Information Technology

Return on Investment (ROI) Analysis Instructions

Introduction

Beginning *April 1, 2003*, *Project Sponsors* submitting *IT* project requests will be required to complete the *Return on Investment (ROI) Analysis*. The *ROI Analysis* quantifies the anticipated benefits to *Oakland County* resulting from successful completion of the proposed project. The *ROI Analysis* documents development and operational costs as well as anticipated, quantifiable benefits resulting from the proposed project.

IT has updated the *Project Initiation* procedures to include *ROI Analysis* completion. Given anticipated budgetary concerns, resources may not be available to fund all projects that comply with the six-year payback guideline. Therefore, the *ROI Analysis* will be used to prioritize projects providing the most benefit to *Oakland County*.

The *Project Sponsor* is responsible for completing the *ROI* and submitting the savings/benefits with the initial *Project Scope & Approach* document. During sizing, *IT* provides technical costs for the *ROI Analysis*. The *Project Sponsor* ensures that the updated *Scope & Approach* document along with the complete *ROI* is provided to the appropriate *Leadership Group* for prioritization one week prior to the *Leadership Group* meeting.

The *ROI Analysis* will become a living, breathing document that should be updated and resubmitted throughout the life of the project. At a minimum, the *Project Sponsor* must resubmit the *ROI Analysis* for projects requiring an analysis phase, for projects that exceed their *Leadership Group* hours' allocation, and for projects when *ROI Analysis* calculation changes cease to show positive *ROI Analysis*.

ROI Analysis Examples can be found on the *IT Project Management Office (PMO)* web site, specifically *http://www.oakgov.com/pmo/leadership_grp/*.

Several *Oakland County* resources can be beneficial when completing the *ROI Analysis*:

1. At the beginning of every fiscal year, obtain a copy of the *Office of Personnel* list of published current year annual salary and hourly rates for each job classification in the merit system.
2. Historical and current approved department budgets.
3. Quarterly *IT* billing rates.

The following project types will be exempt from submitting an *ROI*:

1. Team Management
2. Customer Support
3. Unscheduled System Maintenance
4. Planned Maintenance and Upgrade projects less than 400 hours
5. 100% grant funded projects
6. Enhancement Budgets
7. Federal and State mandated projects

Tips and Tricks

The following items are things you should know about the *ROI Analysis* template:

1. *Tab Protection:* All tabs in the *ROI Analysis* are protected so that formulas and automatic calculations occur. The tabs are <u>not</u> password protected. To unprotect a tab, click **Tools…Protection…Unprotect Sheet** on the menu bar. To re-protect a tab after optional formatting changes have been made, click **Tools…Protection…Protect Sheet** on the menu bar. The protection features help maintain the integrity of the automatic formulas and calculations built in to the *ROI Analysis* template. It is highly recommended that tab protection be enabled before saving the *ROI Analysis* document.

2. *Formatting:* Because all tabs in the *ROI* template are protected, *Excel* formatting features may not be available unless *Tab Protection* is disabled.

3. *Printing:* Each tab has been created to print landscape to make most efficient use of *8-1/2" x 11* standard letter paper. It is <u>not</u> recommended that column widths or row heights be changed as such changes will likely alter the pre-set, desired print settings. To print the entire workbook, click **File…Print** on the menu bar. On the *Print* dialog box, in the **Print what** section, click **Entire workbook.**

4. *Linking:* Don't forget to link the *Cost Detail Tab* information to the *Cost Summary Tab* information and the *Savings Detail Tab* information to the *Savings Summary Tab* information.

5. *Maintaining Linked Relationships:* Don't forget that if costs or benefits are added to or deleted from the *ROI Analysis* after the initial linking, that maintenance of the linking relationships and formulas may need to occur.

6. *Maintenance Costs:* For costs or benefits that have associated, on-going maintenance, it may be necessary to calculate the *Year 1* maintenance amounts. When provided a starting maintenance amount for *Year 2*, divide the amount stated by the annual multiplier to obtain the *Year 1* amount.

