**Iqra National University**

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| **Course Title:** | **Financial reporting and analysis** | **Instructor:** | **Mr. Naveed Azeem Khattak** |
| **Course Code:** |  | **Total time:** | **----** |
| **Total Marks** | **80** |  |  |

**School of Management and Social Sciences (Dept. of Business administration)**.

*Attempt all parts of questions.*

**Attempt your paper in MS word format.**

**ID 15105**

**Ayaz khan**

**Answer:-**

**Determining Relevant Cash Flows for Clark Upholstery Company's Machine Renewal or Replacement Decision**

Clark Upholstery is faced with a decision to either renew its major piece of machinery or to replace the machine. The case tests the students' understanding of the concepts of initial investment and relevant cash flows.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **a.** Initial Investment  Installed cost of new asset | Alternative 1 | | Alternative 2 | |
| Cost of asset | $90,000 | | $100,000 | |
| + Installation costs | 0 | | 10,000 | |
| Total proceeds, sale of new asset  - After-tax proceeds from sale of old asset Proceeds from sale of old asset 0 | | 90,000 | (20,000) | 110,000 |
| + Tax on sale of old asset\* 0  Total proceeds, sale of old asset | | 0 | 8,000 | (12,000) |
| + Change in working capital | | 15,000 |  | 22,000 |

Initial investment $105,000 $120,000

\* Book value of old asset = 0

$20,000 - $0 = $20,000 recaptured depreciation

$20,000 x (.40) = $ 8,000 tax

# b.

**Calculation of Operating Cash Inflows**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Profits before  Depreciation and Taxes | Depre- ciation | Net Profits Before Taxes | Taxes | Net Profits After Taxes | Operating  Cash Inflows |
| **Alternative 1**  1 $198,500 $18,000 $180,500 $ 72,200 $108,300 $126,300 | | | | | | |
| 2 | 290,800 | 28,800 | 262,000 | 104,800 | 157,200 | 186,000 |
| 3 | 381,900 | 17,100 | 364,800 | 145,920 | 218,880 | 235,980 |
| 4 | 481,900 | 10,800 | 471,100 | 188,440 | 282,660 | 293,460 |
| 5 | 581,900 | 10,800 | 571,100 | 228,440 | 342,660 | 353,460 |
| 6 | -0- | 4,500 | -4,500 | -1,800 | -2,700 | 1,800 |

**Alternative 2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | $235,500 | $22,000 | $213,500 | $85,400 | $128,100 | $150,100 |
| 2 | 335,200 | 35,200 | 300,000 | 120,000 | 180,000 | 215,200 |
| 3 | 385,100 | 20,900 | 364,200 | 145,680 | 218,520 | 239,420 |
| 4 | 435,100 | 13,200 | 421,900 | 168,760 | 253,140 | 266,340 |
| 5 | 551,100 | 13,200 | 537,900 | 215,160 | 322,740 | 335,940 |
| 6 | -0- | 5,500 | -5,500 | -2,200 | -3,300 | 2,200 |
| **Calculation of Incremental Cash Inflows**  Incremental Cash Flow | | | | | | |
| Year | Alternative 1 | | Alternative 2 | Existing | Alt. 1 | Alt. 2 |
| 1 | $ 126,300 | | $150,100 | $100,000 | $26,300 | $50,100 |
| 2 | 186,000 | | 215,200 | 150,000 | 36,000 | 65,200 |
| 3 | 235,980 | | 239,420 | 200,000 | 35,980 | 39,420 |

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| --- | --- | --- | --- | --- | --- |
| 4 | 293,460 | 266,340 | 250,000 | 43,460 | 16,340 |
| 5 | 353,460 | 335,940 | 320,000 | 33,460 | 15,940 |
| 6 | 1,800 | 2,200 | -0- | 1,800 | 2,200 |

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| **c.** | **Terminal Cash Flow:** | | |  | |
|  | Alternative 1 | | | Alternative 2 | |
|  | After-tax proceeds from | | |  | |
|  | Sale of new asset = | | |  | |
|  | Proceeds from sale of new asset $8,000 | | | $25,000 | |
|  | - Tax on sale of new assetl (1,400) | | | (7,800) | |
|  | Total proceeds, sale of new asset 6,600 | | | 17,200 | |
|  | - After-tax proceeds from sale of old asset = | | |  | |
| Proceeds from sale of old asset | | (2,000) |  | (2,000) |  |
| + Tax on sale of old asset2 | | 800 |  | 800 |  |
| Total proceeds, sale of old asset | |  | (1,200) |  | (1,200) |
| + Change in working capital | |  | 15,000 |  | 22,000 |
| Terminal cash flow | |  | $20,400 |  | $38,000 |

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|  |  |  |
| --- | --- | --- |
| Book value of Alternative 1 at end of year 5: | = | $4,500 |
| $8,000 - $4,500 | = | $3,500 recaptured depreciation |
| $3,500 x (.40) | = | $1,400 tax |
| Book value of Alternative 2 at end of year 5: | = | $5,500 |
| $25,000 - $5,500 | = | $19,500 recaptured depreciation |
| $19,500 x (.40) | = | $7,800 tax |
| Book value of old asset at end of year 5: | = | $0 |
| $2,000 - $0 | = | $2,000 recaptured depreciation |
| $2,000 x (.40) | = | $800 tax |

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|  |  |  |
| --- | --- | --- |
| **Alternative 1**  Year 5 Relevant Cash Flow: | Operating Cash Flow: | $33,460 |
|  | Terminal Cash Flow | 20,400 |
|  | Total Cash Inflow | $53,860 |
| **Alternative 2**  Year 5 Relevant Cash Flow: | Operating Cash Flow: | $15,940 |
|  | Terminal Cash Flow | 38,000 |
|  | Total Cash Inflow | $53,940 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **d. Alternative 1** |  |  | **Cash Flows** |  | |
| -$105,000 $26,300 | $35,980 | $43,460 | $33,460 | $53,860 | $1,800 |
| | | | | | | | | | | | | |
| 0 1 | 2 | 3 | 4 | 5 | 6 |
|  |  |  | **End of Year** |  |  |
| **Alternative 2** |  |  |  |  |  |
| -$120,000 $50,100 | $65,200 | $39,420 | **Cash Flows**  $16,340 | $53,940 | $2,200 |
| | | | | | | | | | | | | |
| 0 1 | 2 | 3 | 4 | 5 | 6 |

# End of Year

**e.** Alternative 2 appears to be slightly better because it has the larger incremental cash flow amounts in the early years.