CIS 280 – Analyzing the Business Case || Christopher Nowacki

1. Assume it is September 1st, 2019. Sylvester "Sly" Weezel, a salesman at Jim's Jags, wants to
sell you a brand new Jaguar XJ sedan for $79,999.99 Just as you're preparing to hand over the
full amount in cash, Sly says that, because your business is so valuable to Jim's Jags, the firm's
financing aficionado, Fiscally Fast Frankie, will accept your payment on an installment plan:
$29.000 per year for 3 years. The 1st payment would be due today, on September 1st, 2019.
The
2nd payment would be due in one year, on September 1st, 2020, and the 3rd payment would be
due
in 2 years, on September 1st, 2021. Assuming a discount rate of 5%, determine whether it is
better for you to pay cash or to accept the terms of this installment plan. Explain your answer
and
show calculations. (Hint: this is a stream of 3 payments, but only 2 payments are in the future)

If you pay the cash amount the PV is $79,999.99. With the installment plan, the present value of the 1st payment is $29,000.

$$1st\ Payment\ PV\ =\ 29000/(1\ +\ 0.05)^0\ =\ \$29,000.00$$

The second payment is $27,619.05.

$$2nd\ Payment\ PV\ =\ 29000/(1\ +\ 0.05)^1\ =\ \$27,619.05$$

and the third payment is $26,303.85.

$$3rd\ Payment\ PV\ =\ 29000/(1\ +\ 0.05)^2\ =\ \$26,303.85$$

For a total of: $82,922.90
Therefore, it is better to pay upfront.

2. A potential software project will cost $17000 now, $2000 one year from now, $1000 2 years
from now, and $1000 3 years from now. It will provide benefits of $28000 after it is installed 1
year from now, $30000 2 years from now, and $35000 3 years from now. Calculate the Present
Value of the costs and benefits for each year and the overall Net Present Value of the project.
Use a discount rate of 3%.

Discount rate: 0.03

	Year 0	Year 1	Year 2	Year 3	
Benefits	$0.00	$28,000.00	$30,000.00	$35,000.00	
PV of Benefits	$0.00	$27,184.47	$28,277.88	$32,029.96	Total Benefits
					$87,492.30
Costs	$17,000.00	$2,000.00	$1,000.00	$1,000.00	
PV of Costs	$17,000.00	$1,941.75	$942.60	$915.14	Total Costs
					$20,799.49

Net Present Value: $87,492.30 - $20,799.49 = $66,692.82

3. The Payback Period is the length of time required to recover the cost of an investment. Management uses Payback Period to assess the risk of an investment – the longer the Payback Period, the higher the investment risk. What is the Payback Period for the project in question #2 Above?

The payback period for this project is 1 year.

4. What is the ROI for the project in question #2 above?
A project's Return On Investment (ROI), can be defined as
- *What do I get back ('return') for the money I'm being asked to spend ('investment')?*
- *What is it really worth (the "ROI")?*
ROI = NPV / Total Cost (expressed as a percentage)

*ROI = $66,692.82 / $20,799.49 * 100 = 320.65%*

5. Explain how is ROI used to make better IT investment decisions.
In IT, ROI helps companies decide which projects to spend money on and which to avoid. It shows how much financial gain a particular project can bring in compared to its cost – it can help convince higher-ups to move forward on a project they may be balking on in regards to cost.

This makes it easier for companies to commit to projects when they can see that they are worth the start-up costs and risk, and companies will be more likely to allocate more to the IT budget if you can present monetary ways that the project provides/will provide value.