Chapter 10 Solutions

Solution 10.1

a) Distinguish between fixed and flexible budgeting.

The fixed budget sets out the plans for the business for the next accounting period based on various assumptions of sales and sales growth, inflation (in particular labour inflation), interest rates, taxation and capital expenditure. It is known as the fixed budget as it is based on these fixed assumptions of trading performance and financial outlook. Thus the fixed budget represents the overall plan for the organisation for the next accounting period.

Flexible budgeting can be used to assist in budgetary control when comparing actual performance with the budget. From a control perspective comparing actual performance to a fixed budget may not provide much useful information if the actual activity varied significantly from the original plan. It is far more informative for the business to compare performance under similar conditions. Thus the use of flexible budgets allows the fixed budget to be adjusted (flex the fixed budget) to allow for actual activity in making the comparison between actual and budgeted performance. The flexible budget therefore substitutes the actual volume achieved into the fixed budget, keeping the unit costs and the fixed cost as agreed in the fixed budget.

For example, there is little value in comparing a hotels performance based on forecast sales of 80,000 bed-nights compared to actual sales of 120,000 bed-nights as we are not comparing like with like. Not alone will sales be different, but also variable costs will differ as they will vary with sales. Fixed costs may be greater than budgeted due to the fact that the hotels sales performance has exceeded the relevant range. Part of the process of comparing budgeted performance with actual involves flexing the fixed budget to the same activity level as actual, and then comparing actual sales and costs with the flexible budget. It is important to remember that there is still a positive volume variance of 40,000 bed-nights, but once this is identified, it is important to go on and compare costs and revenues under similar conditions. It is also important to remember that the fixed budget still remains as the target for the year. The flexible budget is only used as a tool to improve management control information.

b) What are the main features of a control system?

- The business should be organised into various centres where costs and revenues can be traced to individual managers with responsibility for making the decisions and controlling the costs and revenues of these departments or cost centres.
- Each centre should develop a fixed budget to provide a benchmark from which to compare performance.
- Actual performance should be measured frequently. Actual performance can be measured on a daily, weekly, monthly or quarterly basis depending on the size of the business and its control system.
- Actual performance should be compared to budgeted targets with variances (differences) identified and categorised as favourable or adverse. This can ensure early detection of problems and hence ensure timely corrective action is taken.
- Management should consider which variances are significant and thus require further investigation and action.
- Management should understand and be able to explain the causes of significant variances and decide whether or not they are within their control. For example variances may be due to:
    - Unreasonable targets set in the budget.
    - Once-off or random events that distort actual performance.
    - Inefficiencies within the organisation.
- Where possible management should take corrective action.

Solution 10.2

a) Explain what is meant by the term variances and distinguish between favourable and adverse variances

Variances are differences between actual performance and budgeted performance. Variances occur when actual costs and revenues differ from budget and can be categorised as either favourable or adverse.

- Favourable variances occur where actual performance is better than budgeted. For example actual sales are greater than budgeted or actual labour costs are less than budgeted. Both these variances result in actual profit being greater than budgeted and thus are considered favourable.
- Adverse variances occur where actual performance is worse than budgeted performance. For example actual sales are less than budgeted sales or actual labour costs are greater than budgeted labour costs. Both these variances result in actual profit being less than budgeted and thus are considered adverse

b) Explain the three variances that can be applied to the analysis of sales

Variance analysis is the processes of breaking down variances to find the true cause for the deviation with a view to improving efficiencies within the business. For example the overall sales variances can be analysed into 3 sub-variances namely.

- Sales volume variance which identifies the difference between actual and budgeted sales caused by differences in sales volume. If actual sales volume is greater than budgeted this will lead to a favourable sales volume variance and may lead to an overall favourable sales variance.
- The sales price variance. This identifies the difference between actual sales and budgeted sales caused by differences between the price set in the fixed budgeted and actual price charged. If actual sales price achieved is greater than budgeted this will lead to a favourable sales price variance and may lead to an overall favourable sales variance.
- The sales mix variances: Sales mix is the term used to describe the mix of products / services that a business sells. Many of these different products have different prices and profit margins. For example in a hotel, accommodation would average a gross margin of 90 per cent with food closer to 64 per cent and

beverages around 60 per cent. Thus if sales volumes increase, (a favourable volume variance) but actual accommodation sales have fallen compared to food and beverages, (leading to an adverse sales mix variance) then the overall sales variance could be adverse.

Solution 10.3

a) Outline the roles of both flexible and rolling budgets in an organisation, explaining clearly the differences between both approaches

A flexible budget is a budget which is designed to adjust the permitted cost levels to suit the level of activity actually attained. The process by which this is done is by analysing costs into their fixed and variable elements so that the budget may be *flexed* according to the actual activity. A flexible budget is essential for the control aspect of budgeting.

A rolling budget is a twelve month budget which is prepared several times each year (say once each quarter). The purpose of a rolling budget is to give management the chance to revise its plans, but more importantly, to make more accurate forecasts and plans for the next few months. When rolling budgets are prepared both the activity level and costs/revenues are reviewed. This extra administration costs and effort of producing several budgets instead of just one, should be balanced with more accurate forecasting and planning.

