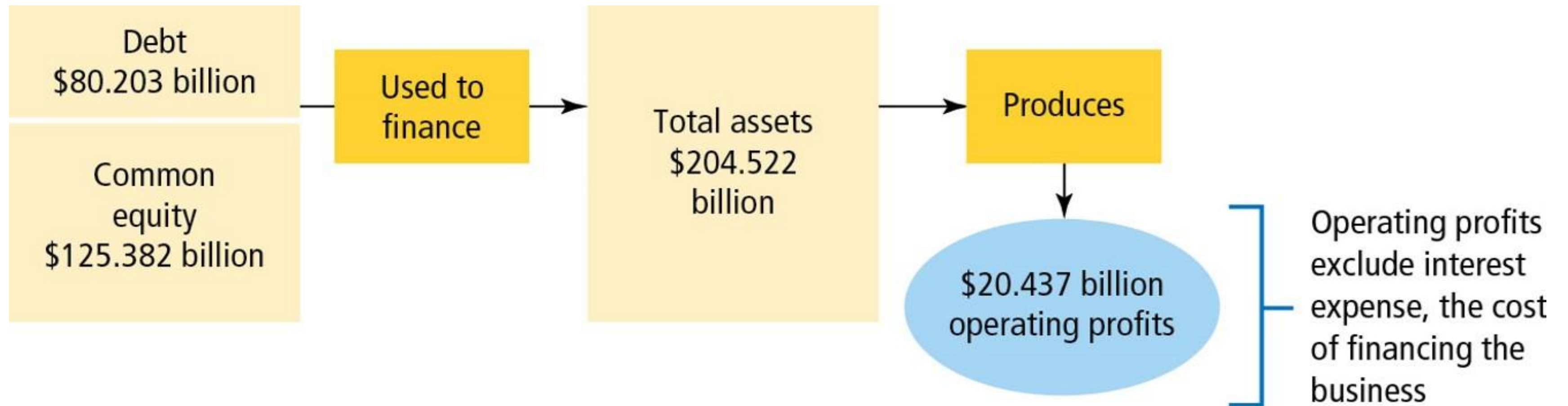
- The conclusion is the same—Walmart moves inventory much quicker (8.53X) than Target (5.91X).

Question 2: Are the Firm's Managers Generating Adequate Operating Profits from the Company's Assets?

- This question focuses on the profitability of the assets in which the firm has invested. We consider the following ratios to answer the question:
 - Operating Return on Assets
 - Operating Profit Margin
 - Total Asset Turnover
 - Fixed Assets Turnover

Figure 1

Walmart Operating Profits Resulting from Asset Investments



Operating Return on Assets (ORA)

- ORA indicates the level of operating profits relative to the firm's total assets.

$$\text{Operating return on assets} = \frac{\text{operating profits}}{\text{total assets}}$$

$$= \frac{20,437M}{204,522M} = 0.10 = 10\%$$

- Thus Walmart managers are generating 10 cents of operating profit for every \$1 of assets, which is less than Target (11.1%).

Disaggregation of Operating Return on Assets

Operating return on assets = operating profit margin × total asset turnover

Calculated as follows:

$$\text{Operating return on assets} = \frac{\text{operating profits}}{\text{sales}} \times \frac{\text{sales}}{\text{total assets}}$$

Managing Operations: Operating Profit Margin (OPM)

- OPM examines how effective the company is in managing its cost of goods sold and operating expenses that determine the operating profit.

$$\text{Operating profit margin} = \frac{\text{operating profits}}{\text{sales}} = \frac{\$20,437M}{\$500,343M} = 0.04 = 4.1\%$$

- Target managers are better than Walmart in managing the cost of goods sold and operating expenses, as the Operating Profit Margin for Target is 6.0% compared to Walmart at 4.1%.

Managing Assets: Total Asset Turnover

- This ratio measures how efficiently a firm is using its assets in generating sales.

$$\text{Total asset turnover} = \frac{\text{sales}}{\text{total assets}} = \frac{\$500,343M}{\$204,522M} = 2.45X$$

- Walmart is generating \$2.45 cents in sales for every \$1 invested in assets, which is higher than Target (1.84X).

