

MANAGEMENT CASE STUDY NOVEMBER 2017 EXAM

ANSWERS

Variant 3

The November 2017 exam can be viewed at

<https://connect.cimaglobal.com/resources/november-2017-management-case-study-variant-3>

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CIMA will not accept challenges to these answers on the basis of academic judgement.

Task 1

The spreadsheet is based on several assumptions that we need to be cautious of before we make the final decision.

The first thing we should question is the level of funding required: K\$3,500,000. Is this the total spend of our capital budget? Are there other smaller projects that our capital budget could be better spent on, such as replenishing or upgrading our current machines? This is a large amount of money and there is a lot of risk. We need to know if this produces the highest return of any project.

We also need to question the expected levels of sales activity. Are the selling prices and sales volumes realistic? We have the sales volume and price increasing every year. Is this a viable assumption? What is the product lifecycle? We need to know what products the competition has to offer. If we do not have accurate information here, we will potentially overstate the cash inflow to this project.

In terms of the costs of the project, we need to make sure that we only include relevant costs. These should be those which will be affected by the decision being taken. The variable costs of the product are relevant, but again have we got the level of inflation correct? We need to consider whether we consider a project-specific rate or use the overall general rate of inflation. Again we could have seriously underestimated the costs here.

The fixed costs are the costs most likely to be challenged as to whether they are relevant to the decision-making process. This means that only extra or incremental changes in fixed costs should be included in discounted cash flow calculations. The good news is that the directors have included fixed costs that seem relevant. The workers seem to be extra to current plans and are not taken from the current workforce for example.

We also need to consider the loss of sales of our existing products. It is great that we are innovating and creating new products, but will this make some of our current profit-making products obsolete? If so we need to take this into consideration and calculate the full effect. Does this replace any of our old machinery? If so, again we need to calculate the effect on our assets, depreciation and the cost to dispose of this machinery.

We also need to fully complete this spreadsheet to give the true NPV of the project by calculating the tax effect on the cash flow.

One final point to consider is the discount rate used. The discount rate supplied is only relevant for this year. We need to consider the cost of capital and whether it will change. If it does change, we will have to calculate the discount rate for each year. Again if the cost of capital increases, then we could be faced with a reduced NPV.

There really is the need to make sure we conduct sensitivity analysis on this project. We need to ask 'what if?' questions of the volume, the selling price, variable costs etc. This will allow us to see if the project still returns a positive NPV if say demand falls by 10% and variable costs will be 5% higher.

Key sources of long-term funding

The Sales Director is right to some extent in that we have the funds to finance this project internally. However, we may not want to spend all our available cash on one project. If external funds are required, we might raise finance from the following sources:

Equity

Equity sources take the form of offering additional shares to existing shareholders. To raise equity the company must be quoted or listed on a recognised stock exchange. The shareholders must of course be prepared to invest further in the company.

ZX could also offer preference shares (shares that pay a fixed dividend). New shares are issued via an initial public offering, a placing or a rights issue. ZX could also obtain bonds from the capital markets. A bond is where the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay interest and (or) to repay the principal at a later date.

Equity can be difficult to obtain and takes a long time to organise.

Debt

The cost of debt is usually cheaper than equity; therefore most companies will opt for debt in the form of long-term or short-term bank loans. Interest is paid and there is a risk of default if interest and principal payments are not met.

The total amount required for the project is large but banks may be willing to lend the money because ZX does not have any current outstanding loans and should be able to afford the interest payments. RiPlan has presumably been able to borrow large amounts

of money from the banks and other sources as they have interest repayments of K\$1,243,466. However, the market is competitive, ZX's margins are decreasing and its working capital cycle is increasing. Therefore banks may be unwilling to lend to ZX.

There is also the issue of credit history. The fact that ZX has not had any loan repayments in 2015 and 2016 may suggest a well-run company, but a lack of credit history would be a concern for any bank asked to lend K\$3,500,000.

Other sources

ZX could attempt to obtain funds from alternative sources such as government grants (which may not even have to be repaid), sale and leaseback debt, convertible debt and venture capitalists.

Task 2

Methods of capital appraisal

Net present value is the present value of all the project's cash flows after allowing for reinvestment at the company's cost of capital. The cost of capital is the average required return required by investors considering the risk of the business. A company selecting projects on the basis of NPV maximisation should seek to maximise shareholders' wealth. NPV should give the best estimate of total increase in wealth to the shareholders and this should be reflected in the increased market value of the shares. Any project with a positive NPV is viable. Of the three projects appraised, the AMCOR project has the highest return of K\$2,749,000.

