# Strategic financial management

Strategic Financial Management

<u>Executive Summary</u>

The AYR Co. and its Board of Directors' have requested useful information about two investment opportunities that are currently available to them, namely; Project Wolf and Project Aspire. To provide this information in a way that is both useful and efficient, this report uses a number of Capital budgeting techniques have been utilized to ensure confidence in the information and recommendations provided. Thinking proactively, recommendations have not only been made about which project is to be selected, instead it  has also been made about what factors should be prioritized and looked for when looking at future investment opportunities. Lastly, this report takes a look at appropriate choices for sources of funds, cost of capital and the overall impact placed on the weighted average cost of capital for AYR Co.

Table of Contents

# References

# Introduction

The Aspire and Wolf projects are investment opportunities currently being evaluated by the AYR Co. and its Board of Directors. They are seeking to unearth sufficient and adequate information which will guide the selection of one project versus the next. This evidence it is assumed will be gained from assessing the Capital budgeting techniques; net present value, payback period and internal rate of return given the understanding of current budgetary constraints.

Though similar in some ways, each project is unique and differs in various ways. Project Wolf will seek to provide a new direction by appealing to a new group of customers, whilst project Aspire will build on the current product range and aims to appeal to both current and potential customers (Abdullah & Said, 2017).

As one would expect based on the magnitude of the decision, the Board of Directors are expecting as much details as they can get about which project is recommended and the reasons why it is recommended versus the next. They would also love to understand what factors of the decision process they can utilize in similar instances for future projects using the capital budgeting techniques. Most importantly the Board of Directors would also like advice on the sources of funds, debt or equity to be chosen for the funding of project wolf or aspire when selected  (Boghossian, 2017).

# Question No. 1

**Answer**

Before going into the detailed calculation, it is better to have a brief idea on the three of the Capital Budgeting Techniques, naming Net Present Value, Internal rate of Return and Payback Period, which have been discussed below:

Net Present Value

It is the method of capital budgeting in which at first the future cash inflows to be generated in the project are estimated, thereafter this future values of cash inflows are discounted at a rate to arrive at the present value of future Cash inflows from which the present value of cash outflow, that is the value of investment proposed to be made in present is subtracted to get the Net present Value of the project. If the value derived is positive, then it is recommended to select the project otherwise not.

Internal rate of Return

It is the rate of return at which the net present value of the project is zero or in other words it is the rate at which present value of cash inflow is equal to the present value of cash inflows. The reason behind calling it the internal rate of return is because it doesn't consider the external factors like inflation etc. while determining the rate of return (Cayon, et al., 2017).

Payback period

Under this method without taking into the time value of money in to the consideration, it tries to calculate the period which is required to recover the

initial capital investment proposed to be made in a specific project. It does not consider the cash inflows generated after the payback period (Charles H, et al., 2015).

1. Computation of NPV of the Project Aspire

= Present value of cash inflow- Present value of cash outflow

=$818000/ (1. 1) ^1+$698000/ (1. 1) ^2+$677997/ (1. 1) ^3+$667309/ (1. 1) ^4+$653507/ (1. 1) ^5+$140000/ (1. 1) ^5+$375000/ (1. 1) ^5-$140000-$2250000

=$3011487-$2390000

=$621487

2. Computation of NPV of the Project Wolf

= Present value of cash inflow- Present value of cash outflow

=$83300/(1. 1)^1+$648700/(1. 1)^2+$647511/(1. 1)^3+$646524/(1. 1)^4+$645461/(1. 1)^5-$2250000-$75000/(1. 1)^1-75000/(1. 1)^2-75000/(1. 1)^3-75000/(1. 1)^4-75000/(1. 1)^5

=$2622238-$2534309

=$87929

3. Computation of internal rate of return of Project Aspire

Internal rate of return of the project is that rate at which present value of cash inflow is equal to present value of cash outflow

Froom the above,

10%=$621487, Rate 1 = 10%, NPV1

X% =$2390000

Taking discount rate 20%, Rate 2

NPV 2=$-39616

IRR= Rate 1+NPV 1(Rate 2 -Rate 1)/NPV1-NPV2

= 10%+$621487(20%-10%)/$621487-(-$39616)

= 10%+$62148. 7/$661103

= 10%+9. 40%

= 19. 40%

    4. Computation of internal rate of return of Project Wolf

From the above,

Rate 1= 10%=$87929(NPV1)

Rate2 (taken 20%)

NPV = $-383742

IRR= Rate 1+NPV 1(Rate 2 -Rate 1)/NPV1-NPV2

= 10%+$87929(20%-10%)/$87929-(-$383742)