Managing Assets: Fixed Asset Turnover

- Examines efficiency in generating sales from investment in “fixed assets.”

$$\text{Fixed assets turnover} = \frac{\text{sales}}{\text{net fixed assets}} = \frac{\$500,343M}{\$114,818M} = 4.36X$$

- Walmart generates \$4.36 in sales for every \$1 invested in fixed assets, which is much higher than Target (2.87X).

Figure 3

Analysis of Walmart's Operating Return on Assets



Question 3: How Is the Firm Financing Its Assets?

- Here we examine the question: Does the firm finance its assets by debt or equity or both? We use the following two ratios to answer the question:
 - Debt Ratio
 - Times Interest Earned

Debt Ratio

- This ratio indicates the percentage of the firm's assets that are financed by debt (implying that the balance is financed by equity).

$$\text{Debt ratio} = \frac{\text{total debt}}{\text{total assets}} = \frac{\$125,382M}{\$204,522M} = 0.61 = 61\%$$

- Walmart finances 61% of its assets by debt and 39% by equity compared to Target financing 70% of its assets by debt.

Times Interest Earned (1 of 2)

- This ratio indicates the amount of operating income available to service interest payments.

$$\text{Times interest earned} = \frac{\text{operating profits}}{\text{interest expense}} = \frac{20,437M}{2,178M} = 9.38X$$

- Walmart's operating income is 9 times the annual interest expense and higher than Target (6.47X) due to its relatively higher operating profits.

Times Interest Earned (2 of 2)

- **Note**
 - Interest is not paid with income but with cash.
 - Oftentimes, firms are required to repay part of the principal annually.
 - Thus, times interest earned is only a crude measure of the firm's capacity to service its debt.

Question 4: Are the Firm's Managers Providing a Good Return on the Capital Provided by the Company's Shareholders?

- This is analyzed by computing the firm's accounting return on common stockholder's investment or return on equity (ROE).

$$\text{Return on equity} = \frac{\text{net income}}{\text{total common equity}}$$

- Note: Common equity includes both common stock and retained earnings.