Whereas rolling budgets focus on developing up to date and realistic plans for a business, flexible budgeting is mainly concerned with providing relevant reliable and accurate information from the budgetary control process to inform management planning and decision-making. The key difference between a flexed budget and a rolling budget, is that a flexed budget adjusts the volumes to actual activity and keeps the budget cost structure, while a rolling budget reassesses both volumes and costs to provide more realistic estimates based on more up-to date information.

b) Outline how flexible budgets assist in analysing variances

The master budget for a business is often called a fixed budget as it is based on fixed assumptions regarding economic conditions, forecast sales and sales growth. However it is seldom that forecasters get these predictions right as the business environment is quite a dynamic one. It can be meaningless to compare a fixed budget based on certain economic conditions to actual performance based on completely different economic conditions. It is far more informative for the business to compare performance under similar conditions. Thus the use of flexible budgets allows the fixed budget to be adjusted (flex the fixed budget) to allow for actual activity in making the comparison between actual and budgeted performance. For example, there is little value in comparing a hotels performance based

on forecast sales of 80,000 bed-nights compared to actual sales of 120,000 bed-nights. We are not comparing like with like. Not alone will sales be different, but also variable costs will differ as they will vary with sales. Fixed costs may be greater than budgeted due to the fact that the hotels sales performance has exceeded the relevant range. Part of the process of comparing budgeted performance with actual involves flexing the fixed budget to the same activity level as actual, and then comparing actual sales and costs with the flexible budget. Thus overall variances can be broken into

1. Volume variances representing variances (both cost and revenue) caused by the difference between the budgeted sales volume and actual sales volume.
2. Price/cost variances representing variances caused by changes to sales prices as well as inefficiencies with regard to materials labour and overheads.

This level of analysis can provided management with more useful information to improve planning, control and decision-making.

Solution 10.4

a) Prepare a budgetary control statement that enables identification of volume and price or cost variances

This question asks for you to identify the volume and price/cost variances seperately. Prepare a budgetary control statement that shows static, volume and price variances. The following steps can be taken:

- *Layout the budgetary control statement, clearly labelling each column and use a marginal costing format.*
- *Enter the fixed budget figures*
- *Calculate and enter the flexible budget figures. Remember both sales and variable costs should be the actual volume multiplied by the budgeted unit information but the fixed costs are left unchanged.*
- *Enter the actual figures.*
- *Calculate the variances*

Budgetary control statement

		Fixed Budget	Flexible Budget	Actual Results	Variance	
Sales volume		1,000	1,200	1,200		
		€	€	€	€	
Sales	€ 900.00	900,000	**1,080,000**	**960,000**	120,000	A
Less variable costs						
Purchases	€ 500.00	500,000	**600,000**	**576,000**	24,000	F
Installation costs	€ 80.00	80,000	**96,000**	**97,000**	1000	A
Delivery	€ 5.00	5,000	**6,000**	**6,000**	0	
		585,000	702,000	679,000		
Contribution		**315,000**	**378,000**	281,000	63000	F
Less fixed costs						
Delivery		1,000	**1,000**	**1,000**	0	
Overheads		120,000	**120,000**	**123,000**	3000	A
		121,000	121,000	124,000		
Net profit		194,000	257,000	157,000	37000	A

b) Discuss the position revealed by the statement

The company budgeted to achieve a profit of €194,000. Actual profit for the period was €157,000 resulting in an overall adverse variance of €37,000. Actual profit was 19% less than budgeted. This is very significant and needs to be further investigated.

Sales variances: The company achieved a 20% increase in sales volume resulting in a favourable sales margin volume variance of €63,000. However this was achieved through a reduction in average price as indicated by the adverse sales price variance of €120,000. It is possible that by reducing the price the company hoped that volume sales would compensate for the reduced price. However this did not occur. Was the price reduction part of a strategy or was it due to increased competition. Management must also question the realism of the budget target selling price of €900. The actual average selling price amounted to €800 an 11% fall.

Purchases Variance: The purchases variance was a favourable variance of €24,000. The company expected purchases at the actual level of activity to be €600,000. Actual purchases amounted to €576,000, a reduction of 4%. Management need to assess where these saving were made and if the budget target was reasonable.

Installation Variance: This variance amounted to €1,000 adverse mainly caused by requiring more labour due to the higher volume sold. The variance amounts to 1% of budgeted installation costs and thus is not considered significant.

Delivery: There are no variances with delivery costs.

Overhead Variance: The overhead variance amounts to €3,000 adverse and relates to the fact that actual overhead was €3,000 greater than budgeted. This variance amounts to 2.5% of budgeted overhead and management should identify what actual overhead costs increased compared to budget.

Overall the main variances relate to sales and management must assess reasons why actual sales price was so out of line with the budget target.

