

## **MANAGEMENT CASE STUDY NOVEMBER 2018 EXAM ANSWERS**

### **Variant 2**

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#### **Section 1**

##### **How to account for Company X**

By acquiring 50% of the share capital of Company X on incorporation, Grapple would have joint control. From the information provided it would seem that Grapple and TipTops would share the control of the new entity and so it would seem to be a joint venture in accordance with IFRS 11 Joint Arrangements.

As a single entity, Grapple would acquire its 50% holding in Company X. This will be equity accounted for in the single entity accounts. The same treatment would apply in the group financial statements.

In the statement of financial position, under non-current assets, the consideration paid for the shares on incorporation is added to Grapple's share (50%) of the post-acquisition profits. This profit is added to that of Grapple each year. Any impairments in the value of the investment will be deducted from this carrying value and also deducted from retained profits. As Grapple will be buying goods from Company X the transfer price may include a profit. Any inventories of these goods held at each year-end which include an unrealised profit will be adjusted for by deducting 50% (Grapple's share) of this unrealised profit from the carrying value of the investment. This is because the seller is Company X. Profits are also reduced by this amount. Any balances on receivables and payables resulting from trading between Grapple and Company X are not eliminated through equity accounting.

In the statement of profit or loss, a single line is recorded above profit before tax to include 50% of Company X's profit for the period (after tax) with any impairments and unrealised profits deducted. The intercompany sales are not deducted from revenue and cost of sales. Any dividends received from Company X would be eliminated.

## Investment appraisal

The working paper provided has used the method perhaps considered the best as it shows the increase in the shareholder wealth if the joint venture goes ahead. The result here is positive (although small) and would suggest that the project should be undertaken.

Other methods of investment appraisal include:

- Accounting rate of return (also called return on capital employed)
- Payback
- Internal rate of return (IRR)

### Accounting rate of return (ARR)

This method uses the formula: average profit/capital employed x 100%. The capital employed may either be that at the start of the project or the average over the three years. The answer is then compared to a predetermined target. If the project's ARR is greater than the target the project will be accepted.

To be able to determine the ARR, the profit for each of the three years will need to be identified. In simple terms this will be the cash flows you have calculated here for revenue and costs but with depreciation deducted. The tax would be that payable on the resulting profits. You already have the capital employed as this is the initial investment.

### Payback

Payback is a simple investment appraisal method that looks at the liquidity of the investment. Cash flows are used instead of profits and this makes the appraisal method less subjective. The cash flows calculated in your computations are used and compared cumulatively to the original investment to see how long it takes to pay the original investment of Z\$2.6m back in years and months. An alternative method would be to use the discounted payback method. This would involve looking to see how long it takes to cover the initial investment with the present value of the cash flows.

The cash flows in your workings are sufficient to enable you to do these calculations.

### Internal rate of return (IRR).

This is considered to be superior to payback and ARR as the discounted cash flows are used and so it takes into account the time value of money. The IRR is the discount factor at which the net present value is zero. This provides a breakeven point with which to compare the weighted average cost of capital (WACC). Here, WACC is 10%. The IRR will fall somewhere between 10% and 15%, where the net present value of the cash flows is negative. This suggests that the project is worthwhile. In order to perform

more accurate calculations, you should find the net present value of the investment at 15% and interpolate to determine the accurate figure.

In conclusion, the best method to use is the one that you have already performed: the net present value as this is the only method that provides the absolute increase in shareholder wealth.

## **SECTION 2**

### **Characteristics of high-performing work teams**

An effective work team can be defined as any group of people, working effectively together, to achieve a shared goal. In this case, the goal would be the introduction of the new bottle top production process. The team can only work together effectively if the members of the team each have a role to play and are enabled to do so through their interactions with the other team members.

There are a number of leading theorists striving to clarify the characteristics of high-performing teams. They believe that a high-performing team should exist to fulfil a specific task. This would be the case in the joint venture as they would exist to produce bottle caps only.

