ISCTE Business School
Instituto Universitário de Lisboa

Accounting Department

Management Accounting II

EXERCISE BOOK 3

(Paper Sheets)

STANDARD (BUDGETED) CONTROL

Exercises 9 to 12

Management – 2nd Year

School Year 2015/2016

EXERCISE 9

FORTE company produces and markets the product BETA. Its production process is as follows:

- The materials M1 and M2 are converted in the section A1. At this stage the intermediate product BETA1 is obtained;
- Part of the intermediate product is sold at this stage to other industries and the remaining is internally converted in the section A2, giving rise to the finished product BETA and to the by-product BETA2;
- There are also two supporting sections S3 and S4. The section 4 regards to common fixed costs, allocated to the main sections in equal parts.

A. Regarding the company's annual budget for the year N, the following data are known:

1. Production and sales:

Description	MU	Production	Sales	Selling price (€)
Intermediate product BETA1	Ton	6 000	2 400	200
Product BETA	Unit	360	300	2 500
By-product BETA2	Unit	36	30	650

It is expected that the sales are allocated uniform over the course of the year.

Forecasted selling (distribution) expenses:

- Variable: 2.5 € per ton of BETA1 sold and 2% on the sales value of BETA;
- Fixed: 5 000 € per month

2. Budget of the production costs per unit produced:

Description	MU	Unit Cost (€)	BETA1		Product BETA	
			Q	€	Q	€
1 DM						
M1	ton	40	0.75	30.0		-
M2	ton	25	0.5	12.5		-
Intermediate product BETA1	ton	122.5		-	10	1 225
Total 1				42.5		1 225
2 Conv. Costs						
A1	Lh	16	5	80.0		-
A2	Mh	28			30	840
Total 2				80.0		840
3By-product BETA2	unit	650		-	0,1	(65.0)
4 Unit MCFP				122.5		2 000

3. Budget of the conversion (sections) cost:

Description	MU	A1	A2	S3	S4
1 DC					
Variable costs	€	270 000	108 000	7 500	-
Fixed costs	€	195 300	179 700	7 500	14 400
Total 1		465 300	287 700	15 000	14 400
2 Reallocations					
S3	€	7 500	7 500		
S4	€	7 200	7 200		-
3 Conv. costs		480 000	302 400	15 000	14 400
4 WU		16.0	28.0	5.0	-

B. Regarding the accounting of October, the following data are known:

1. Production and sales:

Description	MU	Production	Sales	Selling price (€)
Intermediate product BETA1	Ton	550	190	180
Product BETA	Unit	40	30	2 750
By-product BETA2	Unit	4	4	650

Selling (distribution) expenses in the month:

- Variable: 2.75 € per ton of BETA1 sold and 2.5% on the sales value of BETA;
- Fixed: 4 500 €.

2. Purchases and consumptions of materials:

Description	MU	Purchases		Consumption
		Q	Unit Cost (€)	
Material M1	ton	500	42	440
Material M2	ton	350	25	330

3. The consumption of the intermediate product BETA1 was 360 tons.
4. Activity and conversion (sections) costs:

Description	MU	Activity	Direct Costs (€)	
			Variable	Fixed
A1	Lh	2 475	21 037.5	16 230
A2	Mh	1 120	11 760	18 802.5
S3	Lh	300	1 050	750
S4	-	-	-	1 250

The activity of S3 was used in A1 and A2 - 148.5 Lh and 151.5 Lh, respectively.

5. The company adopts the standard (budgeted) absorption costing system.

Based on the available data, IT IS REQUIRED:

1. Prepare the monthly Profit & Loss Statement;
2. Analyse and comment the manufacturing variance regarding the intermediate product BETA;
3. Analyse and comment the variance of the section A1;
4. Analyse and comment the non-accounting variances associated with the product BETA, using the respective Flexible P & L Statement.

