

Luotang power essay



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Table of Contents	INTRODUCTION	1
	QUANTITATIVE VARIANCE ANALYSIS	2
	i. Quantity Variance	5
	ii. Price Variance	6
	iii. Fuel Efficiency Variance	7
	iv. Fuel Cost Variance	8
	v. Other Cost Variances	9
	5 PORTER FORCES	11

CONCLUSION

12 INTRODUCTION Luotang Power was established by American companies who was selected bidders to operate a 600 MW coal-fired power plant project. This company was located in Hubei Province, China. Although this company wholly foreign-owned but they need to use Chinese-manufactured equipment. There are two main issues in this case study.

The first issue is the positive performance of Luotang Power does not show in the financial results. Mr. Tan Min Yi was scheduled to make a presentation to the Board of Directors of his parent company, China Hua Tong Power about the results. Mr. Tan Min Yi is a general manager of the Luotang Power Company. He needs to review and investigate the financial results before presenting to the board the disappointing results. The second issue is about the quality of the coal provided by the supplier, Pingdingshan. Sometimes, the Pingdingshan will supply some of the coal with bad quality.

They will send some of the coal contain high level of moisture. They need to take time to dry it and will cause additional costs to happen like storage cost. Mr. Tan wants to use a variance analysis method to better understand plant performance compared to the previous year. So, we will help Mr. Tan to solve this problem by calculating and prepare the recommendations to improve reporting and evaluation of the plant's performance.

QUANTITATIVE VARIANCE ANALYSIS As what have been introduced before, the Luotang Power CEO has to present the financial report to the board of director.

But first he has to understand about the quantitative variance analysis.

Variance Analysis is the analysis of performance by means of variances. This tool can be used to promote management action at the earliest possible stages. After a budget (based on standard costs) has been set, its usefulness lies in the review procedures which compare actual results against the budget. Variance analysis is the process of examining in detail each variance between actual and budgeted or standard costs to determine the reasons why budgeted results were not met. When the effect of variance is concerned, there are two types of variances.

When the actual results are better than expected results given variance is described as favorable variance. In common use favorable variance is denoted by the letter (F). But when actual results are worse than expected results given variance is described as adverse variance, or unfavorable variance. In common it is denoted by the letter (U). There are very few plans that turn out exactly as planned. Even when the overall objectives of the plan are achieved, some, if not all components of the performance will have varied from the sub-plans or standards that make up the overall picture.

So does the performance on the Luotang Power in 2011 which most of the variance is in unfavorable results. The variance analysis provides a framework for all business managers including Mr. Tan as one of Luotang Power directors to break down the overall performance of an organization, so that each individual element of the business can be isolated and analyzed in turn. The CEO facing problem with quantity variance, price variance, fuel efficiency variance, fuel cost variance and other cost variances. All these

variance help him to explain about the plant performance throughout the year 2011 to the board of directors.

Later, we will explain some of the variance that we have listed and all the problems related to “ Luotang Power: Variance Explained” case study. This is the calculation of all variances.

Variance | Calculation | Result| Quantity

Variance| $(3427351-3937377) \times 0.4219 = 215179.97$ | Unfavorable| Price

Variance| | Unfavorable | Fuel Efficiency Variance| $[(346-347) \times 0.4219] \times$

$3427351 = 1445999387$ | Unfavorable| Fuel Cost Variance| $(315612 -$

$320183) = 5021$ | Unfavorable| Fixed Operating ; Maintenance Variance|

$(33178-39068) = 5890(304090 - 348549) = 44459$ | UnfavorableUnfavorable |

i. Quantity Variance $3,427,351-3,937,377) \times 0.4219 = \text{RM } 215,179.97$

(UNFAVOURABLE) Based on the calculation above, we can see that amount

of selling to HPPC had been declined in the year 2011 regarding HPPC

produce electricity by itself. As we can see, Luotang Company never expects

that demanding from HPPC will decline because looking at data, they make a

bulk purchase on year 2010 and suddenly on year 2011, have dropped in

demand. Ratio of coal consumed to net electricity generation| 2010| 2011|

$347,000 \times 100\% = 8.1\%$ | $3,937,377 | 346,000 \times 100\% = 10.09\%$ | $3,$