Most theorists agree on a less structured approach to different extents, with one stating that communication should be unstructured, with no barriers to communication derived from the status of the team member. So, we would need to ensure that all team members were able to state their views and opinions on the way in which the team operates, whether from Grapple or from TipTops.

Another suggests that whilst there should be a strong and clear leadership, the tasks should be allowed to develop innovatively, with the generation of new methods, as the team develops. It may be a little difficult to develop in this way if high levels of automation are used as with some of our other processes.

Effective teams should trust each other to carry out their own role effectively and to be able to rely on the output of another team member. That level of trust may be difficult to achieve if the team is built from two different organisations, although as this is a joint venture, it suggests the organisations are willing to work together, so that trust may be forthcoming.

Given the above discussion, as long as we provide a strong leader, and allow the team to develop themselves without too much interference, we should be able to do this.

### **Learning curves**

For a strong learning curve to exist, there needs to be a high level of repetitive manual labour involved; typical manufacturing machines do not learn in the same way. This suggests that it is unlikely to have as great an impact in the joint venture as it will be highly automated, although an element will still be manual and hence there may be some benefit.

The 95% learning curve calculations provided show that the average cumulative time taken is expected to reduce by 5% when we double our output of batches. This has the effect of reducing the time taken for subsequent batches by more than 5%.

The figures provided assume that each batch is the same size and therefore the learning curve effect is easy to apply to the calculations, but it can also apply if more or less than 20,000 caps are produced in the next batch. This would be calculated using a logarithmic formula.

If the learning curve exists, it can be very important to note this for budgeting and costing purposes.

### Effect on costing

If standard costs are used, it is not possible to apply consistently, knowing that the production times will change for different batches. If the production times change, so will the labour costs involved. If the labour costs change for each batch, so will the variable costs for each batch.

At a certain point, which is known as the steady state, the learning curve effect ceases to exist and the normal standard production time would be known. It is at this point that the standard cost would usually can be calculated for future production.

### Effect on budgeting

The effect on costing will also have an obvious effect on budgeting. It will be difficult to budget labour hours, and therefore labour costs, until the steady state is known. This could also affect the cash budget. Work scheduling would also be difficult and may lead to idle time in some instances if more labour is scheduled than required, or if labour is scheduled for a longer time than required.

Depending on how overheads are considered to be incurred, there may also be an effect on budgeted overheads. If shifts are to be shorter for example, then variable overheads driven by labour or machine hours should also be reduced. Alternatively, if more units are produced, rather than reducing shifts, then the unit overhead cost will reduce. If we continue to absorb fixed overheads on a machine hour basis the learning rate will not affect this.

To summarise, the costs budgeted in the early periods of production are likely to be higher and the profits lower, than in later periods of production, after the learning curve has been applied.

## SECTION 3

### Transfer Pricing

Generally, transfer prices should be acceptable to both the receiving and supplying parties. The use of transfer pricing should also benefit the organisation as a whole, in this case potentially restricting supplies to Grapple's competitors and causing them to pay higher prices elsewhere. A good transfer pricing system should be adopted which does not encourage either party to buy or sell the product in question on the open market. This is less likely at the moment as the particular type of bottle top has only been seen at overseas trade fairs, but if we start producing it, it is only a matter of time before there are local competitors.

One of the disadvantages of market-based transfer pricing is that the purchasing department obtains little benefit, even if the organisation does as a whole. The market price might be quite high, as high prices are often prevalent in the introduction/growth stages of the product lifecycle, which is where this product currently is. Matching the market price might reduce product margins in our product lines significantly.

The fluctuations of market prices should also be considered as this would make it difficult to budget and lead to fluctuating results.

A cost-based transfer price could take different forms but would usually include the cost (either marginal or full) plus a mark-up for profit.

A key consideration is whether actual or standard costs would be used. Actual costs may fluctuate, leaving the receiving production lines with fluctuating costs and margins themselves.