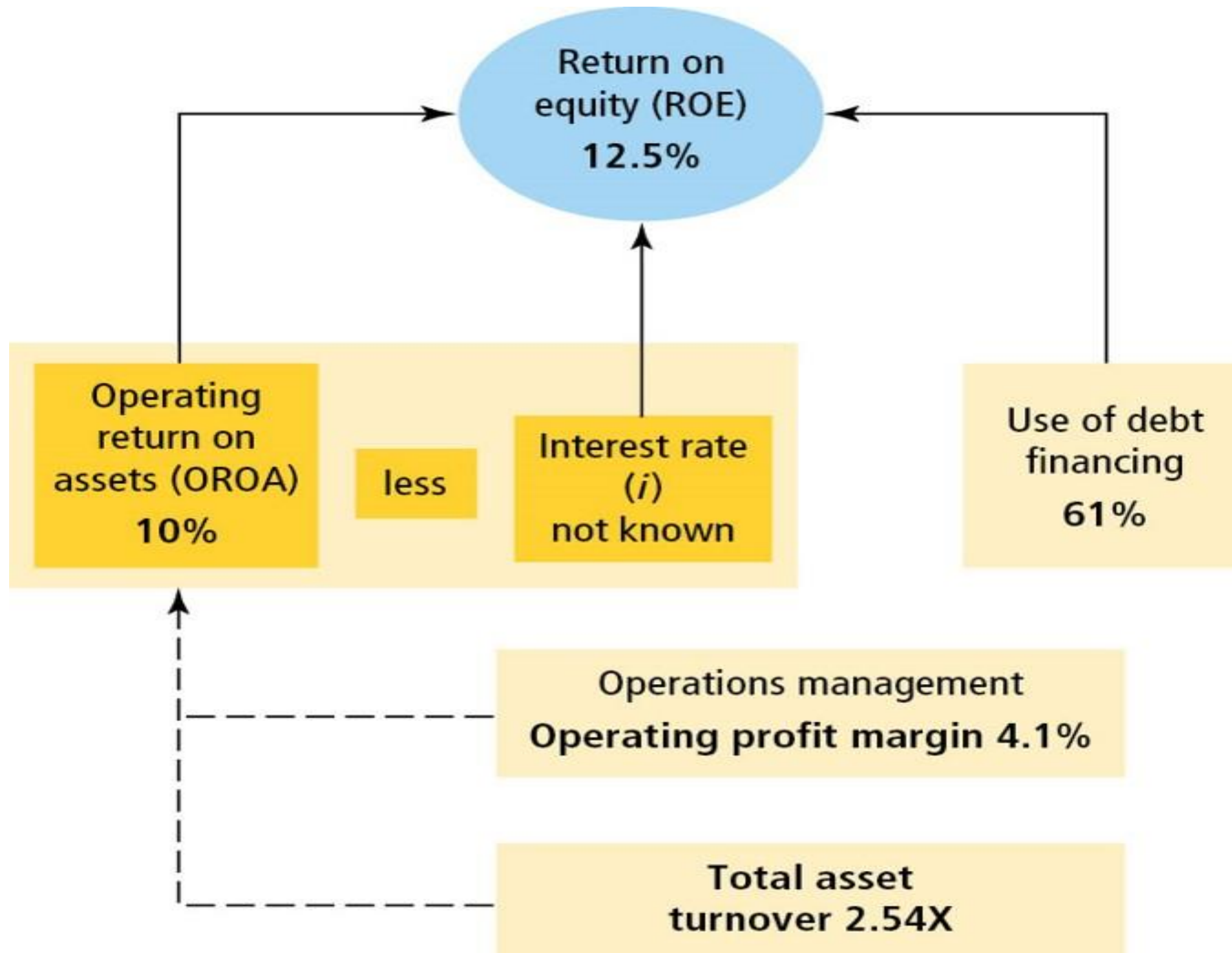
Return On Equity (ROE)

$$\text{Return on equity} = \frac{\text{net income}}{\text{total common equity}} = \frac{\$9,862M}{\$79,140M} = 0.125 = 12.5\%$$

- Owners of Walmart are receiving a 12.5% return compared to Target's 25%.
- One of the reasons for lower ROE is the lower operating return on assets (10.0% for Walmart v. 11.1% for Target).
 - A lower return on the firm's assets will always result in a lower return on equity and vice versa.
- Also, Walmart uses less debt (61% for Walmart v. 70% for Target).
 - Higher debt translates to higher ROE under favorable business conditions.

Figure 4.4

Return on Equity Relationships for the Walmart Company



Question 5: Are the Firm's Managers Creating Shareholder Value?

- We can use two approaches to answer this question:
 - Market value ratios (P/E)
 - Economic Value Added (EVA)
- These ratios indicate what investors think of management's past performance and future prospects.

Price/Earnings Ratio

- Measures how much investors are willing to pay for \$1 of reported earnings.

$$\text{Price / earnings ratio} = \frac{\text{market price per share}}{\text{earnings per share}} = \frac{\$86.00}{\$3.28} = 26.22X$$

- Investors are willing pay more for Walmart for every dollar of earnings per share compared to Target (\$26.22 for Walmart versus \$14.07 for Target).

Price/Book Ratio

- Compares the market value of a share of stock to the book value per share of the reported equity on the balance sheet.

$$\text{Price / book ratio} = \frac{\text{market price per share}}{\text{equity book value per share}} = \frac{86}{26.3} = 3.27X$$

- A ratio greater than 1 indicates that the shares are more valuable than what the shareholders originally paid. The Walmart ratio of 3.27X is lower than Target ratio of 3.53X, suggesting that Target is perceived as having better growth prospects relative to its risk.

