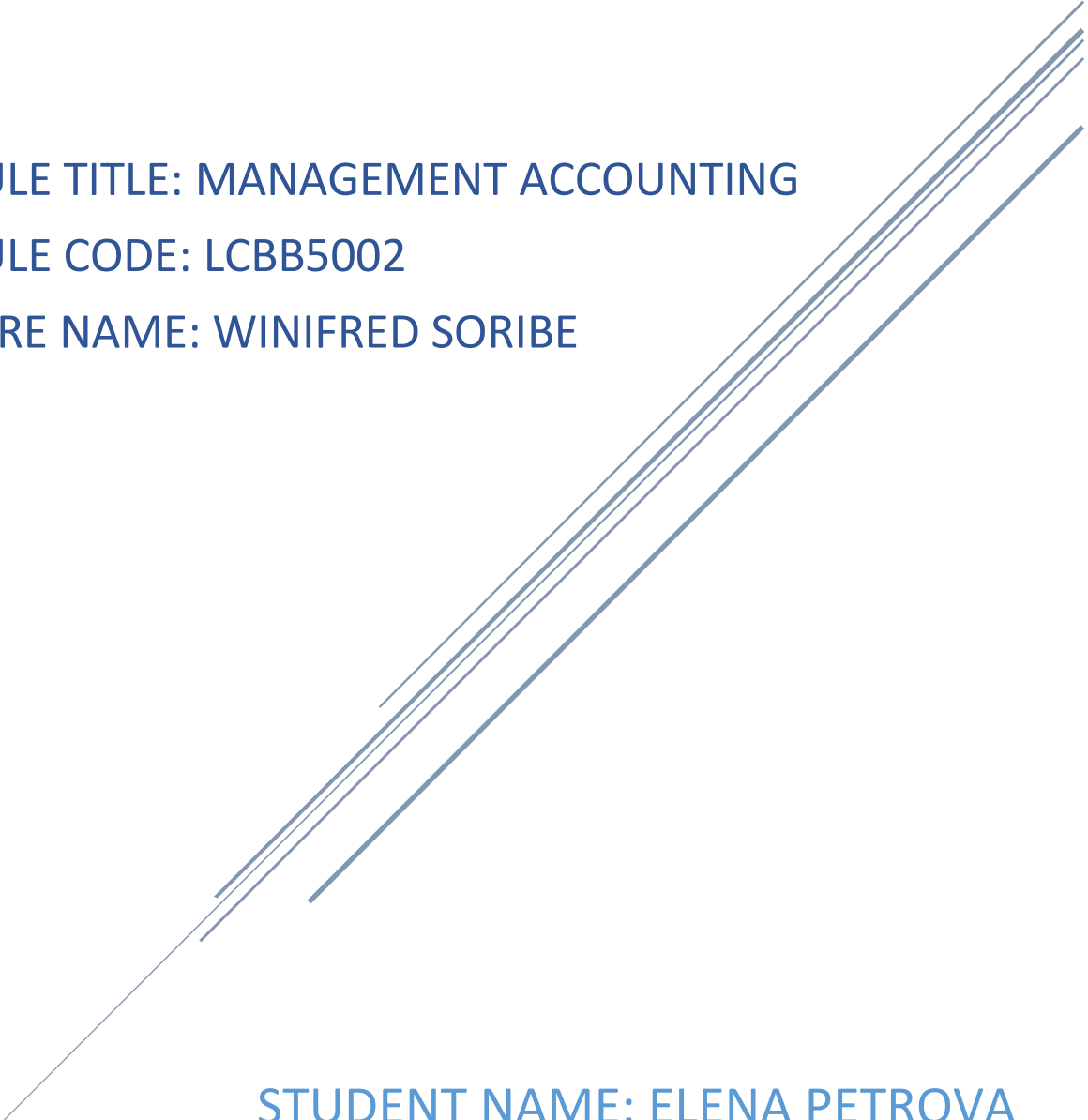


XLG REPORT

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Introduction

The dynamic and highly competitive markets of today may have several risks that can directly influence the business performance (Knight, 2012; Quon, Zeghal & Maingot 2012). In addition to inherent market risks, several external factors may also lead to unexpected situations, which may or may not affect business performance (Arena, Arnaboldi & Azzone, 2010). For instance, the recent global pandemic of COVID-19 has affected the supply and demand trends within the global markets (Sharma et al., 2020). Considering this, the business organisation is required to take effective and on-time decisions to sustain business performance. Through the course of this paper, the case of XLG has been considered. The company produce cleaning chemicals and currently source the material from Brazil. Considering the case and data presented, the first part of the report will calculate the material and sales variance. This will be followed by a critical analysis of how these variances can be used to assess the performance of the manager. The second part of the paper will analyse the make or buy decision for XLG using the available literature. Lastly, the paper will be concluded based on the discussion along with recommendations for the company.

Part A: Calculations and using variance for the manager's performance

i) The calculation for sales price variance is presented below:

Sales price variance = (actual price – standard price) x actual volume

Description	Actual Price	Standard Price	Difference	Actual Volume	Sale price variance
Chemical X	45	35	10	850	8500F
Chemical Y	37	30	7	750	5250F

The calculation for sales volume contribution variance is presented below along with the formula used:

Sales volume contribution variance = (actual sales volume – budgeted sales volume) x standard margin

Description	Actual sales volume	Budgeted sales volume	Difference	Standard Margins	Sale volume variance
Chemical X	850	595	255	25	6375F
Chemical Y	750	595	155	20	3100F

ii) To calculate material price planning variance, the following formula is used followed by the calculations:

Material planning variance = (original target price – the general market price at the time of purchase) x quantity purchased

Material planning variance for chemical X = $(2.5 - 4.5) \times 850 = -1700 = 1700A$

Material planning variance for chemical Y = $(2.5 - 4.5) \times 750 = -1500 = 1500A$

Lastly, calculations for material price operational variance have been presented below along with relevant formula:

Material price operational variance = (general market price at the time of purchase – the actual price paid) x quantity purchased

Material price operational variance for chemical X = $(4.5 - 3.7) \times 850 = 680F$

Material price operational variance for chemical Y = $(4.5 - 3.7) \times 750 = 600F$