The main disadvantage with the use of standard costs is that Fizzcap would have no incentive to reduce costs, as it would always meet its desired profit. Additionally, standard costs may be set on historical facts, and may not be changed when production is improved e.g. if there was a learning curve effect, thus disadvantaging the receiving department.

The advantages of using a negotiated approach is that all factors can be considered when setting the price, including the characteristics of the intermediate market and the performance measurement systems affecting both parties. The negotiated approach should allow both parties to feel empowered, which could motivate them towards their goals. It should allow the selling division to make a greater profit if they were able to operate more efficiently, thus encouraging them to reduce costs.

## Negotiation

Negotiation is about reaching an agreement, as opposed to one party 'winning' and another 'losing' the discussion. This is particularly true about transfer pricing, as both parties should benefit from this.

The negotiation process involves four stages; preparation, opening, bargaining and closing.

During the *preparation* stage, the production managers should carry out internal and external research. For example, both supplying and receiving parties need to know what the market price is. The supplying party needs to consider its costs and what margin it wishes to achieve. The receiving party should also consider the end price it wishes to charge, and the margin it wishes to achieve.

The *opening* stage requires each party to state its opening position. The supplying party may open with market price, whereas the receiving party is likely to open with a low offer, in order to maximise its profit. As this is a new type of product top, it may be that the opening position of the receiving party is the price paid for the existing bottle tops. However, this may be difficult to match as the technology is new and may incur greater production costs.

*Bargaining* involves the discussions required to reach a final agreement, at the *closing* stage. This should ensure that both parties benefit, as well as the organisation overall. In this case, Fizzcap should cover its costs in the long run, and the Grapple production lines should not feel disadvantaged e.g. the production managers should not see their performance measurement affected detrimentally.

It is worth noting that the negotiation can be revisited or could specifically allow for changing costs and market conditions over the product lifecycle.

## Controllable vs Uncontrollable costs

If a manager is held accountable for the profit or costs within his or her area of responsibility, then he or she should only be measured on the areas within their control.

If too many uncontrollable elements are included, this could be de-motivating, and lead to a lack of effort towards objectives. If the manager feels they cannot change the outcome, why bother to try?

Typically, it is the shared fixed costs which may be considered uncontrollable, such as the costs of our accounting department for example. Some fixed costs may be directly attributable and therefore be considered controllable e.g. electricity used in a particular factory, or the cost of maintenance of machinery. However, even some directly attributable costs may be determined centrally, therefore removing the element of control e.g. depreciation of machinery.

Variable costs, such as material costs, would usually be considered controllable. However, if there is a transfer price involved, this would remove some of the controllability. It appears that the production managers will have no choice but to use the new style of bottle top, which may be more expensive. An imposed transfer price would definitely be considered uncontrollable, but the negotiated approach suggested would suggest controllability.

In order to increase motivation, and performance overall, managers could be measured on the controllable aspects of their performance. Whilst financial accounts may show overall profitability, the management accounts could be adjusted to show the controllable elements for performance measurement.

One of the disadvantages of this approach is that no-one is focused on reducing the head office costs. By making production managers aware of head office costs, by allocating a proportion to them, will lead them to consider whether they need to incur such costs in the future e.g. could they reduce their use of the IT department? If managers were measured on controllable costs alone, it may be that the profit margin achieved is too low for the company to breakeven.



## SECTION 4

### Performance

Fizzcap has been trading for two years and its revenue has increased by 44.4%. This is impressive for a business over its first two years.

Revenue growth may come from increases in sales volume and/or price. The extracts suggest that the sales prices have remained stable and so the increase is down to higher sales volumes being made. The increase in market share supports this too. The increase in revenues would improve further with a higher market share.