Summary of Ratios

Table 4.3 Walmart and Target: Financial Ratio Analysis

Financial Ratios	Walmart	Target
1. Firm Liquidity		
current ratio = $\frac{\text{current assets}}{\text{current liabilities}}$	$\frac{\$59,664M}{\$80,203M} = 0.74$	0.95
acid-test ratio = $\frac{\text{cash} + \text{accounts receivable}}{\text{current liabilities}}$	$\frac{\$12,370M}{\$80,203M} = 0.15$	0.20
days in receivables = $\frac{\text{accounts receivable}}{\text{daily credit sales}}$	$\frac{\$5,614M}{\$548M} = 10.24 \text{ days}$	9.56 days
accounts receivable turnover = $\frac{\text{credit sales}}{\text{accounts receivable}}$	$\frac{\$200,137M}{\$5,614M} = 35.65X$	38X
days in inventory = $\frac{\text{inventory}}{\text{daily cost of goods sold}}$	$\frac{\$43,783M}{\$1,023M} = 42.80 \text{ days}$	61.81 days
inventory turnover = $\frac{\text{cost of goods sold}}{\text{inventory}}$	$\frac{\$373,396M}{\$43,783M} = 8.53X$	5.91X
2. Operating Profitability		
operating return on assets = $\frac{\text{operating income}}{\text{total assets}}$	$\frac{\$20,437M}{\$204,522M} = 10\%$	11.1%
operating profit margin = $\frac{\text{operating income}}{\text{sales}}$	$\frac{\$20,437M}{\$500,343M} = 4.1\%$	6.0%
total asset turnover = $\frac{\text{sales}}{\text{total assets}}$	$\frac{\$500,343M}{\$204,522M} = 2.45x$	1.84X
accounts receivable turnover = $\frac{\text{credit sales}}{\text{accounts receivable}}$	$\frac{\$500,343M}{\$5,614M} = 35.65x$	38X
Financial Ratios	Walmart	Target
inventory turnover = $\frac{\text{cost of goods sold}}{\text{inventory}}$	$\frac{\$373,396M}{\$43,783M} = 8.53X$	5.91X
fixed asset turnover = $\frac{\text{sales}}{\text{net fixed assets}}$	$\frac{\$500,343M}{\$114,818M} = 4.36X$	2.87
3. Financing Decisions		
debt ratio = $\frac{\text{total debt}}{\text{total assets}}$	$\frac{\$125,382M}{\$204,522M} = 61\%$	70%
times interest earned = $\frac{\text{operating income}}{\text{interest}}$	$\frac{\$20,437M}{\$2,178M} = 9.38x$	6.47X
4. Return On Equity		
return on equity = $\frac{\text{net income}}{\text{total common equity}}$	$\frac{\$9,862M}{\$79,140M} = 12.5\%$	25%
5. Creating Shareholder Value		
Price/earnings ratio = $\frac{\text{market price per share}}{\text{earnings per share}}$	$\frac{\$86.00}{\$3.28} = 26.22x$	14.07X
Price/book ratio = $\frac{\text{market price per share}}{\text{equity book value per share}}$	$\frac{86}{26.3} = 3.27x$	3.53X

The Limitations of Financial Ratio Analysis

The Limitations of Financial Ratio Analysis

1. It is sometimes difficult to identify industry categories or comparable peers.
2. The published peer group or industry averages are only approximations.
3. Industry averages may not provide a desirable target ratio.
4. Accounting practices differ widely among firms.
5. A high or low ratio does not automatically lead to a specific conclusion.
6. Seasons may bias the numbers in the financial statements.

Key Terms (1 of 2)

- Accounts receivable turnover ratio
- Acid-test (quick) ratio
- Asset management
- Current ratio
- Days in inventory
- Days in receivables (average collection period)
- Debt ratio
- Financial ratios
- Fixed asset turnover
- Inventory turnover

Key Terms (2 of 2)

- Liquidity
- Operating profit margin
- Operating return on assets (OROA)
- Operations management
- Price/book ratio
- Price/earnings ratio
- Return on equity
- Times interest earned
- Total asset turnover
- Total common equity (total stockholder equity)

Thank you for your Attention
Any Questions?



UAE : Abu Dhabi
KSA : Riyadh



info@systemahr.com



UAE: +971 50 240 8873
KSA : +966 59 810 6796



systemahr.com

SystemaHR