

Accounting Department

Management Accounting II

EXERCISE BOOK 2
(Solutions)

STANDARD (BUDGETED) COSTING
Exercises 5 to 8

Management 2nd year

School Year 2015/2016

EXERCISE 5 – SOLUTION
WAVE COMPANY

a) Table of the main sections costs

Description	MU	Unit Cost	L 2 300 Lh		J 3 600 Mh	
			Q	€	Q	€
1. Direct Costs						
Variable				7 650		15 200
Total (1)				7 650		15 200
2. Reallocations						
K	Lh	2	2 500	5 000	5 000	10 000
3. Total Costs				12 650		25 200
WU				5.5		7

b) Table of the production costs

Description	MU	Unit Cost	Product W – 1 000 tons			
			Q	€		
1. Materials						
A	ton	10	1 500	15 000		
Total (1)				15 000		
2. Conversion Costs						
L	Lh	5	2 300	11 500		
J	Mh	7.5	3 600	27 000		
Total (2)				38 500		
3. MCFP				53 500		
4. Unit MCFP				53.5		

Accounting variances:

Purchases:

A: 2 000 tons $(10.5 - 10) = 1\,000\text{ €}$ (Unf)

Sections:

L: 2 300 Lh $(5.5 - 5) = 1\,150\text{ €}$ (Unf)

J: 3 600 Mh $(7 - 7.5) = -1\,800\text{ €}$ (Fav)

K: 7 500 Lh $(2.5 - 2) = 3\,750\text{ €}$ (Unf)

$WU_{\text{actual K}} = 18\,750\text{ €} / 7\,500\text{ Lh} = 2.5\text{ €/Lh}$

Total variances of the sections = 3 100 € (Unf)

Manufacturing:

Basic (standard) Unit MCFP of W = $(10\,000\text{ tons} \times 1.6 \times 10\text{ €} + 140\,000 + 360\,000) / 10\,000\text{ tons} = 66\text{ €/ton}$.

W: 1 000 tons $(53.5 - 66) = -12\,500\text{ €}$ (Fav)

NPMC = total of the accounting variances = $1\,000 + 3\,100 - 12\,500 = 8\,400\text{ €}$ (Fav.)

MCPS (W): $600 \times 66 = 39\,600\text{ €}$

EXERCISE 6 – SOLUTION

TABELA COMPANY

1. Complete budget of the conversion (sections) costs

Desc.	Unit Cost	S1- 10 000		SII – 5 000		SIII – 15 000		RMW-5 000		FPW – 9 000	
		Q	€	Q	€	Q	€	Q	€	Q	€
1. Direct Costs			27 000		28 500		27 000		7 500		6 750
2. Reallocations											
SIII	1,8	10 000	18 000	5 000	9 000		-		-		-
3. Conversion Costs			45 000		37 500		27 000		7 500		6 750
WU			4.5		7.5		-		-		-
AU							1.8		1.5		0.75
CU							-				

• Sections activity

S1: $45\,000 / 4.5 = 10\,000$ Lh

S2: $37\,500 / 7.5 = 5\,000$ Lh

Allocation Basics of the Section SIII $\Rightarrow 10\,000 + 5\,000 = 15\,000$ Lh

RMW: $600 + 4\,400 = 5\,000$ tons

FPW: $3\,500 + 5\,500 = 9\,000$ tons

2. Table of the conversion (sections) cost

Desc.	Unit Cost	S1- 1 000		SII – 400		S3 – 1 400		RMW-400		FPW – 800	
		Q	€	Q	€	Q	€	Q	€	Q	€
1. Direct Costs			2 500		2 350		2 400		750		700
2. Reallocations											
SIH			1 500		750		-		-		-
3. Conversion Costs			4 000		3 100		2 400		750		700
WU			4		7.75		-		-		-
AU							-		1.875		0.875
CU							-				

3. Table of the production costs

Desc.	Unit Cost	S – 1 000 tons		X- 400 tons		Y – 600 tons	
		Q	€	Q	€	Q	€
1 Materials							
MA	30.0	40	1 200		-		-
MB	15.0	-	-	100	1 500	320	4 800
S	6.0		-	400	2 400	600	3 600
Total 1			1 200		3 900		8 400
2 Conv. Cost							
S1	4.5	1 000	4 500				
S2	7.5	-	-	200	1 500	200	1 500
Total 2			4 500		1 550		1 500
3 MCMP			5 700		5 400		9 900
Unit MCMP			5.7		13.5		16.5