$427,351$ | Based on calculation above, we can see that in the year 2010,

Luotang very effectively usage their resources accordingly to generate

electricity, but in the year 2011, Luotang lack of usage of resources to

generate electricity. | Excessive usage of materials that is usually a reason of

unfavorable direct material quantity variance may be due to lower quality of

materials, untrained workers, poor supervision. Generally, production

However purchasing department may also be held responsible for purchasing materials of lower quality to economize on prices. Where Purchasing Department purchases low grade direct materials at low prices to show a favorable material price variance, the material quantity variance is usually unfavorable due to lower quality of direct materials. ii. Price Variance

The definition of price variance is the difference between the actual and standard prices of one product unit multiplied by how much input was used.

The formula is: $\text{Price Variance} = (\text{Actual Price} - \text{Standard Price}) \times \text{Actual Quantity}$ The price variance can be used by a business to assess the change between expected and actual input prices, since a positive price variance reflects an unfavorable cost rise, while a negative result indicates a favorable cost decrease. To adapt price variance to the type of business Luotang power it's based upon the average price that electricity was sold to HPPC. The formula is: $(\text{Price per MWh in Current Year} - \text{Price per MWh in Prior Year}) \times \text{Net Generation in Current Year}$ From our calculation in price variance for Loutang Power we get amount RMB 6, 511, 9669.

Since the amount is positive, that's mean it unfavorable. Unfavorable show that Loutang Power unefficiency in managing its price and cost. We can see that demand from clients in 2010 is higher than others years because in 2010 the price is lowest. In 2009 is the highest price than its effect the demands. General Manager increases a little bit price in 2011, so the demand is decreased dramatically. This may also be caused by HPPC had its own electricity generating and produce themselves the electricity. Price is influence of the increase of cost, especially direct material cost.

Luotang power must change the term of contract with the supplier. Origin contract is Luotang Power paid a fixed price per tonne. If staying with fixed price, the company must pay it although the coal quality has not reached the expected quality. Luotang Power purchase it with a large number, it's a high risk because the supplier inconsistent provides the quality coal. So Luotang must buy the coal with a condition that if the coal is not meet the qualifications, it must be returned back to the supplier. Luotang Power must set the fix benchmark for the coal, so the supplier must follow it.

If not Luotang Power doesn't have to pay it, just return it. It saves the cost. So Luotang can set the price lower. iii. Fuel Efficiency Variance The meaning of fuel efficiency variance in this case study is the difference between the current year of the quantity of coal used to generate each MWh of electricity sold and the prior year of the quantity of coal used to generate each MWh of electricity sold. This is calculation how to find the fuel efficiency variance:
(Mass of coal used per net MWh sold this year- Mass of coal used per net MWh sold last year) x MWh sold this year's x price of coal last year

From our calculation, for 2011, the fuel efficiency variance is -RMB 1, 445, 999, 387. This show that this variance is unfavorable because the result in negative. We found several reasons that cause this to happen. The first reason is from an electricity demand from the HPPC is decreasing in 2011. This due to the HPPC have its own electricity generating units. The HPPC can produce the same electricity as the Luotang electricity. The second reason is because of the price that Luotang Power offer to HPPC. If you see in 2010, the price that the Luotang offer is cheaper than 2011.

Because of the increasing of electric price in 2011, the amount of electricity sold is decreasing. The other reason maybe for the quality of coal provided by Pingdingshan. Pingdingshan was required to supply low sulfur bituminous coal. If the Pingdingshan provides low quality of coal to the Luotang, the coal that can be used to produce electricity will decrease then, the production of electricity will be reduced. There is some recommendation that we will give to Mr. Tan to overcome this problem. We recommend that Luotang revenue does not just depend on the HPPC only.

