ISCTE Business School
University Institute of Lisbon

UNDERGRADUATION IN

MANAGEMENT

Management Accounting II

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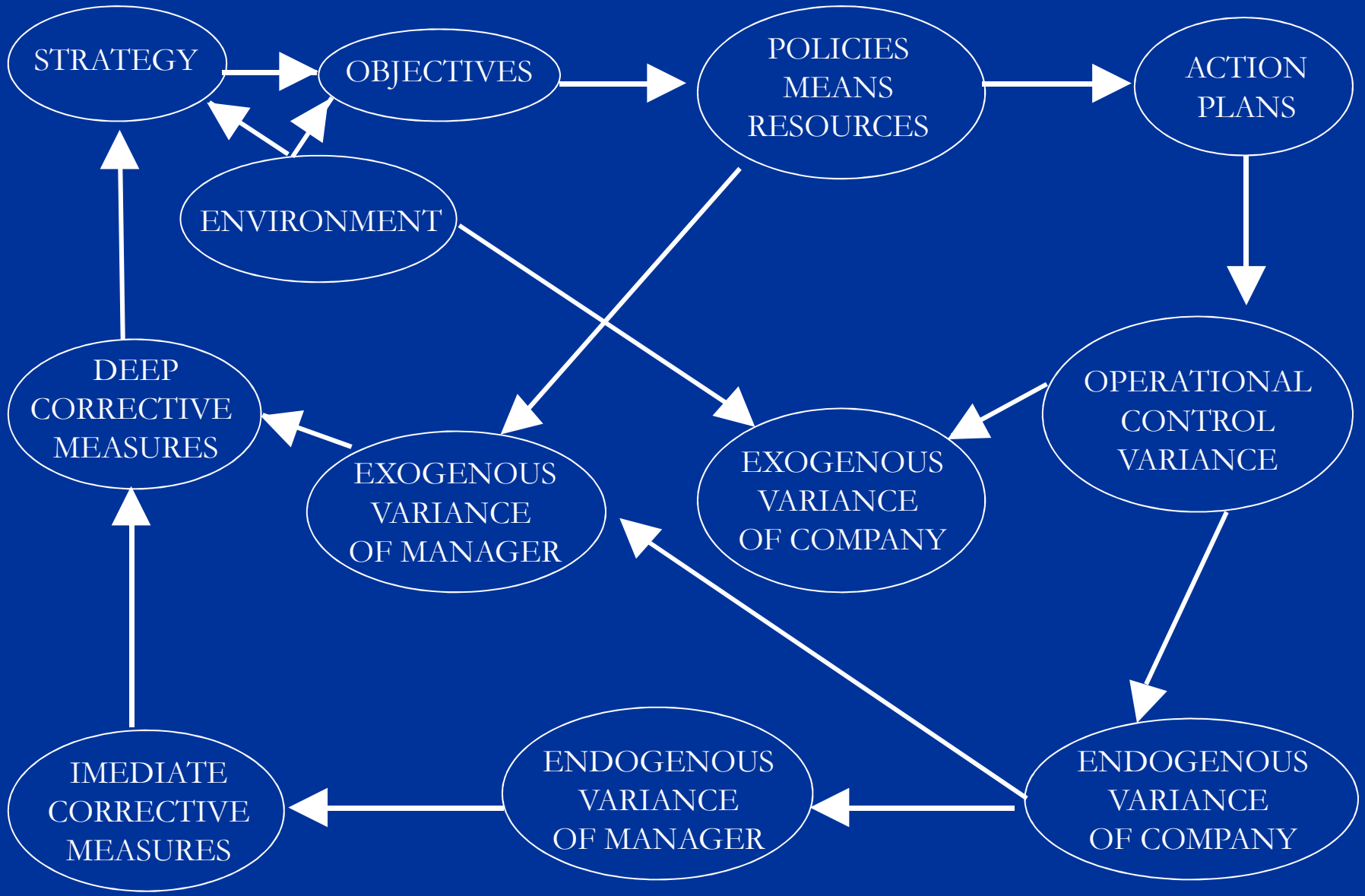
Standard (Budgeted) Costing System