Solution 10.5

a) Distinguish between budgetary planning and budgetary control

Budgetary planning facilitates a business developing plans for the future. Planning provides a focus for a business. It provides objectives or goals which the business should see as the stepping stones to achieving its strategy. A business is unlikely to be successful unless its managers have a clear plan regarding its future direction. Plans require financial resources (money) and generally the financial resources of a business are limited. Thus it is essential to evaluate the financial implications of pursuing each course of action open to the business. In so doing, a business can select the course that hopefully will achieve its strategic objectives. Budget planning involves the preparation of a master budget sets out the plans for the business for the next accounting period based on various assumptions of sales and sales growth, inflation (in particular labour inflation), interest rates, taxation and capital expenditure. However budgetary planning is only one part in the overall budgetary process. Budgetary control is also essential because actual performance needs to be monitored and compared to the budgeted targets set to evaluate the performance of the business. Actual performance will always differ from the fixed budget as the business environment is quite dynamic and thus events and conditions may not turn out as anticipated in the budget. It is important that actual events in a budget period are monitored against the budget plan so that timely action can be taken to remedy or improve the situation. Budgetary control is concerned with the manner in which budgets are used as a tool of management.

Prepare a statement showing the fixed budget, flexible budget, actual results and variances for the three month period

The approach here is to follow the following steps

- *Prepare the fixed budget in a marginal costing profit statement format. The fixed budgeted is based on the formula budgeted price x budgeted volume. It is important to exclude VAT from the selling price by multiplying €9 x 100/112.5*
- *Prepare the flexible budget. This is where we ascertain what the budget would look like based on actual volume. The formula for this budget is budgeted price x actual volume. The difference between the fixed budget and flexible budget is due to difference between budgeted volume of activity and actual.*

- *Prepare the actual results in a marginal costing profit statement format. Again sales must exclude VAT. This is done by multiplying the sales figure of €562,500 x 100/112.5.*
- *In the question there are two categories of variances. Volume variances based on comparing the fixed and flexible budget and price/cost variances based on comparing the flexible budget and actual results. One summary variance is calculated for the volume variances namely the sales margin volume variance. This is because there is only one possible reason for this variance. However the price/cost variances are detailed for each category or type.*

Statement - fixed and flexible budgets with actual results and variances

		Fixed	**Flexible**	**Actual**	**Variances**
Sales Units		60,000	65,000	65,000	
Selling Price	€8.00				
		€	€	€	€
Sales		480000	**520000**	**500000**	-20000
Less Variable Costs					
Food	€3.20	192000	**208000**	**220000**	-12000
		------	------	------	------
Contribution	€4.80	**288000**	**312000**	280000	24000
Less fixed costs		124750	**124750**	**120000**	4750
		------	------	------	------
Net Profit		163250	187250	160000	-3250

The following is a summary of the variances calculated

		€
Sales price variance	*(500,000 – 520,000)*	*(20,000)*
Sales margin volume variance	*(288,000 – 312,000)*	*24,000*
Food cost variance	*(208,000 – 220,000)*	*(12,000)*
Fixed cost variance	*(124,750 – 120,000)*	*4,750*
Overall profit variance	*(163,250 – 160,000)*	*(3,250)*

Comment on the results

Overall profit has fallen by €3250 or 2% (3250/163250). This is ultimately a small overall variance however each variance must be looked at individually.

Sales price variance: This is a negative variance of €20,000. Ultimately the business did not achieve its budget target average spend of €8. The actual average spend was €7.7 (500,000/65,000). The effect of this variance is that actual profit was 12.5% (20,000/163,250) less than budget due to the business not achieving its target average spend.. Possible reasons for this could include an unrealistic budget target, increased competition and reducing prices as a strategy to boost volume sales.

Food cost variance: This is a negative variance of €12,000 resulting in actual food cost being 5.76% (220,000/208,000 –1) greater than budget at the same level of activity. The effect of this variance is that actual net profit is 7.35% (12,000/163,250) less than budget due to this single cost variance. This is a significant variance and management should ascertain its causes. These could include an unrealistic budget target, inflation in the food sector not taken into account in preparing the budget, uncompetitive practices in tendering suppliers and lack of good materials /food control with increased levels of waste.

Sales margin volume variance: This positive variance is created by the business selling more covers than anticipated in the budget. Actual volume of activity increased by 8.33% (5000/60,000). Thus actual profit is €24,000 or 14.7% (24,000/163250) greater than budget due to the greater level of sales activity. This could be related to the lower average spend achieved or possibly the budget target was too easily achievable.

The fixed cost variance: This is a positive variance of €4,750. Actual profit is 2.9% (4750/163250) greater than budget due to this variance. To analyse this variance one would need a break-down of what constitutes fixed costs and the individual variances that make up the overall fixed cost variance. This is not available form the question.

