**Week 10 – Variance Analysis**

Weekly Schedule

We are in the home stretch!

1) Read Lecture

2) DB 10-Wed **Due: Wed**

3) Collaborate online session

4) Assign #18 **Due: Thur**

5) DB 10-Sat **Due: Sat**

6) Assign #19 **Due: Sun**

**Lecture / Reading:**

Read Chapter #10

When students first see variances in the written form they get overwhelmed and confused - especially if they are not fond of formulas, math, or unknowns. As a student I struggled with this material until I had a instructor say “Quit beating your head against the wall, if you don’t like the letters in the problem replace them with word or shapes.” That was the best advice I had ever had on math. It was as if he had given me the key to unlock Algebra.

Variance analysis is a simple tool that allows companies to see if they measure up to their own expectations. The first step in the process is to determine their standards in price and quantity - keeping in mind that perfection is not attainable and will result in frustrated workers, managers, and accountants. This the most important step in the process because if the standards are incorrect the analysis is worthless.

Direct material’s standard price should be based on the final delivered cost - similar to how we calculated cost of PP&E in 202. The direct materials standard quantity needs to include the units per end product and allowances for spoilage, waste, and rejected products. Remember while we are trying to measure how much we spend and use to make one unit of product the benchmark should be based on the entire production run.

During the production run labor standards also need to make allowances for breaks, cleanup time, machine setup, machine downtime, and the time spent on the rejects. The standard hours per unit must be based on a attainable quantity required. It’s okay to start the process on what perfection would look like but the other factors must be added to the required time. In setting the direct labor rate don’t forget that workers pay levels vary, benefits and payroll taxes needed to be added, and future pay increases.

This leads us to the discussion of the last standard: variable overhead variance. The rate is simply the variable portion of the predetermined overhead rate and the hours are the base of that rate. Notice we do not consider fixed cost in the standard cost process. We are only considering those cost that change with the number of units produced (variable cost.)

After the standards have been set a cost card is created listing all the standards for both price and quantity - this will be used to calculate variance. Please notice that different books, websites, etc use different abbreviations for the same items so please be careful. There will be variances calculated on DM, DL, and Variable overhead but the process will be the same for all variable costs. The difference between them comes in when evaluating why the variance exists.

**Price Variance:**

Actual Quantity x Actual Price = Actual Cost

Actual Quantity x Standard Price = Estimated price flexed for actual activity

Actual Cost - Estimated price flexed for actual activity = Price Variance

Note shortcut: (Actual Price - Standard Price) x Actual Quantity = Price Variance

**Quantity Variance:**

Actual Quantity x Standard Price = Estimated price flexed for actual activity

Standard Quantity x Standard Price = Standard usage

Estimated price flexed for actual activity - standard usage = Quantity Variance

Note shortcut: (Actual Quantity - Standard Quantity) x Standard Price = Quantity Variance

After all the variances have been calculated the analysis begins. If a variance is a positive number it is called favorable and a negative number is unfavorable. The price variance and quantity variance are also added together to calculate the total variance for DM, DL, and V - OH.

A favorable or unfavorable variance is neither good or bad - it’s just a difference that needs to be explained. The explanations may be very simple - the cost of goods was higher than expected (U), the quality of goods was less than expected (U), wages were lower due to retirements (F), the machines had no downtime (F), the indirect materials went on sale (F), etc. The key is to look at each variance as one number AND consider all the variances together. For example if the quality of the material went up it could also affect the DL variance in that there was less time spent on wastes, spoilage, or rejects.

**Homework and Discussion Forum**

1) Discussion Board:  **DB 10 Wed**

You must have a MINIMUM of three posts. I expect a mix of original and response post.

*Topic:* Variance Analysis – illustrate with an example, a summary, a definition (in your own words), etc. AND demonstrate how this relates to other material covered in this course.

3) **Assign #18**

4) Discussion Board: **DB 10 Sat**

You must have a MINIMUM of three posts. I expect a mix of original and response post.

*Topic:* Discuss the homework and explain possible reason for the variances.

5) **Assign #19**



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