The gross profit margin has reduced slightly over the two years despite the operating profit margin increasing slightly. Sales prices have remained stable so the reduction in the gross profit margin is due to an increase in the cost of sales. The raw materials are bought from an overseas supplier and the price will change if there are fluctuations in the exchange rate between Z\$ and D\$. The figures suggest that either the price of metal has increased or that the exchange rate has moved against Fizzcap. As the business grows, there will be economies of scale and Fizzcap's purchasing director should negotiate discounts for buying in bulk. This will reduce the price per unit and should improve margins.

The fact that the operating profit has increased despite the reduction in gross margin is positive. The main reason for this difference seems to be that in year 1 an external consultant was used whereas in year 2 it may be that the staff took over the role they were performing when the consultants' contracts were not renewed. This may have given rise to cost savings and therefore increased the operating profit. Further cost savings and efficiencies in the future should improve this ratio further, especially if improvements can be made to the gross profit margin.

The return on capital employed (ROCE) has improved this year, lightly. This will be due in part to the increase in the operating profit from the savings made with external consultants. In addition, as the machinery and intangibles get older, their carrying value reduces through depreciation and amortisation. This in turn, reduces the capital employed and so ROCE will increase. When the new machines are bought the ratio may worsen unless there is a significant improvement in operating profit.

Gearing ratio has reduced this year. This tells us that the level of debt compared to equity has reduced. This could be because the level of equity is increasing with more profits each year and/or some of the debt has been paid back. As the gearing level reduces this makes Fizzcap look more attractive to future investors. TipTops and Grapple will not want to issue more shares as they will lose control of Fizzcap but there may be a need for more debt to help with the investment of replacement machinery.

The improvement in the interest cover suggests that either some debt has been repaid or the interest rates have reduced. This could also be due to the increase in operating

profit levels. This is a positive sign but if interest rates rise or if new debt is issued to acquire more machinery, this may fall again. Fizzcap will need to make sure that the levels do not fall enough for the banks to raise concerns and recall the loans from breaches of debt covenants.

## **Competitor Analysis**

It is important to analyse competitors in order to understand how our market place is adapting and what we need to do to stay ahead of the game. The emergence of competitors may lead to lower prices or a loss of customers, although Grapple remains the main customer of Fizzcap and there is no danger of that relationship stopping.

When carrying out competitor analysis, we can categorise the competitors according to their level (brand, industry, generic or form) and their likely responses (laid-back, selective, tiger, stochastic).

Considering the level, we should probably be most concerned about industry and form competitors. Industry competitors are those which are competing with the same product, regardless of the size or structure of their organisation. Form competitors, as these are the ones that satisfy the same need with a similar, but different, product. These would be the producers of traditional bottle tops for example.

With regards to responses, there are four types of competitor we may expect to see:

- Laid-back – would not respond to our moves
- Selective – only reacts in certain markets or to certain strategies. With these, we would need to understand which strategies would lead to a response.
- Tiger – these are aggressive competitors who will always act in that manner. We need to identify these and understand our advantages over them.
- Stochastic – These are unpredictable. We still need to know who they are, but there is probably little point in attempting to predict their responses.

When carrying out competitor analysis we should remember that some methods are unlikely to obtain suitable results with this product, given that it is only a part of the packaging for a drink, rather than the drink itself. Asking the end customer about different bottle tops used would probably be futile; they would have no choice but to accept the top which comes with the chosen drink.

We could use the following research methods:

- 1) Buy some of our competitors' products and reverse engineer to determine likely costs of production as well as assessing the product against our own.
- 2) Use available sources to determine key measures such as profitability, revenue (and hence market share) and growth. We know that our revenue grew 44% year on year; we could see whether any other competitors were growing as quickly.

3) Industry publications, such as Drinks Manufacturing Monthly, will show up to date articles on competitor activity.

One problem with all of these methods is that they are unlikely to provide valuable information with regards to competitor responses. It may be that the only way to determine this is to try out some incremental changes and note the responses. Another way could be to examine past information about them in any previous markets.