Solution 10.6

a) Prepare a statement for the period showing the fixed and flexible budgets with actual results and variances

The approach here is to follow the following steps

- *Prepare the fixed budget in a marginal costing profit statement format. The fixed budgeted is based on the formula budgeted price x budgeted volume. It is important to exclude VAT from the selling price by multiplying €11.25 x 100/112.5*
- *Prepare the flexible budget. This is where we ascertain what the budget would look like based on actual volume. The formula for this budget is budgeted price x actual volume. The difference between the fixed budget and flexible budget is due to difference between budgeted volume of activity and actual.*
- *Prepare the actual results in a marginal costing profit statement format. Again sales must exlude VAT. This is done by multiplying the sales figure of €732,000 x 100/112.5.*
- *In the question there are two categories of variances. Volume variances based on comparing the fixed and flexible budget and price/cost variances based on comparing the flexible budget and actual results. One summary variance is calculated for the volume variances namely the sales margin volume variance. This is because there is only one possible reason for this variance. However the price/cost variances are detailed for each category or type.*
- *The figures in bold show the make-up of each variance.*

Statement - fixed and flexible budgets with actual results and variances

	Fixed	Flexible	Actual	Variances
Sales volume	75,000	82,000	82,000	
Sales price	€10	€10		
	€	**€**	**€**	**€**
Sales	750000	**820000**	**650667**	-169333
Less variable costs				
Food costs	300000	**328000**	**270500**	57500
Other variable costs	90000	**98400**	**85000**	13400
Contribution	**360000**	**393600**	295167	33600
Less fixed costs				
Labour costs	158000	**158000**	**165000**	-7000
Overheads	78000	**78000**	**65000**	13000
Net profit	124000	157600	65167	

b) Prepare a statement reconciling the actual net profit with the budgeted net profit

Statement Reconciling Budget Net Profit with Actual Net Profit

Budgeted net profit		124,000
Sales price variance	-169,333	
Sales margin volume variance	33,600	
Food costs variance	57,500	
Other variable costs variance	13,400	
Labour costs variance	-7,000	
Overhead costs variance	13,000	-58,833
Actual net profit		65,166

c) Prepare a report evaluating the results you have prepared and suggesting possible causes for the variances

Such a report should begin by identifying the overall variance (difference in profit) before focusing on each individual variance, explaining and showing their significance as well as possible causes

Overall profit has fallen by €58,833 or 47% (58,583/124,000). This is a very significant overall variance and thus each variance must be looked at individually beginning with the negative variances.

Sales price variance: This is a negative variance of €169,333 and is the most significant of the variances. Ultimately the business did not achieve its budget target average spend of €10. The actual average spend was €7.93 (650,667/82,000) a difference of 20.7%. The effect of this variance is that actual profit was 136% (169333/124,000) less than budget due to the business not achieving its target average spend. This equates with a sensitivity rating of 6.57 times. In other words if selling prices falls by 1% profit will fall by 6.57%. The size of this variance suggests that the budget target was very unrealistic and unachievable. Other reasons would include increased competition and reducing prices as a strategy to boost volume sales.

Fixed labour cost variance: This is a negative variance of €7,000. Fixed labour costs were 4.5% (7,000/158,000) above budget. Possible reasons include a new wage agreement or possible extra employee taken on in anticipation of increased activity.

Sales margin volume variance: This positive variance of €33,600 is created by the business selling more covers than anticipated in the budget. Actual volume of activity increased by 9.33% (7000/75,000). Thus actual profit is €33,600 or 27% (33,600/124,000) greater than budget due to the greater level of sales activity. This could be related to the lower average spend achieved or possibly the budget target was too easily achievable.

Food cost variance: This accounts for the biggest positive variance for the period of €57,500 resulting in actual food cost being 17.5% (55,700/328,000) less than budget at the same level of activity. The effect of this variance is that actual net profit is 46% (55700/124,000) greater than budget due to this single cost variance. This amounts to a sensitivity rating of 2.63 times. This is a very significant variance and management should ascertain its causes. These could include an unrealistic budget target, inflation in the food

sector not taken into account in preparing the budget, uncompetitive practices in tendering suppliers and lack of good materials /food control with increased levels of waste.

Other variable costs variance; This is a positive variance of €13,400 representing a cost saving. Management must have clear knowledge of what costs are included as part of this category. Part-time labour is a possibility. Questions must be asked as to whether this cost saving is due to an overly conservative budget estimate or as fixed labour costs increased could some part-time labour costs be reclassified as fixed.

Overhead cost variance: This is a positive variance of €13,000. Overheads were €13,000 or 16.67% less than the budget target. Actual profit is 10.5% greater than budget due to this variance. To analyse this variance one would need a break-down of what constitutes fixed costs and the individual variances that make up the overall fixed cost variance. This is not available form the question

Solution 10.7

Prepare an alternative presentation for the budget above that provides more meaningful information for control purposes

This question asks for you to prepare an alternative presentation for the budget, therefore prepare a budgetary control statement that shows static, volume and price variances. The following steps can be taken:

- *Layout the budgetary control statement, clearly labelling each column and use a marginal costing format.*
- *Enter the fixed budget figures*
- *Calculate and enter the flexible budget figures. Remember both sales and variable costs should be the actual volume multiplied by the budgeted unit information but the fixed costs are left unchanged.*
- *Enter the actual figures. Remember to separate semi-variable costs.*
- *Calculate the variances*

Some of the figures need to be calculated:

Fixed budget: variable operational overhead is operational overhead €1,305,000 x 20% while fixed operational overhead is 1,305,000 x 80%.

Actual operational overhead breakdown as fixed €1,044,000 (exactly as budgeted) and variable €304,000 (€1,348,000 minus €1,044,000).