• Purchase cost of the materials

RMW Allocation = 1.5

MA $\Rightarrow 28.5 + 1.5 = 30$ €/ton

MB $\Rightarrow 13.5 + 1.5 = 15$ €/ton

Standard unit MCFP of the intermediate product S = $(500 \text{ ton} \times 30 \text{ €} + 10\,000 \text{ Lh} \times 4.5) / 10\,000 \text{ tons} = 6$ €/ton

4. Gross Profit of the month

Accounting variances

Sections variance

- S1..... $4\,000 - 1\,000 \times 4.5 = -500$ (Fav) or $1\,000 \times (4 - 4.5) = -500$
- S2 $3\,100 - 400 \times 7.5 = 100$ (Unf) or $400 \times (87.75 - 7.5) = 100$
- S3 $2\,400 - 27\,000/12 = 150$ (Unf)
- RMW $750 - 400 \times 1.5 = 150$ (Unf) or $400 \times (1.875 - 1.5) = 150$
- Total** **-100 (Fav)**

Manufacturing variances:

- Variance of the intermediate product S $\Rightarrow 5\,700 - 1\,000 \times 6 = -300$ (Fav) *
- Variance of the product X $\Rightarrow -600$ (Fav)
- Variance of the product Y $\Rightarrow -900$ (Fav)
- Total** **-1 800 (Fav)**

Purchases variance:

- MA $50 \times (27 - 28.5) = -75$ (Fav)
- MB $350 \times (15 - 13.5) = 525$ (Unf)
- Total** **450 (Unf)**

Profit & Loss Statement

Description	Prod X – 300 tons	Prod Y – 500 tons	Total
Sales	7 200	15 000	22 200
Sales cost	4 500	9 000	13 500
Subtotal	2 700	6 000	8 700
NPMC			$(450 - 1\,800 + 170) = -1\,180$
Gross Profit			9 980

SMCFPu > X > Man. Variance = -600 = $400 \times (13.5 - \text{SMCFPu}) \Rightarrow \text{SMCFPu} = 15$
SMCFPu > Y > Man. Variance = -900 = $600 \times (16.5 - \text{SMCFPu}) \Rightarrow \text{SMCFPu} = 18$

Sales Cost X = $300 \times 15 = 4\,500$
Sales Cost Y = $500 \times 18 = 9\,000$

EXERCISE 7 - SOLUTION

LIVING COMPANY

Table of the conversion (sections) costs

Description	MU	Unit Cost n	S1 – 6 250 Mh		S2 – 1 600 Lh		S3 – 1 000 Lh	
			Q	€	Q	€	Q	€
1 DC								
Variable Costs				250 250		87 100		9 500
Sutotal (1)				250 250		87 100		9 500
2 Reallocations								
S3	Hh	10	600	6 000	250	2 500	-	-
Subtotal (1)				6 000		2 500		-
Total Cost				256 250		89 600		9 500
WUactual *				41		56		9.5

Sections Variances:

S1 6 250 Mh x (41-40) = + 6 250 € (Unf)

S2 1 600 Lh x (56-55) = 1 600 €(Unf)

S3 1 000 Lh x (9.5 – 10) = -500 €(Fav)

Total of the Sections Variances = +7 350 € (Unf)

Appendix 5
Table of the Production Costs

Description	MU	Unit Cost	Intermediate product V1 3 000 tons		Product V 1 000 tons	
			Q	€	Q	€
1. Materials						
Material M	ton	25	8 360	209 000	-	-
Intermediate product V1	ton	155	-	-	2 600	403 000
Subtotal (1)				209 000		403 000
2. Conv. Costs						
Section S1	Lh	40	6 250	250 000	-	-
Section S2	Mh	55	-	-	1 600	88 000
Subtotal (2)	ton			250 000		88 000
By-product V2	ton	100	-	-	110	(11 000)
3. MCFP				459 000		480 000
Unit MCFP				153		480

