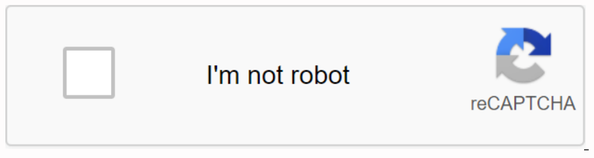

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Formula to compute the direct labor rate variance

In addition to evaluating the use of materials, companies need to assess how efficient and effective they use the workforce in the production of their products. Direct labor is a cost associated with workers working directly in the production process. The company should look at both the quantity of hours used and the labor rate and compare the results with standard costs. Determining the efficiency and effectiveness of the workforce leads to the variance of the individual workforce. A company can calculate these labor variances and make informed decisions about labor operations based on these differences. The variance of the direct workforce measures how efficient the company uses the workforce, as well as how effective it is in the pricing workforce. There are two components to labor variance, direct work rate variance and direct working time variance. The variance of direct labor rate compares the actual rate per hour of direct labor force to the standard rate per hour of work for working hours. The variance of direct work rate is calculated using this formula: factoring actual working hours from both components of the formula, it can be rewritten as with any of these formulas, the actual rate per hour refers to the actual rate of payment for workers to create a product unit. The standard rate per hour is the expected pay rate for workers to create a product unit. The actual clock worked the actual number of hours worked to create a unit of the product. If there is no difference between the standard rate and the actual rate, the result will be zero, and there is no variance. If the actual payment rate per hour is less than the standard pay-per-hour rate, the variance will be a desirable variance. The optimal result means that you are paid less workers than anticipated. But if the actual payment rate per hour is higher than the standard pay-per-hour rate, the variance will be inclement. The inclement result means you paid workers more than anticipated. Real rates can vary at standard or expected rates due to the supply and demand of workers, increased labor costs due to economic changes or union contracts, or the ability to hire employees at a skill level. When the manufacturer makes the products, the labor costs will follow the goods through production, so the company will have to assess how the difference between what is expected to happen and what actually happened will affect all goods produced using these specific labor rates. Let's consider Connie Candy Company again according to the worker, Connie Candy creates a standard hourly rate for work ?8.00. Each candy box is expected to require 0.10 hours of delivery (6 minutes). Candy Connie found that the actual pay rate per hour for the workforce was ?7.50. They still actually need 0.10 hours of work to build each box. Calculates the variance of direct work rate as follows: \(\text{Direct) Rate Variance}=\left(?7.50–?8.00\right)\phantom{\rule{0.2em}{0ex}}\text{×}\phantom{\rule{0.2em}{0ex}}0.10\phantom{\rule{0.2em}{0ex}}\text{hours}=–?0.05\phantom{\rule{0.2em}{0ex}}\text{or}\phantom{\rule{0.2em}{0ex}}?0.05\phantom{\rule{0.2em}{0ex}}\left(\text{Favorable}\right)\) In this case, the actual rate per hour is ?7.50, the standard rate per hour is ?8.00, and the actual hour worked is 0.10 hours per box. This calculation is desirable as a result. This is a favorable result because the actual payment rate was lower than the standard payment rate. As a result of this favorable outcome information, the Company may consider continuing operations as they are there, or could change future budget forecasts to reflect higher profit margins, among other things. Let us give the same example except now the actual rate of payment per hour is ?9.50. The variance of direct work rate is calculated as: \(\text{Direct Labor Rate Variance}=\left(?9.50–?8.00\right)\phantom{\rule{0.2em}{0ex}}\text {×}\phantom{\rule{0.2em}{0ex}}0.10\phantom{\rule{0.2em}{{0.2em}{{0ex}}}0 .10\phantom{\rule{0.2em}{{0ex}}\text{hours}=?0.15\phantom{\rule{0.2em}{0ex}}\text{or}\phantom{\rule{0.2em {0ex}}}?0.15\phantom{\rule{0.2em}{0ex}}\left(\text{Unfavorable}\right)\) In this case , the actual rate per hour is ?9.50, the standard rate per hour is ?8.00, and the actual working hours per box is 0.10 hours. This is calculated as an inclement result. This is an inclement result because the actual rate per hour was more than the standard rate per hour. As a result of this inclement result information, the Company may consider using cheaper labor, changing the production process more efficiently, or raising prices to cover labor costs. Another element that the company and others should consider is the variance of direct working time. The variance compares the direct working time of the actual working hours used with the standard working hours expected to be used to build real units produced. The variance is calculated using this formula: factoring the standard rate per hour of both components of the formula, it can be rewritten as: with each of these formulas, the actual working hours refer to the actual number of hours used in the actual production output. The standard rate per hour is the expected hourly rate paid to workers. Standard hours are the number of expected hours used in actual production output. If there is no difference between actual working hours and standard hours, the result will be zero, and there is no variance. If the actual working hours are less than the standard hours at the actual production output level, the variance will be a desirable variance. The optimal result means that you will use fewer hours than anticipated to create the actual number