Variance Analysis

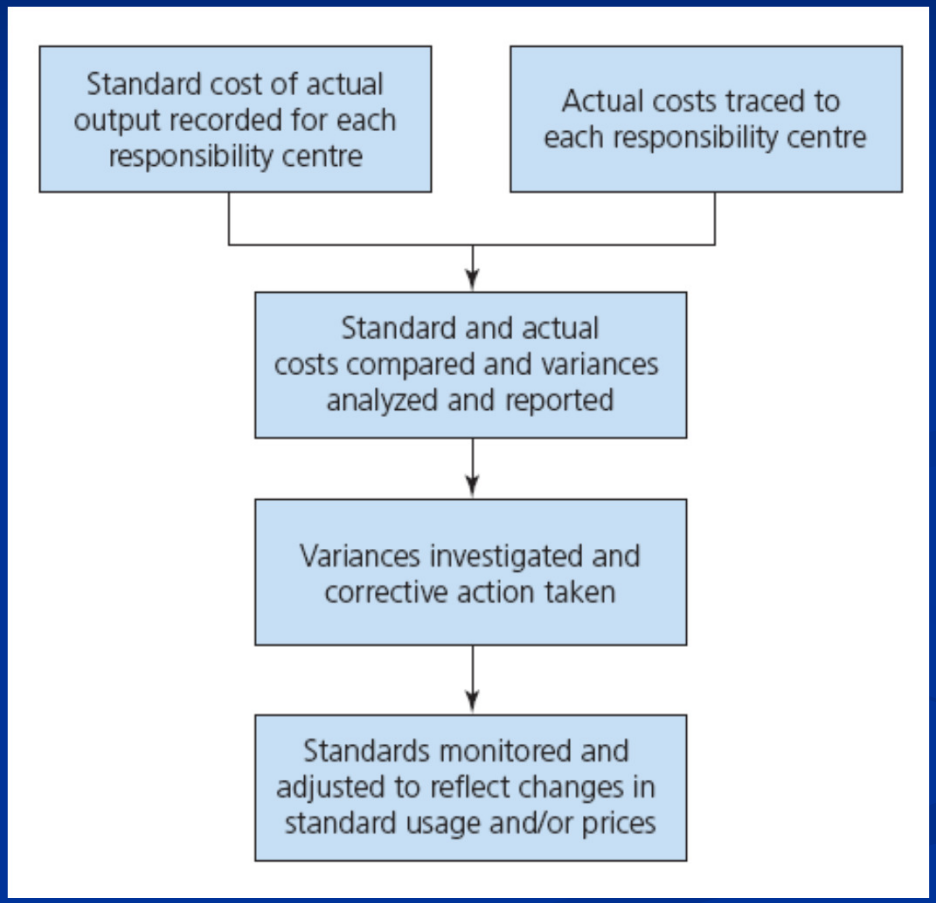
DIAGRAM OF MANAGEMENT CONTROL



Introduction

- Control decisions include questions of how to evaluate performance, what measures to use, and what types of incentives to use.
- Managers can use the budget as a control tool by comparing budgeted sales, budgeted production, and budgeted manufacturing costs with actual sales, production, and manufacturing costs.
- These comparisons are typically made through a process called *variance analysis*.

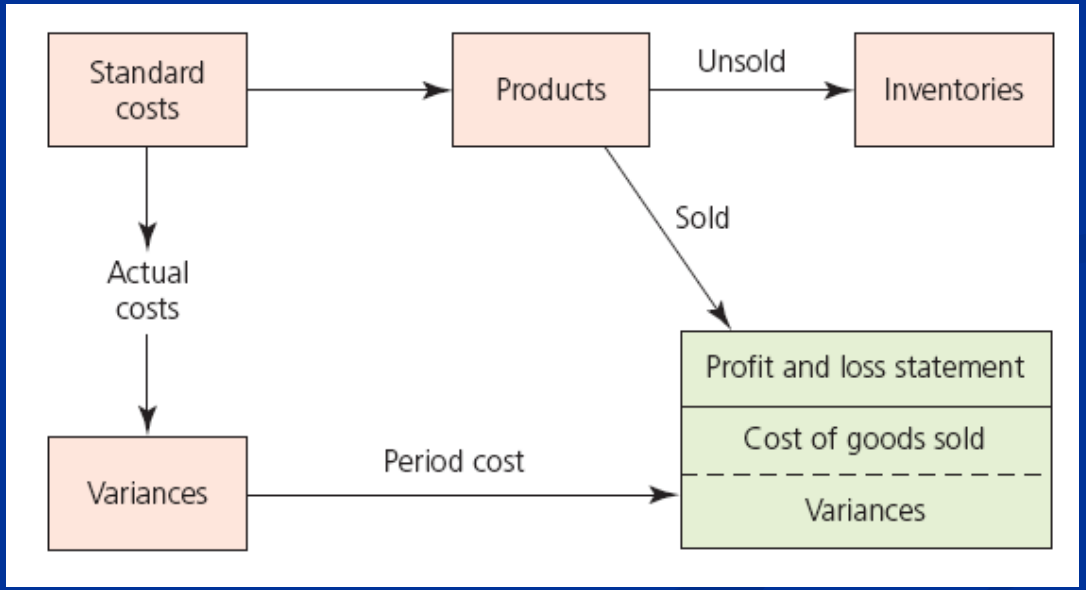
An overview of a standard costing system



Purposes of standard costing

1. To provide a prediction of future costs that can be used for decision-making.
2. To provide a challenging target that individuals are motivated to achieve.
3. To assist in setting budgets and evaluating performance.
4. To act as a control device by highlighting those activities that do not conform to plan.
5. To simplify the task of tracing costs to products for inventory valuation.