EXERCISE 9 – APPENDICES
FORTE COMPANY

Supporting tables
Table of the production costs

Description	MU	Unit Cost (€)	BETA1		Product BETA	
			Q	€	Q	€
1 DM						
M1	ton					
M2	ton					
Intermediate product BETA1	ton					
Total 1						
2 Conv. costs						
A1	Lh					
A2	Mh					
Total 2						
3By-product BETA 2	unit					
4 MCFP						
5 Unit MCFP						

Table of the conversion (sections) costs

Description	MU	A1	A2	S3	S4
1 DC					
Variable costs	€				
Fixed costs	€				
Total 1					
2 Reallocations					
S3	€				
S4	€				
3 Conv. costs					
4 WU					
Variances					

Question 1

The monthly profit & loss statement

Description	BETA	BETA1	BETA2	TOTAL
Sales				
Sales cost				
Subtotal				
NPMC				
Gross Profit				
Selling (distribution) expenses				
Variable				
Fixed				
Operational Profit				

Question 2

Question 3

Question 4

Description	Monthly P&LStat	Flexible P&L Stat	Budg P&L Stat	Total Var.	Prices Var.	Quant Var.
Sales						
MCPS						
Subtotal						
Gross Profit						
Selling (distribution) expenses						
Variable						
Fixed						
Operational Profit						

3.Analysis of the sales variance and of the sales cost variance

EXERCISE 10

The Annual Budget of **KULE** Company provided the following data **for October, year N:**

Sections	Direct Costs (€)		Activity	Work Unit Cost
	Fixed	Variable		
Section 1	40 000	6 000	200 Mh	258€/ Mh
Section 2	20 000	12 000	200 Mh	180€/ Mh
Section 3	-	9 600	240 Lh	40€/ Lh

The Section 3 reallocates 140 Lh for Section 1 and 100 Lh for Section 2.

Regarding the Section 2, 60% of the variable costs concern fuel consumptions whose budgeted acquisition price is 1.5 € / liter.

In October, the actual data calculated in the month using the Standard (Budgeted) Absorption Costing System are:

Sections	Direct Costs (€)		Activity
	Fixed	Variable	
Section 1	40 000	7 600	220 Mh
Section 2	22 000	12 000	190 Mh
Section 3	-	9 660	230 Lh

The section S3 worked 130 Lh for S1 and 100 Lh for S2.

In the Section 2, 4 750 liters of fuel were consumed at the actual price 1.35 €/liter.

Justifyng all calculations, IT IS REQUIRED:

1) Ascertain the Total Variance of the Section 2;
2) Calculate the Budget Variance and the Activity Variance of the Section 2, using the flexible Budget of the Section;
3) Justify the Activity Variance using the concept of fixed costs;
4) Calculate and analyse the Budget Variance of Fuel in the Section 2.

EXERCISE 10 - APPENDICES

1. **Total Variance of the Section 2**

2. **Analysis of the Total Variance of the Section 2, calculating the Budget Variance and the Activity Budget**

3. **Justification of the Activity Variance using the concept of fixed costs**

4. **Calculation and analysis of the Budget Variance of Fuel in the Section 2**

EXERCISE 11

KAPA company produces and markets the products ALFA and BETA.

The production process is as follows:

- The material M is converted in the section K, giving rise to the product ALFA;
- The material N is converted in the section P, giving rise to the product BETA;
- The costs of the RMW are allocated to the quantities of the materials M and N bought

Regarding the year N, the annual budget prepared using the absorption costing system shows the following data:

a) Budget of the conversion (sections) costs (values in euros)

	K 12 000 Lh	**P** 24 000 Mh	**A** 42 000 Kwh	**A1**	**RMW**
1.Direct Costs					
Variable	36 000	120 000	84 000	-	-
Fixed	18 000	72 000	42 000	36.000	40 000
2. Reallocations					
A	54 000	72 000	-		-
A1	12 000	24 000			-
3. Total Cost	120 000	288 000	126 000		40 000
U. Work Unit	10€/ Lh	12€/ Mh	3€/Kwh		

b) Annual forecasted production and sales

	Product ALFA	**Product BETA**
Production	2 000 tons	3 000 tons
Sales	2 000 tons at 100 €/ton	3 000 tons at 135 €/ton

It is expected that the sales of ALFA and BETA are uniform in each semester. 40% occur in the 1st semester. Variable selling (distribution) costs of 2% on the sales value of both products are forecasted.

c) Purchases and forecasted consumptions of M and N

	Material M	**Material N**
Purchases	3 000 tons at 10 €/ton	5 000 tons at 12 €/ton
Unit consumptions	1.6	1.3

The accounting of October of the year N provided the following data:

1. Activity and conversion (sections) direct costs (values in euros)

	K 1 160 Lh	**P** 2 550 Mh	**A** 3 750 Kwh *	**A1**	**RMW**
1. Direct costs					
Variable	3 190	13 260	8 250	-	-
Fixed	1 900	5 890	3 750	3 500	3 120

*The consumptions registered in the section A were allocated as follows: 1 450 Kwh to the section K and 2 300 Kwh to the section P.