Mr. Tan needs to find other clients. Even it will cost to Luotang but it is will give advantage to Luotang's long- term performance. The second recommendation is Luotang needs to lower the price of electricity if the company wants the HPPC buy more electricity from them. The last one is, the Luotang need too strict with the Pingdingshan regarding to the direct material, coal. If the Pingdingshan provides them with a low quality of the coal, the Luotang needs to tell them or not to pay the expenses. The Luotang cannot let this happen.

Although they can adjust the price but actually it will make the Luotang suffered loss in controlling their direct materials because they need to bear other cost in order to adjust back the quality of coal like the storage expenses. iv. Fuel Cost Variance In cost accounting, deviation between the actual cost and the standard cost. If the actual cost exceeds the standard cost, an unfavorable variance exists. A variance can be calculated for different cost items such as manufacturing costs (i. e. , direct material, direct labor, and overhead), selling expenses, and administrative expenses.

The reasons for a variance should be identified and corrective action taken. Favorable variance can be defined as a difference between an actual cost and a budgeted or standard cost, and the actual cost is the lesser amount. In the case of revenues, a favorable variance occurs when the actual revenues are greater than the budgeted or standard revenues. And unfavorable variance can be defined as the amount by which actual costs exceed the standard costs or budgeted costs. Also, the amount by which actual revenues are less than the budgeted revenues.

After all of us do the analysis, we have found that this company having major problems in fuel cost, the fuel that Luotang receive from the Pingdingshan for this year have a low quality to compare from the last year. This has affected the production of the company. So that it brought the company a major problem that are decreasing purchase from HPPC. Analysis variance has shown that the fuel cost variance it just unfavorable. We have used the original formula, that are, $\text{Cost Variance} = (\text{cost this year} - \text{cost last year}) \times \text{actual quantity this year}$.

But we have modified the formula to calculate with $\text{Fuel Cost Variance} = (\text{price of coal this year} - \text{price of coal last year}) \times \text{Mass of used per net MWh sold this year} \times \text{MWh sold this year}$. So that we have found that Luotang have unfavorable variance. The cost is increased from the standard cost because the coal that receive from the Pingdingshan have a problem with its quality so that its take time to plant to generate or burn the coal. So that, its increase the cost with a lower quantity of production. From the analysis, we recommend Luatong should do fuel diversification.

Fuel diversification implies the selection of a mix of electric generation technologies in a fashion that strikes a good balance between reduced cost and reduced risk. A long-term perspective as well as a short-term perspective can be taken on the fuel diversification problem. In a short-term perspective, the decision maker is limited to selecting power sources from existing alternatives. The construction of new generation plants and the associated fixed costs are justifiably ignored. The short-term problem translates in most instances to a scheduling problem.

On the other hand the long-term perspective on fuel diversity seeks insights that can help decision-making involved in the selection of new power plants. The long-term problem can be thought of as a resource- planning problem. Our focus is on the long-term perspective. Long-term fuel diversity has recently gained the attention of state regulators and federal policy makers. It has been argued that fuel diversity has the potential to advance several socially desirable objectives such as lower long-term prices, low price risk, less dependent on foreign sources of energy, higher power reliability and a cleaner environment. . Other Cost Variances The variance that related in this area are Coal Cost, Fixed Operating and Maintenance Cost, and Depreciation Expense. This is because in this case, only these three costs that have the useful information that help us to make an analysis of variance. Allocated cash costs are a type of expense that is clearly associated with and so can be readily assigned to a certain business process, project or department. Allocated costs can be divided into two which allocate cash costs and allocated non-cash costs. Allocated cash costs are most probably things related to cash items.

In this case it can be implemented in fixed operating and maintenance while allocating non-cash costs example is depreciation expense. The formula to calculate these two types of allocated cost is: Allocated Cash @ Non-Cash Costs = (Cost of volume allocated based on the quantity used - Actual costs) Related to the Allocated Cash Costs, in this case, we can simply use the formula: Allocated Cash Costs = (Standard Cost for Fixed Operating and Maintenance 2011 - Actual Fixed Operating and Maintenance 2011) From our calculation, the standard cost is lower if compared with the actual coal cost in 2011.

