|  |
| --- |
| 1 page and 1 Excel Spreadsheet |
| Details: | Consider the following scenario:  Deer Valley Lodge, a ski resort in the Wasatch Mountains of Utah, has plans to eventually add five new chairlifts. Suppose that one lift costs $2 million, and preparing the slope and installing the lift costs another $1.3 million. The lift will allow 300 additional skiers on the slopes, but there are only 40 days a year when the extra capacity will be needed. (Assume that Deer Valley Lodge will sell all 300 lift tickets on those 40 days.) Running the new lift will cost $500 a day for the entire 200 days the lodge is open. Assume that the lift tickets at Deer Valley cost $55 a day. The new lift has an economic life of 20 years.   1. Assume that the before-tax required rate of return for Deer Valley is 14%. Compute the before-tax NPV of the new lift and advise the managers of Deer Valley about whether adding the lift will be a profitable investment. Show calculations to support your answer. 2. Assume that the after-tax required rate of return for Deer Valley is 8%, the income tax rate is 40%, and the MACRS recovery period is 10 years. Compute the after-tax NPV of the new lift and advise the managers of Deer Valley about whether adding the lift will be a profitable investment. Show calculations to support your answer. 3. What subjective factors would affect the investment decision? | | | |
| **Present Value of $1 MACRS Depreciation** | | | | |
| **Recovery Period (Years)** | | | **Discount Rate** | |
| **3** | **5** | | **7** | **10** |
| 3% | 0.9439 | 0.9215 | 0.3900 | 0.8698 |
| 4% | 0.9264 | 0.8975 | 0.8704 | 0.8324 |
| 5% | 0.9095 | 0.8746 | 0.8422 | 0.7975 |
| 6% | 0.8931 | 0.8526 | 0.8155 | 0.7649 |
| 7% | 0.8772 | 0.8315 | 0.7902 | 0.7344 |
| 8% | 0.8617 | 0.8113 | 0.7661 | 0.7059 |
| 9% | 0.8568 | 0.7919 | 0.7432 | 0.6792 |
| 10% | 0.8322 | 0.7733 | 0.7214 | 0.6541 |
| 12% | 0.8044 | 0.7381 | 0.6810 | 0.6084 |
| 14% | 0.7782 | 0.7055 | 0.6441 | 0.5678 |
| 15% | 0.7657 | 0.6902 | 0.6270 | 0.5492 |
| 16% | 0.7535 | 0.6753 | 0.6106 | 0.5317 |
| 18% | 0.7300 | 0.6473 | 0.5798 | 0.4993 |
| 20% | 0.7079 | 0.6211 | 0.5517 | 0.4702 |
| 22% | 0.6868 | 0.5968 | 0.3526 | 0.4439 |
| 24% | 0.6669 | 0.5740 | 0.5019 | 0.4201 |
| 25% | 0.6573 | 0.5631 | 0.4906 | 0.4090 |
| 26% | 0.6479 | 0.5526 | 0.4798 | 0.3985 |
| 28% | 0.6299 | 0.5327 | 0.4594 | 0.3787 |
| 30% | 0.6128 | 0.5139 | 0.4404 | 0.3606 |
| 40% | 0.5381 | 0.4352 | 0.3632 | 0.2896 |

Need only original with references will know need an excel spreadsheet to see the work to understand it.