Fox School of Business
TEMPLE UNIVERSITY®

MIS 3534 Strategic Management of Information Technology – Fall 2016

Homework #1 – ROI Analysis (7.5% of the Final Grade)
Due by Friday, October 21st, 11:59 PM EST

Read "The San Diego City Schools" case and, using Microsoft Excel, conduct a Return-on-Investment analysis.

- Use the Excel template file posted on the class site to calculate Net Present Value (NPV) and Internal Rate of Return (IRR).
- Fill out right *numbers* on the blue cells of the template file and right *formulas* on the green cells.
- Conduct three sensitivity analyses with all of the following Excel functions – Scenario Manager and Data Table (one-variable and two-variable).
- Assume that the cost of capital (discount rate) is 8%.
- The initial investments on ERP implementation will be made in 2003. In calculating returns, consider expected savings for 5 years in 2004-2008.
- For direct cost savings and productivity improvement, **IGNORE** Exhibit 8 and 9 (p. 17-18) and the top half of Exhibit 10 (p. 18). Instead, use the estimations in the following page. Also do not include soft benefits.
- In all cost saving calculation, do not forget to include benefit costs for employees, which are 25% of their base salaries.
- Extra credits will be given to a correct payback period, which is not required.
- It is strongly advised to take a look at the solution files for San Francisco Airport case that were posted on the class site. **DO NOT JUMP INTO THIS ASSIGNMENT TOO FAST.**

Direct Cost Savings

Staff Reductions in HR and Fiscal Control and Space Reduction	Process redesign suggested that approximately 34 positions could be eliminated from HR and fiscal control due to the HR implementation. A yearly based salary of HR and fiscal staff is $31,500, on average. Thanks to staff reduction, smaller office space would be needed. Space costs were calculated to be $21.2 per square foot in the central San Diego area. Office space per employee is as much as 76 square foot.
Reduced Overtime	Roughly 12.5% of the district's $18.5 million in annual overtime was spent in HR and fiscal control. It is believed that the new system could reduce these department overtime figures by 46%
Reduced Printing Costs	For one single assignment authorization (AA), the recruiting group of HR prints 22 forms. The district ran approximately 80,000 AAs per year. It is estimated that the payroll and benefit groups of HR together generates as much paperwork as the recruiting group. The new system is expected to reduce this amount of paperwork by 42%. Printing costs per copy are $0.05. In addition to paperwork reduction, a nearby district reported that a new ERP implementation had reduced copier maintenance cost by 3%. San Diego School District copier maintenance costs were $1.75 million.
Reduced Processing Errors	The district knew that it overpaid employees nearly $1.25 million per year due to processing errors. Roughly 1.2 percent of that loss was eventually recouped. It is anticipated that after the HR implementation, overpayment (that is not recouped) will be decreased by 30%.

Savings from Productivity Improvement

Clerical Staff	It was estimated that 5% of the site-based clerical positions would be eliminated due to the HR implementation. One clerical staff member is assigned to a school for every 165 students attending. Currently, 142,000 students are enrolled in San Diego School District. Average base salary for clerical staff is $34,000.
Principals	For each principal, approximately 5 hours per month were wasted due to poor HR systems and processes. The new system will save this time waste. San Diego School District employs 175 principals, whose base salary is $88,000. A principal works 8 hours a day, 23 days per month, and 12 months in a year.
Assume that this productivity improvement in both clerical staff and principals is expected to increase by 1.2% every year	

Submission Instruction (Read every instruction very carefully)

- **Due Date** : Submit your Excel file into Blackboard (http://learn.temple.edu/) by Friday, Oct. 21st, 11:59:59 PM (Eastern Standard Time). This deadline is firm, and being late by one minute will not be forgiven. The instructor will not take any extraneous circumstance into consideration that occurs to you such as PC malfunction or network outages.
- **Late submission** is allowed, but there will be 10% penalty per each 24 hours. For example, if you submit on Oct 24 and it is graded 80, a 30% penalty is imposed and you will get 80 × (100-30)/100 = 56. Therefore, your submission will be graded zero after Sunday, Oct. 30.
- **No collaboration** is allowed for this assignment. A deliverable must be work of an individual.
- **Academic Misconduct** : Plagiarizing other work without citation in any circumstance will result in zero in grade and will be reported to the University immediately
- **Keep in mind that you are a professional consultant with hefty payment for this analysis.**