Standard costs for inventory valuation and profit measurement



Standard Cost

A budget for a single unit of a product or a service is known as its *standard cost*. Just as the cost of a product consists of three components—direct materials, direct labor, and manufacturing overhead —a standard cost will be developed for each component.

Ideal Versus Practical Standards

An *ideal standard* is one that is attained only when near-perfect conditions are present.

An ideal standard assumes that every aspect of the production process, from purchasing through shipment, is at peak efficiency.

A *practical standard (usually the budget)* should be attainable under normal, efficient operating conditions.

Practical standards take into consideration that machines break down occasionally, waste occurs in materials, etc.

Most managers would agree that practical standards encourage employees to be more positive and productive.

Standard Cost Components

There are two separate cost components for each part of a product cost:

- A standard *quantity* or amount of materials, labor or overhead.
- A standard or budgeted *price* of materials, labor or overhead.

Example: Standard hours produced

1. Used to measure output where more than one product is produced.

Specific Example

Standard (target) times: X = 5 hours, Y = 2 hours, Z = 3 hours

Output = 100 units of X, 200 units of Y, 300 units of Z

Standard hours produced = (100 × 5 hours) + (200 ×2 hours) + (300 ×3 hours) = 1 800

2. If actual DLH are less than 1 800 the department will be efficient, whereas if hours exceed 1 800 the department will be inefficient.

Note: Different activity measures and other factors (besides activity) will influence cost behaviour.

Example: Sales variances

1. Variances should be computed in terms of contribution profit margins rather than sales revenues.

2. *Specific Example*

Budgeted sales	**= 10 000 units × €11**	**= €110 000**
Standard and actual cost per unit		**= €7**
Actual sales	**= 12 000 units ×€10**	**= €120 000**

Variance in terms of sales value **= €10 000 F**

Variance in terms of contribution margin **= €4 000 U**

(Budgeted contribution margin =10 000 × €4 = €40 000
Actual contribution margin =12 000 × €3 = €36 000)

3. Objective is to maximize profits (not sales value).

4. Total sales margin variance

Specific Example

Actual contribution

Actual sales (9 000 × €90)	= €810 000
Standard VC of sales (9 000 × €68)	= €612 000
	€198 000
Budgeted contribution margin: 10 000 × €20	€200 000
Variance	= €2 000 U

5. Total sales contribution variance can be analysed further:

Sales margin price	= (AP – SP) × AQ
or	(AM – SM) × AQ
Sales margin volume	= (AQ – SQ) × SM

Therefore,

Sales margin price	= (€90 – €88 1)) × 9 000	= €18 000 F
Sales margin volume	= (9 000 – 10 000)× €20	= €20 000 U
		€2 000 U

1) €68 + €20

Sales Price Variance

Since the flexible budgeting process removes any differences or variances due to variations in production and sales volume, the differences in sales revenue between the flexible budget and actual results are caused by *sales price differences*.

The sales price variance is computed as:

Sales Price Variance = (Actual sales price – Expected sales Price) × Actual volume

The Basic Variance Analysis Model

Price variance = Actual quantity (*AQ*) X [*Actual price (AP)* - *Standard price (SP)*]

Usage (Volume or Quantity) variance = Standard price (SP) X [*Actual quantity (AQ)* - *Standard quantity (SQ)*]

Variance analysis

Description	Actual (Standard/Budgeted) costing)	Monthly forecast (Annual budget)	Variance
Sales	AQ x AP	SQ x SP	AQ x AP - SQ x SP
Cost of Sales	AQ x S MCFPu	SQ x S MCFPu	(AQ – SQ) x S MCFPu
NPMC (Period cost variances)			
Purchases variance	AQ x (AP - SP)	-	AQ x (AP - SP)
Manufacturing sections (cost centres) variance	AA x (AWU - SWU)	-	AA x (AWU - SWU)
Manufacturing variance	AQ x (A MCFPu – S MCFPu)	-	AQ x (A MCFPu – S MCFPu
Distribution (selling) expenses			
Variable	AQ x ADEu	SQ x SDEu	AQ x ADEu – SQ x SDEu
Fixed	Actual expenses (AE)	(1/12) x Ann. Bud. Exp.	AE - (1/12) x A B Exp.
Administrative expenses	Actual expenses (AE)	(1/12) x Ann. Bud. Exp.	AE - (1/12) x A B Exp.
Financial expenses	Actual expenses (AE)	Ann. Bud. Exp.	AE - A B Exp.
Profit before taxes	A	B	A - B