7. *Adding or Deleting Rows in the ROI Analysis* template*:* If more rows are needed when entering cost and savings information or rows need to be deleted, the specified tab must be unprotected before rows can be added or deleted.

    - To add rows, place the cursor on an identified row number so the entire row appears highlighted and click **Insert…Rows** on the menu bar. Remember that the new row will insert above the row where the cursor is placed. This is important to know when adding rows that affect pre-established formulas in the *ROI Analysis* template. The affected formulas may require checking to see if formulas need to be modified or copied from one row to another.

    - To delete rows, place the cursor on an identified row number so the entire row appears highlighted and click **Edit…Delete** from the menu bar. Remember that the highlighted row will be deleted. This is important to know when deleting rows that affect pre-established formulas in the *ROI Analysis* template. The affected formulas may require checking to see if formulas need to be modified or copied from one row to another.

    - When completed adding and deleting rows, remember to re-protect the tab. Re-protecting the tab will help maintain the integrity of the formulas built into the *ROI Analysis* template.

8. *Annual Multiplier Usage:* When using the *Annual Multiplier* in the *Savings Detail* and *Cost Detail Tabs*, do not use the whole number *"1"* as an annual multiplier. In this instance, leave the annual multiplier blank.

Return on Investment (ROI) Analysis Template

The *ROI Analysis* template consists of an *Excel* spreadsheet containing six tabs: *Savings Detail*, *Savings Summary*, *Cost Detail*, *Cost Summary*, *Project Summary*, and *Assumptions*.

The first step in creating a project-specific *ROI Analysis* is for the Project Sponsor to make a copy of the template. Refer to *http://www.oakgov.com/pmo/leadership_grp/*, for a copy of the template. To copy the *ROI Analysis* template, the *Project Sponsor* obtains a *Project ID* from their appropriate *IT* supervisor and saves a copy of the template using the *Project ID* as the filename in a user-preferred directory. The second step in creating a project-specific *ROI Analysis* is for the *Project Sponsor* to update the headers for the *Cost Detail*, *Cost Summary*, *Savings Detail*, *Savings Summary*, *Project Summary*, and *Assumptions* tabs. To update all tab headers place the cursor on the *Project Summary* tab, hold down the *Shift* key, click the *Assumptions* tab and complete the following steps:

1. Click **Page Layout…Print Titles…Header/Footer** on the menu bar.
2. Click the **Custom Header** button.
3. Verify that the cursor is in the **Left Section** text box, and replace the text *<<Type 8 Character Project ID Here>>* with the eight-character project identifier of the specific project.
4. Click in the **Center Section** text box, and replace the text *<<Type Project Name Here>>* with the name of the specific project.
5. Click in the **Right Section** text box, and replace the text *<<Type Date Here>>* with the date the *ROI* is being completed.
6. Click the **OK** button on the **Header** dialog box.
7. Click the **OK** button on the **Page Setup** dialog box.

The headers on all worksheets will be updated.

Project Summary Tab

The *Project Sponsor* will not have to enter cost or savings information into the *Project Summary Tab* because the *ROI Analysis* is set up so that the *Project Summary* fills in automatically as cost and savings information is entered in their corresponding summary tabs in the spreadsheet. However, if the project is a state or federally mandated initiative, the *Project Sponsor* should enter *State Mandate* or *Federal Mandate* in the **Total** column in the **State or Federal Mandate?** row.

The *Project Sponsor* must sign and date the *Benefits Reviewed by Project Sponsor* signature section of the *ROI Analysis – Project Summary Tab*, at the time the *Scope & Approach* and *ROI Analysis* documents are submitted for review by the *Leadership Group*. Whenever the *ROI Analysis* is updated, the signature section must be signed and dated by the appropriate parties. If an initial, size estimate only is being requested, the *Project Sponsor* must sign and date the signature section of the *ROI Analysis Project Summary Tab*. If a final size estimate is being requested, the *Project Sponsor* and *IT Project Manager* must sign and date the signature section of the *ROI Analysis Project Summary Tab*. The *IT Project Manager* will be responsible to ensure that the *Project Sponsor* and *IT Project Manager* sign the *ROI Analysis*.

