

PRI-AIN742

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APC308 FINANCIAL MANAGEMENT

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Question 1- Cost of capital and Capital structure**A. Estimation of WACC as per book value and market value**

Sources of funds	Amt (£'000)
Equity shares (£1/share)	15000
Capital and Reserves	10000
7% preference share (£1/share)	10000
10% redeemable bonds	15000
Total sources of funds	50000

Growth rate calculation	
Particulars	Values
Present dividend	29
Past dividend	22
Total years	4
Growth rate	7.15%

Equity cost	
Particulars	Values

Dividend (last year)	29
Growth rate	7.15%
Equity shares (Book price)	265
Cost of equity	11.73%

Preference share cost	
Particulars	Values
Dividend rate payable (pref. share)	7
Preference share (market value)	75
Cost of preference share	9.33%

Redeemable bonds cost	
Particulars	Values
Bond rate	10
Corporate tax rate	30%
Bond (market price)	102
Redeemable bonds cost	6.86%

Sources of funds	Book price	Rates	Market price
Equity shares	15000	2.65	39750
Capital and reserves	10000	¹ 2.65	26500
7% preference shares	10000	0.75	7500
10% bonds	15000	1.02	15300
Total sources of funds	50000		89050

Sources of funds	Book price	Rates	Cost of capital
Equity shares	15000	11.73%	1758.9
Capital and reserves	10000	11.73%	1172.6
7% preference shares	10000	9.33%	933.3
10% bonds	15000	6.86%	1029.4
Total sources of funds	50000		4894.2
WACC as per book price			9.8%

Sources of funds	Market price	Rates	Cost of capital
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Equity shares	39750	11.73%	4661
Capital and reserves	26500	11.73%	3107
7% preference shares	7500	9.33%	700
10% bonds	15300	6.86%	1050
Total sources of funds	89050		9518
WACC as per market price			10.7%

B. Recalculation of company's cost of capital as per proposed changes

Sources of funds	Amt (£'000)
Equity shares (£1/share)	15000
Capital and Reserves	10000
7% preference share (£1/share)	10000
10% redeemable bonds	15000
Total sources of funds	50000

Growth rate calculation	
Particulars	Amt (£)
Present dividend	29

Past dividend	22
Total years	4
Growth rate	7.15%

Equity cost	
Particulars	Values
Dividend (last year)	29
Growth rate	7%
Equity shares (Book price)	278
Cost of equity	11.18%
Preference share cost	
Particulars	Values
Dividend rate payable (pref. share)	7
Preference share (market value)	75
Cost of preference share	9.33%

Redeemable bonds cost	
Particulars	Values

Bond rate	11
Corporate tax rate	30%
Bond (market price)	102
Redeemable bonds cost	7.55%

11 % redeemable bonds cost	
Particulars	Values
Bond rate	11
Corporate tax rate	30%
Bond (market price)	105
11 % redeemable bond cost	7.33%

Sources of funds	Book price	Rates	Market price
Equity shares	15000	2.65	39750
Capital and reserves	10000	2.65	26500
7% preference shares	10000	0.75	7500
10% bonds	15000	1.02	15300
11% bonds	15000	1.05	15750

Total sources of funds	65000		104800
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Sources of funds	Book price	Rates	Cost of capital
Equity shares	15000	11.18%	1676.63
Capital and reserves	10000	11.18%	1117.76
7% preference shares	10000	9.33%	933.33
10% bonds	15000	7.55%	1132.35
11% bonds	15000	7.33%	1100.00
Total sources of funds	65000		5960.08
WACC as per book price			9.17%

Sources of funds	Market price	Rates	Cost of capital
Equity shares	39750	11.18%	4443
Capital and reserves	26500	11.18%	2962
7% preference shares	7500	9.33%	700
10% bonds	15300	7.55%	1155
11% bonds	15750	7.33%	1155
Total sources of funds	104800		10415

WACC as per market price	9.94%
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C. Possible inaccuracies that may occur with the estimation of finance director