iii) As demonstrated in the earlier section of the paper, variance analysis such as sales price and sales volume and material price variance can be effectively used to assess the performance of the organisation (Martin, 2011). Besides, this may also help in assessing the performance as well as dysfunction behaviour of the managers. In this section, merits and demerits of using variance for performance assessment will be briefly discussed.

Merits of using variances

Variance analysis in combination with other management control systems can potentially help an organisation to improve its decision-making ability as well as the performance of the organisation (Abernethy, Bouwens & van Lent, 2010). Taking an example of sale price variance, the output number in this regard would highlight the responsiveness of an

organisation considering the changes in supply and demand. A favourable variance highlights that the organisation has quickly responded to a decline in supply with an increase in demand. Based on this, the sales manager had decided to increase the price of the product that has resulted in a favourable sales price variance. This has also been advocated by King and Clarkson (2015) and according to the authors, performance assessment of managers using variance analysis may help to develop forward-thinking decisions. Considering this, it can be argued that the variance analysis may help to take effective decisions and also to assess the responsiveness of the managers as well as the organisation.

Dunk (2011) also discussed the role of management control systems and its advantages in terms of forecasting abilities of the managers. Specifically considering the variance analysis, the researchers have argued that this can directly assess the foreseeing abilities of the managers and relevant stakeholders. This can be exemplified by considering the material price planning variance, the output of this will help to identify the forecasting abilities of the managers. Ideally, when the variance value would be zero, it will highlight an excellent ability of the management to foresee the price of the material. However, an adverse variance in this regard would highlight that the management team does not have information about market trends. Moreover, it will also highlight a gap in the market research abilities of the organisation (Foster, 2017; Akeem, 2017). If the organisation would have channels of market information, the material price planning variance should be minimum (Palmer 2012; Peng, Li & Wan, 2012). In other words, it can be argued that variance analysis may act as a strict control system and would trigger timely decisions within the organisation. With the available information after variance analysis, the management can correctly identify the point of wastage and effective actions can be taken accordingly (Watts & McNair-Connolly, 2012). Thus, the variance analysis can be argued as an effective tool to improve control, decision-making and monitoring within an organisation.