To print, the *Project Sponsor* needs only to click the **Printer Icon** on the toolbar.

Savings Detail Tab

The *Project Sponsor* will be responsible for entering anticipated savings into the *Savings Detail Tab*. The *IT Project Manager* will assist with providing technical *(e.g., hardware license and maintenance, software license and maintenance)* project savings estimates. The *Project Sponsor* will be responsible for identifying and entering non-technical project savings into the *Savings Detail Tab (e.g., FTE elimination through attrition)*.

Savings items identified should correspond to actual, budget line items. For example, if it is anticipated that completion of a project will result in fewer *IT* staff hours to support a particular application, the decrease of *IT* support hours can only be utilized if the hours were previously budgeted for. *IT* must concur that the *IT* budget will be reduced.

The *Savings Detail Tab* consists of the following columns: **Savings Description**, **Project Savings Category**, **Budget Category/Funding Source**, **Unit Desc**, **Units**, **Rate per Unit**, **Total Savings**, **Annual Multiplier**, **Affects Project ROI?**, and **Potential Cost Extensions**. The last 2 columns are subdivided into **Y1***,* **Y2***,* **Y3***,* **Y4***,* **Y5**, and **Y6** for *Project Years 1-6*.

Column Name	*Description*
Benefit/Savings Description	Enter a narrative description for each savings item for the project. For example, savings may result for some of the following areas: servers, disk space, special equipment, copiers, office automation equipment, and personnel.
Project Savings Category	Select the project savings category that corresponds to the type of savings described for each savings item associated with the project from the validation list. Project savings are classified by three categories: *Tangible Benefits, Cost Avoidance* and *Intangible Benefits*.
Tangible Benefits	Savings that are measurable and recoverable that can be actualized by completing the project. Examples include elimination of positions *(FTE)* through attrition or re-assignment and elimination of copier rental.
Cost Avoidance	Savings that avert future requests for budget increases. Examples include staffing position requests and network expansion requests that will not be required due to efficiencies gained through project completion.
Intangible Benefits	Benefits that will not result in actual cost related savings and are difficult to quantify or intangible in nature. Examples include providing better customer service or improving web site content.
Budget Category/Funding Source	Enter the *Oakland County Department* budget/account description (**Account:**), *Board of Commissioners (BOC)* resolution (**BOC Pending:** or **BOC #:**), or *Leadership Group* authorized allocation (**Master Plan Allocation**) for each cost associated with the project.

Column Name	Description
Unit Desc	Select the description for how units will be measured from the validation list. The validation list contains the following conventions: *HRS* for hours, *ANN* for annual, and *EA* for each. **Note:** All benefits/savings should reflect yearly-anticipated returns to *Oakland County*.
Units	Enter the quantity of items the savings estimate includes *(e.g., five staff positions (FTE), and one Xerox printer)*.
Rate per Unit	Enter the unit savings for the item described *(e.g., $36,000 salary and benefits for each staff position, $12,000 rental cost of each Xerox copier)*.
Total Savings	The spreadsheet multiplies the number of *Units* entered in the **Units** column by the number entered in the **Savings per Unit** column. The spreadsheet automatically calculates the **Total** column. No entry is required.
Annual Multiplier	Enter the expected rate of inflation *(e.g., 1% Oakland County Board of Commissioner annual salary increase for county workers – enter as 1.01, 15% maintenance agreement for printers – enter as .15). Rule of thumb:* If the initial savings were compounded with the percentage increase such as in salary increases, one would expect the base salary to be added upon. In this case, the multiplier entered should be *"1"* plus the annual percentage increase. If the annual increase were merely a percentage of the initial savings such as a percentage of equipment purchases, the multiplier entered should be a decimal *(e.g., .15)*.
Affects Project ROI?(Y1-Y6)	Enter *"x"* in the column for the year in which the savings item entered applies *(e.g., labor savings apply to year 1 (Y1) and year 2 (Y2) only. An "x" would be entered in Y1 and Y2)*.
Potential Savings Extensions (Y1-Y6)	No entry is required. The spreadsheet automatically calculates and displays savings extensions under the following conditions: 1. If *"x"* is entered in the corresponding year column under **Affects Project ROI?**, the amount entered in the **Total** column is displayed in the **Potential Savings Extension** column corresponding to the **Affects Project ROI?** column *(e.g., Y1 and Y1)*, and 2. If *"x"* is entered in the corresponding year column under **Affects Project ROI?** and **Annual Multiplier** is not blank. In this case, the spreadsheet calculates the extension amount to include the rate entered in the **Annual Multiplier** column *(e.g., 15% of initial savings is maintenance and support; 1.01 of salary continues in on-going years representing 1% salary increase)*.

