# Healthcare Financial Management and Economics

# — Capital Budgeting

There are many options to buy capital, including cash purchases, loans, leasing, and other forms of payment. Your goal as a healthcare manager is to determine which method is best for your organization, given its financial and organizational structure (i.e., for-profit or not-for-profit). Time value of money and net present value are two techniques that may help you determine how and when to invest in new capital. For this Assignment, you examine these concepts as they pertain to the healthcare industry.

**To prepare :**

Review this week’s Learning Resources. Reflect on concepts of time value of money, net present value, internal rate of return, and purchasing options.

Using an Excel spreadsheet to show your work, answer the following questions:

1. If a physician deposits $24,000 today into a mutual fund that is expected to grow at an annual rate of 8%, what will be the value of this investment:  
   1. 3 years from now
   2. 6 years from now
   3. 9 years from now
   4. 12 years from now
2. The Chief Financial Officer of a hospital needs to determine the present value of $120,000 investment received at the end of year 5. What is the present value if the discount rate is:  
   1. 3%
   2. 6%
   3. 9%
   4. 12%
3. Calexico Hospital plans to invest $1.8 million in a new MRI machine. The MRI will be depreciated over its 5-year economic life to a $200,000 salvage value. Additional revenues attributed to the new MRI will be in the amount of $1.5 million per year for 5 years. Additional operating expenses, excluding depreciation expense, will amount to $1 million per year for 5 years. Over the life of the machine, net working capital will increase by $30,000 per year for 5 years.  
   1. Assuming that the hospital is a non-profit entity, what is the project’s net present value (NPV) at a discount rate of 8%, and what is the project’s IRR?
   2. Assuming that the hospital is a for-profit entity and the tax rate is 30%, what is the project’s NPV at a cost of capital of 8%, and what is the project’s IRR?
4. Marshall Healthcare System, a not-for-profit hospital, is planning on opening an imaging center including MRI, x-ray, ultrasound, and CT. The new center will generate $3 million per year in revenues for 5 years. Expected operating expenses, excluding depreciation, would increase expenses by $1.2 million per year for the next 5 years. The initial capital investment outlay for the project is $5.5 million, which will be depreciated on a straight line basis to a savage value. The salvage value in year 5 is $800,000. The cost of capital for this project is 12%.  
   1. Compute the NPV in the IRR to determine the financial feasibility of the project.