The IRR is the discount rate at which the project's NPV is 0. It tends to back up the result of NPV. If NPV is positive, IRR should be higher than the cost of capital. IRR can give the 'wrong answer' if the projects are ranked. Despite the fact that the new laser cutting machine gives the highest value of 34.6%, IRR is unsuitable for comparing projects. Cash cannot be reinvested at different rates.

ARR gives a measure of project profit by comparing the average profit per annum from the project to the average capital employed. Its advantages are that again it is easy to understand and calculate. Its disadvantage is that it does not take into account the timing of the project. It is using profit as opposed to cash flow. ARR should not be compared to interest rates. It is a relative rate of return, rather than an absolute gain. Even if we use this alternative measure, the best project to undertake is the AMCOR as this brings the highest average return of 58.8%.

Payback describes the risk in terms of the time investors have to wait before they get their money back. The shorter the payback, the more acceptable it should be to investors. The weakness of payback is that it does not cover the returns for the whole life of the project, the net present value or the profitability. The best project is the old machines upgrade project because the cash flow covers the investment in two years. The AMCOR project has the most risk as it will take 2.79 years to cover the initial investment.

The AMCOR project has been chosen because it has the highest NPV of K\$2,749,000. The new laser machine gives similar results to the AMCOR project but gives K\$197,000 less return on investment than the AMCOR project. The old machine upgrade project is only for three years whereas the other projects are for five years. This gives the quickest return, so if we are worried about cash flow or are feeling risk-averse, this could be a possibility. However, with a very low average profit percentage and an IRR as low as the nominal cost of capital, the AMCOR investment should still be considered the best for ZX shareholders.

Project management issues

For the project to be successful, we need to have identified a team and clearly communicated their goals to them. It is important to have an overall leader and an organisational structure to allow for successful decision-making. This team must be

brought together as soon as possible to allow for them to get to know each other and understand each other's role in the project.

The project will have milestones that need to be achieved for the overall goal to be realised. There are plenty of well-known tools available for the planning for time. These include Gantt charts, network analyses and scenario planning and allow the workforce to understand what needs to be done by when. We could consider using tools to help our staff plan such as work breakdown structures, statements of work, product breakdown structures and cost breakdown structures. All of these allow for work to be divided into manageable sections and will allow the team to specify and identify the cost of each element of the project.

We should carry out a risk assessment to consider things that may prevent us from delivering our project on time and to budget. The team involved should understand and involve our suppliers, contractors and external stakeholders such as the local government/authority. We need to work with our suppliers and contractors to ensure that they understand the timing of the supply of material or of work so that they do not hold up the process. In terms of the local government or local authority, it could be that we have not obtained the correct paperwork or permission to carry out the necessary work. Without it, the project may be delayed.

We also need to constantly review or progress against the project milestones. If we do not, the time and cost to deliver the project could go well over schedule. There needs to be constant communication with all members of the team to ensure that if there is a problem it is communicated and dealt with correctly.

Task 3

The workforce's involvement in budget creation

It is potentially a good idea to allow the workforce to be involved in the budget-setting process. This is because the workforce have worked hard in setting up the machines for the new AMCOR project and know how to get the best efficiency out of the machines. This should allow a very motivated workforce to become involved and set very testing budgets for next year. This should be good for ZX overall.

If we use the old method of a top-down approach the workforce may become demotivated if management set a budget that is either too difficult (or too easy) to achieve. If this is the case, then the workforce will lose interest and an opportunity could be lost to get full efficiency out of these machines for the AMCOR project.

However the idea of involving the workforce in the budget-setting process could have a negative effect for a number of reasons. The workforce, although they know the machines well, may not have the overall ability to understand and create a full budget.

Having everyone involved may cause more problems than it solves. This is due to the fact that everyone will have an opinion and this will cause arguments rather than creating harmony among the workforce.

Staff could be tempted to use their superior knowledge of the machines to fool their managers, building in an element of slack or padding to make their lives easier next year. This would be detrimental to the overall goals of ZX.

Overall, I think it is a good idea to involve and potentially motivate the workforce. However, I think management should have the overall say to create a challenging yet achievable budget for next year.

Overcoming resistance to change

We first need to consider the possible sources of resistance. These include the fact that if the staff have been recruited from the old factory, they will need to feel secure and are used to a previous setting. They could also be influenced by other members of staff who may feel that no change is needed. They could be trying to protect vested interests of other workers who may feel that their jobs are under threat from automation.

There are key considerations when deciding on the appropriate leadership approach. These include the speed at which change must be introduced, the strength of the pressure for change, the level of resistance expected, the amount of power held by the manager, how much information is needed before the change can be implemented and how long it will take to get that information. To overcome this resistance to we need to consider the following leadership approaches:

Participation

The aim here should be to involve employees, usually by allowing some input into decision-making. This could easily result in employees enjoying raised levels of autonomy, by allowing them to design their own jobs, pay structures, etc.