Savings Summary Tab

The *Project Sponsor* will be responsible for linking benefits/savings from the *Savings Detail Tab* into the *Savings Summary Tab*. For each benefit/savings identified in the *Savings Detail Tab*, a link must be established in the *Savings Summary Tab*. As long as new benefits/savings are not added or previous benefits/savings deleted, linking the benefits/savings from the *Savings Detail Tab* into the *Savings Summary Tab* need only occur once. If new benefits/savings are added or previous benefits/savings deleted, linking relationships will need to be confirmed and potentially changed.

The *Savings Summary Tab* is set up so that the *Project Sponsor* links the *Benefit/Savings* from the *Savings Detail Tab* for each of the years in which the savings applies into the *Savings Summary Tab*. The *Savings Summary Tab* will automatically calculate sub-totals and totals. *Page 2* of the *Savings Detail Tab* can be used to link savings into the *Savings Summary Tab*.

A link may be established by entering *"="* in the *Savings Summary Tab* field and selecting the field in the *Savings Detail Tab* to link by pressing *Enter*. *Excel* will automatically set up the linking relationship so that any time the field in the *Savings Detail Tab* changes, it will change in the *Savings Summary Tab* as well.
If more rows are needed for an identified sub-category, refer to *Tips and Tricks* on how to add rows to a spreadsheet.

When the *Project Sponsor* completes entering the savings information, the spreadsheet is formatted to print the information entered. To print, the *Project Sponsor* needs only to click the **Printer Icon** on the toolbar.

Cost Detail Tab

Prior to *Leadership Group* approval for *IT* to size a potential project, the *Project Sponsor* will be responsible for entering detailed, non-technical development and operational costs *(e.g., new FTE requirement, PTNE help and Overtime for staff assigned to work on project)* into the *Cost Detail Tab*. The *IT Project Manager* will provide technical project cost estimates when asked to complete the project sizing *(e.g., IT and contractor labor estimates, hardware license and maintenance, software license and maintenance)*.

The *Cost Detail Tab* contains cost information for several anticipated standard project costs so that the costs may be documented consistently across leadership groups and projects. If a standardized cost is not needed for a given project, the unused row may be deleted from the spreadsheet, refer to *Tips and Tricks* on how to delete rows in a spreadsheet. However, the **Development Services** rows have been established with automatic links to the *Cost Summary Tab*. Therefore, the **IT Hours – New Development**, **IT Hours – System Maintenance**, **User Hours – New Development**, **User Hours – PTNE/OT**, and **Contractor Professional Services** rows should never be deleted from the *Cost Detail Tab*.

The *Cost Detail Tab* consists of the following columns: **Cost Description**, **Project Cost Category**, **Budget Category/Funding Source**, **Unit Desc**, **Units**, **Rate per Unit**, **Total Cost**, **Annual Multiplier**, **Affects Project ROI?**, and **Potential Cost Extensions**. The last 2 columns are subdivided into **Y1**, **Y2**, **Y3**, **Y4**, **Y5**, and **Y6** for *Project Years 1-6*.