The above calculation of cost of capital as per proposed amendments of the finance director is stating that WACC of Alpha Plc is increased to 9.94%. It could be easily determined that the weighted average cost of capital in market value is more than the book value. According to viewpoint of Budhathoki *et al.* (2020), WACC of an organisation may help them to measure their total cost after taking the cost of total debt and cost of total equity. Therefore, for maintaining excessive expenses an organisation shall require to control the weighted average cost of capital. In this company, the value of weighted average cost of capital as per market price is decreasing from 10.7% to 9.94%. Along with, the value of WACC as per book price is also decreasing from 9.8% to 9.17%. It might possess a positive impact on financing of this organisation. Subsequently, it could be stated that the proposed projection of the finance manager of Alpha plc might decrease the WACC and that shall enhance their scope of expanding. However, inaccuracies like increase in cost of equity and enhancement of cost of bond may emerge. This might negatively impact the trust of shareholders with this organisation. The shareholders might not invest their cumulative capital in future. Increase in bond price might affect the debt structure of this company. Increasing debt liability on this firm might significantly increase their financial expenses. The profit might fluctuate during future years. Thus, assuming adequate availability of reserves is an unreasonable aspect. Hence, in this case, it is highly recommended not to adopt this initiative as this might hamper the company's capital structure by increasing the cost of equity and may cause fluctuations in its bond price. Therefore, further gearing might obstruct the share price and hamper the reputation of Alpha plc. Other factors have been assumed to remain constant which is subject to fluctuation in future dynamics.

D. Integration of reasonable level of gearing may reduce weighted average cost of capital

For maintaining excessive expenses an organisation shall require to control the weighted average cost of capital. As stated by Bello *et al.* (2022), maintenance of weighted average cost of capital is very vital as it reflects the return that shareholders are expecting for investing their cumulative capital to company. Integration of debt and equity financing may

offer decent growth in value of entities. It may assist to reduce the weighted average cost of capital. Alpha plc might experience an efficient WACC after adding a decent amount of debt funds to their capital structure. However, an increase in debt liability might significantly enhance their financial expenses (Luo, 2019). It might affect the profitability of this organisation as it increases costs. Enhancement in finance cost might affect solvency of Alpha Plc Company. The profit of this organisation might fluctuate in the long term. A well-judged integration of debt and equity is optimised by establishing a decent computation of WACC. It helps to understand potential changes within the capital structure of this organisation by optimising the proportion of increased cost of debt offset against escalated cost of financing debt.

As mentioned by Saluga *et al.* (2020), weighted average cost of capital could be performed as a discount rate for estimation of net present value. Further, it is very helpful to evaluate the investment opportunities of an organisation. Alpha plc may impress their shareholders by integration of the suitable factors to reduce weighted average cost of capital. Further, this organisation could be able to take decisions on any required investment or share repurchase or paying dividend. On the contrary, this integration of debt cost might affect capital and reserves of this organisation (Yusuf and Mohd, 2021). As increase in debt might enhance imbalance in debt and equity. It might affect financial stability of this organisation. During any financial uncertainty organisation may need relevant funds that may be unavailable due to debt financing. Excessive use of debt may also increase the WACC as it increases the finance cost of any firm. Hence, inclusion of debt financing may be beneficial for minimising WACC but it could affect profitability and financial stability of this firm.

Question 2 - Investment Appraisal Techniques

(A). Estimating proposed scope of investment

(i). Payback period

Period	Cash inflow (£)	Cash outflow (£)	Cash flow (£)	Cumulative cash flow (£)
0		-588300	-588300	-588300
1	223600	32700	190900	-397400

2	223600	32700	190900	-206500
3	223600	32700	190900	-15600
4	223600	32700	190900	175300
5	223600	32700	190900	366200
6	223600	32700	190900	557100
Payback period			3 years 1 month	

According to the viewpoint of Abdurofi *et al.* (2021), payback period could be termed as the number of years that an organisation requires to recover the initial cash investment. It could be determined that the payback period of this company is 3 years and 1 month. MTS limited may take approx 3 years and 1 month to recover the initial investment of 588300 pounds that they invested for purchasing a new storage machine. This implied that an investor could recover the funds within half of their maturity period. The investor could afford to gather sufficient time for recovering the same. Based on this result, it can be recommended to accept such investment. MTS limited could be able to recover the funds in an efficient manner before its maturity.

