**MANAGEMENT ACCOUNTING CONCEPTS AND TECHNIQUES**

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**CHAPTER 6: Flexible Budgeting**

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**Introduction:**

A budget is a plan for the future. Hence, budgets are planning tools, and they are usually prepared prior to the start of the period being budgeted. However, the comparison of the budget to actual results provides valuable information about performance. Therefore, budgets are both planning tools and performance evaluation tools.

Usually, the single most important input in the budget is some measure of anticipated output. For a factory, this measure of output is the number of units of each product produced. For a retailer, it might be the number of units of each product sold. For a hospital, it is the number of patient days (the number of patient admissions multiplied by the average length of stay).

The **static budget** is the budget that is based on this projected level of output, prior to the start of the period. In other words, the static budget is the “original” budget. The **static budget variance** is the difference between any line-item in this original budget and the corresponding line-item from the statement of actual results. Often, the line-item of most interest is the “bottom line”: total cost of production for the factory and other cost centers; income for profit centers.

The **flexible budget** is a performance evaluation tool. It cannot be prepared before the end of the period. A flexible budget adjusts the static budget for the actual level of output. The flexible budget asks the question: *“If I had known at the beginning of the period what my output volume (units produced or units sold) would be, what would my budget have looked like?*” The motivation for the flexible budget is to compare apples to apples. If the factory actually produced 10,000 units, then management should compare actual factory costs for 10,000 units to what the factory should have spent to make 10,000 units, not to what the factory should have spent to make 9,000 units or 11,000 units or any other production level.

The **flexible budget variance** is the difference between any line-item in the flexible budget and the corresponding line-item from the statement of actual results.

The following steps are used to prepare a flexible budget:

1. Determine the budgeted variable cost per unit of output. Also determine the budgeted sales price per unit of output, if the entity to which the budget applies generates revenue (e.g., the retailer or the hospital).

2. Determine the budgeted level of fixed costs.

3. Determine the actual volume of output achieved (e.g., units produced for a factory, units sold for a retailer, patient days for a hospital).

4. Build the flexible budget based on the budgeted cost information from steps 1 and 2, and the actual volume of output from step 3.

Flexible budgets are prepared at the end of the period, when actual output is known. However, the same steps described above for creating the flexible budget can be used prior to the start of the period to anticipate costs and revenues for any projected level of output, where the projected level of output is incorporated at step 3. If these steps are applied to various anticipated levels of output, the analysis is called **pro forma** analysis. Pro forma analysis is useful for planning purposes. For example, if next year’s sales are double this year’s sales, what will be the company’s cash, materials, and labor requirements in order to meet production needs?

**Pro Forma Analysis at Guess Who Jeans:**

Following are pro forma monthly income statements for Guess Who Jeans, a small, start-up fashion jeans manufacturer. The pro forma analysis was prepared at the beginning of the month and considered three alternative sales levels. The company has no variable marketing costs.

**GUESS WHO JEANS**

**PRO FORMA ANALYSIS**

**FOR THE UPCOMING MONTH**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Income**  **Statement**  **line-item** | **Budgeted amount per unit** | **Pro Forma Analysis for**  **Alternative Output Levels** |  |  |
|  |  | **10,000 units** | **20,000 units** | **30,000 units** |
| Revenue    Variable costs:  Materials  Labor  Overhead  Total    Contribution margin    Fixed costs:  Manufacturing  Overhead  Marketing costs  Total fixed costs    Operating income | $40      15  10  5  30    $10 | $400,000      150,000  100,000  50,000  300,000    100,000        100,000  50,000  150,000    ($50,000) | $800,000      300,000  200,000  100,000  600,000    200,000        100,000  50,000  150,000    $50,000 | $1,200,000      450,000  300,000  150,000  900,000    300,000        100,000  50,000  150,000    $150,000 |

Since by definition, fixed costs are not expected to change as volume of output changes within the relevant range, fixed costs remain the same at all three projected levels of output. Revenue and variable costs vary with output in a linear fashion. Hence, when output increases 100% from 10,000 units to 20,000 units, revenue, each line-item for variable costs, and contribution margin all increase 100%.