Column Name	Description
Cost Description	Enter a narrative description for each cost associated with the project. For example, the *IT* labor hours, contractor labor hours, servers, disk space, special equipment, copiers, office automation equipment, and personnel have cost amounts associated with estimates.
Project Cost Category	Select the project cost category that corresponds to the type of cost described for each cost associated with the project from the validation list. Project costs may be classified by the following cost categories: *Development Services*, *Hardware*, *Software*, *Infrastructure*, *Training*, and *Other*.
Development Services	Costs include but are not limited to *IT* labor hour estimates and associated costs, *IT* on-going support and maintenance hours, user department labor hour estimates and associated costs, user department part-time non-eligible and overtime labor hour estimates and associated costs, and contractor and professional services labor hour estimates and associated costs.
Hardware	Costs include but are not limited to computer equipment and peripheral devices such as printers or scanners, office automation equipment, and associated on-going maintenance costs *(e.g., a special printer for the project costs $10,000 initially and $1,500 a year or 15% for maintenance support from the vendor)*. Separate cost lines should be entered for the initial purchase of hardware and any, associated on-going maintenance costs. Note that hardware replacement may require budgeting for every three years.
Software	Costs include but are not limited to software purchases required for project completion and associated on-going maintenance costs *(e.g., a web-enabled vital statistics system costs $750,000 license fee and $112,500 annually or 15% for maintenance and support from the vendor)*. Separate cost lines should be entered for the initial purchase of software and any, associated on-going maintenance costs.
Infrastructure	Costs include but are not limited to telecommunications and network equipment required to support digital communication and associated on-going maintenance costs *(e.g., fiber optic connection)*. Separate cost lines should be entered for the initial purchase of infrastructure and any, associated on-going maintenance costs.
Training	Costs include but are not limited to educational sessions required for project participants to perform project, associated tasks and for end-users to conduct daily duties *(e.g., Business Objects training sessions, application training sessions)*.
Other	Costs include miscellaneous costs that do not fit in pre-defined categories described above *(e.g., dedicated project room set-up and on-going operational expenses associated with project room such as office supplies)*.

Column Name	*Description*
Budget Category/Funding Source	Enter the *Oakland County Department* budget/account description (**Account:**), *BOC* resolution (**BOC Pending:** or **BOC #:**), or *Leadership Group* authorized allocation (**Master Plan Allocation**) for each cost associated with the project.
Unit Desc	Select the description for how units will be measured from the validation list. The validation list uses the following conventions: *HRS* for hours, *ANN* for annual, and *EA* for each. **Note:** All costs should reflect yearly obligations to *Oakland County*.
Units	Enter the quantity of items the cost estimate includes *(e.g., 10 Compaq Evo N600C laptop computers, 1 Hewlett Packard LaserJet 1200 series printer, 500 Professional Services/Contractor hours)*.
Rate per Unit	Enter the unit cost of the item described *(e.g., $2,100 for one Compaq Evo N600C laptop, $1,500 for one Hewlett Packard LaserJet 1200 series printer)*. When selecting *Hours (HRS)* for the *Unit Description*, enter the *Clarity* resource billing rate. If the role has a $0 billing rate, use the *Rate per Unit* provided below: • Application Architect ($111) • Business Analyst ($83) • Chief – IT ($117) • Deployment Services ($78) • Digital Content Manager ($64) • Marketing and Media Manager ($83) • Materials Management Clerk ($43) • Network Specialist / Server Admin ($89) • Project Support ($51) • Quality Assurance ($83) • Radio Support ($65) • Security Specialist ($89) • Service Center Support ($64) • Student Engineer ($26) • Supervisor ($107) • Technical Architect ($111) • Telephone Communication Support ($60) • Training Specialist ($64) • Workstation Services ($65)
Total Cost	The spreadsheet multiplies the number of *Units* entered in the **Units** column by the number entered in the **Cost per Unit** column. The spreadsheet automatically calculates the **Total** column. No entry is required.