Standard unit MCFP (V1) = $25 \times 3 + 40 \times 2 = 155$ €/ton

Standard unit MCFP (V) = $155 \times 2.5 + 55 \times 1.5 - 100 \times 0.1 = 460$ €/ton

Manufacturing variances:

Intermediate product V1 = 3 000 tons $(153 - 155) = - 6\,000$ € (Fav)

Product V = 1 000 tons $(480 - 460) = + 20\,000$ € (Unf)

Total manufacturing variance = $- 6\,000 + 20\,000 = + 14\,000$ € (Unf)

MCPS

$\text{MCPS (V)} + \text{MCPS (V2)} = 900 \text{ tons} \times 460 \text{ €} + 100 \text{ tons} \times 100 \text{ €} = 414\,000 + 10\,000 = 424\,000 \text{ €}$

NPMC

$\text{Purchases Variance} = 9\,000 \text{ tons} (22 - 25) = -27\,000 \text{ € (Fav)}$

$\text{NPMC} = \text{Total accounting variances} + \text{manufacturing fixed costs of the month} =$
 $(-27\,000 + 7\,350 + 14\,000) + (50\,000 + 30\,000 + 55\,000 + 7\,500) + (150 \text{ Lh} \times 10 \text{ €}) = -$
 $5\,650 + 142\,500 + 1\,500 = +138\,350 \text{ € (Unf)}$

EXERCISE 8 - APPENDICES

FRESH COMPANY

a) Table of the main sections costs

Description	MU	S1 2 310 Lh		S2 3 200 Mh	
		Q	€	Q	€
1. Direct Costs					
Variable			3 696		7 520
Fixed			7 209		10 680
Total (1)			10 905		18 200
2. Reallocations					
S3			1 800		4 200
3. Total Cost			12 705		22 400
WU			5.5		7

b) Table of the production costs

Description	MU	Unit Cost	X – 700 tons		Y – 800 tons	
			Q	€	Q	€
1. Materials						
M1	ton	10	1 050	10 500	-	-
M2	ton	12	-	-	1080	12 960
Total (1)				10 500		12 960
2. Conv. Costs						
S1	Lh	5	2 310	11 550	-	-
S2	Mh	7.5	-	-	3.200	24 000
FPW	ton	2	700	1 400	800	1 600
Total (2)				12 950		25 500
3. MCMP				23 450		38 560
4. By-produto S		10	105	(1 050)		-
5. MCFP				22 400		38 560
6. Unit MCFP				32		48.2

c) Profit & Loss Statement

Description	X	Y	S	Total
Sales	28 000	52 000	1 260	81 260
MCPS	21 000	40 000	1 050	62 050
Subtotal	7 000	12 000	210	19 210
NPMC				140
Gross Profit				19 070

Sales (X): $700 \times 40 = 28\,000$

Sales (Y): $800 \times 65 = 52\,000$

Sales (S): $105 \times 12 = 1\,260$

MCPS (X): $700 \times 30 = 21\,000$

MCPS (Y): $800 \times 50 = 40\,000$

MCPS (S): $105 \times 10 = 1\,050$

Accounting variances:

Purchases:

M1: $1\,200 \text{ tons} (10.5 - 10) = 600 \text{ (Unf)}$

M2: $1\,400 \text{ ton} (11.5 - 12) = - 700 \text{ (Fav)}$ - 100 (Fav)

Sections:

S1: $2\,310 \text{ Lh} (5.5 - 5) = 1\,155 \text{ (Unf)}$

S2: $3\,200 \text{ Mh} (7 - 7.5) = - 1\,600 \text{ (Fav)}$

S3: $6\,500 - 72\,000/12 = 500 \text{ (Unf)}$

FPW: $1\,500 (3\,225/1\,500 - 40\,000/20\,000) = 225 \text{ (Unf)}$ 280 (Unf)

Manufacturing:

X: $700 \text{ tons} (32 - 30) = 1\,400 \text{ (Unf)}$

Y: $800 \text{ tons} (48.2 - 50) = - 1\,440 \text{ (Fav)}$ - 40 (Fav)

NPMC = $-100 + 280 - 40 = 140 \text{ €}$