of production units. But if the actual working hours are more than standard hours at the actual production output level, the variance will be unfavorable. It The result means that you used more hours than anticipated to produce a real number of units. The actual hours used can vary from standard hours due to improved efficiency in production, carelessness or deficiency in production, or poor estimates when creating standard use. Consider the previous example with candy company. Connie Candy creates standard rates per hour for working ?8.00. Each candy box is expected to require 0.10 hours of delivery (6 minutes). Candy found that the actual working hours per box were 0.05 hours (3 minutes). The actual rate per hour for childbirth remained at ?8.00 up to each box. The variance of direct working time is calculated as: \(\text{Direct Labor Time}Variance=\left(0.05–0.10\right)\phantom{\rule{0.2em}{{{{0ex}}\text{×}\phantom{\rule{0.2em}{0ex}}?8.00\phantom{\rule{0.2em}}. {0ex}} \text{per hour}=–?0.40\phantom{\rule{0.2em}{0ex}}}\text{or}\phantom{\rule{0.2em}{0ex}}}?0.40\phantom{\rule{0.2em}{0ex}}\left(\text{Favorable}\right)\) in this case, The actual clock worked 0.05 per box, the standard clock is 0.10 per box, and the standard rate per hour is ?8.00. This calculation is desirable as a result. This is a favorable result because the actual hours worked less than standard hours expected. As a result of this favorable outcome information, the Company may consider continuing operations as they are there, or could change future budget forecasts to reflect higher profit margins, among other things. Let us take the same example except now the actual clock worked 0.20 hours per box. The variance of direct working time is calculated as follows: \(\text{Direct Labor Time}=\left(?0.20–?0.10\right)\phantom{\rule{0.2em}{0ex}}\text{×}\phantom{\rule{0.2em}{0ex}}?8.00\phantom{\rule{0.2 {0ex}}\text{per hour}=?0.80\phantom{\rule{0.2em}{0ex}}}\text{or}\phantom{\rule{0.2 {0ex}}}?0.80\{\rule{0.2em}{0ex}}\left(\text{Unfavorable}\right)\) in this case Actual hours worked per box 0.20, standard hours per box 0.10, and standard rates per hour ? 8.00. This is calculated as an inclement result. This is an inclement result because the actual clock worked more than the standard hours expected in each box. As a result of this inclement result information, the Company may consider retraining its workers, changing the production process more efficiently, or raising prices to cover labor costs. Combining two variances can produce a total variance of direct labor costs. Ups drivers' delivery packages are assessed within a few miles they drive and how quickly they deliver the package. Drivers are given the route and when they are expected to go through, so they are expected to complete their route on time and efficiently. They also work until all packages are delivered. A GPS tracking system tracks trucks throughout the day. The system keeps track of how much they have to go up and if they take every turn left because the right turns much more time efficiently.1 Tracking drivers like this don't leave them much time to deal with customers. Customer service is the bulk of the driver's job. Can the driver service the customer and drive the route at the allocated time and distance? Which is more important: customer service or driving the route on time and efficiently? When a company makes a product and compares the cost of real labor to the cost of the standard workforce, the result is the total variance of the direct workforce. If the result is inclement, the actual costs associated with the workforce exceeded the expected (standard) costs. If the result is favorable, the actual costs associated with the workforce are lower than the expected (standard) costs. The total variance of direct labor force is also found by combining direct labor rate variance and direct working time variance. By showing the total variance of direct workforce as a sum of two components, better management can analyze two variances and increase decision making. (Figure) shows the relationship between direct work rate variance and direct working time variance to total direct labor variance. Direct working variance. (Documents: Copyright Rice University, OpenStax, under cc license BY-NC-SA 4.0) For example, the candy company expects to pay a rate of ?8.00 per hour for the workforce but actually pays ?9.50 per hour. The company expected to use 0.10 hours of work per box, but actually used 0.20 hours per box. The total variance of the direct workforce is as: \(\text{Total Direct Labor Time Variance}=\left(0.20\phantom{\rule{0.2em}{0ex}}}\text{hours}\phantom{\rule{0.2em}} {0ex}}}×\phantom{\rule{0.2em}{0ex}}?9.50\right)–\left(0.10\phantom{\rule{0.2em{0ex}}}}\text{hours}\phantom{\rule{0.2em}{0ex}}}\text{×}\phantom{\rule{0.2em}{0ex}}}?8.00 \right)=?1 .90–?0.80=?1.10\phantom{\rule{0.2em}{0ex}}\left(\text{Unfavorable}\right)\) In this case, two elements contribute to an unfavorable result. Connie Candy paid ?1.50 per hour more for the workforce than expected and used 0.10 hours more than expected to be a candy box. The same calculation is shown as below using direct labor rate results and time variance. As with commentary for labor rates and time variances, the company will examine individual components helping to investigate the overall inclement result for the total variance of direct workforce, and possibly make changes in the production elements as a result. Fresh Worker Biglow Shampoo Co. makes a hair shampoo called Sweet and Fresh. Each bottle has a standard workforce cost of 1.5 hours at ?35.00 per hour. During May, Bigelow made 11,000 bottles. They used 16,000 hours at a cost of ?565,600. Calculate the variance of the work rate, the variance of working time and the variance of the