2. Production and Sales

	ALFA	**BETA**
Production	200 tons	300 tons
Sales	150 tons	250 tons
Selling price	90 €/ton	150 €/ton

The variable selling (distribution) costs registered in the month were 2.5% on the sales value of both products.

3. Purchases and unit consumptions:

	Material M	**Material N**
Purchases	300 tons at 10.5 €/ton	350 tons at 11.5 €/ton
Unit consumptions	1.5 tons	1.35 tons

Considering that the company adopts the **standard (budgeted) absorption costing system** and regarding October of the year N, IT IS REQUIRED:

1. Ascertain the unit cost of each one of the sections;
2. Prepare the table of the production costs;
3. Ascertain the monthly Gross Profit;
4. Analyse and comment the variance of the section ALFA;
5. Analyse and comment the variance of the section A;
6. Ascertain and analyse the non-accounting variances associated with the product BETA.

EXERCISE 11 – APPENDICES

KAPA COMPANY

Table of the conversion (sections) costs

Description					
1.Direct Costs					
Variable					
Fixed					
2. Reallocations					
A					
A1					
3. Total Cost					
Work Unit					
Allocation Unit					

Table of the production costs

Description	MU	Unit Cost				
			Q	€	Q	€

Profit & Loss Statement

Description			

Analysis of the manufacturing variance – product ALFA

Analysis of the section A variance

Non-accounting variances

Sales variance of BETA

Variance of the sales cost of BETA

Variance of the variable selling (distribution) costs of BETA

EXERCISE 12

ALMAX company produces and markets from the conversion of only one material (material M) the product X, using the sections S1 and S2.

S3 is a supporting section, whose work unit is Lh;

A) The annual budget for the year N was prepared using the absorption costing system and provided the following data:

1. Forecasted sales

Description	Sales	Selling price (€)
Product X	24 000 tons	200 €

It is expected that the sales occur 40% in the 1st semester.

2. Purchases and Consumptioms

Description	Purchases	Consumptions
Material M	30 000 tons at 110 €/ton	24 000 tons

3. Budget of the production costs

Description	MU	Unit Cost	Product X 20 000 tons	
			Q	€
1 Materials				
M	ton	110	24 000	2 640 000
Total (1)				2 640 000
2. Conv. Costs				
S1	Mh	5	25 000	125 000
S2	Lh	10	40 000	400 000
Total (2)				525 000
3 MCFP				3 165 000
3 Unit MCFP				158.25

3. The conversion (sections) direct costs (€)

Sections	Variable Costs	Fixed Costs
S1	21 000	24 000
S2	(2)100 000	180 000
S3 (1)	50 000	150 000

(1) The section S3 has a forecasted activity of 10 000 Lh: 4 000 Lh in section S1 and the remaining in section S2;

(2) Regarding these costs, 20% concern the item of electricity. The acquisition forecasted unit cost is 0.25 €/Kwh.

B) The company estimates the actual accounting performance, using the standard (budgeted) absorption costing system. Regarding November of the year N, the following data are known:

1. Production and sales

Description	Production	Sales
Product X	2 000 tons	1 800 tons at 210 €/ton

2. Purchases and Consumptions

Description	Purchases	Consumptions
Material M	3 500 tons at 95 €/ton	2 500 tons

3. Sections costs (€) and activities

Sections	Direct Costs	Activity	Reallocations of S3
S1	4 000	3 000 Mh	400 Lh
S2	(3) 30 000	3 500 Lh	600 Lh
S3	22 500	1 000 Lh	-

(3) The direct costs include the expenses with electricity to the amount of 2 310 €. The unit cost of acquisition of Kwh is 0.30 €.

IT IS REQUIRED:

1. Ascertain the monthly Gross Profit regarding November of N;
2. Analyse the manufacturing variance;
3. Analyse the section S1 variance;
4. Analyse the variance of the item of electricity regarding the section S2;
5. Ascertain and analyse the non-accounting variances.

EXERCISE 12 - APPENDICES

ALMAX COMPANY

Table of the conversion (sectons) costs

Description	MU	Unit Cost						
			Q	€	Q	€	Q	€

Sections Variances:

Table of the Production Costs

Description	MU	Unit Cost				
			Q	€	Q	€

Manufacturing variances:

Profit & Loss Statement

Description		

Analysis of the manufacturing variance

Analysis of the section S1 variance

Analysis of the electricity variance

Analysis of the non-manufacturing variances