To find unit figures simple divide the fixed budget amount by the budgeted volume

Budgetary Control Worksheet

		Fixed Budget	Flexible Budget	Actual Results	Variance
Sales volume		435,000	475,000	475,000	0
		€	€	€	€
Sales	€ 11.80	5,133,000	**5,605,000**	**5,557,500**	47,500 A
Less variable costs					
Cost of sales	€ 2.35	1,022,250	**1,116,250**	**1,102,000**	14,250 F
Variable labour	€ 1.65	717,750	**783,750**	**798,000**	14,250 A
Variable overhead	€ 0.60	261,000	**285,000**	**304,000**	19,000 A
Sales commission	€ 0.59	256,650	**280,250**	**277,875**	2,375 F
		2,257,650	2,465,250	2,481,875	
Contribution		**2,875,350**	**3,139,750**	3,075,625	264,400F
Less fixed costs					
Operational overhead		1,044,000	**1,044,000**	**1,044,000**	0
Administration		865,000	**865,000**	**878,000**	13,000 A
Marketing		350,000	**350,000**	**341,400**	8,600 F
		2,259,000	2,259,000	2,263,400	
Net profit		616,350	880,750	812,225	195,875 F

Solution 10.8

a) Prepare a budgetary control statement showing fixed and flexible budgets with actual results and variances

The following steps can be taken:

- *Layout the budgetary control statement, clearly labelling each column and use a marginal costing format.*
- *Enter the fixed budget figures*
- *Calculate and enter the flexible budget figures. Remember both sales and variable costs should be the actual volume multiplied by the budgeted unit information but the fixed costs are left unchanged. In this question there are two items involved multiply each volume by the relative price / cost.*
- *Enter the actual figures. Remember to separate semi-variable costs.*
- *Calculate the variances*

Budgetary Control Worksheet

	Small Shed	Medium Shed	Fixed Budget	Flexible 1 Budget	Flexible 2 Budget	Actual Results	Price Variance
			Bc xBm xBv	Bc xBm xAv	Bc xAm xAv		
Sales volume			600	591	500	500	0
			400	394	485	485	0
			€	€	€	€	€
Sales	€520.00	€700.00	592,000	583,120	**599,500**	**594,650**	4,850 A
Less variable costs							
Purchases	€250.00	€400.00	310,000	305,350	**319,000**	**311,725**	7,275 F
Installation	€100.00	€150.00	120,000	118,200	**122,750**	**122,750**	0
Delivery	€20.00	€20.00	20,000	19,700	**19,700**	**19,700**	0
			450,000	443,250	461,450	454,175	
Contribution			**142,000**	**139,870**	**138,050**	140,475	
Less fixed costs							
Delivery			1,000	1,000	**1,000**	**1,000**	0
Overheads			95,000	95,000	**95,000**	**97,500**	2,500 A
			96,000	96,000	96,000	98,500	
Net profit			46,000	43,870	42,050	41,975	

Sales contribution volume variance 2,130A

Sales contribution mix variance 1,820 A

Statement reconciling budgeted net profit with actual

	€	€
Budgeted Net profit		46,000
Sales price variance	4,850 A	
Sales contribution volume variance	2,130 A	
Sales contributions mix variance	1,820 A	
Purchases variance	7,275 F	
Overheads variance	2,500 A	
		4,025
Actual Net profit		41,975

b) Discuss the position revealed by the statement

Overall the actual net profit was €4025 or 8.75% less than budgeted. The main variances identified above show that the sales variances are the main cause for this adverse overall variance. There is also a significant increase in overheads compared to the budget target

Sales price variance: This is a negative variance of €4,850 due to the fact that the company did not achieve its sales price targets.. Possible reasons include increased competition a well as the possibility that the budget price targets were overly optimistic.

Sales contribution volume variance: This is also a negative variance as the company sold less units than budgeted. Actual sales were 1.5% less than target. Again management need to assess reasons for this variance including questioning the target figure of 1000 units for the period.

Sales contribution mix variance: This is also a negative variance due to the actual sales mix differing from the budgeted sales mix. The company most profitable shed is the small shed as it costs less and has less installation time. The company budgeted to sell 600 units of the small shed however actual sales were 500 units a drop of 16.7%. This is the reason for this negative variance.

Purchases cost variance: Purchase costs fell in this period. Actual purchase costs were €7275 or 2.28% less than the budget target. This is the only positive variance for the period. Management must understand the reasons behind this variance. Was it due to the target purchase costs not being realistic or the fact that the company achieve unexpected savings in this area.

Overhead variance: This is a negative variance of €2,500 where actual overhead was €2,500 or 2.63% above the budget target. Management should analyse the break-down of overheads to identify what actual overhead item varied above the target and assess the reasons behind this.

Solution 10.9

a) Prepare a statement showing the fixed and flexible sales budgets, actual revenue and variances

This question includes sales mix complications. Thus a second flexible budget must be prepared to identify sales variances caused by changes to the sales mix. The following is the advised format for tackling this question.

Prepare the fixed budget. All the figures in the fixed budget are based on the original budget assumptions about sales price, sales volume and sales mix. The fixed budget is based on the formula

Budgeted price x budgeted volume x budgeted mix (BP x BV x BM)

Prepare the flexible budget (flexible budget 1). This budget is based on actual volume sales, but at the original budgeted mix and budgeted prices. As there is no cost information any difference in sales between the fixed and the flexible budget is due to the volume variance and hence this variance is isolated.