whole workforce. Solution of labor costs in Industries in the service industry, the workforce is the main cost. For example, doctors have time for a physical exam and base their cost on the expected time. Insurance companies pay doctors according to a designated plan, thus setting a working standard. They pay a set rate for a physical exam, no matter how long it takes. If the exam takes longer than expected, the doctor will not make up for that extra time. This produces an unfavorable birth variance for the doctor. Doctors know the standard and try to plan accordingly so that there is no variance. If anything, they try to generate optimal variance by seeing more patients within a faster timeframe to maximize their compensation potential. What are the possible reasons for the variance of the work rate? Hiring less qualified workers over the use of materials to increase the price of materials change the use of facilities (figures) When is the variance of the labor rate unfavorable? When the actual quantity used is greater than the standard quantity when the actual quantity used is less than the standard quantity when the actual price paid is greater than the standard price when the actual price is less than the standard price (figure) when is the variance of the working rate desirable? When the actual quantity used is greater than the standard quantity when the actual quantity used is less than the standard quantity when the actual price paid is greater than the standard price when the actual price is less than the standard price (figure)What are some possible reasons for the variance of direct working time? Reducing the use of less qualified office workers to reduce sales costs (figures)When is the variance of direct working time desirable? When the actual quantity used is greater than the standard quantity when the actual quantity used is less than the standard quantity when the actual price paid is greater than the standard price when the actual price is less than the standard price (figure)when is the variance of direct working time inclement? When the actual quantity used is greater than the standard quantity when the actual quantity used is less than the standard quantity when the actual price is paid more than the standard price when the actual price is less than the standard price (figure) queen industries use a standard cost system in making their unit product. To produce 1 unit of final product requires 2 hours of work. In February, Queen Industries produced 12,000 units. The standard cost for the authorized workforce for output was ?90,000, and there was an inclement direct working time variance of ?5,520. What was the standard cost per hour? How many real hours did he work? If workers were paid ?3.90 per hour, what was the direct variance of the labor rate? (Figure) The penny company produces only one product and uses a standard cost system. The following information is from Penny For May: During May, the company used 12.5% more hours than the permissible standard. What were the total standard hours allowed for production units during the month? What did real watches do? How many real units were produced during May? (Figure) made the case 24,500 units during June, using 32,000 hours of direct work. They expected to use 31,450 hours per standard cost card. Their staff were paid 15.75 per hour for June. The standard cost card uses ?15.50 as the standard hourly rate. Calculate direct labor rates and time variances for June, as well as calculate the total variance of direct labor force. If the standard rate was at ?16.00 per hour, what would have changed? (Figure) Eagle Corporation uses a standard cost system. In the most recent edition, the company produced 115,000 units. The standard cost sheet indicates that the standard direct work fee per unit is ?1.50. Performance report for the period included inclement variance of direct workforce rate ?3,700 and optimal variance of direct working time ?10,275.What was the total actual cost of direct workforce incurred during the period? (Figure) Ellis's workforce information for September is as follows: Calculate the standard direct work rate per hour. Calculate the variance of direct working time. Calculate the standard direct work rate if the variance of the direct work rate was ?2,712.50 (unfavorable). (Figure) The breakout company's workforce information for May is as this: What is the actual direct work rate per hour? What is the standard direct workforce rate per hour? What was the total cost of the standard direct workforce for May? What was the direct variance of the labor rate for May? (Figure) Power's workforce information for June is as this: What was the actual work rate per hour? What was the standard work rate per hour? What was the total cost of the standard workforce for units produced in June? What was the direct variance of working time for June? (Figure) Mary Mount Company makes a product. It built 3,500 units in April. Workers were paid ?32 per hour for work, a total of ?718,848. The standard hours per unit are 6.4, and the standard work wage rate is ?38.40 per hour. What did real watches do? What are standard watches for built-in units? What is the direct variance of the labor rate for April? What is the direct variance of working time for April? What is the total variance of direct workforce for April? (Figure) Adam's company records for May include the following information: What are Adam's standard working hours for built-in units? What is adam's total standard workforce cost for built-in units? (Figured) Ribco's labor cost information for making its only product for March is as this: What is the direct variance of the labor rate? What is the variance of direct working time? What is the variance of the entire direct workforce? Variance?