Education and communication

This should be used as a background factor to reinforce another approach. This strategy relies upon the hope that communication about the benefits of change to employees will result in their acceptance of the need to exercise the changes necessary.

Power/coercion

This involves the compulsory approach by management to implement change. This method finds its roots from the formal authority that management possesses, together with legislative support.

Facilitation and support

Employees may need to be counselled to help them overcome their fears and anxieties about change. Management may find it necessary to develop individual awareness of the need for change.

Manipulation and co-optation

Manipulation involves covert attempts to sidestep potential resistance. The information that is disseminated is selective and distorted to only emphasise the benefits of the change. Co-optation involves giving key people access to the decision-making process.

Negotiation

Negotiation is often practised in unionised companies to enable several parties with opposing interests to bargain. This bargaining leads to a situation of compromise and agreement.

Task 4

The fitting of new safety barriers

Ethical issues of not fitting the barriers

As an accountant there is the need to behave in an ethical manner. CIMA has a code of ethics based on the highest standards of conduct and integrity, and to uphold the good standing and reputation of the profession.

Although this matter of fitting barriers does not directly immediately relate to accounting, we cannot be seen to ignoring an issue that could potentially harm the workforce. If safety barriers are required, then this must be done regardless of the cost. As there is a conflict between the employer and the laws or regulations of professional or technical standards, then we must comply with these standards and fit the barriers.

There is also the problem of the barriers potentially not being fitted until early next year. If this is the case and production staff are in danger of being hurt, then all production must stop immediately. It is highly unethical to run the machines until the barriers are fitted, no matter the cost to the company or the requirements from customers.

The use of TARA in the decision-making process

In helping to manage risk and consider all the ethical considerations around the decision of fitting of the barriers, the TARA framework can be used.

Transference: in some circumstances, risk can be transferred wholly or in part to a third party, so that if an adverse event occurs, the third party suffers all or most of the loss. A common example of risk transfer is insurance. ZX should arrange insurance to cover any loss or injury caused by the machines. Before they insure against any losses, insurance companies will investigate the risks to workers with or without the barriers. If there is a serious risk, the insurance company will demand that the barriers are fitted before they will insure ZX.

However it is not wise or indeed ethical for ZX to transfer the risk of looking after its workforce to a third party. It is advisable to have insurance for the compensation that workers may demand if there is an accident, but ZX should make sure it has done all it possibly can to prevent the accident in the first place.

Avoidance is where management chooses a course of action that allows the company to avoid risk altogether. The only way risk can be completely avoided is by not using the machines and withdrawing from the AMCOR project. However, we have a problem in that we need to run the machines to maintain business with our customers. As the risk is unavoidable in the activities ZX undertakes, we must fit the barriers immediately or shut down the machines until they are made safe.

Reduction/mitigation: a third strategy is to reduce the risk, either by limiting exposure in a particular area or attempting to decrease the adverse effects should that risk actually occur. In this case, to reduce the risk the obvious answer is to fit the barriers to the machines to prevent the accident from happening again.

Acceptance: the final strategy is to simply accept that the risk may occur and decide to deal with the consequences in that particular situation. This strategy is appropriate normally where the adverse effect is minimal. This risk cannot be defined as minimal. Therefore this cannot be the strategy to use to deal with the current machines. We must again shut the machines down or fit the barriers.

Whichever method is used, it must be remembered as there has already been a major accident and a threat to life. Ethically we as part of ZX's management cannot ignore this risk and must deal with it immediately.

Should we make a provision?

To recognise a provision as per IAS 37 Provisions, Contingent Liabilities and Contingent Assets, the following criteria must be met:

- An entity has a present obligation (legal or constructive) as a result of a past event.
- It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation.
- A reliable estimate can be made of the amount of the obligation.

The obligation can either be legal (arising from a contract, legislation or another operation of law) or constructive (the entity has created a valid expectation via an established pattern of past practice or a published policy or statement).

Although the legislation has already been enacted, the requirement to fit the barriers does not arise for another four months after the reporting date. As a result, as at the year end, there is no 'past event giving rise to a present obligation'.

If no obligation exists in the first place, the likelihood of the outflow of resources being probable, possible or remote is irrelevant. Therefore, ZX should not create a provision and recognise an expense, neither should they disclose the costs as a contingent liability.

Nothing will be recorded in the financial statements in relation to these potential costs. It's also worth noting that, even if there was a requirement to fit the barriers by the reporting date and ZX had not done so, ZX would still not have to make a provision for the cost of fitting the barriers. There is only an obligation to incur the cost when the barriers have been installed.

The directors may deliberately refuse to incur the costs. However, as a result, we would be required to make a provision for any fines or penalties arising from non-compliance with the legislation (i.e. fines incurred for not fitting the filters).