

CAPITAL BUDGETING ADDITIONAL QUESTIONS

ICC Communications is considering the purchase of a new computer and has weighted average cost of capital (WACC) of 14%. The cost of new ordinary shares is estimated at 15%.

The following mutually exclusive computers are under review:

YEARS	COMPUTER A	COMPUTER B
0	78 000	66 000
1	17 000	15 000
2	25 000	15 000
3	33 000	15 000
4	41 000	15 000
5		15 000
6		15 000
7		15 000
8		15 000

ICC has an optimal capital structure of 50% debt and 50% equity. The company's net income for the current year amounts to R180 000 and there are no preference dividends to pay.

QUESTION 1

If ICC Communications has R65 000 available for capital projects and is operating under capital rationing, which computer should the company shareholders purchase? Motivate your answer.

SOLUTION

COMPUTER A	COMPUTER B
78 000 ± CF	66 000 ± CF
17 000 CF	15 000 CF
25 000 CF	15 000 CF
33 000 CF	15 000 CF
41 000 CF	15 000 CF
14 I/YR	15 000 CF
NPV (DISPLAY:2 698.32)	15 000 CF
± PV	15 000 CF
4 N	15 000 CF
14 I/YR	14 I/YR
PMT (DISPLAY:926.08)	NPV (DISPLAY: 3 582.96)
	± PV
	8 N
	14 I/YR
	PMT(DISPLAY:772.38)

Although computer A has the highest ANPV, neither computer A or B can be purchased because ICC does not have enough funds. Each computer requires an initial investment of more than 65 000.

QUESTION 2

If the company is not operating under capital rationing, which computer would you advise the company shareholders to purchase and why?

SOLUTION

COMPUTER A	COMPUTER B
78 000 ± CF	66 000 ± CF
17 000 CF	15 000 CF
25 000 CF	15 000 CF
33 000 CF	15 000 CF
41 000 CF	15 000 CF
14 I/YR	15 000 CF
NPV (DISPLAY:2 698.32)	15 000 CF
± PV	15 000 CF
4 N	15 000 CF
14 I/YR	14 I/YR
PMT (DISPLAY:926.08)	NPV (DISPLAY: 3 582.96)
	± PV
	4 N
	14 I/YR
	PMT(DISPLAY:772.38)

ICC shareholders should purchase computer A because it has the highest ANPV.

QUESTION 3

How much equity funding must ICC gather for the initial investment of the computer chosen in question 2?

Will the company be able to gather all the required equity funding without issuing new ordinary shares?

SOLUTION

NB: Use capital structure weights

Funds to be gathered = $(50\% \times 78\,000) = 39\,000$

Yes, available funds (180 000) are greater than 39 000