(ii). The accounting rate of return

Period	Cash flow (£)	Scrap value (£)	Depreciation (£)	Accounting surplus(£)
0	-588300		83342.5	
1	190900		83342.5	107557.50
2	190900		83342.5	107557.50
3	190900		83342.5	107557.50

4	190900		83342.5	107557.50
5	190900		83342.5	107557.50
6	190900	-88245	83342.5	107557.50
Average accounting profits				107557.50
Average initial cash flow and scrap value				338272.5
Accounting rate of return				31.8%

Accounting rate of return shall be counted as an average gain that is available to an organisation after deducting depreciation expense during each year. According to viewpoint of Hesary *et al.* (2021), accounting rate of return plays a key role in ascertaining the annual percentage rate of return of any project. It could be determined that the average accounting gain that MTS limited can achieve after deduction of depreciation on the new storage machine is 107557 pounds. Along with, the average initial cash flow and scrap value is 338272 pounds. The new storage machine has a very efficient ability of producing an accounting rate of return of 31.8%. Hence, it could be stated that the consideration of a new storage machine shall be profitable for this organisation.

¹
(iii). Net present value

Period	Cash flow (£)	Discounting rate @ 8%	Present value (£)
0	-588300	1	-588300
1	190900	0.926	176759.26
2	190900	0.857	163665.98
3	190900	0.794	151542.57

4	190900	0.735	140317.20
5	190900	0.681	129923.33
6	190900	0.630	120299.38
Net present value			294207.73

Net present value plays an effective role in making decisions while initiating an investment. As mentioned by Costanza *et al.* (2021), net present value is a financial technique to ascertain the worth of investment throughout its lifetime that is discounted to today's value. It could be ascertained from the above calculation that after adjusting the discounting rate of 8%, this investment has a net present value of 294207.73 pounds. The investment proposal of purchasing a new storage machine might be acceptable because future benefits are maximum as compared to this value. Hence, it can be stated that this investment proposal may be highly beneficial for generation of future income and efficient growth of MTS limited. Based on these finds, it is feasible for the company to accept this proposal for investment.

(iv). The internal rate of return

Period	Cash flow (£)
0	-588300
1	190900
2	190900
3	190900
4	190900
5	190900
6	190900

IRR	23.14%
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Internal rate of return plays a key role in analysing and estimating the possible potential of proposed investment. According to viewpoint of Klein *et al*, (2021), internal rate of return may be counted as a discount rate that enacts the net present value of all cash flows to zero. From the above figure it could be ascertained that the internal rate of return of the proposed investment for 6 years is 23.14%. The proposed investment of a new storage machine could be highly acceptable as the IRR is higher than the required cost of capital. Hence, it could be stated that the new storage machine has better scope of returns and would be beneficial for MTS limited. This organisation might expect greater income opportunities by purchasing a new storage machine.

(B). Critical evaluation of the impact of proposal of finance director

The finance director of MTS limited is expecting buyback of equity shares and giving cash dividends to its shareholders. As per his proposal, 40% of the funds could be used for buying back shares whereas the other 60% could be applicable for paying out cash dividends. Repurchasing of shares might be termed as a transaction where an organisation buys back its own shares from the open market to enhance the value of its shares. According to Palladino (2021), buyback may possess a positive impact on the share price and benefit the shareholders. However, a large amount of repurchase of shares might affect the cash outflow and shortage of funds may arise. As stated by Setyabudi (2021), dividends could be termed as a part of profit of a company that they pay to its shareholders. It might enhance the impression of shareholders and the company could be able to raise more funds. However, a huge cash outflow may enhance the risk of excessive financing cash outflow of an organisation. Proposals offered by the Finance Director could affect the funds available at their reserves and surplus. Facilitating these funds for enhancing the storage capacity could rather improve their earning capacity.

