Example of pv fv 1rn case study

Sociology, Shopping

PART I

A

1)

Where;

PV is the present value

FV is the Future value which is 15, 000

R is the Interest rate which is 7%

N is the number of years which is 1

PV = 15, 000/(1+0. 07)1 = 14, 018. 69

2)

PV = FV/ (1+r)n

Where;

PV is the present value

FV is the Future value which is 15, 000

R is the Interest rate which is 4%

N is the number of years which is 1

PV = 15, 000/ (1+0. 04)1 = 14, 423. 08

B.

Account A

PV = FV/ (1+r)n

Where;

PV is the present value

FV is the Future value which is 6, 500

R is the Interest rate which is 6%

N is the number of years which is 2

PV = 6, 500/ (1+0. 06)2 = 5, 784. 98

Account B

PV = FV/ (1+r)n

Where;

PV is the present value

FV is the Future value which is 12, 600

R is the Interest rate which is 6%

N is the number of years which is 2

PV = 12, 600/ (1+0. 06)2= 11, 213. 96

C

Year

Cash flow

PVIF@7%

Present value

Total present value

Cash flow

PVIF@5%

Present value

Total present value

Cash flow

PVIF@3%

Present value

Total present value

The present value is lower than the future value when the cash flows are discounted. The higher the discount factor the lower the present value. This is because discount factor considers the cost of capital and the opportunity cost of investing the sum of money today in alternative investment projects. Therefore, the higher the discount factor, the higher the cost of capital and opportunity cost.

PART II

Year

Cash flows

PVIF@0%

Present value

Total present value

Less initial outlay

Net present value

Cash flows

PVIF@2%

Present value

Total present value

Less initial outlay

Net present value

Cash flows

PVIF@6%

Present value

Total present value

Less initial outlay

Net present value

Cash flows

PVIF@11%

Present value

Total present value

Less initial outlay

Net present value

The discount rate at which the graph intersects the horizontal axis is 48%

B

Year

Cash flows

PVIF@1%

Present value

Total present value

Less initial outlay

Net present value

Cash flows

PVIF@4%

Present value

Total present value

Less initial outlay

Net present value

Year

Cash flows

PVIF@10%

Present value

Total present value

Less initial outlay

Net present value

Cash flows

PVIF@18%

Present value

Total present value

Less initial outlay

Net present value

The discount rate at which the graph intersects the horizontal axis is 2. 5%

C.

Present value = Profitability index*Initial investment

Present value = 0. 94* 4, 200, 000 = 3, 948, 000

Brigham, E. F., & Ehrhardt, M. C. (2010). Financial Management Theory and Practice (13 ed.). London: Cengage Learning.

Cash flows