Column Name	Description
Annual Multiplier	Enter the expected rate of inflation *(e.g., 1% Oakland County Board of Commissioner annual salary increase for county workers – enter as 1.01, 15% maintenance agreement for printers – enter as .15).* *Rule of thumb:* If the initial cost were compounded with the percentage increase such as in salary increases, one would expect the base salary to be added upon. In this case, the multiplier entered should be *"1"* plus the annual percentage increase. If the annual increase is merely a percentage of the initial cost such as a percentage of equipment purchases, then the multiplier entered should be a decimal *(e.g., ".15")*. When using separate lines for maintenance costs, the *Annual Multiplier* should be *"1"* plus the annual percentage increase.
Affects Project ROI? (Y1-Y6)	Enter *"x"* in the column for the year in which the cost entered applies *(e.g., labor costs apply to year 1 (Y1) and year 2 (Y2) only. An "x" would be entered in Y1 and Y2).*
Potential Cost Extensions (Y1-Y6)	No entry is required. The spreadsheet automatically calculates and displays cost extensions under the following conditions: 1. If *"x"* is entered in the corresponding year column under **Affects Project ROI?**, the amount entered in the **Total** column is displayed in the **Potential Cost Extension** column corresponding to the **Affects Project ROI?** column *(e.g., Y1 and Y1)*, and 2. If *"x"* is entered in the corresponding year column under **Affects Project ROI?** and **Annual Multiplier** is not blank. In this case, the spreadsheet calculates the extension amount to include the rate entered in the **Annual Multiplier** column *(e.g., .15 of initial cost is maintenance and support; 1.01 of salary continues in on-going years representing 1% salary increase).*

Some maintenance costs in the technical hardware, software, and infrastructure cost categories are not a part of the existing quarterly billing rate structure. When estimating maintenance for such costs, the *IT Project Manager* should review the quarterly rates, recommend an existing rate be used for the selected cost, and confirm rate with his/her *Department Manager*.

Cost Summary Tab

Depending on the stage of the project, the *Project Sponsor* or the *IT Project Manager* will be responsible for linking detailed, development and operational costs from the *Cost Detail Tab* into the *Cost Summary Tab*. For each cost identified in the *Cost Detail Tab*, a link must be established in the *Cost Summary Tab*. As long as new costs are not added or previous costs deleted, linking the costs from the *Cost Detail Tab* into the *Cost Summary Tab* need only occur once. If new costs are added or previous costs deleted, linking relationships will need to be confirmed and potentially updated.

The *Cost Summary Tab* is set up so that the *Project Sponsor* links costs from the *Cost Detail Tab* for each of the years in which the cost applies into the *Cost Summary Tab*. The *Cost Summary Tab* will automatically calculate sub-totals and totals. *Pages 3-4* of the *Cost Detail Tab* can be used to link costs into the *Cost Summary Tab*.

A link may be established by entering *"="* in the *Cost Summary Tab* field and selecting the field in the *Cost Detail Tab* to link by pressing *Enter*. *Excel* will automatically set up the linking relationship so that any time the field in the *Cost Detail Tab* changes, it will change in the *Cost Summary Tab* as well. The *Hardware* and *Software* initial and on-going maintenance/support should be combined into one cost summary line when the costs are detailed on two lines in the *Cost Detail Tab*.

It should be noted that the **IT Hours – New Development**, **IT Hours – System Maintenance**, **User Hours – New Development**, **User Hours – PTNE/OT**, and **Contractor Professional Services** rows are protected from update because automatic links have been established from the *Cost Detail Tab*.

If more rows are needed for an identified sub-category, please refer to *Tips and Tricks* on how to add rows to the spreadsheet.

When the *Project Sponsor* completes entering the cost information, the spreadsheet is formatted to print the information entered. To print, the *Project Sponsor* needs only to click the **Printer Icon** on the toolbar.

Assumptions Tab

The *Project Sponsor* or the *IT Project Manager* will enter estimating assumptions in this tab.

This tab contains two columns: **Date** and **Assumptions Description**. For each assumption to be documented, the date should be entered in the **Date** column along with a narrative description of the assumption in the **Assumptions Description** column.

To print, the *Project Sponsor* or the *IT Project Manager* needs only to press the **Print Icon** on the toolbar.