**Static Budget Variance at Guess Who Jeans:**

Guess Who management decides that 10,000 units is the most likely output volume, and sets the static budget based on this sales and production level. After the end of the month, company personnel prepare the following table, showing the static budget, actual results, and the static budget variance.

**GUESS WHO JEANS**

**STATIC BUDGET VARIANCE**

**FOR THE MONTH JUST ENDED**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Income**  **Statement**  **line-item** | **Budgeted amount per unit** | **Static**  **Budget**  **(A)**  **10,000 units** | **Actual**  **Results**  **(B)**  **16,000 units** | **Static**  **Budget Variance**  **(A) – (B)** |
| Revenue    Variable costs:  Materials  Labor  Overhead  Total    Contribution margin    Fixed costs:  Manufacturing  Overhead  Marketing costs  Total fixed costs    Operating income | $40      15  10  5  30    $10 | $400,000      150,000  100,000  50,000  300,000    100,000        100,000  50,000  150,000    ($50,000) | $670,000      230,000  167,000  84,000  481,000    189,000        105,000  49,000  154,000    $35,000 | $270,000      (80,000)  (67,000)  (34,000)  (181,000)    89,000        (5,000)  1,000.  (4,000)    $85,000 |

In the variance column, positive numbers are favorable variances (good news), and negative numbers are unfavorable (bad news).

The static budget variance shows a large favorable variance for revenue, and large unfavorable variances for variable costs. These large variances are due primarily to the fact that the static budget was built on an output level of 10,000 units, while the company actually made and sold 16,000 units. The revenue variance might also be due to an average unit sales price that differed from budget. The variable cost variances might also be due to input prices that differed from budget (e.g., the price of fabric), or input quantities that differed from the per-unit budgeted amounts (e.g., yards of fabric per pair of pants).

There are also small variances for fixed costs. These costs should not vary with the level of output (at least within the relevant range). However, many factors can cause actual fixed costs to differ from budgeted fixed costs that are unrelated to output volume. For example, property tax rates and the fixed salaries of front office personnel can change, and depreciation expense can change if unexpected capital acquisitions or dispositions occur.

**The Flexible Budget Variance at Guess Who Jeans:**

In order to better understand the causes of the large revenue and variable cost variances in the static budget variance column, Guess Who personnel prepare the following flexible budget.

**GUESS WHO JEANS**

**FLEXIBLE BUDGET VARIANCE**

**FOR THE MONTH JUST ENDED**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Income**  **Statement**  **line-item** | **Budgeted amount per unit** | **Flexible Budget**  **(A)**  **16,000 units** | **Actual**  **Results**  **(B)**  **16,000 units** | **Flexible Budget Variance**  **(A) – (B)** |
| Revenue    Variable costs:  Materials  Labor  Overhead  Total    Contribution margin    Fixed costs:  Manufacturing  Overhead  Marketing costs  Total fixed costs    Operating income | $40      15  10  5  30    $10 | $640,000      240,000  160,000  80,000  480,000    160,000        100,000  50,000  150,000    $10,000 | $670,000      230,000  167,000  84,000  481,000    189,000        105,000  49,000  154,000    $35,000 | $30,000      10,000.  (7,000)  (4,000)  (1,000)    29,000        (5,000)  1,000.  (4,000)    $25,000 |

Once again, positive variances are favorable (good news), and negative variances are un­favorable (bad news).

From this table, Guess Who management sees that even after adjusting for sales volume, revenue was higher than would have been expected. The favorable $30,000 variance must be due entirely to an average sales price that was higher than planned (almost $42 per pair compared to the original budget of $40 per pair).

Materials costs were lower than would have been expected for a sales volume of 16,000 units. This favorable variance could be due to lower fabric prices, or to more efficient utilization of fabric (less waste than expected), or a combination of these two factors. Labor and overhead were higher than expected, even after adjusting for the sales volume of 16,000 units. This unfavorable flexible budget variance implies that either wage rates were higher than planned, or labor was not as efficient as planned, or both. Similarly, the components of variable overhead were either more expensive than budgeted, or were used more intensively than budgeted. For example, electric rates might have been higher than planned, or more electricity was used than planned per unit of output.

The fixed cost variances are identical in this table to the previous table. In other words, the flexible budget and flexible budget variance provide no additional information about fixed costs beyond what can be learned from the static budget variance.

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