Budgeted price x actual volume x budgeted mix (BP x AV x BM)

Prepare a second flexible budget (flexible budget 2). This budget is based on actual volume and the actual sales mix but at budgeted price. As there is no cost information and we are only dealing with the sales budget, the difference in sales between the first and second flexible budgets is due to the sales mix variance and hence this variance is isolated.

Budgeted price x actual volume x actual mix (BP x AV x AM)

Enter the actual figures.

Actual price x actual volume x actual mix (AP x AV x AM)

Find the sales price variances. This is the difference between flexible budget 2 and actual figures.

	Fixed Budget	Flexible Budget 1	Flexible Budget 2	Actual	Variances
	€	€	€	€	€
Sales volume	40,000	44,000	44,000	44,000	
Sales					
Bowling	132,000	145,200	150,005	137,500	12,505 A
Snooker	48,000	52,800	39,987	42,500	2,513 F
Play area	48,000	52,800	56,003	63,000	6,997 F
Total sales	228,000	250,800	245,995	243,000	2995 A

Sales volume variance	Sales mix variance
€22,800 F	**€4805 A**

The following shows how the sales figures are computed:

Budget type	**Package sales**
Fixed: BV x BM x BP	Bowling: 40,000 admissions x 55% x €6= €132,000 Snooker: 40,000 Admissions x 15% x €8 = €48,000 Play area : 40,000 Admissions x 30% x €4 = €48,000
Flexible 1: AV x BM x BP	Bowling: 44,000 admissions x 55% x €6 = €145,200 Snooker: 44,000 admissions x 15% x €8 = €52,800 Play area: 44,000 admissions x 30% x €4 = €52,800
Flexible 2: AV x AM x BP	Bowling: 44,000 admissions x 56.82% x €6 = €150,005 Snooker: 44,000 admissions x 11.36% x €8 = €39,987 Play area: 44,000 admissions x 31.82% x €4 = €56,003

b) Prepare a statement reconciling budgeted sales revenue to the actual sales revenue.

Statement reconciling budgeted sales revenue to actual sales revenue

	€	€
Budgeted sales		228,000
Variances		
Sales volume variance	22,800 F	
Sales mix variance	4,805 A	
Sales price variance	2,995 A	15,000 F
Actual sales		243,000

Solution 10.10

a) Prepare a statement showing the fixed budget, flexible budgets, actual results and variances for the quarter.

This question has sales mix complications and thus a sales mix variance will have to be separately calculated. This is done by preparing a second flexible budget and comparing at contribution level the difference between the first flexible and second flexible budgets. The following approach is recommended.

Step 1: Prepare the fixed budget. All the figures in the fixed budget are based on the original budget assumptions about sales price, sales volume and sales mix.

Budgeted price x budgeted volume x budgeted mix (BP x BV x BM)

Step 2: Prepare the flexible budget (flexible budget 1). This budget is based on actual volume sales, but at the original budgeted mix and budgeted prices. Any difference in contribution between the fixed and the flexible budget is due to the volume variance and hence this variance is isolated.

Budgeted price x actual volume x budgeted mix (BP x AV x BM)

Step 3: Prepare a second flexible budget (flexible budget 2). This budget is based on actual volume and the actual sales mix but at budgeted price. The difference in contribution between the first and second flexible budgets is due to the sales mix variance and hence this variance is isolated.

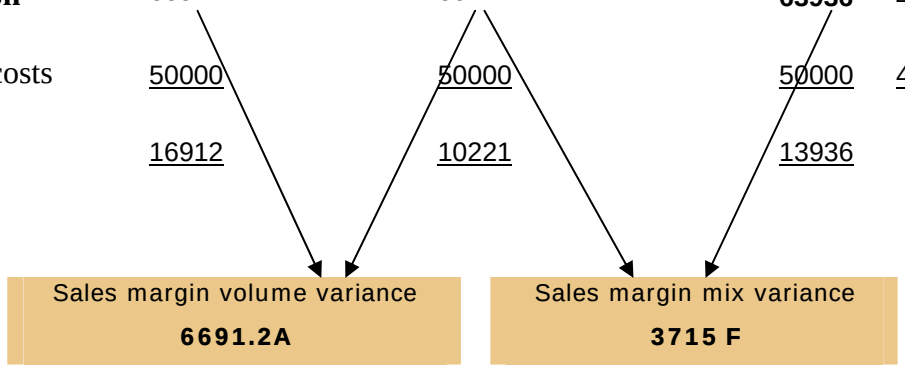
Budgeted price x actual volume x actual mix (BP x AV x AM)

Step 4: Enter the actual figures.

Actual price x actual volume x actual mix (AP x AV x AM)

Step 5: Find the price or cost variance. This is the difference between flexible budget 2 and actual figures.