From the table, it shows that - 5890 or can be denoted by 5890 U. Which shows unfavorable result. The main factor that contributes to increase of actual result is unmanageable plant management. This is including engineering, planning, accounting and cost of railway fee. While in Luotang Power, they only have depreciation expense that have a relation of Allocated Non-Cash Cost, we can simply use the formula: Allocated Non-Cash Costs = (Standard Cost for Depreciation Expense 2011 - Actual Depreciation Expense 2011) From our calculation, the standard cost is lower if compared with the actual coal cost in 2011.

From the table, it shows that - 44459 or can be denoted by 44459 U. Which shows unfavorable result. The main cause that contributes to increase of actual result is the standard cost of depreciation that have been planned is unachievable. In the previous two years, they recorded RMB 350320 in 2009 and RMB 349342 in 2010. The issue arises is why Loutang Power finance department decreases the standard cost significantly and unachievable. Our suggestion towards this company to minimize their unfavorable results is

manage their plant in a very successful way and perhaps can decrease the unachievable amount of the fixed cost.

Firstly, Luotang Power can minimize their cost of handling the management of their plant in a very strategic way. They have to manage the railway line regarding its fees, manage coal by maximizing the utilities of storage area, manage its boilers with a full efficiency of boiling point and so much more related to the site layout for 2x300MW Luotang Power Project. Next, they must take into consideration on achievable amount of the standard cost. It is essential to all standard cost setter to discuss among all of the directors and subordinates first before setting up the most accurate standard cost that can be used as a benchmark for a company. Porter Forces 1) Efficiency Based on data, we can see that Luotang Company doesn't have efficiency in producing electricity because cost for fixed expenses in the year 2011 are increasing. They have made by their own estimated or standard cost on year 2011 but when comes to producing the actual cost incurred more than standard cost. This is showing that they fail to manage their production either capability of the machine or weakness of management itself. 2) Bargain of buyer Regarding to theory 5 Porter Forces, their purchaser has power of deciding the price. When we looking at the information, Luotang depend more on HPPC as a buyer.

So this made difficulties to Luotang to decide their own price although they have an efficiency in production. 3) Bargain of supplier As we know, supplier as the important agent to determine whether our company successful or not, because we rely on their capabilities to supply us with quality raw materials and reasonable price, also willing to provide us when we need. In this case, <https://assignbuster.com/luotang-power-essay/>

Luotang depend on Pingdingshan and recently reported that coal quality had deteriorated about 3 % from the expected quality. CONCLUSION Luotang Power Company is an international power developers to finance, design, construct and operate coal-fired power plant.

However due to the nature of our business, we have a big problem about our supplier that have gotten changed on 2011. The supplier has supplied low quality coal to Luotang and that disturbs the progress of the production. That has caused decreases demand from a loyal customer. And its affect the financial situation of the company. Besides that, several recommendations should be taken to ensure a successful implementation of the system in our company. First of all, purchasing department may also be held responsible for purchasing materials that can define the quality of the material.

Besides that, Luotang also change the term of contract with the supplier, need to find other clients not to depend to HPPC, Luotang also should do fuel diversification to make sure there are several suppliers, and Luotang can minimize their cost of handling the management of their plant in a very strategic way so that they can improve their management well. In addition, what we have found by concept 5 Forces in this company that their faces during their production. There are ; Luotang not have efficiency in producing electricity because cost for fixed expenses in the year 2011 are increasing.

Besides that, bargain of buyer that show their purchaser have power in deciding the price. And lastly, bargain of supplier that show there is a supplier that supply the raw material to Luotang. As a conclusion in overall, we can see that Luotang Power Company has a good performance in their

production but it have decreased in year 2011 because there are several problems that unexpected, that come from the supplier and others. So that, Luotang should do in several ways to overcome the problem and prove it to the Boar of Directors.