= 10%+$8792. 9/$471671

= 10%+1. 86%

= 11. 86%

5. Payback period for the project Aspire

Total initial investment = $2390000

| Year | Cash inflows | Cumulative cash inflows |
|------|--------------|-------------------------|
| 1 | 818000 | 818000 |
| 2 | 698000 | 1516000 |
| 3 | 677997 | 2193997 |
| 4 | 667309 | 2861306 |
| 5 | 1168507 | 4029813 |

Payback period = 3 years+2390000-2193997/667309*12

= 3. 29 Years

6. Payback period for the project Wolf

Total initial investment= $22500000

| Year | Cash inflows | Cumulative cash inflows |
|------|--------------|-------------------------|
| 1 | 818000 | 818000 |
| 2 | 698000 | 1516000 |

3    677997    2193997

4    667309    2861306

5    1168507    4029813

Pay Back Period= 3 yerars+2250000-2193997/667309

= 3. 08 Years

# Question No. 2

**Answer**

Analysis and evaluation of investment project

    1. A recommendation on which project to undertake

On the basis of the above detailed calculation as we can see that the NPV of Project Aspire is greater than the project Wolf, similarly the Internal Rate of Return of Project Aspire and Project wolf both the projects are greater than the cost of capital or the weighted average cost of capital of the company, but IRR in case of Project Aspire is much higher than the IRR of Project Wolf, though using payback period we can see that the payback period of Project Aspire is higher than the project wolf, but still we would recommend the selection of the Project Aspire in the given case (Cundill, et al., 2017).

    2. Justification for our recommendation including an evaluation of the investment appraisal techniques used in 1 above

In this case we need to compare amongst the three capital budgeting techniques used above that which one is to be based while making our recommendation in i above.

Through the Net present value technique, it becomes possible to discount each cash flow separately, it is preferable in those cases when the project's discount rate is also not known. Though in most of the cases both NPV and IRR are much widely used techniques, but at times they may provide different results in the scenario when there are variations found in the estimated cash inflows, cash outflows and in the duration of the project (Johan, 2018). At the same time the IRR technique doesn't consider the impact of external factors on the discount rate being chosen. Truly speaking IRR doesn't provide the absolute value, rather it is expressed in terms of certain percentage at which the company shall neither make profit nor loss. Hence, it makes the decision-making process rather complicated. At the same time NPV presents the surplus or deficit (if negative) generated from the project.

The payback period method is associated with the greatest weakness of not considering the Time value of money factor, hence it shall not be recommended to reach to a decision based on the result obtained using this technique. It even does not take into consideration the cash flows generated beyond the payback back period (Vieira, et al., 2017).

Hence in the given case from the above analysis it is quite clear that the use of Net present value techniques has much more preference over the other

two techniques, hence our recommendation has been based on result

obtained through NPV technique (Kang, et al., 2016).

3. A summary of other factors that should be considered and information

that may be needed prior to make a final decision

The following are the additional factors to be kept in mind while making final

decision

1. Consumer demand

2. Element of uncertainty

3. Innovations and inventions

4. Level of income

5. Corporation Tax

6. The level of savings

7. The accelerator effects

8. The stock of capital

9. The level of economic activity etc.

## Question No. 3

**Answer**

A discussion on the two factors of financing being considered by the board of

directors by the board of directors of AYR co

9. A description of debt and equity

In case of any business there are basically two modes of finance available

with the merits and demerits associated with each of them.

Debt financing simply means borrowing fund without sharing the ownership rather promising a fixed percentage of return in terms of interest, whereas equity means amount paid into the business by the owners of the business in exchange of a share of profit earned by the business using their funds. Whereas the business gets the tax shield on the interest paid to the borrowers, but there is no such savings generated from the dividend paid to the equity holders of the business. Raising the quantity of debt may also cause the cost of bankruptcy to the entity if it is found that the firm is overcapitalized in terms of debt financing (Kaufmann, 2017). The equity holders are the real risk takers of the business. Debt financing is considered cheaper over the equity financing due to the limited amount of the risk associated with it. Debt fund may be obtained for short term or long-term purpose depending on the requirement of the fund.

ii.   An explanation on the cost of each source of finance

Cost of debt

The cost of debt is the effective rate of interest an entity pays on its debt fund. The interest paid to the debt fund holders is a tax-deductible expenditure, hence whenever the term cost of debt is used it is meant as after tax cost of debt. There is an inverse relationship between the cost of debt and the rate of tax (Wellmer, 2018). As the rate of tax increases the cost of debt decreases and vice-versa. The formula used for the calculation of the cost of debt is as follows:

$K_d = I(1-t_c)$

Where,

Kd= After tax cost of debt

I = Rate of Interest

Tc= Tax rate

Cost of equity

It is the rate of return theoretically proposed to be paid to the equity shareholders of the company in exchange of the risk undertaken by them while making their investment in the entity. There are basically two formulas used while calculating the cost of equity, the first being Dividend capitalization model and capital asset pricing model (Kaufmann, 2017).

