Answer on Question #51591 - Management

Question 1

a). A company is considering the following investment projects.
Cash flows in Kes

Project Initial Outlay C1 C2
A (10,000) 10,000
B (10,000) 7,500 7,500 12,000
C (10,000) 2,000 4,000 3000
D (10,000) 10,000 3,000 3,000

Required:

Rank the projects according to:
i. Payback period (1 Marks)
ii. Accounting rate of return (1 Marks)
iii. Internal Rate of Return (2 Marks)
iv. Profitability Index (1 Marks)
v .Net present value (2 Marks)

Payback period

PP, year	Rank
A = 3	B
B = 1,11	D
C = 3,33	A
D = 1,89	C

Formula which was used by me is:

$$PP = \frac{\text{Amount to be invested}}{\text{Estimated Annual Net Cash Flow}}$$

The best result has the project B, because its payback period is fastest – 1,11 year. That's why it's on the first place in our rank.

Accounting rate of return

ARR, %	Rank
A = 100	A
B = 90	B
C = 30	D
D = 53	C

Accounting Rate of Return is calculated using the following formula:

$$ARR = \frac{\text{Average Accounting Profit}}{\text{Average Investment}}$$

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According to this calculation the most successful project is A, because its Accounting rate of return is the biggest – 100%.

Internal Rate of Return

IRR	Rank
A = 1	B
B = 1,93	A
C = 0,97	C
D = -1,24	D

Internal Rate of Return is calculated using the following formula:

$$IRR = Kmax + \frac{NPVmax^* (Kmin – Kmax)}{NPVmax – NPVmin}$$

Kmax, Kmin – cost of capital which shows a positive NPV

The worst project for investors is D, because its IRR is negative.

Profitability Index

PI	Rank
A = 0,91	D
B = 2,12	B
C = 0,82	A
D = 2,34	C

Profitability Index is calculated using the following formula:

$$PI = \frac{PV \text{ of future cash flows}}{Initial \text{ investment}}$$

The project D has the highest progitability.

Net present value

NPV	Rank
A = - 909,09	B
B = 12032,31	-
C = -2622,09	-
D = -4267,82	-

NPV is calculated using the following formula:

$$NPV = \frac{PV \text{ of future cash flows}}{Initial \text{ investment}}$$

Only one project can be invested. That is B, because NPV of other projects are negative.

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Question 2.

a).The following is a summary of the financial statements of Hugo's company Ltd.

Summary of financial statements

Calculate the following ratios:

i. Gross profit Margin. (1 Marks)

ii. Net profit Margin (1 Marks)

iii. Expenses as a % of revenue (1 Marks)

iv. Inventory turnover (1 Marks)

v. Return on capital employed (1 Marks)

vi. Current ratio (1 Marks)

vii. Acid test ratio (1 Marks)

viii. Accounts receivables ratio (1Marks)

1) Gross profit Margin is calculated using the following formula:

$$GPM = \frac{Sales - Cost\ of\ goods\ sold}{Sales}$$

= (1800 – 300) : 1800 = 0,83 or 83%

2) Net profit Margin is calculated using the following formula:

$$NPM = \frac{Net\ profit}{Sales}$$

= 60:1800 = 0,03 or 3,33%

3) Expenses as a % of revenue = (Cost of goods sold + Other expenses)/Gross profit = (300 + 318)/1800 * 100% = 34,33 %

4) Inventory turnover is calculated using the following formula:

$$Inventory\ turnover = \frac{Cost\ of\ goods\ sold}{Average\ Inventory}$$

$$Average\ inventory = \frac{Opening\ inventory + Closing\ inventory}{2}$$

$$Average\ inventory\ 1 = \frac{(1300 + 200)}{2}$$

Average inventory 1 = 750 $

Inventory turnover 1 = 300 : 750 = 0,4 or 40%

$$Average\ inventory\ 2 = \frac{(1600 + 1400)}{2}$$

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Average inventory 2 = 1500 $

Inventory turnover 2 = 300 : 1500 = 0,2 or 20%

5) Return on capital employed is calculated using the following formula:

$$\text{Return on capital employed} = \frac{\text{Net profit}}{\text{Total Assets - Current Liabilities}}$$

= (60+60)/(475 – 245) = 120/230 = 0,52 or 52%

6) Current ratio is calculated using the following formula:

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

= 409:245 = 1,67

7) The basic formula for the acid-test ratio is: ATR = (Cash + Accounts Receivable + Short-term Investments) / Current Liabilities.

ATR = (205 + 4) : 245 = 0,85

8) Accounts receivables ratio is calculated using the following formula:

$$\text{Accounts receivables ratio} = \frac{\text{Accounts receivable}}{\text{Accounts payable}}$$

= 205:245 = 0,84