**Objective:**

Calculate the payback period for a software system based on the costs and benefits given.

**Costs and Benefits Breakdown:**

|  |  |  |
| --- | --- | --- |
| Cost / Benefit | Amount | Notes |
| Initial Investment |  |  |
| Software License | $50,000 | One-time cost |
| Hardware Upgrades | $10,000 | One-time cost |
| Implementation Costs | $20,000 | One-time cost |
| Training Costs | $5,000 | One-time cost |
| Annual Recurring Costs |  |  |
| Utilities (per year) | $18,000 | $1,500 per month |
| Maintenance & Support | $10,000 | Annual cost |
| Data Storage | $2,000 | Annual cost |
| Marketing Costs | $40,000 | Conservative estimate |
| Total Initial Costs (Year 1) | $155,000 |  |

**Benefits:**

|  |  |  |
| --- | --- | --- |
| Benefit | Amount | Notes |
| Increased Sales (10% revenue boost) | $100,000 | 10% increase in $1M annual revenue |
| Reduced Labor Costs | $187,200 | Replacing 3 workers @ $30/hour |
| Total Annual Benefits | $287,200 |  |

**Payback Period Calculation:**

|  |  |  |  |
| --- | --- | --- | --- |
| Year | Costs ($) | Benefits ($) | Net Gain/Loss ($) |
| Year 1 | $155,000 | $287,200 | $132,200 |
| Year 2 | $30,000 | $244,120 | $214,120 |
| Year 3 | $30,000 | $207,502 | $177,502 |

**Conclusion:**

The payback period is achieved within Year 1, as the net benefit in the first year exceeds the initial costs by $132,200. Any additional years increase the profitability further, even accounting for dollar depreciation.