As mentioned by Kyere *et al*. (2021), if an organisation ensures an adequate availability of reserves then substantial returns could be earned. The excessive cash outflow regarding payment of dividend and buying back of its equity shares may cause unavailability of reserves. Thereby, it may affect the financial growth of this organisation. From the above estimation, it could be ascertained that purchasing a new storage machine has a great scope of generating income. The internal rate of return is higher than the required cost of capital. The

investment could be able to produce a decent accounting rate of return. New storage machine shall possess an effective worth of investment. It has a very negligible payback period that is within the half of their maturity period. In accordance with these financial aspects it could be stated that the proposed investment in new storage machines would be beneficial for this organisation. The machine would be very useful for storing soup products of MTS limited. This would benefit the organisation in cutting costs. It could be easily ascertained that the decision of the finance director of share repurchase and cash dividend might increase the risk of capital shortages.

However, offering scrip dividend could be a better choice for this firm. According to viewpoint of Viviers *et al.* (2023), offering scrip dividend instead of cash dividend might help to diversify their equity as it ensures excessive outflow of reserves. This organisation could issue shares instead of cash dividends with the help of scrip dividend. It could ensure effective pricing of their shares as demand for shares might get increased. Thereby, this organisation might get more cash inflow and mitigate the risk of shortage of funds. In this regard, it could be evaluated that instead of repurchasing shares and providing cash dividend, finance manager could offer scrip dividends. Otherwise, investment in a new storage machine is very optimal and beneficial for MTS limited.

(C). Discussion of proposed sources of finance

Business organisation is concerned with the production and distribution of goods and service in terms of mitigating demand. Finance is important for an organisation in terms of utilising quality resources. In reference to the study of Rita and Huruta (2020), a financial manager present within an organisation needs to have a clear understanding of financial requirements. Three different proposed sources of finance that can be used by a listed company include equity financing, debt financing and retained earnings. **Equity financing** is derived to be a process of raising capital through sales of shares. Equity financing process includes selling a portion of ownership in return for money. In return dividend is paid to the shareholders based on the profitability value that is earned by a company in the financial period. On the other hand, **debt financing** is a process when money is raised by the company by selling debt instruments to investors or is also analysed as a loan. In debt financing process, the return of the money raised is necessary to be made after a particular time period. Based on the research made by Phan and Archer (2020), **Retained earnings** is derived as a part of net earnings a company uses for future years. The profit that is available for reinvestment within an organisation is derived as retained earnings.

(D). Critical evaluation of investment appraisal techniques

The Payback Period (PBP)

Benefits	Limitations
<ul style="list-style-type: none">• PBP helps in project evaluation quickly• PBP is very easy to calculate and have liquidity preferences (Gorantla <i>et al.</i> 2021)• The calculation for PBP is determined to be effective as it helps in identifying uncertainties	<ul style="list-style-type: none">• PBP calculation ignores time value of money• Not all type of cash flow is covered in the calculation of PBP• Calculation for PBP is analysed to be not realistic and ignores profitability• Project return on investment is basically ignored by an organisation while calculating PBP.

The Accounting Rate of Return (ARR)

Benefits	Limitations
<ul style="list-style-type: none">• ARR is simple and very easy to be calculated• Savings that are made in entire time period of investment is taken into account• ARR is basically a calculation that derives accounting profitability rather than the cash inflow• ARR method helps in distinguishing between projects where timings of saving are approximately same.	<ul style="list-style-type: none">• In ARR time value of money is not considered• ARR feels to consider life of project• Ignorance of terminal value of the project is also determined in ARR

The Net Present Value (NPV)

Benefits	Limitations
<ul style="list-style-type: none">• NPV accepts conventional cash flow	<ul style="list-style-type: none">• Difficulty in determining required rate

<p>pattern</p> <ul style="list-style-type: none"> • Consider time flow of money while obtaining proper present value • Focuses on profitability value in terms of making easy decision 	<p>of return (Dusseault and Pasquier, 2021)</p> <ul style="list-style-type: none"> • Optimistic projection is highlighter along with the consideration of NPV
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The Internal Rate of Return (IRR)

Benefits	Limitations
<ul style="list-style-type: none"> • IRR consider time value of money while calculating • Rough estimation of required rate of return is highlighted in IRR • No requirement of considering hurdle rate 	<ul style="list-style-type: none"> • Economies of scale is totally ignored in the time of calculating IRR • Dependent or contingent project at totally ignored while calculating IRR

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