TE 566 Finance for Engineering Management HW3

Submitted by

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Assumptions:
- I am assuming that the annual Laundry revenue was $6500, as in the Garden courts document it's a range between $6000 and $8000.
- No depriciation has been considered for Q1.

Q1. Income Statement

January 1 2004 through December 31 2004

Total Revenue (Annual)		
Annual Rent revenue ($55,835*12)		**$670,020.00**
Annual Water revenue ($1511*12)		**$18,132.00**
Annual Sanitary revenue		**$6,354.00**
Annual Laundry revenue		**$6,500.00**
	Total Annual Revenue	**$701,006.00**
Annual Expenses		
Advertising		**$5,728.00**
Sanitary Fees		**$8,398.00**
Gas and Electric		**$22,804.00**
Water		**$10,800.00**
Property Taxes		**$67,500.00**
Insurance		**$16,440.00**
Hauling		**$4,414.00**
Lawn Care		**$1,960.00**
Pest Control		**$103.00**
Copying		**$298.00**
Professional Service		**$960.00**
Carpet Cleaning		**$2,083.00**
HVAC		**$3,556.00**
Painting and Locksmith		**$5,158.00**
Maintenance		**$24,564.00**
Payroll		**$64,595.00**
Appliances		**$14,134.00**
Carpet Cleaning		**$4,969.00**
Carpet Installation		**$2,280.00**
Tile Installation		**$3,868.00**
Replacements		**$6,339.00**
	Total Annual Expenses	**$270,951.00**
Net Income (Before Taxes)		**$430,055.00**

Assumptions for Q2:
- I am assuming the gross rental revenue for calculating the purchase value of building to be for the whole year.
- The interest is collected and compunded yearly.

Q2. Income Statement

For the first year of owning the Building

Total Revenue (Annual)		
Annual Rent revenue ($55,835*12)		**$670,020.00**
Annual Water revenue ($1511*12)		**$18,132.00**
Annual Sanitary revenue		**$6,354.00**
Annual Laundry revenue		**$6,500.00**
	Total Annual Revenue	**$701,006.00**
Annual Expenses		
Advertising		**$5,728.00**
Sanitary Fees		**$8,398.00**

Gas and Electric	$22,804.00
Water	$10,800.00
Property Taxes	$67,500.00
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Carpet Cleaning	$4,969.00
Carpet Installation	$2,280.00
Tile Installation	$3,868.00
Replacements	$6,339.00
Total Annual Expenses	**$270,951.00**

Loan Interest only (first year)	**$117,253.50**
Gross Profit (before taxes)	**$312,801.50**

My calculations:
To calculate the purchase price of building,
(Gross rental revenue) $55,835 * 12 * 7= $4,690,140.00
Only 50% of that amount is on loan, so Loan principal = $4,690,140/2 = $2,345,070.00

Q3. Taxes and Depriciation

Assumptions:
- Considering that we have interest only loan with specifics from Problem 2
- Depriciation is not considered here.

Gross Profit (Before Taxes)	**$312,801.50**	This is our profit for year 1.
Individual Taxes (35%)	**$109,481.00**	
Net Income/Profit	**$203,320.50**	

- Considering Depriciation of 1/30th value of the property per year.

Income Statement (First Year)

Total Revenue (Annual)

Annual Rent revenue ($55,835*12)	$670,020.00
Annual Water revenue ($1511*12)	$18,132.00
Annual Sanitary revenue	$6,354.00
Annual Laundry revenue	$6,500.00
Total Annual Revenue	**$701,006.00**

Annual Expenses

Advertising	$5,728.00
Sanitary Fees	$8,398.00
Gas and Electric	$22,804.00
Water	$10,800.00
Property Taxes	$67,500.00
Insurance	$16,440.00
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Carpet Cleaning	**$4,969.00**
Carpet Installation	**$2,280.00**
Tile Installation	**$3,868.00**
Replacements	**$6,339.00**
Total Annual Expenses	**$270,951.00**

Loan Interest only (first year)	**$117,253.50**
Depriciation	**$156,338.00**
new Net Profit (before taxes)	**$156,463.50**
New Tax Liability (35% of new Net Profit)	**$54,762.23**
Net Income	**$101,701.28**

Considering depriciation expense

Balance sheet would report undervalued amount for the Fixed asset Building compared to when it was purchased. This is because of depriciation.
Balance sheet would show the Building value in Fixed Assets for year 1 = **$4,533,802.00**

Q4. NPV -- Extra Credit

Assumptions:
- Assuming depriciation to be the same as previous problem, i.e, 1/30th purchase price.
- Assuming discount rate (i) to be 10% for calculating NPV

Purchase Price of the building	**$4,690,140.00**
Depriciaition (2 years) = 2 * 1/30 * purchase value	**$312,676.00**
Depriciated price of the building at the time of selling	**$4,377,464.00**
Future Value = 1.06 * building purchase price	**$4,971,548.40**
Capital Gain	**$594,084.40**
Capital Gain tax (30%)	**$178,225.32**
Net Capital Gain	**$415,859.08**

My Calculations: NPV formula: (Future value/(1+i)^N) - Capital cost
For calculating NPV, I used i=10%, N = 2 years. Capital cost is the original purchase price of the building.
NPV at the end of 2 years = (Future value/1.1) + (Future value/(1.1)^2) - Purchase Price

Net Present Value (NPV) after 2 years = (Future value/(1.1)^N) - Purchase Price = **$3,938,167.14**

NPV >0, so this business proposal is a worhty investment.