**Investment Project Choice**

Toby Amberville’s Manhattan Café, Inc. is considering investment in two alternative capital budgeting projects. Project A is an investment of $75,000 to replace working but obsolete refrigeration equipment. Project B is an investment of $150,000 to expand dining room facilities. Relevant cash flow data for the two projects over their expected two year lives are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Project A** | | | |
| **Year 1** | | **Year 2** | |
| **Probability** | **Cash Flow** | **Probability** | **Cash Flow** |
| 0.18 | $0 | 0.08 | $0 |
| 0.64 | $50,000 | 0.84 | $50,000 |
| 0.18 | $100,000 | 0.08 | $100,000 |
| **Project B** | | | |
| **Year 1** | | **Year 2** | |
| **Probability** | **Cash Flow** | **Probability** | **Cash Flow** |
| 0.50 | $200,000 | 0.125 | $0 |
| 0.50 | $200,000 | 0.75 | $100,000 |
|  |  | 0.125 | $200,000 |

A. Calculate the expected value, standard deviation, and coefficient of variation for cash flows from each project

B. Calculate the risk-adjusted NPV for each project under a 15% cost of capital the riskier project and a 12% cost of capital for the less risky one. Which project is preferred using the NPV criterion?

C. Calculate the PI for each project and rank the projects according to the PI criterion.

D. Calculate the IRR for each project and rank the projects according to the IRR criterion.

E. Compare your answers to parts B, C, and D.