Danforth donnalley laundry products company integrative problem

Danforth Donnalley Laundry Products Company Integrative Problem Cash flows reflect the flows of cash from and into a business entity. Cash flows can either occur in the operating, financing and investing activities. The use of debt to finance Danforth and Donnalley Laundry Products Company falls under financing activities. Debts taken by companies to finance its activities are often paid back with an interest. In this case, if the company's project was financed through a debt, the company would make interest payments. These interest payments represent flows of cash from the company and should be considered cash flows (Brigham & Ehrhardt, 2011).

NPV $=$ (R1 + R2 + R3 + ...) /{(1 + i)1(1 + i)2(1 + i)3 } $-$ Initial Investment

Initial investment = 2, 000, 000 + 500, 000 = 2, 500, 000

Rate of Discount = 10%

PV factor, year 1 = 1/ (1+ 10%) ^1 $\approx$ 0. 909

PV factor, year 2= 1/ (1+ 10%) ^2 $\approx$ 0. 826

PV factor, year 3 = 1/ (1+ 10%) ^3 $\approx$ 0. 7513

PV factor, year 4 = 1/ (1+ 10%) ^4 $\approx$ 0. 683

PV factor, year 5 = 1/ (1+ 10%) ^5 $\approx$ 0. 6209

PV factor, year 6 = 1/ (1+ 10%) ^6 $\approx$ 0. 5646

PV factor, year 7 = 1/ (1+ 10%) ^7 $\approx$ 0. 5131

PV factor, year 8 = 1/ (1+ 10%) ^8 $\approx$ 0. 4665

PV factor, year 9 = 1/ (1+ 10%) ^9 $\approx$ 0. 4241

PV factor, year 10 = 1/ (1+ 10%) ^10 $\approx$ 0. 3855

PV factor, year 11 = 1/ (1+ 10%) ^11 $\approx$ 0. 3505

PV factor, year 12 = 1/ (1+ 10%) ^12 $\approx$ 0. 3186

PV factor, year 13= 1/ (1+ 10%) ^13 ≈ 0. 2896

PV factor, year 14 = 1/ (1+ 10%) ^14 ≈ 0. 2633

PV factor, year 15 = 1/ (1+ 10%) ^15 ≈ 0. 2394

Exhibit 1

Year

Cash flow

Present Value Factor

Present value of Cash Flows

1

280, 000

0. 909

254, 520

2

280, 000

0. 826

231, 280

3

280, 000

0. 7513

210, 364

4

280, 000

0. 683

191, 240

5

280, 000

0. 6209

173, 852

6

350, 000

0. 5646

197, 610

7

350, 000

0. 5131

179, 585

8

350, 000

0. 4665

163, 275

9

350, 000

0. 4241

148, 435

10

350, 000

0. 3855

134, 925

11

250, 000

0. 3505

87, 625

12

250, 000

0. 3186

79, 650

13

250, 000

0. 2896

72, 400

14

250, 000

0. 2633

65, 825

15

250, 000

0. 2394

59, 850

Total present value = 2, 250, 436

Net Present Value = 2, 250, 436 – 2, 500, 000 = - 249, 564

Exhibit 2

Year

Cash flow

Present Value Factor

Present value of cash flows

1

250, 000

0. 909

227250

2

250, 000

0. 826

206500

3

250, 000

0. 7513

187825

4

250, 000

0. 683

170750

5

250, 000

0. 6209

155225

6

315, 000

0. 5646

177849

7

315, 000

0. 5131

161626. 5

8

315, 000

0. 4665

146947. 5

9

315, 000

0. 4241

133591. 5

10

315, 000

0. 3855

121432. 5

11

225, 000

0. 3505

110407. 5

12

225, 000

0. 3186

100359

13

225, 000

0. 2896

91224

14

225, 000

0. 2633

82939. 5

15

225, 000

0. 2394

75411

Total Present Value of Cash Flows = 2, 149, 338

Net Present Value = 2, 149, 338 – 2, 500, 000 = - 350, 662

Internal Rate of Return

IRR is the discounting percentage at which NPV is zero.

The IRR for exhibit one is 8. 56%

The IRR for exhibit two is 6. 32%

Profitability Index

Profitability Index = Present Value of Future Cash Flows/Initial Investment

Required

Exhibit one = 2, 250, 436/ 2, 500, 000

= 0. 9001744

Exhibit two = 2, 149, 338/ 2, 500, 000

= 0. 8597352

I would not accept this project. It has a low profitability index and

introduction of a similar product by a competitor would profoundly affect the

profitability of the company (Brigham & Ehrhardt, 2011).

References

Brigham, E. F., & Ehrhardt, M. C. (2011). Financial management: Theory and practice. Mason, OH: South-Western Cengage Learning.