		BP*BV*BM		BP*AV*BM		BP*AV*AM		
		FIXED		FLEXIBLE		FLEXIBLE	ACTUAL	VARIANCE
		€		€		€	€	€
Sales								
Luxury (1200*8%*€160)		15360	(1080*8%*€160)	13824	(1080*10%*€160)	17280		
Mid-range (1200*50%*€80)		48000	(1080*50%*€80)	43200	(1080*60%*€80)	51840		
Budget (1200*42%*€50)		25200	(1080*42%*€50)	22680	(1080*30%*€50)	16200		
Total sales		88560		79704		**85320**	**100000**	14680
Less Variable Costs								
Direct costs								
Luxury	20%	3072		2764.8		3456		
Mid-range	15%	7200		6480		7776		
Budget	10%	2520		2268		1620		
Total direct costs		12792		11513		**12852**	**41000**	-28148
Other variable costs		8856		7970.4		**8532**	**13,000**	-4468
Total variable costs		21648		19483		21384	54000	
Contribution		**66912**		**60221**		**63936**	46000	
Less Fixed costs		50000		50000		50000	45000	5000
Net profit		16912		10221		13936	1000	



b) Prepare a statement reconciling the budgeted net profit to the actual net profit.

Statement reconciling budgeted net profit with actual net profit

BUDGETED NET PROFIT		16912
Sales variances		
Sales margin volume variance	-6691.2	
Sales margin mix variance	3715.2	
Sales price variance	14680	
Direct cost	-28148	
Other variable cost variance	-4468	
Fixed cost variance	5000	
		-15912
ACTUAL NET PROFIT		1000

c) *Write a short report to the directors of the Doyle's Hotel and Leisure Centre evaluating the results you have produced and suggesting possible reasons for the variances.*

In evaluating the performance of the business from the point of view of achieving budget targets this business has failed miserably. Actual profit has fallen 96% compared to the budget target. This suggests that either the budget targets were unachievable or random events outside the control of the business had a part to play in the actual performance. The following is an analysis of the variance calculated above.

Sales margin volume variance: Actual activity compared to budget fell 10% this caused a fall in profit of €6,691 or 39% (6691/16912). Management should investigate the reasons why sales volume was less than the budget target. Possible reasons include increased competition, increased prices, a contracting local and international economy and a budget target that was too easily achievable.

Sales margin mix variance: This is a positive variance of €3,715 and is due to a big increase in demand for the mid-range category of accommodation whereas sales in the high cost luxury range fell. This variance ensured profit increased by 22% and management must assess the reasons why the sales mix changed so significantly.

Sales price variance. There is no break down of the average room rate for each category of accommodation. Overall however this is a positive variance of €14,680 amount to 87% of budgeted profit. This is a very significant variance and management should identify why and what accommodation types managed to achieve higher room rates that the target. This variance can be related to the negative volume variance. When a price increases volume sales can decrease. Overall the positive price variance is greater than the negative volume variance. Management should evaluate their budgeted room rates to see if they were too easily achievable.

The direct cost variance is the largest variance and is negative. The variance amounts to €28,148 and is 1.66 times the budgeted profit figure. Management need to investigate this variance as it is at the centre of the poor operational performance. What costs are included here and why was there so high a variance. This variance on its won would have ensured the business achieved an actual net loss of €11230. Was this variance due to poor forecasting, operational inefficiencies and poor management in controlling direct costs or random occurrences management need to investigate and take quick corrective action?

Other variable costs increased by 26% compared to budget. This lead to a negative variance of €4,468 or 30% of budgeted profit. Management need to break-down this category of expense and assess what expense items increased and why. Again the budget target must be examined and process of agreeing budget target questioned.

Fixed costs fell by 10% compared to budget amounting to a positive variance of €5,000. Management need to break-down fixed costs into each category of expense and assess what expense items increased and why. Again the budget target must be examined and process of agreeing budget target questioned.

Solution 10.11

a) Prepare a statement showing the fixed budget, flexible budgets, actual results and variances for the year.

This question has the added complication of calculating the sales mix variance. This is the difference at contribution level between the first and second flexible budgets. The recommended approach to this question is as follows

Step 1: Prepare the fixed budget. All the figures in the fixed budget are based on the original budget assumptions about sales price, sales volume and sales mix.

Budgeted price x budgeted volume x budgeted mix (BP x BV x BM)

Step 2: Prepare the flexible budget (flexible budget 1). This budget is based on actual volume sales, but at the original budgeted mix and budgeted prices. Any difference in contribution between the fixed and the flexible budget is due to the volume variance and hence this variance is isolated.

Budgeted price x actual volume x budgeted mix (BP x AV x BM)

Step 3: Prepare a second flexible budget (flexible budget 2). This budget is based on actual volume and the actual sales mix but at budgeted price. The difference in contribution between the first and second flexible budgets is due to the sales mix variance and hence this variance is isolated.

Budgeted price x actual volume x actual mix (BP x AV x AM)

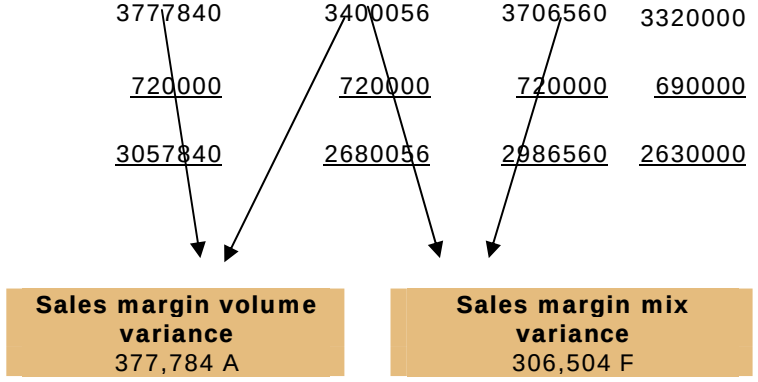
Step 4: Enter the actual figures.