Demerits of using variances

In the previous section, the merits of using variance analysis have been briefly identified along with few limitations. Basing on the limitations, this section will discuss the disadvantages of using the variance analysis for performance assessment (Palmer,

2012). As argued by Strauß and Zecher, (2013), variance analysis is undoubtedly an effective tool for decision-making; however, this cannot be used as a standalone tool to assess the performance of the managers. This is primarily because factors influencing the variance either in the sales price, volume or material price are not in direct control of the managers (Parmigiani, Klassen & Russo, 2011). In light of this, if managers will be held accountable for this, it may also result in their demotivation. Frey, Homberg and Osterloh, (2013) also mentioned exaggeration and 'tempered' data as a result of unfair accountability while assessing the dysfunctional behaviour of the managers. In other words, this may promote blame culture within the organisation, which will eventually affect its performance in an adverse way. Considering this, it can be argued that using variance extensively for assessing the managers' performance may also result in their demotivation and dysfunctional behaviour.

When it comes to the performance assessment of the individual managers, variance analysis is also a limited tool in terms of reflecting the overall performance. As mentioned by Taticchi, Tonelli and Cagnazzo, (2010), managers in an organisation are responsible for various functions including, planning, execution, control, people management and several others. While variance analysis might be an effective tool to gauge performance against few, this cannot be an exact reflection of the manager's performance (Strauß & Zecher, 2013). For instance, variance analysis could not measure the performance against teamwork, team management, development and other important areas. In this scenario, if variance analysis is used as a standalone tool or even a tool with key importance, it may result in poor performance assessment. This would not only affect the employees' morale negatively but will also result in poor development planning (Palmer, 2012). Thus, it can be argued that the variance analysis is limited to a few areas when it comes to the performance assessment of the managers.

Part B: Make or buy decision of FamaQ

The "make or buy" decision within an organisation is influenced by several factors which include cost and business risks at the top of the list (Bajec & Jakomin, 2010). For the case under consideration, to evaluate the decision of in-house manufacturing or outsourcing of FamaQ for XLG can be assessed by evaluating both the risks and benefits associated

with both sides. The cost of in-house manufacturing is comparatively lesser than outsourcing in the current scenario. Nonetheless, in-house manufacturing would certainly involve capital cost and liabilities of XLG. Therefore, the decision must be based on the long-term changes within the business and market. For this purpose, the following sections briefly explore the benefits and risks associated with both. This will be followed by key recommendations for the company:

Benefits and risks of outsourcing

For the case under consideration, one of the key advantages of outsourcing FamaQ will be the consistency of cost (Welch & Ranganathan Nayak, 2011). On a short-term scenario, the price of FamaQ has increased but the global pandemic has to come to an end. At the same time, due to an increase in demand for cleaning chemicals, the supply will increase, which will result in the previous price soon. On a long-run, in comparison to the manufacturing facility in the United Kingdom (UK), Brazil would have consistent and even lower manufacturing expenses. This can be exemplified through the labour cost, which is 85 per cent lesser than the UK if analysed using the minimum wage in both countries (Herr & Kazandziska, 2011; Engbom & Moser, 2018). The same could be the case with other manufacturing overheads that have a higher fluctuation in the past as compared to Brazil. Another key benefit is, outsourcing FamaQ will maintain the consistent focus of XLG on its main product instead of spending its energy and resources on a secondary item.

Aside from the advantages of cost and consistent costing in comparison to the UK, other general benefits of outsourcing would include savings on infrastructure, resources and technology at the top of the list (Welch & Ranganathan Nayak, 2011). In comparison to in-house manufacturing, the outsourcing does not require an organisation to establish its plants and associated resources. This will save huge capital investment and the same can be invested for the primary business activities (Engbom & Moser, 2018). Similarly, outsourcing would also help the organisation to better manage its supply chain following the demand. For instance, any fluctuation in demand can be addressed by related supply chain strategies instead of managing in-house operations which will have little flexibility to manage fluctuations in demand. Another key benefit associated with outsourcing is the access to skilled labour with better management of quality (Welch & Ranganathan Nayak,

2011). For instance, in the case of XLG, the company is currently outsourcing FamaQ from Brazil and the supplier would certainly have skilled labour and other resources that are capable to meet the quality requirements of XLG. In contrast, if the same supply is managed through an in-house facility, this would potentially result in the challenges of recruiting and managing skilled labour force as well as other necessary resources. Therefore, outsourcing of FamaQ by XLG would have potential benefits of saving and better investing the capital cost along with better management of product quality.