The formula used are prescribed hereunder:

Under the Capital asset pricing model, the level of risk in relation the market is considered. But is less preferred because of its use of historical information

E= Rf+Beta*(Rm-Rf)

Where E = Expected return from the Asset

Rf= Risk-free Rate of return

Beta= Systematic Risk of the asset

Rm= Return from the market

Risk Free rate of return is the rate of return expected to be received from making the risk-free investments

Beta is the measurement of volatility that can be obtained online or may even be calculated using the regression analysis through dividing the covariance of the market return and asset by variance of the market. If the Beta is less than one means the asset is less volatile, if it is equal to one then it means that its volatility is that of equal to the market, but if it greater than market, then it means that the asset is much more volatile in relation to the market (Knechel & Salterio, 2016).

Dividend capitalization model

This approach for equity valuation can only be applied for the companies paying dividend which assumes that the dividend shall grow at a constant rate but does not consider the extent of risk as being considered by the capital asset pricing model.

The formula to be used

$E = (D1/P0)/G$

Where

E= Cost of equity

D1= Dividend in next year

P0= Current market price of the share

G= growth rate of dividend

Dividend for the future years can easily be obtained as generally the companies announce the dividend in far advance before the date of actual distribution of the dividend.

Current market price of the share can be obtained from the Stock exchange search.

Growth rate of dividend

If the rate of growth of the dividend is not known, then in that case it can be obtained using the following formula

G=(DTh/dt-1)-1

Where,

Dt= payment of dividend in T period

Dt-1= payment of dividend one year prior to t period

4. An analysis of the effect of the selection of the source of finance may have on AYR co.'s weighted average cost of capital (WACC).

If the entire fund is invested by means of debt then the new capital structure of AYR co shall be

Equity = $20 million

Debt= $18+$2. 25= $20. 25 million

Let the after-tax cost of debt be 5% and cost of equity be 7%

Hence the WACC would be

= 5*$20. 25/$40. 25+7*$20/$40. 25

= 5. 99%

If the entire fund is invested by means of equity then the new capital structure of AYR co shall be

Equity= $20million+$2. 25milloion= $22. 25million

Debt= $18 million

Let the after-tax cost of debt be 5% and cost of equity be 7%

Hence the WACC would be

= 5*$18/$40. 25+7*$22. 5/$40. 25

= 6. 14%

Thus, from the above calculation it is quite clear that the firm should choose the debt as a means of financing as the weighted average cost of capital shall be lower in this case.

5. An Assessment of the impact of the selection of finance on the current and potential shareholders and lenders

This is described through the following points

1. As in the given case the amount of debt fund shall be higher in comparison to the overall equity investment in the AYR co, hence there shall be the high risk of bearing the burden of debt for the firm, that it must mandatorily pay to those debtholders.

2. The creditworthiness of the company shall be highly doubtful in which owner's fund ids less than the borrowed funds (Pamela & Tamara, 2013).

3. In future it shall be difficult to raise further funds through the means of debt financing before it repays some amount of its existing debt liabilities.

4. There is huge potential of decreasing the market price of the share of the AYR Co.

5. In future it shall become doubtful to pay dividend to its shareholders after meeting the interest obligations of the debt fund holders (Knechel & Salterio, 2016).

## Conclusion

From the above detailed analysis, it is quite clear that capital budgeting techniques undoubtedly play a major role in choosing an appropriate investment project, but the decision cannot be or should not be finally based on the result obtained from these capital budgeting techniques. S these capital budgeting techniques are purely based on the quantitative data, but there are qualitative factors too that are major contributors or determinants of such decision making.

Hence a careful detailed discussion is required to be made for these qualitative factors too before reaching to a conclusion.

At the same time while making selection for the appropriate mode of financing due consideration should be given to the both modes of financing naming debt and equity. Because though it is correct that debt financing can

provide the tax savings as the interest paid on debt is a tax-deductible expense, but there is the risk of bankruptcy too for a firm having higher amount of debt. At the same time if the firm thinks about to raise the amount of equity then the level of risk taking by such equity holders get increased and consequently they may demand higher amount of dividend. In that case they may also expect to increase the rate of dividend every year that may again indirectly affect the share price of the AYR Co. Hence a reasonable proportion of debt and equity is being suggested.

Finally, it is recommended to the Board of directors that they should not reach to any final decision solely based on quantitative calculations made in this report but should resort to other reports and other means of seeking valuable information in this regard. They may seek the help from the experts too.