Actual price x actual volume x actual mix (AP x AV x AM)

Step 5: Find the price or cost variance. This is the difference between flexible budget 2 and actual figures.

In calculating the budgeted sales volume figure we are told in the question that the company a rental capacity of 13,200 accommodation weeks. If the fixed budget is based on 60% of capacity then the budgeted volume sales = 60% x 13200 = 7,920

		BP*BV*BM FIXED	BP*AV*BM FLEXIBLE	BP*AV*AM FLEXIBLE	ACTUAL	VARIANCE
SALES						
Studios		1108800	997920	427680		
Apartments		2376000	2138400	2566080		
Challets		950400	855360	1425600		
TOTAL SALES		4435200	3991680	4419360	4000000	-419360
DIRECT COSTS						
A	0.1	110880	99792	42768		
B	0.15	356400	320760	384912		
C	0.2	190080	171072	285120		
		657360	591624	712800	680000	32800
CONTRIBUTION		3777840	3400056	3706560	3320000	
LESS FIXED COSTS		720000	720000	720000	690000	30000
NET PROFIT		3057840	2680056	2986560	2630000	



The calculation of the sales and variable costs figures are as follows.

Budget type	Package sales	Variable costs
Fixed: BV x BM x BP	Studios : 7920 holidays x 35% x €400= €1,108,800 Apartments: 7920 holidays x 50% x €600 = €2,376,000 Chalets: 7920 holidays x 15% x €800 = €950,400	€1,108800 x 10% = €110,880 €2,376000 x 15% = €356,400 €950,400 x 20% = €190,080
Flexible 1: AV x BM x BP	Studios: 7128 holidays x 35% x €400 = €997,920 Apartments: 7128 holidays x 50% x €600 = €2,138,400 Chalets: 7128 holidays x 15% x €800 = €855,360	€997,920 x 10% = €99,792 €2,138,400 x 15% = €320,760 €855,360 x 20% = €171,072
Flexible 2: AV x AM x BP	Studios: 7128 holidays x 15% x €400 = €427,680 Apartments: 7128 holidays x 60% x €600 = €2,566,080 Chalets: 7128 holidays x 25% x €800 = €1,425,600	€427,680 x 10% = €42,768 €2,566,080 x 15% = €384,912 €1,425,600 x 20% = €285,120

b) Prepare a statement reconciling the budgeted net profit to the actual net profit.

Reconciliation of Budgeted Net Profit to Actual Net Profit

		€	€
Budgeted net profit			3057840
Sales variances			
	Sales quantity margin variance	-377784	
	Sales margin mix variance	306504	
	Sales price variance	-419360	
Direct cost variance		32800	
Fixed cost variance		30000	-427840
Actual net profit			2630000

c) Write a short report to the general manager of the Sunshine Resorts Ltd evaluating the results you have produced and suggesting possible reasons for the variances.

Overall management will be unhappy with not achieving the overall target profit. Actual profit is 14% (427840/3057840) less than budgeted. The following are the main variances calculated

Sales quantity margin variance: The actual sales activity level fell by 10%. This ensured that actual net profit was 14% less than budgeted. Management should assess the reasons for the variance including assessing the quality of the budget target (was the budgeted figure of 60% of capacity overly optimistic), the level of competition and other factor such as pricing, and the state of the local and global economies. The sensitivity rating for sales volume is 1.4 times (14/10) telling us that for every 1% fall in sales volume profit falls by 1.4%.

Sales margin mix variance: This is a negative variance of €306,540 and is caused by differences between budgeted and actual sales mix. The effect of this variance is that profit fell 10% due to these changes. The main differences between budgeted and actual sales mix was the fall in demand for the high profit studios. Studios achieve a contribution margin of 90% In contrast the chalets which achieve a contribution margin of 80% increased in demand

Sales price variance: This was a negative variance of €419,360. This was the highest variance with actual average sales price 9.5% lower than budget. Management must assess the reasons for this especially in line with the fall in demand. Was the budgeted figure reasonable and achievable. The effect of this variance is that actual profit is 13.7% lower than budget. This gives a sensitivity rating of 1.48. Management need to focus on the factors that influence price such as level of competition, socio economic factors etc.

Direct cost variance: This is a favourable variance of €32,800. Actual direct costs were 4.6% less than budget and this ensured that actual profit was 10.7% higher than budget. Management must question the budget figure and find the cause of the savings. The direct costs for accommodation rent are generally cleaning and maintenance.

Fixed costs: Fixed costs decreased by €30,000 or 4.2%. To further analysis this variance management need to break down fixed costs into its component parts and analyse significant movement s in the various expenses. Again in their analysis management must question the budget figure and its reasonableness.