On the negative sides, outsourcing may have a short-term risk of the limited supply of FamaQ, which may reduce the market share of the company. Secondly, in terms of prices, XLG may have to pay the extra price for the chemical, which will result in increased production cost. Nonetheless, this will affect the company's profit only if the price is not increased accordingly. For the case under consideration, both chemical X and chemical Y have higher prices than the standard. This indicates that the impact on profitability will be minimum. Thus, the company may have a short-term impact on cost and supply if outsourcing is done. Another disadvantage of going with the option of outsourcing could be the loss of control. Although the products received from the outsourcing vendors can be passed through strict quality controls, the company will still have limited control over the research and development side of the product. On a longer-run, this specific disadvantage may influence the competitive advantage of the company. Considering this, it can be argued that outsourcing can have a potential disadvantage of disruptions in the supply chain of FamaQ along with a lesser control over research and development.

Benefits and risks of in-house manufacturing

In general, in-house manufacturing can provide several advantages; however, this also comes with numerous risks that must be considered before the decision (Bajec & Jakomin, 2010). On the positive sides, in-house manufacturing provides better control over developments as well as product quality in comparison to outsourcing (Welch & Ranganathan Nayak, 2011). Secondly, one of the obvious advantages could be the absolute cost of manufacturing, which might be lower as compared to outsourcing as the profit margins of the suppliers are being cut. Nonetheless, this cannot be the case for all items depending upon the geographic location of manufacturing (Engbom & Moser, 2018). Another key advantage could be the elimination of logistics problems. By setting

up an in-house manufacturing plant, an organisation can better manage the supply side. Nonetheless, in the case of fluctuations in market demand, this may result in the limited capacity utilisation, which will cause an additional burden of fixed cost (Welch & Ranganathan Nayak, 2011). Alternatively, this will disturb the overall financial performance of the organisation.

Considering the case of XLG, one of the key advantages of in-house manufacturing is the production cost. As of now, the company would procure FamaQ for \$3.7, while the cost of in-house manufacturing will be \$3 per unit. Secondly, the delivery time will be reduced by 15 days, which means that XLG would have to carry lesser inventory and its market response time will increase. Third and most important, the company would have lesser risks of supply and shortage as a result of any external situation like it happened in the case of COVID-19. Another advantage would be an increased control of the company on the product quality as well as the supply (Bartel, Lach & Sicherman, 2014). Nonetheless, in a long-term scenario, the decision of in-house manufacturing might not prove effective (Arya, Mittendorf & Yoon, 2014). Firstly, in-house manufacturing may involve notable capital investment and the company would also have to maintain separate staff and labour (Martin, Guide & Craighead, 2010). The demand may continue to be the same; however, the price in Brazil is highly likely to reduce over the period. This can be a short-term increase in the price, which will come to a balance as the supply of chemical will increase. At that time, the cost of in-house manufacturing would certainly be higher than the cost of outsourcing from Brazil. This will not only influence the price competitiveness of the company but will also result in additional liabilities for the company that it would develop while setting up in-house manufacturing (Chikweche & Fletcher, 2010). In addition to this, the consistency of manufacturing cost is better in Brazil as compared to the UK as it has been mentioned above. Based on this, it would not be a wise decision to shift to in-house manufacturing based on short-term advantages.

Conclusion and recommendations

Considering the information and data available for the case, in-house manufacturing of FamaQ would have several advantages associated related to the cost, supply and inventory management. Nonetheless, all of these advantages are highly likely to be short-

term. This is because the price of FamaQ in Brazil could be higher because of global pandemic and situation will come back to normal, which will again stabilise the price to the previous level. At that time, in-house manufacturing cost would certainly be higher than the outsourcing. Therefore, it would not be a wise decision to put huge capital cost and shift business focus to attain short-term advantages.

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