Appendix -1

Working Note No. 1

1. Statement showing the After-tax cash inflow from the Project Aspire of AYR Co.

(Figures in $)

| Particulars | First year | Second year | Third Year | Fourth Year | Fifth Year |
|---|---|---|---|---|---|
| Cash | 65000 | 69875 | 69875 | 69875 | 69875 |
| Inflows | 0 | 0 | 0 | 0 | 0 |

Less:

Variable     27000 28823 30768 32845 35062

Expenses

Net cash

inflow

before

capital
             62300 66992 66798 66590 66368
allowance
             0     7     2     5     8
and

depreciatio

n and

Taxes

Less:
                   12460 13398 13359 13318
Taxes@20  Nil
                   0     5     6     1
%

Net cash
          62300 54532 53399 53230 53050
inflow
          0     7     7     9     7
after taxes

Add:         75000 75000 75000 75000 75000

Depreciati

on tax

shield@20

% [See

Note Below]

Add:

Capital Allowance

Tax shield@20 % [See Note Below]    120000    78000 69000 60000 48000

Net cash inflow after taxes after capital allowance tax shield and depreciation tax shield    818000    698327    677997    667309    653507

2. Computation of Depreciation under straight method

Depreciation per annum= (Cost of the Asset-Scrap value) *Rate of Depreciation P. A

= ($2250000-$375000) *20/100

=$375000

3. Depreciation tax shield  = $375000*20/100

=$75000

4. Capital Allowance Tax Shield

Year I                Year II            Year III            Year IV                Year V

=$600000*20%   =$390000*20% =$345000*20%   =$300000*20%

=$240000820%

=$120000         =$78000            =$69000            =$60000

=$48000

5. Statement showing the After-tax cash inflow from the Project Wolf of AYR Co

(Figures in $)

1. Parti

| culars | First year | Secon d year | Third Year | Fourt h Year | Fifth Year |
|---|---|---|---|---|---|
| Cash Inflows | 95500 0 | 95500 0 | 95500 0 | 95500 0 | 95500 0 |

Less:

Variable

| Expenses | | | | | |
|---|---|---|---|---|---|
| Material cost | | 14400 | 15050 | 16179 | 17392 | 18697 |
| Other Expenses | | 18000 | 16650 | 16650 | 16650 | 16650 |
| Net cash flow before taxes | | 923000 | 923300 | 922171 | 920958 | 919653 |
| Less: Taxes @20% | Nil | 184600 | 184660 | 184434 | 184192 |
| Net cash inflow after taxes | | 923000 | 738700 | 737511 | 736524 | 735461 |

2. Add:

   Depreciation    90000  90000  90000  90000  90000

   Tax Shield

Net cash     83300  64870  64751  64652  64546

inflow after

taxes after

and

depreciatio

n tax

shield

| | 0 | 0 | 1 | 4 | 1 |

2. Calculation of Depreciation=$2250000*20/100

=$450000

3. Depreciation Tax Shield

=$450000*20/100

=$90000

## References

- Abdullah, W. & Said, R., 2017. Religious, Educational Background and Corporate Crime Tolerance by Accounting Professionals. *State-of-the-Art Theories and Empirical Evidence,* pp. 129-149.

- Boghossian, P., 2017. The Socratic method, defeasibility, and doxastic responsibility. *Educational Philosophy and Theory,* 50(3), pp. 244-253.

- Cayon, E., Thorp, S. & Wu, E., 2017. Immunity and infection: Emerging and developed market sovereign spreads over the Global Financial Crisis. *Emerging Markets Review.*

- Charles H, C., Giovanna, M., Dennis M, P. & Robin W, R., 2015. CSR disclosure: the more things change…?. *Accounting, Auditing & Accountability Journal,* 28(1), pp. 14-35.

- Cundill, G., Smart, P. & Wilson, H., 2017. Non-financial Shareholder Activism: A Process Model for Influencing Corporate Environmental and Social Performance. *International Journal of Management Reviews,* 20(2), pp. 606-626.

- Johan, S., 2018. The Relationship Between Economic Value Added, Market Value Added And Return On Cost Of Capital In Measuring Corporate Performance. *Jurnal Manajemen Bisnis dan Kewirausahaan,* 3(1).

- Kang, D., Yu, G. & Lee, S., 2016. Disentangling the effect of the employee benefits on the employee productivity. *The Journal of Applied Business Research,* 32(5), pp. 1447-1458.

- Kaufmann, W., 2017. *The Problem of Regulatory Unreasonableness.* First ed. New York: Routledge.

- Knechel, W. & Salterio, S., 2016. *Auditing: Assurance and Risk.* fourth ed. New York: Routledge.

- Pamela, K. & Tamara, Z., 2013. Attaining legitimacy by employee information in annual reports. *Accounting, Auditing & Accountability Journal,* 26(7), pp. 1072-1106.